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## Foreword

Dear Guests,

International Conference on New Horizons (INTE) is international educational activities for academics, teachers and educators. These conferences are now well-known international academic events and the number of paper submissions and attendees increase every year. They promote the development and dissemination of theoretical knowledge, conceptual research, and professional knowledge through conferences activities, the conference proceedings books and TOJET & TOJNED. Their focus is to create and disseminate knowledge about new developments in their field. This year, INTE is organized collaboratively in Vienna University of Technology. This Conference has received almost 1300 applications. The Conference Academic Advisory Board has accepted approximately 600 paper to be presented in INTE Conference.

We would like to thank Prof. Dr. Muzaffer ELMAS, Rector of Sakarya University and Prof. Dr. Hellmuth STACHEL from Vienna University of Technology for their supports of organizing these Conferences

We also would like to thank all participants who will present their academic works in INTE 2016, Vienna, Austria and especially to our distinguished guests and keynote speakers for their collaboration and contribution for the success of INTE 2016.

We wish you a successful conference and good time in Vienna, Austria.

Prof. Dr. Aytekin İŞMAN

Doç. Dr. Ahmet ESKİCUMALI

 

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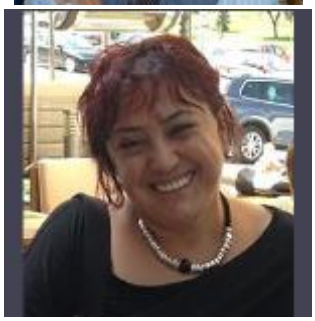

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Maltepe University, Turkey

 

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# PROBABILITY MODEL FOR PREDICTING DIFFERENT LEVEL OF ACADEMIC SUCCESS IN STUDENTS OF FACULTY OF SCIENCE AND TECHNOLOGY

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**ABSTRACT**
The purpose of this paper is to construct the probability model for predicting academic success level. Logistic model is chosen so that results can be interpreted in terms of the probability of level success. The sample of 278 the fourth-year students were randomly selected using systematic sampling from 556 population unit of the fourth-year science students, Suan Sunandha Rajabhat University in the academic in year 2015 by using structured questionnaire. The results of the study indicate that gender and responsibility make academic success probable with 88 percentage accuracy for the dichotomous logit model of academic success level. High school GPA and the loaf time make GPA level with 57.3 percentage accuracy for the three ordinal logit model of GPA level.

## INTRODUCTION

The undergraduate students in Thailand are Increasing because higher education is important contributor to the development of human resources however, there are several failing graduate within 4 years (Cheewaprakobkit,2013).10% students of faculty of science and technology in Suan Sunandha Ratjabhat University cannot graduate in a given period of time. This may potentially cause either over budgets or loosing opportunity in life. There are several factors result to students' academic performance such as gender, class environment, socio economic factor, responsibility (Sangkapan and Laeheem, 2011). According to the study by Irfan Mushtaq and Shabana Nawaz Khan (2012), communication, learning facilities, proper guidance and family stress are the factors that affect the student performance. It is important to attempt to predict the chance of any new student's success in higher education system for early helping and for decrease the extinction. It is interesting to find the students who likely to failure in graduate education. The purpose of this study is to construct the probability model for predicting academic success level of students of faculty of science and technology, Suan Sunandha Rajabhat University.

## THE STUDY

The data sample used in this research is 278 the fourth-year students randomly selected using systematic sampling from 556 population unit of the fourth-year science students, Suan Sunandha Rajabhat University in the academic in year 2015 by using structured questionnaire which has 3 parts such as Background of respondent, Studying behavior, Level of academic success (nominal two grouped responses and ordinal three grouped response). After cleaning data, there are 255 completed samples. The sample is divided in to two sets. The first set is training set data that is 90 percent of the sample size for constructing model and The other set is validation set data that is 10 percent of the sample size for calculating percentage correct. Logistic regression is used to predict class probabilities .Probability model is a model choice that uses to predict quantitative variables with linear regression. Regression models for dichotomous data, logit model, appropriate when the response takes one of only two possible values representing success and failure, or more generally the presence or absence of an attribute of interest. The model is that

$$\log\left(\frac{P(X)}{1-P(X)}\right) = \beta_0 + \beta_1 X_1 + \ldots + \beta_p X_p \qquad (1)$$

  

Multinomial Logistic Regression is used when the dependent variable(Y) has more than two nominal categories. The logit of Category i with Baseline Category Logit j is

$$\log\left[\frac{P(\text{category i})}{P(\text{category j})}\right] = b_{i0} + b_{i1}X_1 + b_{i2}X_2 + \ldots + b_{ip}X_p \qquad (2)$$

When Y has j categories and there are j-1 logits. The dependent variable in multinomial logistic regression is dummy code into multiple 1 or 0 variables. If there are J categories, there will be J-1 dummy variables. Each category's dummy variable has a value of 1 for its category and 0 for all others. One category, the reference category, doesn't need its own dummy variable, as it is uniquely identified by all the other variable being 0.To construct the model (1) and (2), The following procedure was utilized for selection of significant independent variables by stepwise likelihood-ratio and assessment of the final model through test of goodness of fit, the Hosmer-Lemeshow test.

**FINDINGS**

Results of the logistic regression analysis for the academic success level, fail graduate or graduate, are presented in Table 1.Gender and responsibility( I am responsible for my studying such as doing homework, reading, researching without any enforcement) are two significant independent variables used to predict the academic success level. The dichotomous logit model of academic success level is given by

$$\log\left(\frac{P(X)}{1-P(X)}\right) = -0.964\,\text{Gender}(1) + 0.725\,\text{Responsibility} \qquad (3)$$

Where Gender(1) represents male and Responsibility is five ordinal value. Models' goodness of fit test is significant at 0.05 with Chi-square= 9.969 and p-value = 0.076. The overall percentage of correct prediction for model (3) is 88.

**Table 1**: Statistics value for analysis of academic success level

| parameter | df | β | S.E. | Wald | P-value |
|---|---|---|---|---|---|
| gender(1) | 1 | -.964 | .423 | 5.192 | .023 |
| responsibility | 1 | .725 | .087 | 68.873 | .000 |

High school GPA and loafing time (I always spend my time on playing around and activities not related to my studying) are two significant independent variables used to predict the GPA level, normal, good, honors. Results of the logistic regression analysis for GPA level are presented in Table 2.The three ordinal logit model of GPA level are given by

$$GPA_{\text{normal}} = 16.604 - 3.842(\text{high school GPA}) - 2.245(\text{loafing}) \qquad (4)$$

$$GPA_{\text{Good}} = 15.777 - 3.574(\text{high school GPA}) - 2.068(\text{loafing}) \qquad (5)$$

Models' goodness of fit test is significant at 0.05 with Chi-square =276.225and p-value =0.872. The overall percentage of correct prediction for the model is 57.3.

**Table 2**: Statistics value for analysis of academic success level

  

| GPA level | parameters | df | β | S.E. | Wald | P-Value |
|---|---|---|---|---|---|---|
| | Intercept | 1 | 16.604 | 4.103 | 16.375 | .000 |
| **normal** | High School GPA | 1 | -3.842 | 1.131 | 11.540 | .001 |
| | Loafing(no) | 1 | -2.245 | 1.095 | 4.201 | .040 |
| | Intercept | 1 | 15.777 | 4.098 | 14.821 | .000 |
| **good** | High School GPA | 1 | -3.574 | 1.129 | 10.026 | .002 |
| | Loafing(no) | 1 | -2.068 | 1.093 | 3.584 | .058 |

## CONCLUSIONS

The Binary logit model has a goodness of fit and is appropriate for prediction. It is depicted in the table 1 that if the students increase their responsibility, the probability of their increase. The model of GPA. Level is showed in table 4 indicates that if the students reduce their loafing, the probability of the level of good and Honors GPA category are increase. In another way, if the students reduce their loaf, the probability of the level of Normal category are decrease.

**Table 3**: the value of probability of success varies by responsibility

| Dependent variable | P(success) | P(not success) |
|---|---|---|
| male , responsibility=5 | 0.9347 | 0.0653 |
| male , responsibility=4 | 0.8739 | 0.1261 |
| male ,responsibility=3 | 0.7705 | 0.2230 |
| male , responsibility=2 | 0.6191 | 0.3801 |
| male , responsibility=1 | 0.4405 | 0.5595 |

**Table 4**: the value of probability of GPA level varies by loafing

| Dependent variable | P(Normal) | P(Good) | P(Honors) |
|---|---|---|---|
| High School GPA =2.75 , loafing =yes | 0.5218 | 0.4769 | 0.0012 |
| High School GPA =2.75 , loafing=no | 0.4732 | 0.5161 | 0.1065 |

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# PROBLEMS IN ENGLISH LANGUAGE TEACHING ACCORDING TO SECONDARY SCHOOL STUDENTS

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**ABSTRACT**
The purpose of this research is to identify the problems encountered in teaching and learning English according to secondary school students and to determine the level of differentiation of students' perceptions of the problems in this regard. The population of the study consists of 24,850 secondary school students in Istanbul Sultanbeyli, while the study sample is comprised of 1261 secondary school students. The findings obtained from the study are the following: 1- According to the secondary school students, "teachers' getting angry at mistakes" is the highest factor encountered in English learning and teaching while "teachers' not being prepared for lessons" is the lowest factor. 2- As grade levels and the number of siblings increase, the students' perceptions on the problems encountered in English teaching and learning also rise. 3- There are no significant differences between the students' opinions on the problems encountered in English teaching and learning according to studying in public or private secondary school, parents' occupation, family income, taking/or not English courses, the place and the duration of the subsidiary course variables.
**Key Words:** Foreign Language, English Language Teaching, Learning-Teaching, Student, Secondary School.

## INTRODUCTION

It has been a subject of ongoing research that what language is as a communication tool, how languages have emerged and evolved, and until today, many definitions and theories have been proposed about language (Roucek, 1968). Dilaçar (1968) states that language is a social system which reaches an agreement among individuals. Aksan (1977) also describes language as a versatile and advanced arrangement which provides thoughts, feelings and desires to be transferred to others through using the elements and rules common in terms of sound and meaning in a society. According to Soner (2007), Language was born with the occurrence of the first man described as hominid on Earth a million years ago. From the moment he came to earth, human being as a cultural asset has felt the need to communicate with the environment, and this led to the emergence of different languages in communities. Due to the fact that human being is a live speaking, language keeps up to date in all the ages.

Languages which are the product of ecology and geographical environment have begun to spread in different regions of the globe in time, and they have had different changes because of the reasons such as migration and interaction with other cultures. Some languages have subsisted only in their own communities due to the reasons such as being spoken in a limited geographical conditions and the difficulty of communication with other communities (Aydın and Erdal, 2007), while the utilization rate of some other languages is increasing day by day over the world. English is located at the beginning of this primary language. It can be said that being widely used in the world as both science and technology language, and the political and military power of the states using it as their mother tongue are the reasons for the spread of English (Canbulat and İşgören, 2005).

Foreign language teaching in the Ottoman period came into prominence especially after the second Constitutional Monarchy (1908), and English and German were implemented as optional foreign language lessons while French was mandatory leasson (Soner, 2007). With the establishment of the Republic, it was accepted in Turkey that a Western language teaching would be compulsory, and a second Western language would be an optional foreign language course in some schools (Çelebi, 2006; Sebüktekin, 1981). However French was placed on the top among the compulsory foreign language courses taught in the first year of The Republic (Soner, 2007; Aktuna, 1998). During this period, the state and private high schools providing foreign language training were established. In 1983, Foreign Language Education and Training Act No. 2923 including regulations related to foreign language teaching was enacted (Çelebi, 2006). English lessons in primary education institutions have become essential. Middle school and high school providing foreign language training, and secondary preparatory classes have been established (Akdoğan, 2010).

Since the 1800s, it is observed that the success at the desired level has not been attained in Turkey although it has been made efforts for foreign language teaching (Çelebi, 2006; Demirel, 1999). Although many different teaching methods such as different orientations, use of technological tools, different teaching methods have been applied for this issue, any system which provides the targeted level of foreign language teaching has not been established in Turkey (Gömleksiz, 2014; Kocaman, 1978).

  

In today's world, the importance of learning a foreign language especially English is vital. On the other hand, such reasons as globalization, economic development, technology and innovation in the field of computers, communication cause that English is becoming increasingly common, and becomes the most preferred and taught language (Şahin, 2013; Yıldız, 2006; Ergüç, 2004; Tezcan, 1996). In the New Age 21st Century, English is a global language and it can be easily reached the judgement that almost everyone must know English. Today, technological advances are faster than cultural change. Therefore, knowing a foreign language, especially English, is an integral part of life, i.e. existing. Bartu (2002) emphasizes that teaching a foreign language, especially English as lingua franca, is as important as the instruction of main language in such a world. In this context, the importance of English instruction unarguably emerges in terms of both capturing the global world conditions and adapt to them, and activating individual human strength in Turkey. In the literature (Soner, 2007; Aküzel, 2006; Bakeries, 1983), such factors as teaching methods, student's interest in and attitude towards foreign language, relationship between native language and foreign language, contribution of parents in foreign language teaching, number and quality of teachers, class sizes, density of other courses, relationship between social environment and English use, lack of equipments, managers' attitudes have been put forward as the causes of failure in English learning and teaching.

With this study, it is aimed to put forward the problems encountered in English teaching-learning processes according to secondary school students. In accordance with this main purpose, the problems encountered in English teaching learning according to secondary school students were examined in terms of the variables as gender, grade level, number of siblings, type of school, parents occupation, family income level, taking/or not refresher course, the place and the duration of the course.

## METHOD

In the study, descriptive research method in the survey method was used. The population of the study consists of 24,850 secondary school students studying in the secondary schools in Istanbul Sultanbeyli in 2014-2015 academic year, while the study sample is comprised of 1261 secondary school students selected by proportional sampling method. Problems Encountered in English Teaching and Learning Survey, which was developed by Ergüder (2005) and used as the data collection tool in the study, adapted by being protected largely and finalized by being received on expert opinions. As the result of reliability analysis of the survey, Cronbach's alpha (α) value was found to be 0.897.

## FINDINGS

### 1- Findings Related to the Research Problem:

What Are The Problems Encountered in English Teaching and Learning According to Secondary School Students?

Table 1. The Percent and Means of the Responses of the Survey Items Given by the Secondary School Students

| | | Strongly Disagree | | Disagree | | Undecided | | Agree | | Strongly Agree | | $\bar{X}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | % | N | % | N | % | N | % | N | % | |
| A1 | I do not like English lessons. | 497 | 39,4 | 228 | 18,1 | 230 | 18,2 | 170 | 13,5 | 136 | 10,8 | 2,38 |
| A2 | I'm bored in English lessons. | 443 | 35,1 | 316 | 25,1 | 267 | 21,2 | 149 | 11,8 | 86 | 6,8 | 2,30 |
| A3 | I think the English will not work for me in the future. | 602 | 47,7 | 210 | 16,7 | 153 | 12,1 | 119 | 9,4 | 177 | 14,0 | 2,25 |
| A4 | I see English as a course just to pass the class to take notes. | 597 | 47,3 | 326 | 25,9 | 145 | 11,5 | 110 | 8,7 | 83 | 6,6 | 2,01 |
| A5 | I have difficulty in understanding what to read in English. | 274 | 21,7 | 264 | 20,9 | 311 | 24,7 | 252 | 20,0 | 160 | 12,7 | 2,80 |
| A6 | I have difficulty in understanding what to listen in English. | 300 | 23,8 | 275 | 21,8 | 297 | 23,6 | 232 | 18,4 | 157 | 12,5 | 2,73 |
| A7 | I have difficulty in speaking English. | 278 | 22,0 | 274 | 21,7 | 289 | 22,9 | 257 | 20,4 | 163 | 12,9 | 2,80 |
| A8 | I have difficulty in getting my thoughts in writing in English. | 324 | 25,7 | 276 | 21,9 | 259 | 20,5 | 234 | 18,6 | 168 | 13,3 | 2,71 |
| A9 | I have difficulty in learning the grammar of English. | 377 | 29,9 | 282 | 22,4 | 263 | 20,9 | 201 | 15,9 | 138 | 10,9 | 2,55 |
| A10 | That Turkish and English grammar rules do not resemble each other hinders me to learn English. | 515 | 40,8 | 309 | 24,5 | 228 | 18,1 | 115 | 9,1 | 94 | 7,5 | 2,17 |
| A11 | I do not know how to work for English. | 432 | 34,3 | 282 | 22,4 | 228 | 18,1 | 163 | 12,9 | 155 | 12,3 | 2,46 |
| A12 | I do not spend time outside of class to learn English. | 415 | 32,9 | 293 | 23,2 | 234 | 18,6 | 180 | 14,3 | 139 | 11,0 | 2,47 |



  

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A13 | I do not use technology in teaching English. | 422 | 33,5 | 266 | 21,1 | 217 | 17,2 | 178 | 14,1 | 178 | 14,1 | 2,54 |
| A14 | I do not have enough written resources in foreign language. | 372 | 29,5 | 298 | 23,6 | 263 | 20,9 | 194 | 15,4 | 133 | 10,5 | 2,55 |
| A15 | I do not attend the classes in order not to my friends during the lesson. | 638 | 50,6 | 241 | 19,1 | 150 | 11,9 | 115 | 9,1 | 117 | 9,3 | 2,07 |
| A16 | Our teacher cannot transfer well what he/she knows to us. | 764 | 60,6 | 207 | 16,4 | 126 | 10,0 | 71 | 5,6 | 93 | 7,4 | 1,82 |
| A17 | Our teacher does not come adequately prepared to lessons. | 781 | 61,9 | 231 | 18,3 | 116 | 9,2 | 46 | 3,6 | 87 | 6,9 | 1,75 |
| A18 | Our teacher is angry at the mistakes we make. | 318 | 25,2 | 178 | 14,1 | 248 | 19,7 | 190 | 15,1 | 327 | 25,9 | 3,02 |
| A19 | Grammar is being intensively processed in our English class | 277 | 22,0 | 234 | 18,6 | 409 | 32,4 | 183 | 14,5 | 158 | 12,5 | 2,77 |
| A20 | Our teacher does not make speech activities in lesson. | 624 | 49,5 | 243 | 19,3 | 174 | 13,8 | 98 | 7,8 | 122 | 9,7 | 2,08 |
| A21 | Our teacher does not process listening texts in the lesson. | 678 | 53,8 | 233 | 18,5 | 140 | 11,1 | 97 | 7,7 | 113 | 9,0 | 1,99 |
| A22 | Assignments that our teacher give are too much for me. | 533 | 42,3 | 274 | 21,7 | 193 | 15,3 | 106 | 8,4 | 155 | 12,3 | 2,26 |
| A23 | Our teacher does not care much those who do not understand the lesson. | 595 | 47,2 | 232 | 18,4 | 192 | 15,2 | 100 | 7,9 | 142 | 11,3 | 2,17 |
| A24 | Our teacher does not use technological tools (computers, projectors, smart boards, etc.) in English instruction. | 510 | 40,4 | 170 | 13,5 | 150 | 11,9 | 165 | 13,1 | 266 | 21,1 | 2,60 |
| A25 | Our teacher cannot make lessons enjoyable. | 546 | 43,3 | 262 | 20,8 | 182 | 14,4 | 112 | 8,9 | 159 | 12,6 | 2,26 |
| A26 | Our teacher does not seem eager while processing the lesson. | 648 | 51,4 | 282 | 22,4 | 179 | 14,2 | 71 | 5,6 | 81 | 6,4 | 1,93 |
| A27 | I do not understand the English pronunciation of our teacher. | 519 | 41,2 | 275 | 21,8 | 279 | 22,1 | 97 | 7,7 | 91 | 7,2 | 2,18 |
| A28 | Our teacher process the lesson entirely in Turkish. | 596 | 47,3 | 342 | 27,1 | 174 | 13,8 | 73 | 5,8 | 76 | 6,0 | 1,96 |
| A29 | I do not like our English textbooks. | 507 | 40,2 | 260 | 20,6 | 194 | 15,4 | 125 | 9,9 | 175 | 13,9 | 2,36 |
| A30 | I think that English exams are above our levels. | 465 | 36,9 | 229 | 18,2 | 294 | 23,3 | 129 | 10,2 | 144 | 11,4 | 2,41 |
| A31 | Our English lessons are instructed the teachers from other branches. | 769 | 61,0 | 217 | 17,2 | 121 | 9,6 | 65 | 5,2 | 89 | 7,1 | 1,80 |
| A32 | Subsidiary course materials (computer, projector, sound system, etc.) are not enough in our school. | 394 | 31,2 | 181 | 14,4 | 178 | 14,1 | 184 | 14,6 | 324 | 25,7 | 2,89 |
| A33 | Weekly course hours for English are not enough. | 476 | 37,7 | 232 | 18,4 | 195 | 15,5 | 141 | 11,2 | 217 | 17,2 | 2,51 |
| A34 | The students who want can get more English lessons in our school. | 399 | 31,6 | 209 | 16,6 | 294 | 23,3 | 173 | 13,7 | 186 | 14,8 | 2,63 |
| A35 | I cannot find a comfortable working environment at home. | 616 | 48,9 | 234 | 18,6 | 167 | 13,2 | 114 | 9,0 | 130 | 10,3 | 2,13 |
| A36 | My family does not encourage me to learn English. | 703 | 55,7 | 195 | 15,5 | 164 | 13,0 | 82 | 6,5 | 117 | 9,3 | 1,97 |

According to Table 1, when examined the means of the responses of the survey items given by the students, it is seen that the 18th item ($\bar{X}$: 3,0238) "Our teacher is angry at the mistakes we make" has the highest mean.

According to Table 1, the most negative items which affect English learning and teaching according to the students are respectively as following from highest to lowest: the 32nd item "Subsidiary course materials (computer, projector, sound system, etc.) are not enough in our school" ($\bar{X}$: 2,8914); the 5th item "I have difficulty in understanding what I read English" ($\bar{X}$: 2,8097); the 7th item "I have difficulty in speaking English" ($\bar{X}$: 2,8041); the 19th item "Grammar is being intensively processed in our English class" ($\bar{X}$: 2,7708); the 6th item "I have difficulty in understanding what I listen to English" ($\bar{X}$: 2,7391); the 8th item "I have difficulty in getting my thoughts in writing in English" ($\bar{X}$: 2,7193); the 34th item "The students who want can get more English lessons in our school" ($\bar{X}$: 2,6336); the 24th item "Our teacher does not use technological tools (computers,



  

projectors, smart boards, etc.) in English instruction" ($\bar{X}$: 2,609); the 9th item "I have difficulty in learning the grammar rule of English" ($\bar{X}$: 2,5567); the 14th item "I do not have enough written sources in foreign language" ($\bar{X}$: 2,5535) and the 13th item "I do not use technology in learning English" ($\bar{X}$: 2,5432).
According to Table 1, when examined the means of the responses of the survey items given by the students, it is seen that the 17th item ($\bar{X}$: 1,7526) "Our teacher does not come to class enough prepared." has the lowest mean.
According to Table 1, the items which affect English learning and teaching at least according to the students are respectively as following from highest to lowest: the 31st item "Our English lessons are instructed the teachers from other branches" ($\bar{X}$: 1,801); the 16th item "Our teacher cannot transfer well what he/she knows to us" ($\bar{X}$: 1,8279); the 26th item "Our teacher does not seem eager while processing the lesson" ($\bar{X}$:1,9334); the 28th item "Our teacher process the lesson entirely in Turkish" ($\bar{X}$: 1,9619); the 36th item "My family does not encourage me to learn English" ($\bar{X}$: 1,9794); the 21st item "Our teacher does not process listening texts in the lesson" ($\bar{X}$: 1,996); the 4th item "I see English only as a lesson in which I can get marks and pass the class" ($\bar{X}$: 2,0135); the 15th item "I attend to the lesson in order not to embarrass to my friends during the lesson" ($\bar{X}$: 2,0738); the 20th item "Our teacher does not make speaking activities in the lesson" ($\bar{X}$: 2,0888); the 35th item "I can not find a comfortable working environment at home" ($\bar{X}$: 2,134); the 23rd item "Our teacher does not care much those who do not understand the lesson" ($\bar{X}$: 2,1768).

**2- Findings Related to the Sub-problems:**

1- Are the problems encountered by the students in English teaching and learning different according to gender?

Table 2. Distribution of the problems encountered by the students in English teaching and learning by gender

| Gender | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| Female | 614 | 2,2252 | ,60961 | 1,029 | ,310 |
| Male | 647 | 2,4606 | ,63491 | | |

According to Table 2, there is no significant difference between the male and female students' opinions on the problems encountered in English teaching and learning (p>0.05).

2- Are the problems encountered by the students in English teaching and learning different according to grade level?

Table 3. Distribution of the problems encountered by the students in English teaching and learning by grade level

| Grade | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| 5th Grade | 322 | 2,1550 | ,63482 | 21,772 | ,000 |
| 6th Grade | 269 | 2,2759 | ,61391 | | |
| 7th Grade | 398 | 2,4178 | ,62884 | | |
| 8th Grade | 272 | 2,5364 | ,58689 | | |

According to Table 3, there are significant differences between the opinions of the students studying in different grade levels on the problems encountered in English teaching and learning (p<0.05). These differences are between the 5th and 6th grade students, and 7th and 8th grade students. The higher the grade level of the students, the problems perceptions about English learning and teaching also increase.

3- Are the problems encountered by the students in English teaching and learning different according to school type?

Table 4. Distribution of the problems encountered by the students in English teaching and learning by school type

| School Type | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| State Secondary School | 1118 | 2,3715 | ,63706 | 3,510 | ,061 |
| Private Secondary School | 142 | 2,1463 | ,57080 | | |

According to Table 4, there is no significant difference between the opinions of the students studying in state secondary schools and private secondary schools on the problems encountered in English teaching and learning (p>0.05).

4- Are the problems encountered by the students in English teaching and learning different according to mother occupation?



  

Table 5. Distribution of the problems encountered by the students in English teaching and learning by mother occupation

| Mother Occupation | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| Housewife | 1089 | 2,3519 | ,62950 | | |
| Worker | 116 | 2,3868 | ,66830 | | |
| Artisan | 24 | 2,3102 | ,56896 | 2,247 | ,062 |
| Officer | 31 | 2,0287 | ,63596 | | |
| Other | 1 | 1,8889 | | | |

According to Table 5, there is no significant difference between the opinions of the students whose mothers' occupations are different on the problems encountered in English teaching and learning ($p>0.05$).

5- Are the problems encountered by the students in English teaching and learning different according to father occupation?

Table 6. Distribution of the problems encountered by the students in English teaching and learning by father occupation

| Father Occupation | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| Not working | 55 | 2,4717 | ,57324 | | |
| Worker | 720 | 2,3818 | ,64134 | | |
| Artisan | 231 | 2,2733 | ,57061 | 1,602 | ,072 |
| Officer | 93 | 2,2506 | ,66158 | | |
| Other | 162 | 2,3462 | | | |

According to Table 6, there is no significant difference between the opinions of the students whose fathers' occupations are different on the problems encountered in English teaching and learning ($p>0.05$).

6- Are the problems encountered by the students in English teaching and learning different according to families' income?

Table 7. Distribution of the problems encountered by the students in English teaching and learning by families' income

| Monthly Income | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| 0-750 TL | 177 | 2,4046 | ,63299 | | |
| 750-1500 TL | 545 | 2,3764 | ,60333 | 2,113 | ,097 |
| 1500-2500 TL | 318 | 2,3063 | ,65884 | | |
| 2.500 TL | 221 | 2,2813 | ,66401 | | |

According to Table 7, there is no significant difference between the opinions of the students whose families' income are different on the problems encountered in English teaching and learning ($p>0.05$).

7- Are the problems encountered by the students in English teaching and learning different according to number of siblings?

Table 8. Distribution of the problems encountered by the students in English teaching and learning by number of siblings

| Number of siblings | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| 0 | 37 | 2,2417 | ,62642 | | |
| 1 | 201 | 2,2616 | ,63419 | | |
| 2 | 310 | 2,3248 | ,67157 | 3,048 | ,010 |
| 3 | 362 | 2,3208 | ,62177 | | |
| 4 | 187 | 2,4376 | ,62498 | | |
| 5+ | 164 | 2,4643 | ,57273 | | |

According to Table 8, there are significant differences between the opinions of the students whose sibling numbers are different on the problems encountered in English teaching and learning ($p<0.05$). These differences are between the students who have no sibling and have only one sibling and the students whose sibling number is more than 5. The problem perceptions of the students on the problems encountered in English teaching and learning whose sibling number is 4 and more are higher than the other students.

8- Are the problems encountered by the students in English teaching and learning different according to the condition of getting course?



  

Table 9. Distribution of the problems encountered by the students in English teaching and learning by the condition of getting course

| Course Status | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| Yes | 189 | 2,3485 | ,66907 | ,858 | ,354 |
| No | 1072 | 2,3461 | ,62738 | | |

According to Table 9, there is no significant difference between the opinions of the students who take subsidiary course for English and who do not take subsidiary course on the problems encountered in English teaching and learning ($p>0.05$).

9- Are the problems encountered by the students in English teaching and learning different according to the place of the course?

Table 10. Distribution of the problems encountered by the students in English teaching and learning by the place of the course

| Place of Course | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| Private Teaching Institution | 160 | 2,3630 | ,68923 | ,180 | ,835 |
| Language Course | 11 | 2,2803 | ,51796 | | |
| Tutor | 13 | 2,2692 | ,62684 | | |

According to Table 10, there is no significant difference between the opinions of the students whose course places are different on the problems encountered in English teaching and learning ($p>0.05$).

10- Are the problems encountered by the students in English teaching and learning different according to the duration of the course?

Table 11. Distribution of the problems encountered by the students in English teaching and learning by the duration of the course

| Duration of Course | n | $\bar{X}$ | df | F | p |
|---|---|---|---|---|---|
| 0-3 months | 81 | 2,2545 | ,68887 | 2,464 | ,047 |
| 3 month-1 year | 44 | 2,5467 | ,68291 | | |
| 1-2 year | 38 | 2,3596 | ,68985 | | |
| 2-3 year | 15 | 2,4889 | ,46467 | | |
| 3+ year | 6 | 1,8333 | ,14803 | | |

According to Table 11, there are significant differences between the opinions of the students whose duration of the course are different on the problems encountered in English teaching and learning ($p<0.05$). The problem perceptions of the students on the problems encountered in English teaching and learning who take courses for 3 and more years are lower than the other students.

**RESULTS, DISCUSSION AND RECOMMENDATIONS**

In this study which aims to state the secondary school students' opinions about the problems encountered in English teaching-learning processes, the students see the "teachers' getting angry at mistakes" as the most important factor which affect negatively English learning and teaching while they see the "teachers' not being prepared for lessons" as the lowest factor. It can be said that these answers about the reasons for failure in English learning and teaching overlap with some other research results (Şahin, 2013; Karabıyık, 2011) in the literature. This situation shows that foreign language teaching-learning processes are not only cognitive-based, but also associated with affective domain. Therefore it can be said that teaching-learning process should be organized in this context. The students show mostly the lack of subsidiary course materials and having difficulty in understanding what to read in English as the other problems encountered in the English language learning and teaching. This finding overlaps with the other research results (Çelik & Kocaman, 2016; Akdoğan, 2010, Peker, 2007; Oğuz, 1999) in the literature.

There is no significant difference between the male and female students' opinions on the problems encountered in English teaching and learning. Gök Çatal (2015) also shows in her study that there is no significant difference between the students' problem perceptions according to gender variable. Nevertheless, there are no significant differences between the students' opinions on the problems encountered in English teaching and learning according to studying in public or private secondary school, parents' occupation, family income, taking/or not English courses, the place and the duration of the subsidiary course variables. However, the higher grade levels and higher number of siblings are there, the students' perceptions on the problems encountered in English teaching and learning also rise.

The following suggestions can be made for the research results and future studies: 1- Teachers should be given competences for taking into account the affective characteristics of students and teaching in this context in the process of learning a foreign language. 2- What kind of renovations can be done in English teacher education

  

programs should be put forward. 3- Studies related to parents, school administrators, academics and policy makers should be done about the problems encountered in English learning and teaching.

***NOTE:** This study is produced from the master thesis done at Sakarya University Institute of Education Sciences.

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# PROBLEMS WITH HOMEWORK IN CZECH FAMILIES

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**ABSTRACT**
This paper deals with the completion of homework tasks in Czech families. Homework is an integral part of home preparation for school, in which the parent is an important participant. This qualitative research was aimed at selected parents of primary school pupils in the Czech Republic. The aim of the research was to identify and describe the problems perceived by parents in completing a child's homework tasks. The most frequent problems are parents' lack of time, the quantity of homework and conflicts between parent and child.

The results suggest that the particular attitude and nature of involvement of the individual parent is reflected in the creation and realisation of strategies for solving problems with homework.

## INTRODUCTION

The current Czech system of education is based on the participation of families in the educational process and contains home preparation of pupils for school. Giving regular and primarily written homework is specific for the Czech educational system, has a long tradition and is in a way a reflection of the concept of education in our country. The subject of home preparation is not only a child- pupil but also a parent. Home preparation can be a difficult life situation for the child, especially at the beginning of school attendance and it is obvious that a child expects social support from his parents (Šulová, 2014). We assume, therefore, that involvement in home preparation, active help to a child with homework comes out of the role of parents. Homework thus becomes a key opportunity for concentrated meetings of parents with children, in spite of this fact, it can still be a problematic aspect of family constellations.

The main key players targeted for our text are parents who play a crucial role in preparing their child at home. Mastering this demanding role focuses on time management, organization and strategy in coping with home preparation. At the same time, a parent plays an important role in providing moral support for the child, in the child's motivation to learn and helps the child to handle all tasks associated with home preparation. As mastering of tasks at the same time requires preparation of activities associated with the preparation of environment, time, targeted attention, monitoring, motivation and control of emotions, homework becomes annoying and even a stressful factor affecting family relationships.

Especially in foreign language studies (Corno, 1996; Kohn, 2006; Xu, 2013; Rudman, 2014), we find contradictory approaches to the values and effects of homework. Starý (2005) points out to the existing research on the influence of family to school teaching, appeals to the effects of homework, reflected in the school success at increasing level of education. Parents are the main actors of "home curriculum", which includes family relationships, everyday activities, family demands and supervision of children and the way of life. This home curriculum is according to Starý (2005) a more significant predictor of school learning than socioeconomic status of families. Basically, it does not matter how rich you are, but how well you work with your child at home.

## THE STUDY

To put the problems with homework into perspective, we consider it important to specify the concept of homework in the Czech educational environment. For the purpose of this text, we focused on the environment of primary education in the Czech Republic, a specific target group consists of parents of the first to the fifth-grade pupils.

The Czech educational system does not legally contain the concept of homework. In internal documents, which are mandatory educational documents, we find for example Policy of home preparation. This policy serves to parents, pupils and teachers and sets year-round rules designed by school on the range, frequency, input method, and development and particularly evaluation of homework. Due to the issue of homework in Czech families, we consider it important to demonstrate that these concepts help parents navigate the school children's learning and better organise own homework policy in a family environment.

  

In the Czech environment, we found only sporadic research studies on homework. Maňák (1992, in Mervartová, 2013) conducted a unique research, in an environment of Czech schools which shows that 93% of parents perceive homework as an integral part of teaching. What is homework? Like Průcha, Walterová, Mareš (2009) define Pattal, Cooper and Robinson (2008) homework as a task given by a teacher at school for processing outside of school lessons. Corno (1996) generally defines homework as school work brought home. The form of homework depends on the nature of the subject, while it may be a workbook, worksheet, or an essay. The aim of a teacher is to encourage pupils to return to the matters discussed in school in order to improve or to practice this school work. Homework can be understood by Forsberg (2007) as preparation for studies, tests and examinations. It is, therefore, an integral part of children's daily lives. Homework is not just a child's independent work at home, but also interactive activities shared with other family members, children and represents a linking of school work with real life (Epstein, 2002). Farell, Danby (2013) write that homework is a task prescribed by school and usually compiled under the supervision of an adult, usually a parent or parents at home. Painter (2003) highlights the importance of homework as a bridge between school and home. He considers homework as "a window through which we can observe the child's education."

In relation to the concept of contemporary pedagogy which builds the principles of personal development and shaping strategies for lifelong learning, we are faced with the question of the meaning and function of homework in a pupil's life. We consider it essential to emphasize also the educational function of homework. The child may develop habits for organizing his free time and learns to plan his own work, while he learns to take responsibility for its quality. Skalková (2007) attributes the importance of homework as a tool for diverse independent activity during which raises the risk of stereotype, boring up to the unpleasant necessity that the child is trying to get rid of as soon as possible. The range, content, inappropriate approach to the task and the inadequacy of the child's ability can cause negative impacts on the functioning of the relationship between a parent and a child during homework. Šulová (2014) draws attention to overloading children by the amount of homework in her recommendation that parents should not show their child that they are disappointed by him. You need to have your eyes open, be objective and not to require exaggerated performances from the child when they are already at the limit of their possibilities.

Time organization has quite a major impact on the functioning of the family. Employed parents carefully think about the weekly regime of a child, constantly organize and coordinate the daily program of a child. The time that they have left for the child, is adequately divided according to their own strategies into time spent on school duties and time spent with the child outside of learning. The lack of time or exaggerated claims of parents to the child brings negative effects. The child feels the disruption of family relationships - family tension, more pressure on the child, conflict situations that may cause a loss of interest in children's learning, psychosomatic disorders, physical and mental fatigue of the child appears. Concurrently with negative emotions accompanied by screaming and crying, we are creating an environment saturated with homework problems. Kohn (2007) lists the factors hampering the positive effects of homework, which include a little time for other activities, parents complain about homework that requires their time spent on homework and acts as a factor hampering the relationship between parents and children.

One possible solution for the elimination of problems associated with homework can be correctly typed homework - is funny, playful and interesting, there is no need to invest too much time in it, is not demanding, is reflecting differences in abilities and skills of pupils, stimulates thinking. The strongest argument is that it does not rely on educational work of parents, which often is not able to be provided by them (Čapek, 2015).

**FINDINGS**

For the purpose of this qualitative investigation, it was needed to identify pupils' parents from 1st to 5th class of regular elementary schools in the Czech Republic, who were considered active in home preparation of a child. Three mothers and one father were involved in the research with secondary or university education, all parents of children lived in a marriage in the family model of two parents and two children. In one case it was a five-member family with two parents and three children.

The talks were preceded by the entry into the field, especially in an environment of extracurricular activities for children, where parents meet informally. There were identified parents who, from a pre-interview, expressed interest to participate in this research. Ethical rules of research have been preserved, parents in the statements are introduced under the pseudonym letter. Interview questions were constructed so as not to promote preoccupation of a researcher, through open questions parents fluently talked about their roles in the family environment, relationship with the child and strategies to meet the objectives of home preparation, targeted to homework done

by children. Interviews were conducted during one month, each of the four interviews took time from 30-60 minutes and its course was conducted as an in-depth semi-structured interview. We were interested in basic research areas - How parents perceive obligatory involvement in home preparation of their child? What are the most common problems that parents perceive when homework is done by a child? What these problems come from? How does parents' personalized approach affect the process of home preparation?

The aim of the research was to identify and describe the most common problems with homework of children in ordinary Czech families. The purpose of the interviews was not a priority to analyse the typology and the quality of homework, instead, we were focusing on the personality of a parent as the main actor of home preparation, organizer, manager and strategist who sets the rhythm and character of the afternoon preparing the child for school.

After completing interviews, all of them were transcribed and analysed by open coding. From the codes, main semantic categories were compiled that emerged from interview codes: homework, the role of parents, problems with homework, parental strategies.

Due to the research methodology and the low number of participants is not possible to generalize the results to a larger population sample, they are merely the result of specific views on selected issues with homework in ordinary Czech families. In an analysis of problems associated with homework, we will focus only on those categories that have been identified in different levels and intensity in all parents.

## Importance of homework

Researched parents quite confidently use the terms as homework, preparation for school, and they understand the differences between these concepts. Confirmation that homework is considered a normal part of home preparation, the parent H claims that they do homework every day and it is needed to do it with a child. With the beginning of a child's compulsory school attendance, especially in the first class, there is an increased intensity of intervention of parents in home preparation. From everyday tasks aimed at acquiring reading skills, practicing mathematical ideas and obtaining writing habits, this demanding work passes to finding of parent H that his son goes to the third grade of an elementary school, and recognizes that with advancing years there are fewer tasks, they are more based on the independence of a child, and therefore it is not needed to do these tasks in the presence of parents. What is important, however, is ongoing and follow-up check of homework because their parents are interested in how the task is processed. This reflects the fact that in the Czech school environment is an unwritten rule that a parent signs homework as proof of completing the homework at home.

When analysing the interviews, a subcategory - importance of homework emerged. From the interview with parent O about that "homework is actually a coercive mean for a child to look at something at home, to learn something," we realize consciousness of parents that the purpose of homework is a feedback effect of teaching a child, is a mean for checking school work by the child's parent and repeat tool of learning material for further schooling.

"Homework is often taken out of context. Without a deeper meaning and a little complex." (Bělohradská, Solfronk, Urbánek, 2001) confirm that homework can often be a mere complement to school lessons in the form of mechanical repetition and practising of the curriculum taught at school.

## Parenting strategy

The role of parents in home preparation and in doing homework is irreplaceable, especially in the first grade of elementary school, where children are just learning how to learn, acquire learning habits, and recognize the importance of learning. For parents helping, Štech (2004) considers common learning for an essay or a test, or before examining, checking of independent learning of a pupil, doing an exercise and assignment and control of a parent. Help with solving homework, supervision over its implementation and follow-up checking belong to the identified forms of engagement.

All researched parents confirmed that domestic preparation, which includes homework, is considered to be an obligation that binds to the role of a parent, although it is difficult for them to combine it with other children's activities (clubs, sports, music) and free time for children's playing.

"You must be a tougher mother ... you must have rules." A researched mother confirmed that if there are well-set rules in a domestic environment, especially if you have more than two children, organization and system of

homework management can work. Three out of four parents consider themselves to be strict parents, whose goal is that the child works properly, as accurately as possible, according to their dream ideas. They do it due to their own responsibility and better school results of their child. Father O sees the responsibility for homework dramatically, described his own satisfaction with the homework, that is. Interfere in the homework enough to be satisfied. He sees himself as "above average parent" and says: "I'm trying to anticipate things forward, to the future, I do not do it for my own use, but in order to my son could have a better life in the future. This also relates to the perfectly prepared schoolbag. There must be an order, system, then it has a better effect, not done randomly, then it cannot have the above-average results. Chaos equals to under-average ...“

Since the interviews were conducted with a focus on parents, the role of a child is not a primary goal. Individuality, personality and character of children are closely linked to access to a child to homework. The statement of parents shows that in the first years of attendance (especially the 1st to 3rd class) the child is more or less helpless, he needs the help of parents and their relationship is manifested precisely in learning activities. The main topic of interviews was the identification of problems with homework. Strategies of interviews were open-ended questions, allowing the examinee to open his thoughts to the identification, description and explanation of possible problem solutions.

Time as a problem

Time. Is a central problem for the surveyed parents? The time they are able, often willing to give to the child. Even amount of homework is connected and by parents confirmed with the organization of complementary activities of the child during the week, which are different clubs, courses, and sports activities. Parents are also interested in children to have time for themselves as well, they can use it according to their choice, play, and go out with their friends. The children's free time is then a reward for their parents. If the parents have well set the mode of afternoon tasks and preparation for school, they avoid eventual educational conflicts with the child. Parents confirmed in interviews that the exaggerated emotions, fights, screaming and conflicts are caused mainly by time stress, which is caused by the occupation of parents, special afternoon activities of children. Remaining time for homework is spent by parents’ manipulation, persuasion to fulfil obligations which is often viewed as problematic for children.

Parent M realizes: "We try to have a relationship ... yes, occasionally I am nervous, I raise my voice, and I tell them that I do not want it like this, do not want to be that, but you / kids / are forcing me to do it."

**CONCLUSIONS**

In our society, it is evident that there is an increasing ambition of parents focused on the school success of children (Krejčová, Mertin, Šulová, 2009). The quality of home preparation, and how we, in this paper, also presented a major common activity of parents and children- homework, affects overall climate of family, determines the quality of family life.

In this paper, we introduced the concept of homework in the Czech environment, and we tried to identify the problems of selected Czech families with a child's homework. Completed interviews were conducted with parents of pupils of the first grade of primary school. The most common problems that have been identified through in-depth interviews, we consider the importance of homework in learning children, time spent on homework. These interviews show that parents consider homework as an integral part of everyday life of a child. In spite, homework is perceived by parents as a duty that takes them a part of their afternoon free time.

It is obvious that organization of time, strategies to meet fulfilment of homework by a child is fully directed by them and their parents are becoming major players in this preparation. Despite difficult situations, parents realize that their approach to home preparation contributes to the overall development of the child's personality while helping to shape a child's learning habits. They are willing to see these everyday activities and tasks as granted despite the problems that are solved almost daily. Primarily they think about added value, benefits that the time, effort and involvement in homework brings especially to their children.

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# PROFESIONALIZATION OF UNIVERSITY STUDENTS OF PRESCHOOL EDUCATION

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**ABSTRACT**
The article will be based on empirical data gathered through the so-called thematic writing, a semi-structured text which will be produced by students. The students of this investigation are enrolled in pre-primary education programme at a university in Moravia. The instruction given by researchers engaged the students in thinking about topics as described in the aims of this research. The texts they produced are a reflection of their subjectivity. The participants (N=23) produced three thematic writings during their three-year-long study programme. The first writing was presented in the first year of the programme, when they started their university education. The second writing was created when they were halfway through their studies. The third writing was produced in the final stage of their study when they were deciding whether they will continue in the master´s preschool education programme or start working as preschool teachers.
The study provides the partial results of research which is still currently being worked on with the support of an IGA grant project under the number FHS/2015/04. The project will be completed in 2016.

**Key words:** preschool, professionalization of students, reflection

## INTRODUCTION

In this study our findings are based on the claim that becoming a teacher is a personal and a social process. The choice of the teaching profession is a product of one´s past individual experiences, his/her interpersonal interactions and actions within a particular social and cultural environment, It is also based on an individually construed concept of a teaching profession. There is no given innate concept of a teaching profession. It is construed in time by an individual. This construction is, on the one hand, a social process (that is happening as a part of interpersonal interactions and observations of social models and roles), on the other hand it is a personal process (internal interpretation of one´s own experiences and meanings). Our theoretical concept of the project is inspired by multiple theoretical trends, especially symbolic interactionism and social constructivism (Blumer, 1969; Gerge, 1985; Mallon; 2007; Buckenham, 1998; Epting & Paris, 2006). We were also inspired by studies from our country that focus on exploration of teacher´s identity (Lukas & Švaříček, 2007; Švaříček, 2009; Juklová, 2013).

Teaching is a social category. It does exists neither a priori, nor without human beings. It is created and fixated in social acts, i.e. activities during which people mutually interact and exchange meanings. A social act is a conscious behavior which is accepted in the society and within whose frame a person creates new meanings and softens, specifies or fixates the already existing meanings. Social acts, however, are not only about creating or specifying meanings. On the one hand, social category construes, on the other hand serves as an interpretive frame which helps people understand things and phenomena around them. Consequently, people act in agreement with it.

Creation of a social category of a teacher starts in childhood – at elementary school, or, depending on the situation – in preschool. A child is a participant in social acts in the school environment, s/he interacts with teachers and other pupils, perceives and interprets educational contents that are communicated to him/her. During the educational process s/he constantly specifies and deepens the social category of a teacher. All people with an experience with school education construe their own concept of teaching profession. Those who are teachers, or are about to become teachers, happen to create double construct. The second one is a creation of teacher´s identity.

Social construct of a teacher is individualized, it becomes a part of "I". Those people conform, they adjust to the concept of a teacher, as it is known in the society; i.e. its values, expectations, behavior, since they cannot be in disagreement with it – for in such case they would drop out of the teacher´s role, or they would be in conflict and

  

would face possible social sanctions (such as disregard, sanctions etc.). An individual teacher´s identity is created in a specific process, the outcome of which is a unique teacher. A proof of this claim is that there are no identical teachers when it comes to their preferences, values, attitudes, experiences and behavior. Every teacher is a genuine personality with his/her own identity.

**THE STUDY**

For our study, the partial results of which we are presenting here, we have chosen qualitative approach. It was focused on finding out what students, future teachers, imagine their profession to be like.

The aim was to penetrate the very core of the meanings which participants identify in their situation. In order to proceed, we have chosen an interview method. This method is understood to be inductive, which means that the researcher enters the researched field without any complex theory that could be tested. On the contrary, s/he creates his/her own theory based on the collected information.

The research was conducted with 23 participants, who, at the time of the research, were in the second year of their university study in the Preschool teacher training study programme. They have already completed some of the practical trainings. Our participants were women and one man. Interviews were conducted outside of the university, on the neutral ground, in order not to influence the students. Interviews´ length varied, however, the usual length was 30 – 45 minutes.

**FINDINGS**

Opening the door to the profession could be supported by a number of systematic and conscious steps during one´s studies. Among them: a.) pedagogical practical training, b) the actual work of a preschool teacher.

What we were interested in our research was how pedagogical practical training influences the possible professionalization of future preschool teachers. University students are not satisfied with the number of hours spent on practical training, they think there is not enough of them. This is the reason why they feel afraid when thinking about their future involving standing in front of the whole class of children they would be expected to guide.

*"...regarding the practical training, the university did not give me enough. Given that I can compare with an experience at high school, I know that I don´t have." (W8)*

*"...Just those sittings in are not enough. It is just coming there, having a look at what is happening during the day, but you are just sitting there and writing some notes, and observing, but you are not doing anything with the actual children." (W6)*

Those statements are surprising, because the practical training is included in their study programme from the beginning – since the first year of studies. They also have a chance to participate in various activities organized by the faculty. However, they admit that not everybody uses this possibility. In other words, what is not compulsory, is not necessary to do.

*"Some of my fellow students use all the possibilities of a contact with children, but some don´t. But the possibility is there for everyone." (M1)*

What students especially fail to use for their benefit are so called partial pedagogical projects. It is a non-specified practical training which includes various types of tasks that are focused on practical pedagogical activity within theoretical courses. For example, as part of these projects, a course teacher can organize an excursion, during which s/he can document theoretical postulates presented in the obligatory course. It is especially the seminars that offer the possibility of application via partial pedagogical projects.

What is it going to be like, or what a preschool teacher is going to do, as part of his/her job is a subject of certain ideas. They are not always realistic and many times it happens that fresh graduates are disappointed at first. We are talking about so called reality shock. It is a discrepancy between an idea, formed during the studies, and the actual reality.

It was interesting to observe the transformation since the first year of studies, which was evaluated by the students as follows:

*"In my first year I thought that it is not a job in which you just take care of children. In my second year I have already learned a lot and found out that it is even more difficult than I ever thought. Once you get into it and you see that there is a lot of administration to do, what the teacher has to do and be capable of. Not only the administration, but also diagnostics. So I learned that it is even more difficult, the job just is not easy." (W4)*

*"When I started my studies I thought that being a preschool teacher is a very easy job. That s/he is*

  

*doing nothing, but then I learned how very well prepared and trained s/he must be. S/he has to prepare for the lessons and in the second year I really have to think about every little thing that I am going to do with the kids. So they wouldn´t get hurt, so they would learn something and so on. I always have to be one step ahead of the children." (W2)*

We could observe that the participants had a biased idea about the contents of the preschool teacher´s work.

*"...part of the job should be even that I come to work in good mood and with a positive attitude. S/he should also have some idea what s/he is going to do with the kids that day. Surely s/he should talk to all the kids, should have everyday contact with a particular child." (W6)*

Is it possible to ascribe this to the practical training? We suppose that it is a larger complex of problems that is connected with this idea. On the one hand, it is good for the teacher to be in a good mood, however, it is not enough in order to achieve professionalization of a preschool teacher. What is positive, however, is the emergence of pedagogical optimism, which is often a very needed motivation for the teacher and the reason of his/her success at work.

Students also shared their preoccupations regarding their future job. Here we can see a variety of views on the problems a preschool teacher may face. As problems we understand disadvantages. Some research participants are afraid that they will have to take the work home and that it will influence their personal life.

*"I am rather afraid that once I have my own children and will work as a preschool teacher, I will not enjoy my own kids. That they will suffer because of my job." (W1)*

There were also fears for their own health, when a participant is afraid that the work of a preschool teacher could influence her personality.

*"A disadvantage is that if I worked in that preschool for a long time, many years, it would influence me somehow. For example, all that noise, how kids scream all the time, I would be afraid that I may damage my ears and my vocal cords. Teachers have to shout and speak all the time, which I see as another disadvantage. I could also experience burnout or something. Nobody can foresee any of this." (W5)*

Students are afraid of many problems when working with children during their practical training. Some are afraid of the job itself, for they can identify a lot of dangerous situations.

*"I think I am afraid because of safety. Parents nowadays are extremely fixated on their children and are very worried about them. And if something happened in the school, it would be terrible." (W8)*

*"...Well, the responsibility for all those kids. That it would be also in that job, that one teacher would be with the kids in the morning, and another one in the afternoon. We will actually be constantly in the danger of getting to prison. That is the worst thing about the job. Anything can happen and you can´t even prevent it from happening." (W3)*

*"What I am afraid of is having a child with specific needs in the class. And even more afraid I am that such child would have his/her own assistant. I wouldn´t like to have such a child in my class. My personal opinion is that such children disrupt the whole class. It is already very difficult to combine all the activities, even without someone who needs specific attention. But surely it would also be a great experience. It would push me further for sure, if I had such a child there." (W7)*

It is interesting that in comparison to researches that are being published in the field of professionalization of preschool teachers, none of our participants said that they are afraid of communication with parents.

We were interested in how the participants imagine themselves in the position of a preschool teacher so we could adequately analyze if students actually want to work as preschool teachers.

*"...I certainly can imagine this and am terribly looking forward to it. Because I have come to conclusion that I really want to do that job. And yes, I can imagine even now that I would stand in front of that class, with the knowledge and skills I already have, I would stand in front of those kids and work with them." (W7)*

*"...Probably the kids in kindergarten. You could, well, not manipulate with them, but you can influence them more easily. The older kids, they are more difficult to motivate and to handle in general." (W5)*

*"...Yes, thanks to high school I can imagine what to expect. I could never imagine myself doing anything else. Not even practical training put me off. This idea that I will be happy, is my motivation, which I*

  

*want to accomplish." (W3)*

*"...I have already been to that practical training and I could see I can handle it. Also that I have all those specializations, such as music and fine arts." (W5)*

With our respondents we could see that they are interested in working as preschool teachers and they are convinced that it is a profession that will make them happy.

**CONCLUSIONS**

Concept of teaching profession is construed by every person who have an experience with school education. However, with those who are teachers, or are about to become ones, there is double construct. The second one is creating a teacher´s identity. Social construct of a teacher is individualized, becomes a part of "I". These people conform and adjust to the concept of a teacher that has been accepted by the society, i.e. its values, expectations, behavior, for they cannot disagree with it – in such case they would step out of the teacher´s role, or would get into conflict and face possible social sanctions (such as disregard, sanctions etc.).

Individual teacher´s identity is created in a specific process, the result of which is a unique teacher. The proof of this claim is that there are no identical teachers, when it comes to their preferences, values, attitudes, experiences and actions. Every teacher is a genuine personality with his/her own identity.

The vision of the future profession, however, also had an influence on the future career choice. That has morphed into notions of professional orientation through the perception of:

- child and childhood
- target preferences of preschool teachers,
- the role of the teacher in the preschool

In the Czech Republic, there is also an intense debate about the concept of the teacher as a reflecting practitioner and the training of teachers through reflective practice, which sees the teacher as a professional. In order to become skilled professionals, the teachers do not need just reactive forms of knowledge that are typical for practice, but they also need systematic, theoretical knowledge focused on prototypes. The evaluation of the current state and perspectives of teacher training corresponds with the knowledge of current conditions.

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# PROSPECTIVE PHYSICS TEACHERS' SPECIALIZED CONTENT KNOWLEDGE IN NEWTONIAN MECHANICS

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**ABSTRACT**
What knowledge teachers must hold to be an effective teacher has been particularly investigated for several decades. A first systematic attempt to define teacher knowledge was made by Shulman and his colleagues. Pedagogical knowledge (PK), subject matter knowledge (SMK) and pedagogical content knowledge (PCK) were three main components of their model explaining what knowledge a science teacher must have. However, Ball, Thames, and Phelps (2008) reported some criticism particularly about SMK in that model. In this new perspective, SMK of science teachers is redefined through Common Content Knowledge (CCK), Specialized Content Knowledge (SCK), and Horizon Content Knowledge (HCK). CCK is related to the knowledge and skills which are utilized in other settings as well as teaching. SCK is related to the knowledge and skills which are special to teaching rather than other settings. Finally, what degree a teacher is aware of the relation of a content knowledge to a future content knowledge in the curriculum is defined as the HCK. In this study, an open-ended questionnaire on Newtonian mechanics was administered to 39 prospective physics teachers participating in the Pedagogical Formation Education at Fırat University. That is, the research is a cross-sectional survey study. In the questionnaire, there were three questions about motion in non-inertial frames. The physics teacher candidates were required to draw the free-body diagrams and use the Newton's laws. Because Newton's laws can only be used in inertial frames, they needed to select an inertial frame on the problem solutions. However, they mostly tried to use Newton's laws in non-inertial frames, and thus, could not properly draw the desired free body diagrams either. Indeed, they had to use some imaginary forces such as centrifugal and inertial forces. However, the use of such unrealistic forces is a sign of misconceptions in physics and physics teachers must not suggest their students to use such forces. Sometimes students may suggest different approaches to problems which are unfamiliar to the teacher. In this case, the teacher must be able to decide if the approach is correct or incorrect and if it can be used for all other similar problems if it is correct. This type of teacher knowledge is associated with SCK. As a result, physics teacher candidates in this study were observed to use undesired approaches to solve physics problems in non-inertial frames which even their students must not be encouraged to use. In conclusion, candidate physics teachers seem not to have a desired level of SCK in Newtonian physics.

## INTRODUCTION

In the literature of physics education research, students have been reported to have difficulties in learning and understanding physics concepts (i.e. Wittman, Steinberg, & Redish, 1999; Wosilait, Heron, Shafer, & McDermott, 1998). Such common inabilities in physics learning have been commonly associated with teaching methods; and thus, there is a wide range of literature on teaching methods to improve instruction in physics education (Treagust, 2007). However, effectiveness of teaching methods is associated with strengths and limitations in subject matter knowledge of a teacher (Frank & Speer, 2013; Murphy, 2012). Because the quality of teacher knowledge is assumed to be strongly related to the effectiveness of instruction, what knowledge an effective teacher must hold have been defined and explored for a long time. One of the most systematic definitions about science teacher knowledge was developed by Shulman and his colleagues (Hashweh, 1985; Grossman, 1990; Shulman, 1986, 1987; Wilson, Shulman, & Richert, 1987, as cited in Abell, 2007).

Accordingly, a contemporary term, Pedagogical Content Knowledge (PCK) was defined as the knowledge developed by teachers to help students learn the content. It is influenced by Subject Matter Knowledge (SMK), Pedagogical Knowledge (PK), and Knowledge of Context (KofC). Only the SMK is related to this research and it was claimed to be consisted of four types of knowledge: (1) Science Substantive Knowledge (the organization of concepts, facts, and principles in science), (2) Science Syntactic Knowledge (how science knowledge is derived and proved), (3) Science Content Knowledge (concepts, facts, and procedures), and (4) Beliefs about Science (Abell, 2007; Cochran & Jones, 1998).

However, Ball, Thames, and Phelps (2008) reported some criticism particularly about SMK in that model. In this new perspective, SMK of science teachers is redefined through Common Content Knowledge (CCK), Specialized Content Knowledge (SCK), and Horizon Content Knowledge (HCK). CCK is related to the knowledge and skills which are utilized in other settings as well as teaching. SCK is related to the knowledge and skills which are special to teaching rather than other settings. Finally, what degree a teacher is aware of the relation of a content knowledge to a future content knowledge in the curriculum is defined as the HCK.

**PURPOSE**

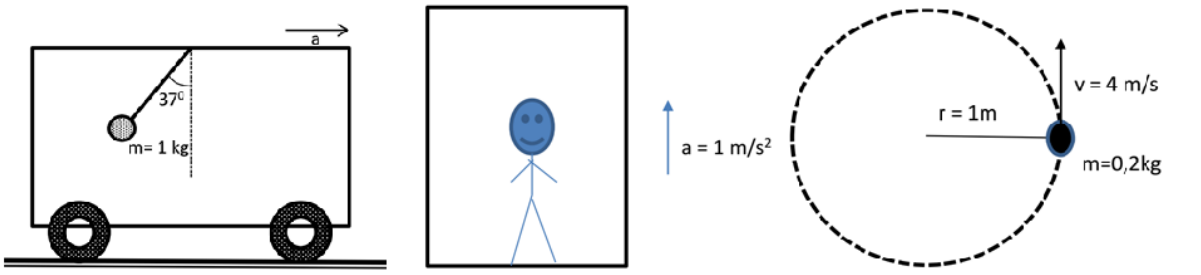
In this study, the SCK of prospective physics teachers participating in the Pedagogical Formation Education at Fırat University about Newtonian mechanics was aimed to explore using an open-ended questionnaire with three items. Being able to solve problems about Newtonian mechanics is a knowledge that physics teachers must obviously have. However, only physics teachers do not need to know it. People in other professions such physicists or engineers must also have that knowledge. Therefore, being able to solve problems on Newtonian mechanics is obviously at least a CCK. However, students have serious alternative approaches to solve such problems. That is, if prospective physics teachers can successfully solve the problems with the desired approach or approaches, they can be claimed to have the CCK. Also, they can be assumed to have the ability to realize the alternative approaches as correct or false. In other words, if they can solve the problems with the desired approaches, they can be assumed to have the SCK as well. Otherwise, they can be claimed to neither SCK nor CCK.

**METHOD**

An open-ended questionnaire with three items was administered to 39 prospective physics teachers to explore their SCK on Newtonian mechanics. They took the instrument altogether in the beginning of the first term, and therefore, the study is a cross-sectional survey study (Fraenkel & Wallen, 1996).

**INSTRUMENT**

In the questionnaire, there were three questions about motion in non-inertial frames. Candidate physics teachers were asked for drawing the free-body diagrams and using the Newton's laws to solve the problem. Related figures with required information to introduce the questions are presented in Figure 1.




a) A ball suspended on the ceiling of a train accelarating with a magnitude of a is shown. Mass of the ball and angle of the string are given to calculate a.

b) A child on a scale in an elevator which accelerates upward with a magnitude of a is shown. Mass of the child and magnitude of a are given to calculate what the child reads on the scale.

c) Top view of a ball with uniform circular motion on a table is shown. The radius, and mass and speed of the ball are given to calculate tension on the string.

Figure 1. Figures related to items of the open-ended questionnaire.

**SAMPLE**

Thirty-nine prospective physics teachers who were attending a one-year pedagogical formation education program at Fırat University participated in the research. That is, the sampling technique was convenience sampling (Fraenkel & Wallen, 1996, pp. 90-113). All of them had had bachelor's degree in physics from different universities in Turkey prior to that program. However, most of them were graduated from universities in Eastern Anatolia. In addition, twenty-three participants were male while sixteen of the participants were female.

**RESULTS**

Responses of the prospective physics teachers to the items of the open-ended questionnaire were categorized from the best response to the poorest (no answer). The best response is the correct solution with the desired Newtonian approach. In detail, as stated in the "instrument" section, all the open-ended questions are about non-inertial frames (accelerating frames). However, all physics laws hold only in inertial frames (Morin, 2007, p. 511). That is, an observer on the ground outside the non-inertial frame can properly use the Newton's laws. Nonetheless, it is possible to use the Newton's laws for an observer in the non-inertial frame provided that some imaginary forces such as centrifugal force are used (Morin, 2007, p. 463). To sum up, the desired approach is the former one. However, the prospective physics teachers were commonly observed to use the later one (non-Newtonian approaches) to solve the problems. Table 1, 2, and 3 present the categorized responses to Items 1, 2, and 3.

Table 1. Evaluation of Responses to the first item

| Evaluation | Frequency |
|---|---|
| Correct result using Newtonian approach | 0 |
| Correct result using non-Newtonian approach | 6 |
| Correct result without free body diagram | 2 |
| Other solution | 29 |
| No answer | 2 |

When the responses to the first question were investigated, there were no correct results with Newtonian approach. There were only 8 correct results. However, for 6 of them, non-Newtonian approaches were used. In appendices, some solutions by prospective physics teachers were shown. In Appendix A, a teacher is seen to use "inertial force" and finds the correct result. Indeed, there is no such a force in physics and it is imaginary. In order to solve the problem from the point of view of an observer in the non-inertial frame, such imaginary forces must be used. However, this is not the proper approach to solve the problem. In Appendix B, a prospective teacher is seen to use even "centrifugal force" to get the correct result. In Appendix C, "centrifugal force" is again used; however, the problem solution is incorrect. In addition, there are 2 solutions the correct result is obtained without depicting a free-body diagram. Therefore, it cannot be decided if the desired approach was used or not. By the way, there were 29 irrelevant solution and 2 black answers as well.

Table 2. Evaluation of Responses to the second item

| Evaluation | Frequency |
|---|---|
| Correct result using Newtonian approach | 4 |
| Incorrect result using Newtonian approach | 3 |
| Correct result using non-Newtonian approach | 3 |
| Other solution | 2 |
| No answer | 27 |

When responses to the second question are evaluated, 4 desired solutions are observed. Although Newtonian approach is used, there are three incorrect results. Non-Newtonian approach was used in three solutions. In these solutions, "inertial force" was again used. Interestingly, most of the prospective teachers gave no answer for this question.

Table 3. Evaluation of Responses to the third item

| Evaluation | Frequency |
|---|---|
| Correct result using Newtonian approach | 1 |
| Correct result using non-Newtonian approach | 8 |
| Incorrect result using non-Newtonian approach | 2 |
| Other solution | 13 |
| No answer | 15 |

For the third question, there was only one correct solution using the Newtonian approach. However, the reaction force by the surface was not depicted in the free-body diagram of that solution. That is, the solution could not be indeed accepted to be completely correct. Nevertheless, the use of centripetal force instead of the centrifugal force and the correct result caused the researcher to indicate the solution as the correct one. The common non-Newtonian approach in this question was the use of centrifugal force. However, this non-Newtonian approach mostly results in the correct answer. There are 2 incorrect answers in spite of the use of centrifugal force. Problem solutions coded as "other solution" were mostly not coherent or intelligible answers. Totally 28 responses were coded as either "other solution" or "no answer."

**CONCLUSIONS**

In this study, responses of 39 prospective physics teacher attending a Pedagogical Formation Education program to three-open ended questions in non-inertial frames were evaluated to explore whether they have CCK and SCK on Newtonian mechanics or not. The results indicate that most physics teacher candidates demonstrate a lack of

knowledge. In sum, there are few solutions but they are with non-Newtonian approach. They seem not to be aware inertial and non-inertial frames, and that all physics laws hold in inertial frames. They prefer to solve such physics problems from the point of view of an observer in the non-inertial frame. Therefore, they need to use some imaginary forces such as inertial or centrifugal forces.

It is assumed that providing prospective physics teachers with regular physics courses in undergraduate level is sufficient for them to get an optimum level of understanding of physics concepts (Cochran & Jones, 1998). This study reveals that such an assumption is misleading. If the prospective teachers had given correct responses to the questions, they may have been assumed to have SCK as well as CCK. However, they seem to have neither CCK nor SCK. As a result, physics teacher education programs seem to be revised and serious precautions must be taken so that qualified physics teachers are trained. For example, Frank and Speer (2013) investigated whether novice physics instructors' knowledge develops via activities of attending to student work and they observed some instructors to develop new knowledge on either students' thinking or the physics content. Such types of research may be very beneficial for training qualified physics teachers.

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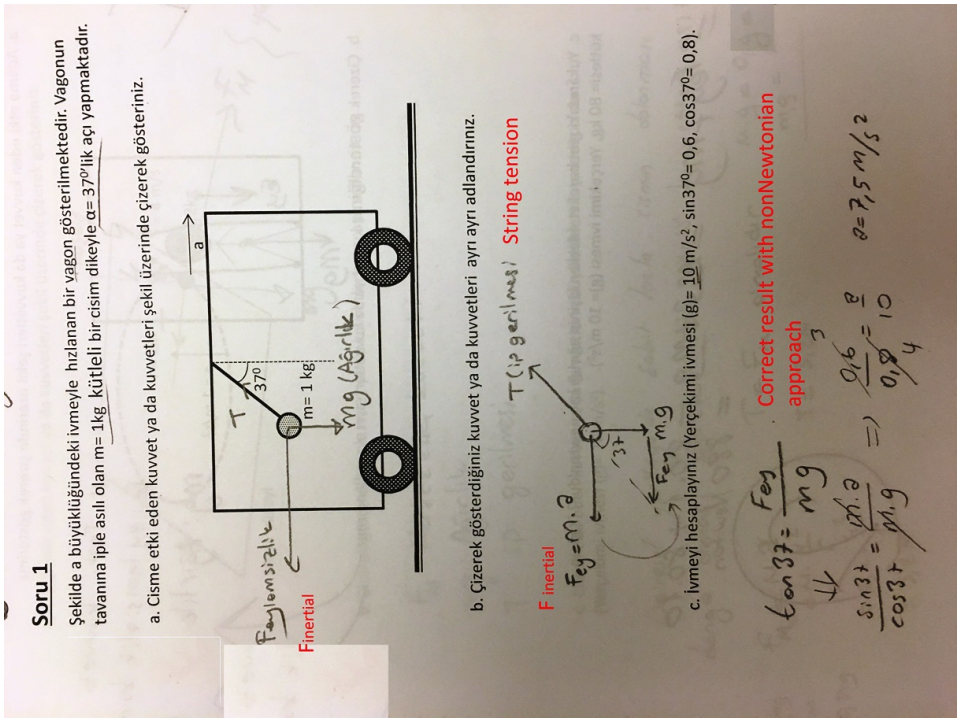
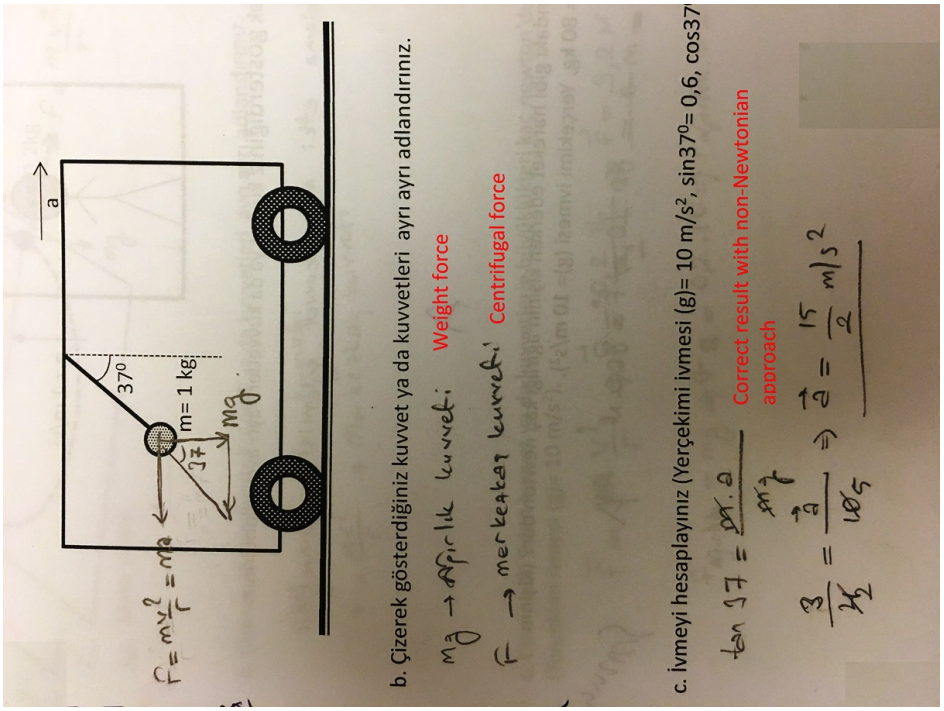
**APPENDICES**

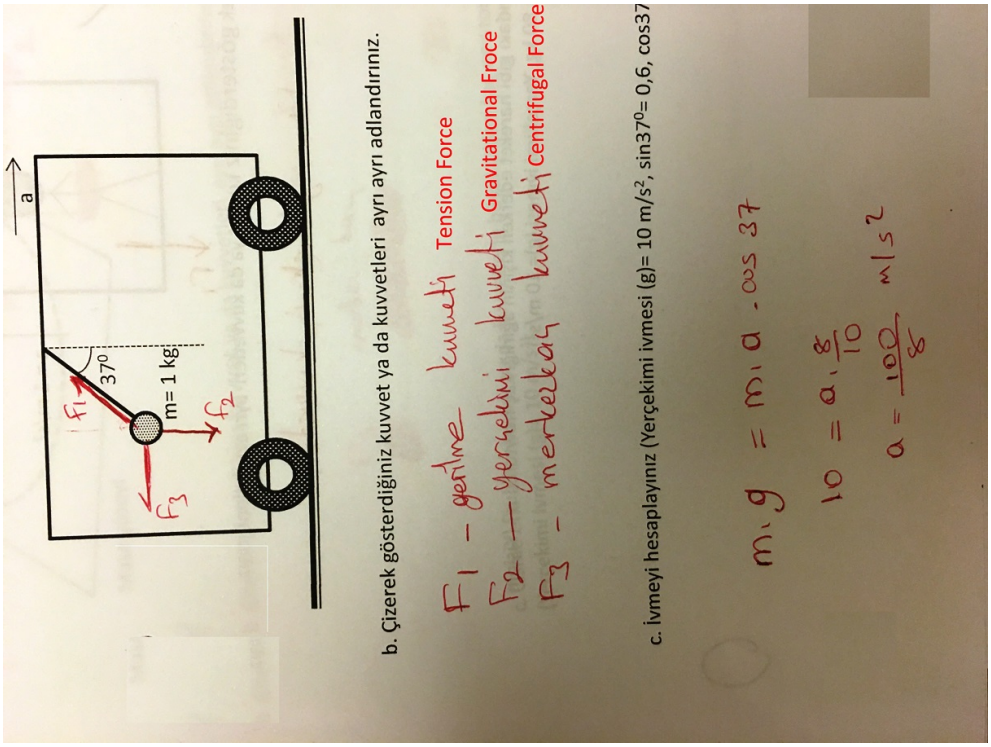



A. Correct result with non-Newtonian Approach




B. Correct Result with non-Newtonian Approach




C. Incorrect Result with non-Newtonian Result

# PROSPECTIVE TEACHERS' METAPHORS ABOUT SCIENTIFIC RESEARCH METHODS COURSE

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**ABSTRACT**
The purpose of this study is to examine and classify the metaphors that prospective teachers formulated to describe the course "Scientific Research Methods". This study was designed with a phenomenology approach which is one of the qualitative research methods. The participants in the study were chosen with the method of availability sampling from primary school undergraduate students in the 2015–2016 academic years. The participants of the study are the students who attend "Scientific Research Methods" course. Participants completed the prompt "Scientific Research Methodscourse is like . . . because ..." by focusing on only one metaphor to indicate their conceptualization. The content analysis technique was used to analyze the data. Firstly the metaphors and then conceptual categories were identified according to metaphors. Prospective teachers used 91 valid metaphors in the research. Metaphors mostly used for Scientific Research course are life, mathematics course, philosophy, and jigsaw puzzle.

**INTRODUCTION**
Information increases and updates itself due to the rapid changes in technology. The rapid changes ininformation make it more difficult to learn information. However, the fact that technology is in every part of life makes it easier for individuals to reach information at any time. An important point stands out here: knowing how to find the information, subject etc. they are looking for as well as knowing how to solve problems. According to Tuncer & Özeren (2012) the most practical way of solving problems is increasing the scientific research potential by education. Because, through education, individuals critical thinking ability can be raised. Besides, with realistic education policies in line with our future expectancies, individuals voluntarily under take services for the society. The ability to do research is an important skill that must be possessed by each individual, especially teachers and students in this age.
For many teachers, education research is indirectly related to daily problems and decisions encountered at school. Needs are generally local. If research is localized and schools are encouraged to participate in studies, problems can be solved. At this point, the research knowledge of teachers and relevant education becomes important (White, 1977).As Kur, DePorres & Westrup (2008) state research method course help studentsdevelop research, leading and/or working at project teams, identifiying existing information skills.
"Scientific Research Methods" courses are included in undergraduate programs of Faculties of Education. This course is included in the undergraduate program of the second semester of third grade in Preschool Teaching, Physical Education and Sports Teaching departments, the second semester of second grade in Classroom Teaching departments, the first semester of second grade in primary school Mathematics, Turkish, English, Social Sciences Teaching departments, first semester of third grade in Science, Art Teaching departments, the first semester of fourth grade in Computer and Instructional Technologies, Music Teaching, Religious Culture and Moral Knowledge, Psychological Counseling and Guidance departments. The "Scientific Research Methods" course in the Classroom Teaching Program includes scientific and basic concepts (phenomenon, knowledge, absolute, true, false, universal knowledge etc.), basic information about the science history, the structure of scientific research, scientific methods and different opinions about them, problem, research model, population and sample, data collection and data collection methods; recording, analysis, interpretation and reporting of data. The course content is the same in all programs (Undergraduate Teacher Training Programs of Faculties of Education, 2007).
The fact that the "Scientific Research Methods" course is included in undergraduate, graduate and doctorate programs makes it difficult to plan its contents, to prepare and use textbooks. Textbooks of the Scientific Research Methods course can be used in all three levels of programs. Wiggins & Burns (2009) state that research methods are generally one of the more challenging subjects for learning and teaching.Although it is generally assumed that students will apply these research skills in the workplace after graduation, many students do not (Greenwald, 2006). The student teachers believed that research is a difficult process, it is hardly useful for their professional life, have very low relevance to their lives, and it increases their anxiety level (Butt, Shams, 2013). Few studies examined students' anxiety levels in learning research methods (Papanastasiou, Zembylas, 2008). Studies in the area of scientific research and teaching scientific research methods (Norris, 1977, Wilson, Onwuegbuzie, 2001, ÇoklukBökeoğlu, & Yılmaz, 2005, Papanastasiou, 2005, Murtonen, 2005, Papanastasiou,

  

Zembylas, 2008, Murtonen, Olkinuora, Tynjala, Lehtinen, 2008, Wiggins, Burns, 2009, Taşdemir & Taşdemir, 2011, Korkmaz, Şahin, Yeşil, 2011, Tuncer, Özeren, 2012, White, 2013, Butt, Shams, 2013, Barron, Apple, 2014, Turner, Crane, 2016) and teaching action research methods (Kur, DePorres and Westrup, 2008) were analyzed. In this study, opinions of prospective teachers about the "Scientific Research" course are given in relation to metaphors.

Metaphor is used during daily life as well as is frequently used in thoughts and actions. The aim of metaphor is to understand and interpret an issue according to another issue (Lakoff, Johnson, 2005). Studies of Lakoff and Johnson (2005) on metaphors are considered as an important stage. Recently, data has been collected by using metaphors in qualitative studies. In any metaphor relations, at least three factors should be observed: subject of the metaphor, source of the metaphor and reference of the metaphor from source to the subject of it (Forceville, 2002, cited in Saban Koçbeker, & Saban, 2006). In education field, metaphors on different concepts are studied (Schmitt, 2005, Saban, Koçbeker, & Saban, 2006, Massengill Shaw, Barry & Mahlios, 2008, Cerit, 2008, Pektaş, Kıldan, 2009, Töremen, Döş, 2009, Şahin, Çermik & Doğan, 2010, Thomas, McRobbie, 2010, Kalyoncu, 2012; Uzun, Paliç, 2013, Demirtaş, Çoban, 2014; Arslan, Karataş, 2015). Teaching research methods to undergraduate students in education is not easy task. Despite the best intentions of instructors, research method course may cultivate anxiety among students. Thus, metaphors will be used in this study, in order to find out how the "Scientific Research Course" is going on and what the prospective teachers are thinking about this course. The aim of this research is to reveal the perceptions of Primary School prospective teachers about the concepts of "Scientific Research Methods Course" through metaphors. For this purpose the following questions are to be answered:

1. What metaphors do Primary School prospective teachers use to describe concept of "Scientific Research Methods Course"?
2. What conceptual categories can be derived from these metaphorical images?

**METHODS**

In this study, phenomenology - one of the qualitative research designs - was used in order to determine the metaphors of primary school prospective teachers on scientific research course. Phenomenology design focuses on the facts which are being aware of but are not known profoundly and in detail (Yıldırım, Simsek, 2005).

*2.1.Study Group*

The participants in the study were chosen with the method of availability sampling from primary school undergraduate students in the 2015–2016 academic years. Participants consist of 95 females and 26 males. Prospective teachers of 121 are at the second class of Classroom Teaching Program.

*2.2.Data Collection Tool*

In Classroom Teaching Program Scientific research course is at the second class. In order to observe how the course proceeds and also to take the students' opinions about the course, the students were asked to define Scientific Research Course with a metaphor in mid-term exam by the researcher. Participantswere asked to complete the sentences such that "Scientific Research Course is like ....., because ....." . Prospective teachers wereasked to fill in the blanks according to their own thoughts. Participants were given thirty-five minutes to answer the exam. In order to motivate students it was said that 5 point would be given to the all answers.

*2.3.Data Analysis*

During the time period of data collection, 149 prospective teachers were asked to write a metaphor regarding "Scientific Research Methods Course" . Analysis and interpretation of metaphors are composed of five stages that are recording the data, elimination, forming the categories, issue of reliability and presentation of the data.

Recording the data: Survey forms filled by the participants were numbered.One word file was opened for metaphor on Scientific Research Course and then an Excel file regarding personal information was opened and then all information were recorded.

Eliminating and sorting stage: After two researchers analyzed metaphors written by prospective teachers, 30 exams of the participants were excluded from the assessment for a variety of reasons (to leave blank, not to mention about metaphors or not to write the reason of it even if they wrote about a metaphor etc.). In research 119 participants' metaphor expressions were evaluated.

Forming the categories: Metaphors that were chosen at the stage of eliminating were analyzed with the method of content analysis. First of all metaphors were determined and then metaphors were collected under categories according to the explanations written by participant.

Reliability study: Two separate researchers examined and coded the metaphors of prospective teachers on Scientific Research Methods. Reliability ofthe research was calculated by using the formula of Reliability = Consensus / (Consensus + Divergence) (Miles,&Huberman, 1994). Reliability co-efficient were found as .90 in Scientific Research Methods Course metaphor of primary school prospective teachers.

Presentation of data: Metaphors were presented according to categories. Due to the fact that direct quotations reflect the opinions and experiences of participant clearly (Yıldırım, Şimşek, 2005), examples were given from

  

the metaphors used by the participants. At the end of the example statements taken from participants, survey numbers were written in brackets.

**FINDINGS**

In this section findings will be discussed according to sub problems.

3.1. *Metaphorsof prospective teachers on "* Scientific Research Course*" concept*

Table 1.*Metaphors of prospective teachers on "Scientific* Research Course*" concept*

| Referenced concept | Metaphors | Metaphors n | Students n |
|---|---|---|---|
| **Abstract** | Life (n=10), real life (n=1), similar to life itself (n=1), Philosophy (n=6), philosophical thought (n=1), solution (n=1), science (n=1), literature (n=1) | 8 | 22 |
| **Action Metaphors** | To grow fruit (n=1), to read a book (n=2), to do master's degree (n=1), to solve puzzle (n=1), to know people (n=1), to do homework (n=1), to discover new things (n=1), to do research in a library (n=1), to do puzzle (n=1), to be in a library (n=1), to prepare project (n=1), to learn writing at first grade (n=1), to search out (n=1), to discover a new place (n=1), to dibble (n=1) | 15 | 16 |
| **School/School-related** | Mathematics course (n=6), history course (n=1), statistics course (n=1), science and technology (n=1), Turkish course (n=1), physics course (n=1), master (n=1), courses like mathematics-science-Turkish (n=1), laboratory course (n=1), project papers (n=1) | 10 | 15 |
| **Human** | Baby (n=1), child (n=1), a child keen on learning-researching (n=1), a child's asking questions constantly (n=1), human intelligence (n=1), childhood (n=1), a curious child (n=1), versatility (n=1), well-read (n=1), a curious gossiper woman (n=1) | 10 | 10 |
| **Process metaphors** | Trekking (n=1), comprehension and analysis of course and life (n=1), construction of a building (n=1), analysis of life step by step (n=1), to solve a difficult mathematical problem (n=1), to write a thesis – article (n=1), endless road (n=2), endless story (n=1), preliminary for master degree (n=1) | 9 | 10 |
| **Nature** | Sea (n=1), Nature (n=1), galaxies in space (n=1), a vast world (n=1), space (n=1), story about ant and cicada (n=1), tree (n=1), vast seas (n=1) | 8 | 8 |
| **Crossword** | Jigsaw puzzle (n=4),puzzle (n=2), crossword (n=1), labyrinth (n=1), sudoku (n=1) | 5 | 9 |
| **Profession** | Traveler (n=1), researcher (n=1), authorship (n=1), library researcher (n=1), investigation (n=2), scientist (n=1) | 6 | 7 |
| **Object** | Unopened box (n=1), chain (n=1), ladder (n=2), big encyclopedia (n=1), books (n=1) | 5 | 6 |
| **Guiding** | Lighthouse (n=1), library guide (n=1), signboard (n=1), map (n=1) | 4 | 4 |
| **Art** | Theatre-drama (n=1), French songs (n=1), painting (n=1), documentary (n=1) | 4 | 4 |
| **Food** | Chocolate (n=1), sunflower seeds (n=1), surprise egg (n=1) | 3 | 3 |
| **Place** | Library (n=1), Laboratory (n=1), Butterfly valley (n=1) | 3 | 3 |
| **Feeling** | Hopelessness (n=1), curiosity (n=1) | 2 | 2 |
| **Total** | | 91 | 119 |

Prospective Classroom Teachers used 91 valid metaphors to define the "Scientific Research Course". The prospective teachers chose the metaphors out of the concepts of abstract, action, school-related, human, process, nature, crossword, profession, object, guiding, art, food, place and feeling. 22 prospective teachers explained the Scientific Research course with 8 metaphors out of abstract nouns. The metaphors used are:life (n=10), real life (n=1), similar to life itself(n=1), Philosophy (n=6), philosophical thought (n=1), solution (n=1), science (n=1), literature (n=1). 17 prospective teachers explained situations containing action using 16 metaphors. The action

  

phrases are: To grow fruit (n=1), to read a book (n=2), to do master's degree (n=1), to solve puzzle (n=1), to know people (n=1), to do homework (n=1), to discover new things (n=1), to do research in a library (n=1), to do puzzle (n=1), to be in a library (n=1), to prepare project (n=1), to make experimental research (n=1), to learn writing at first grade (n=1), to search out (n=1), to discover a new place (n=1), to dibble (n=1). 16 prospective teachers used 10 metaphors related to school. The metaphors related to school are: Mathematics course (n=6), history course (n=2), statistics course (n=1), science and technology (n=1), Turkish course (n=1), physics course (n=1), master (n=1), courses like mathematics-science-Turkish (n=1), laboratory course (n=1), project papers (n=1). 10 prospective teachers used 10 metaphors related to humans. The human metaphors are:baby (n=1), child (n=1), a child keen on learning-researching (n=1), a child's asking questions constantly (n=1), human intelligence (n=1), childhood (n=1), a curious child (n=1), versatility (n=1), well-read (n=1), a curious gossiper woman (n=1).10 prospective teachers used 9 metaphors explaining the process. The metaphors explaining the process are:Trekking (n=1), comprehension and analysis of course and life (n=1), construction of a building (n=1), analysis of life step by step (n=1), to solve a difficult mathematical problem (n=1), to write a thesis – article (n=1), endless road (n=2), endless story (n=1), preliminary for master degree (n=1). 8 prospective teachers used 8 metaphors related to nature. The metaphors related to nature are: Sea (n=1), nature (n=1), galaxies in space (n=1), a vast world (n=1), space (n=1), story about ant and cicada (n=1), tree (n=1), vast seas (n=1).

9 prospective teachers used 5 metaphors related to crossword. The metaphors related to crossword are: jigsaw puzzle (n=4), puzzle (n=2), crossword (n=1), labyrinth (n=1), sudoku (n=1). 7 prospective teachers used 6 metaphors related to professions. The metaphors related to professions are: Traveler (n=1), researcher (n=1), authorship (n=1), library researcher (n=1), investigation (n=2), scientist (n=1). 6 teachers used 5 object metaphors. The metaphors selected out of objects are:unopened box (n=1), chain (n=1), ladder (n=2), big encyclopedia (n=1), books (n=1). 4 prospective teachers used 4 guiding tools as metaphors. The guiding tools are: lighthouse (n=1), library guide (n=1), signboard (n=1), map (n=1). 4 prospective teachers used 4 art concepts as metaphors. The metaphors related to art are: theatre-drama (n=1), French songs (n=1), painting (n=1), documentary (n=1). 3 prospective teachers used 3 metaphors related to food. The metaphors related to food are: chocolate (n=1), sunflower seed (n=1),surprise egg (n=1). 3 prospective teachers used 3 metaphors related to place. The metaphors related to place are: library (n=1), laboratory (n=1), butterfly valley (n=1). 2 prospective teachers used 2 metaphors related to feelings. The feeling metaphors are:hopelessness (n=1), curiosity (n=1).

*3.2. The reasons why the prospective teachers used those metaphors*

The reasons why the prospective teachers used the metaphors related to the "Scientific Research Course" are analyzed in 16 categories. The categories are: leads to the solution of the problem, a combination of different transactions/areas,ambiguous, leads the way for research, the scientific point of view is already present in life, motivates, requires individual effort, includes meronymy, an endless process, requires effort, improves, learned in class, has rules, problem-based, hard to understand, an obligation. The categories are given below:

Category 1: The Scientific Research Course is an endless process: 18 prospective teachers state that the scientific research course is an endless process. The metaphors used by those prospective teachers are: a child's asking questions constantly, tree, vast seas, endless road (n=2), a big encyclopedia, space, theatre-drama, investigation, to write a thesis/article, project papers, a curious child – a child keen on learning/researching, puzzle, authorship, curious/gossiper women, traveler, scientist, laboratory course. It is stated that the scientific research course is endless; it is a dynamic and self-renewing process. For example, a prospective teacher said: *"The scientific research course is like space because it is endless and has a lot of things that are unknown or known but need to be explored further (P. T. 111)."*

Category 2: The Scientific Research course improves: 15 prospective teachers state that the scientific research course improves a student in time. The metaphors used by those prospective teachers are: books, to search out, to be a researcher, library, to learn writing at first grade, to discover new things, versatility, endless story, story about ant and cicada, a vast world, mathematics course, ladder, galaxies in space, life, childhood. They stated that the scientific research course improved in terms of thought and practice. For example, a prospective teacher said: *"The scientific research lesson is like a vast world because it is a course where we can improve ourselves by learning new things and doing research (P. T. 38)."*

Category 3: The Scientific Research course has rules: It is explained with 14 metaphors that the scientific research course has rules. The metaphors used by the prospective teachers are: life (n=3), library, science, a mathematical problem, Turkish course, to do research in a library, library researcher, philosophy (n=3), mathematics, history courses. It is stated that the determined rules must be followed while conducting scientific research. For example, a prospective teacher said. *"The scientific research course is similar to real life because we need to use some methods to solve problems in real life as well (P. T. 61)."*

  

Category 4: The Scientific Research Course has meronymy: 12 prospective teachers explain the scientific research course with meronymy. The metaphors used by those prospective teachers are: jigsaw (n=3), crossword (n=1), to do puzzles (n=2), to solve puzzles (n=1), human intelligence, chain, construction of a building, mathematics course, to grow fruit. If scientific research is considered as a whole, this whole has parts, namely sections. The sections of the research come together and constitute the whole. For example, a prospective teacher said: *"The scientific research course is like construction of a building because we are learning how to write a thesis. We learn a subject every week and complete the thesis in parts. We are learning how to conduct research (P. T. 101)."*

Category 5: The Scientific Research Course leads the way: 8 prospective teachers state that the scientific research course leads the way. The metaphors used by those prospective teachers are: lighthouse, map, signboard, documentary, master's degree, Science and Technology course, to do master's degree, preliminary for master's degree. It is pointed out that the scientific research course provides information especially for researchers and informs them about how to conduct research. For example, a prospective teacher says: *"The scientific research course is like a map because when used properly, it always shows the best way (P. T.79)."*

Category 6: The scientific point of view is already present in life: 8 prospective teachers state that the scientific point of view used/gained in the scientific research course is a part of life. The metaphors used by those prospective teachers are: life (n=3), sense of curiosity, analysis of life step by step, to know people, baby and to understand life. The prospective teachers in this category state that they use what they learned in the scientific research in their daily lives. For example, a prospective teacher said: *"The scientific research course is similar to life because life mostly requires a scientific and objective approach to some incidents (P.T. 11)."*

Category 7: The Scientific Research Course leads to solution of problems: 6 students state that the scientific research course leads to solution of problems. The metaphors used by the students are: solution, labyrinth, child, laboratory, well-read, a curious child. It is pointed out that scientific research is conducted in order to achieve results. For instance, a prospective teacher said: *The scientific research course is like a curious child because it is important for reaching information and results (P. T. 46)*."

Category 8: The Scientific Research Course is ambiguous: 6 prospective teachers state that scientific research is ambiguous. The metaphors used by those prospective teachers are: life, surprise egg, unopened box,sudoku, to discover a new place and hopelessness. It is stated that scientific research cannot be predicted, it is possible to encounter different situations, and it may have different features. For example, a prospective teacher said: *The scientific research course is like an unopened box because an unopened box arouses curiosity, the expected or more can come out of it (P. T. 60)."*

Category 9: The Scientific Research course requires effort: 6 prospective teachers state that the scientific research course requires effort. The metaphors used by those prospective teachers are: butterfly valley, painting, philosophy, to prepare a project, to read a book, and ladder. It is stated that it is necessary to make efforts all the time and not to give up in the scientific research course. For example, a prospective teacher said: "*The scientific research course is like a butterfly valley because although it seems difficult, it is not impossible to achieve (P. T. 38)."*

Category 10: The Scientific Research Course is problem-based: It is explained with 5 metaphors that scientific research starts with a problem. The metaphors used by the prospective teachers are: philosophical thought, life (n=2), philosophy (n=2), statistics course, investigation. The problem constitutes the start of the scientific research. For example, a prospective teacher said: *"The scientific research course is like philosophy because it starts with a question (P. T. 120)."*

Category 11: The Scientific Research course is learned through individual effort: 5 prospective teachers state that the scientific research course requires individual effort. The metaphors used by those prospective teachers are: sea, jigsaw, mathematics course, life itself, to read a book in a library. It is stated that the individual effort of the student is important in the scientific research course. For example, a prospective teacher said: *"The scientific research course is like reading a book in a library because we obtain knowledge with our own effort (P.T. 23)."*

Category 12: The Scientific Research course motivates: 3 prospective teachers state that the scientific research course is motivating. The metaphors used by those prospective teachers are: chocolate, sunflower seed, trekking. It is seen that the scientific research course builds up passion for more research as research is conducted. For example, a prospective teacher said: *"The scientific research course is like a sunflower seed because when a person sees that he or she can write or understand something, he or she wants to do more(A person cannot get enough of sunflowers)(P.T. 119)."*

Category 13: The Scientific Research course is learned in class: The fact that the scientific research course is learned in class is explained with 4 metaphors. The metaphors used by the prospective teachers are: mathematics course, to dibble, literature, library guide. It is stated that the scientific research course is a course that must be learned in class and cannot be learned unless classes are attended. For example, a prospective teacher said: *"The scientific research lesson is similar to dibbling because no results can be achieved unless the scientific research course is attended as a sapling withers away if it is not tended (P. T. 38)."*

  

Category 14: The Scientific Research Course is the combination of different transactions/areas: 2 prospective teachers state that scientific research is the combination of different transactions or areas. The metaphors used by those prospective teachers are: courses like mathematics-science-Turkish and mathematics course. It is explained that the scientific research course is performed by combining many different transactions and areas. For example, a prospective teacher said: *The scientific research course is similar to courses such as mathematics, science and Turkish because we make use of graphics, digital data, spelling rules and scientific experiments (P. T. 4)."*

Category 15: The Scientific Research Course is hard to understand: It is expressed with 2 metaphors that the scientific research course is hard to understand. The metaphors used by the prospective teachers are: French songs, Physics. It is tried to explain that the scientific research course is difficult to learn. For example, a prospective teacher said: *"In my opinion, the scientific research course is like French songs because even though I don't understand its meaning when I hear it for the first time, I like it and when I find their translation and understand their meanings, I enjoy them more as I can understand (P. T. 103)."*

Category 16: The Scientific Research Course is an obligation: It is explained with 2 metaphors that the scientific research course is an obligation. The metaphors used by the prospective teachers are: life, to do homework. The prospective teachers state that they don't like the course and they have to go through it in order to pass. For example, a prospective teacher said: For example, a prospective teacher said: *"The scientific research course is similar to life because it is pointless but has to be experienced in order to pass (P. T. 114)."*

## DISCUSSION

Research education is an inseparable part of being a citizen meeting the requirements of time because one of the most significant aspects of this education is to contribute the development of scientific point of view, attitude and behavior of individual. Moreover, research concerns of an individual who take research techniques course shall be low and taking a part in preparing research projects or in different research techniques make contribution to the development of critical thinking (ÇoklukBökeoğlu, Yılmaz, 2005). According to Papanastasiou, Zembylas (2008) undergraduate students tend to experience anxiety when they take a research methods course. Prospective teachers have negative attitudes towards research (Butt, Shams, 2013). Barron, Apple, (2014) stated different approaches are needed to teaching methodology courses. Scientific Research Techniques course is one of the second grade courses of undergraduate program of Classroom Teaching Program. Since Scientific Research Techniques course is an abstract course, undergraduate students come across various situations during the course. Thoughts and views of the prospective teachers about the course are tried to be found through metaphors. Prospective teachers used 91 valid metaphors in the research. They selected metaphors among abstract, action, school-related, human, nature, jigsaw, profession, object, guiding, art, food, place, and feeling concepts. Metaphors mostly used for Scientific Research course are life, mathematics course, philosophy, and jigsaw puzzle.

The reasons why the prospective teachers used the metaphors are leading to the solution of the problem, a combination of different transactions/areas, ambiguous, leading the way for research, the scientific point of view is already present in life, motivating, requiring individual effort, including meronymy, an endless process, requiring effort, improves, being learned in class, having rules, problem-based, hard to understand, an obligation. Prospective teachers explain that Scientific Research Course has permanency and is endless and the course improves them. Prospective teachers state that the course has rules, include meronymy. They specify that it leads researchers while doing a research, solves problems. However, being ambiguous means that it is impossible to know where the research can lead researcher.

The metaphors used for the "Scientific Research Course" are indirect expressions defining the instant opinions of the participants and a certain feature of the course. In fact, they are limited expressions. The reason for conducting this study is to reveal the problems encountered while teaching and the situations experienced by students in relation to the course, thus making sure the course is taught more efficiently. It is observed that the prospective teachers realized the continuity, obligation, rules, ambiguity, of the course, that it must be learned in class, and individual effort is important. Considering the most frequently used metaphors of life, mathematics, philosophy, and jigsaw, it is observed that the prospective teachers compare the course to life itself and find it difficult. Wiggins & Burns (2009) state that the Research Methods turn the academic lives of psychology students into a disaster. Furthermore, it may render students emotionless, confused, bored with research despite their efforts. Beside this it is difficult for prospective teachers to see the value of research (Papanastasiou, Zembylas, 2008).

A question-led research strategy is as beneficial to students required to conduct research projects as it is to professional researchers. The teaching of research methods, however, should also reflect this question-led approach (White, 2013). Student teacher slow opinions about the usefulness and relevance of research to life will potentially be a big hindrance as far as their own participation in there search activity is concerned. The research component of the advanced teacher education programs needs to be reviewed so that the future teachers can develop an understanding and realize the importance of education research as professionals and as role

models for generations to come (Butt, Shams, 2013). As stated by the prospective teachers, the "Scientific Research Course" is a process whose content is partially used in life/daily life. It may be possible to guide students so that they can associate the course with their daily lives while learning the lesson. Project Based Learning (Wiggins, Burns, 2009) or Problem Based Learning (Greenwald, 2006, Wiggins, Burns, 2009) can be applied. Teachers need to be raised within the scientific research culture. Teachers' explaining of how they obtained the knowledge they convey to their students occasionally, will have positive impacts on students' attitudes towards research culture (Tuncer, Özeren, 2012). Turner, Crane (2016) did a qualitative study about doctorate mentoring. More qualitative studies can be studied about Scientific Research Method course.

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# PUTTING INTO PRACTICE THE STRATEGIES OF LISTENING IN A CLASS OF FFL

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**ABSTRACT**
In this article, having presented the strategic phases of the audio document, we shall propose an exploitation of an authentic document prepared for a lesson of oral understanding in FFL, the public of which is Turkish-speaking. This article lets know that any listening involves a strategy.

**Key words:** strategies- listening- french as a second language-understanding

## INTRODUCTION

To know a foreign language requires the acquisition of four essential skills: reading, listening, writing, speaking. Given that the oral precedes the written in the use of the mother tongue, the modern pedagogy tends to begin a foreign language with the oral skills (Korkut 2004: 53). The communication is the essential purpose of the learning of a foreign language due to the the fact that any act of communication supposes the existence of a transmitter and a receiver even virtual. The understanding of an oral message is thus essential, because it is necessary to understand the message to be able to react to it and answer it (Ferroukhi, 2009: 274).

Corner et Raymond (1999: 200) highlights that, we spend "45 % of our time to listen to against 30 % to express us orally, 16 % to read and 9 % to write. Krashen, Terrel, Ehrman, and Herzog (1984) assert that the acquisition of a language comes true only when the students acquiert enough information. Rost (1994) underlines the importance of the listening in a class of language because this one gets the first exposition to the students. The first exposition plays a key role in the development of language of the students. According to Krashen (1985), the individual acquired the language to understand the linguistic information which he hears.

However, in a school environment, the oral skills are often considered the most difficult to be acquired among the others. Indeed, although the student is hard-working and motivated, the understanding of the oral remains a linguistic dreaded activity, often arousing a feeling of panic. This entails a lack of concentration, perturbing seriously the conditions of listening and affect a good reception of the sound document.

According to Ferroukhi (2009: 274), for a long time this activity of understanding was neglected because we had the impression that the student in position of listening was passive. Nevertheless, understand imply complex mental operations which are not immediately perceptible; but the student is also active in reception as in production (to See the works of Krashen, 1982, on the importance of " understandable output " in the acquisition of the foreign languages).This negligeance is probably also due to the insufficiency of the educational development or the training of language teachers. On the other hand, according to Osada (2004), the competence of oral understanding did not enough draw the attention of the students nor the professors. They do not generally know about the importance which she deserves. In the class, the teachers make activities of test but they do not teach this competence to the students. Most of the teachers are convinced that the oral understanding is a competence which develops naturally in the process of the language learning. (Persulessy, 1988: 50) specify that one of the reasons of the negligeance of this competence is the common feeling among the professors of language whom this capacity acquires automatically by the students of the fact whom itself they learn to speak the language. On the other hand, according to Rost (2002), to develop the capacity of the oral understanding is the key to make a success of the capacity of oral expression.

As regards our students of FFL, in preparatory course, we can say that they do not train enough in oral understanding because we give more importance for the written competence than the oral competence. Thus the oral understanding or the oral expression are skills rather neglected with regard to the others. In the final test, the proportion dedicated to this skill is only 10 % among the others. Because of the negligeance of the resulting listening either of the institutional program, or the lack of motivation of the students or the teachers, or the educational difficulty of the application of this skill, the oral level of the students does not develop enough. That is why our students begin their studies of Bachelor's degree at a very low level with a lot of difficulties in oral reception. In classroom, they are submerged by the mass of oral information which they receive and do not know where to fix their attention. This situation creates a feeling of psychological insecurity thus, they feel fast complexed and loose courage easily.

  

We wonder which strategies of listening to use to assure a good motivation to facilitate the task? How to acquire a good oral understanding at the students? By what means? It is by basing us on these questions that was born the object of this study.
In this work, having explaned the reasons of use and the strategique phases of the audio document we shall end our presentation with an exploitation of an authentic document proposed for a lesson of oral understanding FFL the public of which is turcophone.

## THEORICAL FRAMEWORK

## THE STRATEGIQUE PHASES OF THE AUDIO DOCUMENT

The exploitation of an audio document requires a rigorous planning. The main objective is to create strategies of listening at the learners so that they do not feel lost in the document. Tabernero (2011) proposes 6 phases for the exploitation of an audio document in class:

1. Exposition
2. Anticipation
3. Global understanding
4. Detailed Understanding
5. Acquisition
6. Re-use

### 1. The awareness-raising phase

It is a question of arousing the interest of the learners by very simple activities of questioning, location and brainstorming. In this phase, we can resort to a complementary document, photo, small article etc.), intended to put the very general context.

### 2. The phase of anticipation

It is the phase where the teacher prepares the learners to receive the contents. It is a question of bringing the learners to formulate hypotheses around the document which is not at this stage, viewed / listened to completely. We content with presenting it(for example listening of the first seconds, the viewing of one or several fixed images or a credits, showing of the beginning of the document without the sound etc.). We can formulate hypotheses to answer very general questions: who speaks to whom? Why? Where? When? About what type of document is it?
The strategies used in this phase are the metacognitives strategies which appear mainly in the following way

* Activate his prior knowledge
* Make predictions
* Specify his intention of listening
* Plan the structure of the text from indications such as subject, the context of presentation
* Plan modalities of listening
* Plan a way of taking notes

### 3. The phase of global understanding (one listening)

It consists simply in verifying by a listening the global hypotheses which were formulated. We raise linguistic elements (words, sentences) to confirm/counter these hypotheses. Thanks to the phase of anticipation the learners know where to fix their attention, they are never left without marks

**Exemples of activities:**

- Write down Word wich were perceived
- Tick in a list, the words or the sentences which were recognized.
- Put back in the order a summary of the document.
- Put back in the order a summary of the document
- Find the general theme in a closed list
- Characterize the document (closed list)
- Table of identification of the speaker
- Find a title to the document in a closed list

### 4. The phase of detailed understanding

Through activities in limited number (a series of questions, a picture to be filled, elements to be ordered, texts to be completed) we approach the main and secondary ideas of the document. It is not an exhaustive understanding. We just aim at the degree of necessary understanding to fill the activities. The principle is to propose a listening by activity, in a way that the learner knows at any time to what he will have to fix his attention.

**Exemple of activities**

1. True/false questionnaires

  

2. Table of identification of the arguments of the speakers
3. Indicate the asserions which appear in the document
4. Multiple-choice questionnaire concerning
5. half-open or open questions concerning a precise element

The strategies of this phase aim at managing his understanding. Among these most important strategies are:

**a. Métacognitives strategies:**

*Manage his understanding

**b. Cognitive strategies**

* Observe that the not verbal indications (images, gestures, expressions, breaks) add to the message.
*Take notes
*The context to find the new meaning of a word
* Use the visual indications
* Use his knowledge of prefixes and suffixes to give meaning to a new word
*Use his knowledge of structures of texts

**c. Socio-emotional strategies:**

*Ask for help
*Manage his feelings

**5. The phase of acquisition/ appropriation**

It is a phase of location of the knowledge, the conceptualization, the systematization. These new knowledge are the linguistic elements at the control and lexicon of which we aim new, tenses of the verb, grammatical rules.

**Cognitive strategies:**

* Deduction, to apply a real or hypothetical rule
* Develop, contextualize

**6. The phase of re-use**

Through activities of expression or document retrieval, we bring the learners to reuse in a new context the taken forms.In this phase, the learners share what they understood, their impressions and express their feelings.

**Cognitive strategies:**

* Clear the global sense of a narrative
* Clear the relations between the characters
* Distinguish the essential information of the secondary information
* Identify the chronological organization
* Identify the logical organization of a statement
* Deduce the intention of the transmitter

  

**AN EXAMPLE OF EXPLOITATION OF A CHOSEN AUDIO DOCUMENT**
**THE EDUCATIONAL BROCHURE**

| **Document title** | **Déjeuner du matin** | |
|---|---|---|
| **Medium** | **Poem (audio Material)** | |
| **Target audience** | **objectives** | **Estimated time** |
| **CEFRL LEVEL : A2** | **Functional objectives :**<br>▪ Understand and select informstions on the theme of the breakfast<br>▪ Describe and tell the events in the past .<br>▪ Compare the habits of the French and the Turks with the breakfast.<br>▪ The logical sequence of a text.<br>▪ Ecrire/Lire son propre poème à la manière de Prévert<br>▪ Write a prose poem<br>**Notional objective :**<br>▪ Speak about actions accomplished in the past<br>▪ Learn and develop the lexicon of the breakfast<br>▪ Spot the articles and possessive adjectives<br>▪ Spot the verbs in the "passé composé"<br>▪ Distinguish the prepositions " à, en, dans, avec, sans, sur et sous"<br>**Socio cultural:**<br>▪ French poem<br>▪ French breakfast | **Number of sessions:** 2<br>**Total time:** 3 hours.<br>4 hours including with the complement activity<br>**Type of expected productions:**<br>▪ listening<br>▪ reading,<br>▪ speaking,<br>▪ writing |

**EXAMPLE OF LAYOUT FOR A TEACHING**

**LEAFLET**
The table above summarizes the contents of the leaflet. The teacher will find information there concerning, the aimed public, the objectives (functional, notional, sociocultural) and the duration of the session.
We now go to see the various stages necessary for the creation of teaching leaflets get fresh ideas. We shall get the teaching leaflets "Déjeuner du matin" which addresses the novice level (level A1-A2 of the CEFR). We propose an evolution in 6 stages.
**Support:** http://platea.pntic.mec.es/cvera/hotpot/dejeunerdumatin.htm

| Steps | Title and conduct of the activities | Technique or educational approach used by the teacher | Working modalities of the students | Medium |
|---|---|---|---|---|
| **I- Preparatory phase**<br>1.Exposition | Demander des questions sur les connaissances du petit déjeuner des étudiants | Préparer une liste des questions sur le sujet à traiter. Demander ces questions aux étudiants. Avez-vous pris un bon petit déjeuner ce matin? Qu'est-ce que vous avez pris? Selon vous, qu'est-ce qu'ils mangent ou boivent les français au petit déjeuner? etc. | Chaque étudiant à son tour répond à cette question. | |

  

| | | | | |
|---|---|---|---|---|
| 2.Anticipation | Distribuer l'image du déjeuner du matin qui illustre le poème aux étudiants et leur demander ce qu'ils observent sur l'image. Faire des hypothèses sur le contenu du document | Distribuer seulement l' image du poème aux étudiants. A quoi vous fait penser cette image? Noter les réponses données par les apprenants. Demander aux étudiants ce qu'ils voient? | En grand groupe mise en commun avec tout le groupe | L'image du poème "Déjeuner du matin" |
| **II-Listening phase**<br>1.Global understanding | Questions de compréhension globale sur les paramètres de la situation de communication (qui, où quand/pourquoi/ comment) Ex: Il s'agit d'un petit déjeuner français | Première écoute des élèves.<br>Remplir la fiche au tableau. | Individuellementpuis mise en commun dans un groupe | L'image/ le texte écouté / les informations. |

| | | | | | |
|---|---|---|---|---|---|
| | Repérage<br>**Conceptualization** | **Repérage:** Souligner dans le texte tous les verbes d'action.<br>Souligner les prépositions de lieu.<br>Repérer les articles et les adjectifs possessifs donnés dans le texte.<br>**Conceptualisation**: Pour parler des actions accomplies nous utilisons le passé composé<br>Le passé composé exprime aussi une suite d'actions au passé. | Repérage<br>Mise en commun | Individuelle ment<br>Puis mise en commun avec tout le groupe. | |
| Production | **Systématization** | A l'oral<br>Comparer le petit déjeuner français avec le petit déjeuner turc. Parler des ressemblances et des différences d' habitude du petit déjeuner entre les deux cultures.<br>S'informer sur Internet<br>Les informations à échanger. | Entraînement à l'oral. | Dans les petits groupes de 5. | |
| | **III- Post listening phase**<br>Re-use | Continuer le poème à la manière de Jacques Prévert. Ensuite lire son poème devant la classe.<br>Raconter ce qu'on a fait hier matin et ce qui s'est passé avec les membres de la famille avant de partir de la maison. | Reproduction du poème à l'écrit et à l'oral.<br><br>Entraînement à l'oral | Individuellement<br>Puis mise en commun avec tout le groupe | |

  

**SEQUENCE OF COURSES**

**I- Presentation (pre-listening)**


**Activity 1 Observez les images ci-dessus et répondez aux questions. (A l'oral)**

a. Quel est le titre du document?
b. Où est-ce qu'il l'a publié?
c. Quel est le type de document?
d. Qui a écrit?

**Activity 2 Répondez aux questions à l'oral.**

a. C'est la photo de quoi?
b. Que voyez-vous sur la table?
c. D'habitude, vous prenez les mêmes choses au déjeuner?
d. Si c'est non, qu'est-ce que vous prenez?

**II- Anticipation (pre-listening)**

**Activity 3 Regardez cette image et répondez aux questions à l'oral.**

a. Combien de personnes y a-t-il?
b. Où sont-ils?
c. Que font-ils?
d. A quel moment de la journée?
e. Quelle relation y a-t-il entre eux?
f. Est-ce qu'ils ont l'air heureux ou malheureux? Justifiez votre réponse.

**III- Global Understanding ( listening )**

**Activity 4 Cochez les mots que vous avez entendu**

□ le lait □ le café □ le croissant □ le fromage
□ le sucre □ le sac
□ les cendres □ le parapluie □ le manteau □ la veste □ la fumée □ la table
□ la cigarette □ la chaise □ le cendrier □ le chapeau □ le pain □la cuillere

**Activity 5 Quelle phrase résume le mieux le poème écouté?**

□ Un déjeuner en famille
□ Un homme seul au déjeuner du matin
□ Un triste déjeuner du matin

**IV- Detailed Undertsanding ( listening )**

**Activité 6**

**Répondez aux questions par VRAI /FAUX ou ON NE SAIT PAS (?)**

| | | |
|---|---|---|
| 1. | Ils sont dans un café | -Vrai/Faux/ ? |
| 2. | Ils prennent leur petit déjeuner | -Vrai/Faux/ ? |
| 3. | L'homme veut être seul | -Vrai/Faux/ ? |
| 4. | Il a bu du café au lait | -Vrai/Faux/ ? |
| 5. | Iln'aime pas le sucre | -Vrai/Faux/ ? |
| 6. | Il a fumé une cigarette | -Vrai/Faux/ ? |
| 7. | Il a mis les cendres dans le cendrier | -Vrai/Faux/ ? |
| 8. | Il a fait des ronds avec la cuiller | -Vrai/Faux/ ? |
| 9. | Il n'a rien dit | -Vrai/Faux/ ? |
| 10. | Il a mis son manteau et son chapeau | -Vrai/Faux/ ? |
| 11. | Il est allé au travail | -Vrai/Faux/ ? |
| 12. | Il veut quitter sa femme | -Vrai/Faux/ ? |

**Activité 7**

**Écoutez et faites correspondre**

| | | |
|---|---|---|
| 1- | Il a mis le café | a. dans le café au lait |
| 2- | Il a pris | b. le café au lait |
| 3- | Il a bu | c. une cigarette |
| 4- | Il a allumé | d. son manteau de pluie |

**V- Acquisition (post-listening)**

  

**Activity 8 Complétez le tableau en vous aidant les verbes trouvés dans le poème**

| PASSÉ COMPOSÉ | PRÉSENT | INFINITIF |
|---|---|---|
| Il a mis | | |
| | | tourner |
| | Il boit | |
| Il a reposé | | |
| | | allumer |
| | | |
| Il a fait | | |
| | Il prend | |
| J'ai pleuré | | |

**ISLCollective.com**

**Activity 9 Complétez les phrases avec les prépositons adéquates: *"dans, à, sans, sur, sous, avec, de"***

a. Il a mis le sucre …… la tasse …….. café.
b. Il a bu le café …….. lait et il a reposé la tasse ……. me parler.
c. Il a fait des ronds …….. la fumée.
d. Il a mis les cendres ……. le cendrier.
e. Il a mis son manteau …… pluie.
f. Il a mis son chapeau …… sa tête.
g. Il est parti …… la pluie, ……..une parole, …….. me regarder

**VI- Re-use**

**Activity 10**


**a.** Comparez le petit déjeuner turc avec le petit déjeuner français. Discutez en classe.
**b.** Continuez ce poème à la manière de Jacques Prévert, utilisez le pronom "je"
**c.** Racontez ce que vous avez fait hier matin et ce qui s'est passé avec les membres de la famille avant de partir de la maison.
**d.** Ecrivez ce poème en prose. Imaginez un début et une fin à l'histiore.

**CONCLUSION**

The oral understanding is the most untidy linguistic competence so far both in the didactics researches as in the practices in class of language. However, to understand the spoken messages is essential in any situation of communication. According to the theory on the linguistic data processing, the oral reception allows the first input the learner. Without understanding it, the memory cannot handle the given information, thus the learning never comes true. Thus know how to listen to is essential to communicate.

In this study, we called back of what consists the process of oral understanding before proposing the strategies of learning specific to this skill, according to the various levels defined by the CEFR and we ended with an exploitation of an oral authentic document. The major contribution for which we expect from this exploitation is to supply ideas to the teachers so that they can integrate the training into the use of the strategies of learning in their practices of classroom. It is a question of offering to the students an explicit model of the execution of the wanted tasks and the application of the strategies used to this end. We also try to make understand to the students that the proposed activities are practicable by the implementation of the appropriate strategies which we can teach them. Besides, the theme which is centered on references close friend of their life awakens a kind of motivation to be spoken because it is a question of activating the previous knowledge, of a will of taking a stand and also of wanting to tell what they know.

  

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# QUALITY OF LIFE OF PUPILS WITH SPECIAL EDUCATIONAL NEEDS

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**ABSTRACT**

The paper deals with the problematics of Quality of life of pupils with special educational needs. We describe the concepts such as quality of life, quality of school life, the specifics of education of pupils with special educational needs as well as the reasearch tools examinig quality of life of children. The empirical part offers comparison of the quality of school life of pupils on the basis of membership of a group (a student with or without special educational needs), gender and type of school (mainstream or special school). The factors affecting the quality of school life are analyzed.

**KEY WORDS**
quality of life, quality of school life, pupils with special educational needs

## INTRODUCTION

School is an integral part of our lives and thus quality of school life is an important component of one's quality of life. The Quality of Life (QOL/QoL) is a multidimensional construct that has been studied within psychological sciences since 1980s. In general it is the general well-being of individuals and societies, the perceived quality of an individuals' everyday life. It includes all physical, emotional and social aspects of the individual's being. The concept of general meaning of quality of life has spread into other areas and aspects of daily living such as quality of sleep, school life, cost of living, feeding oneself etc.

The Quality of School Life (QSL) is described by 3 dimensions: satisfaction with school in general, attitudes toward teachers and commitment to schoolwork. Positive assessment of school life by pupils themselves is significant for their motivation to learn and educate and is an important determinant in the overall attitudes towards long-life learning (Hamranová, 2003a). There are several findings that show how teachers' attitudes towards pupils influence the school performance (Hamranová, 2003b, Šramová, 2015).

The term 'special educational needs' refers to children with learning difficulties or disabilities that make it harder for them to learn than most children of the same age.
Common special needs include physical disabilities (e.g. visual impairment, hearing loss, physical defects), emotional disturbance leading to behavior problems (e.g. separation anxiety, depression, selective mutism), learning disabilities (e.g. dyslexia, dysgraphia, dyscalculia), speech and communication disorders (e.g. expressive language disorder, stuttering, phonological disorder,) and developmental disabilities (e.g. Down syndrome, cerebral palsy).
Children with special educational needs are placed and educated in one of three types of following settings:

1. an ordinary class in mainstream school (where additional teaching support may be provided)
2. a special class in a mainstream school ( classes with small number of pupils)
3. a special school.

## METHOD

In our research we focused on pupils with special educational needs for whom the risk of failure and the exclusion from education is high (Cabanová, Pročková, 2012).
The aim of the survey was:

  

- to determine the level of quality of life of pupils with special educational needs (SEN) compared with their intact peers
- to identify factors affecting their quality of school life
- to compare how pupils differ in assessing the quality of life on the basis of gender, type of educational needs and type of school they attend (special or mainstream)

There are several diagnostic tools available to measure the quality of school life with "school functioning" item (Mareš, 2007):

- SLSS – Student´s Life Satisfaction Scale,
- MSLSS – Multidimensional Student´s Life Satisfaction Scale,
- BMSLSS– Brief Multidimensional Student´s Life Satisfaction Scale,
- COSSS – Children´s Overal Satisfaction with Schooling Scale,
- MCI – My Class Inventory,
- VSP – A (Vecu et Santé Percue de l Adolescent),
- QSL – Quality of School Life etc.

To measure the pupils' perception of their quality of school life we used the paper based instrument the Quality of School Life Questionnaire (QoSL, Hlásna, 2007) with 56 items divided into 7 dimensions (2 general aspects: General Satisfaction, Negative Affect, and 5 specific aspects of schooling: Teacher – pupil relationships, School status, School success, Social support, School environment). The participants respond on a 5-point Likert scale from strongly agree to strongly disagree. The higher scores indicate better quality of school life. It has been constructed based on the theoretical definition of quality of school life describing the 'quality of school life' as students' general well-being and satisfaction, from the point of view of their positive and negative experiences in school environment (Mareš, 2007).
The examined data consists of 136 pupils between 12-15 years, 23 pupils were pupils with special educational needs. In addition, details and academic data (via semi-structure interview) of SEN pupils were also obtained to analyze the findings. The permission for data collection and written informed consent was obtained from school and the parents of all children included in the survey.

**SELECTED FINDINGS**

The first phase of our survey aimed at determining the level of quality of life of pupils with special educational needs (SEN) compared with their intact peers. As we were expected there is a differ by type of pupil; intact pupils report higher scores (M=3,14) than pupils with SEN (M=3,02) what means higher quality of school life in intact children. Comparison between these groups was performed using *t*-test. The significance level was set at $p<0.05$. The results are shown in Table 1.

*Table 1 The whole score for QSL questionaire - SEN pupils vs. intact pupils*

| Type of pupil | N | M | SD | df | *t* | p |
|---|---|---|---|---|---|---|
| Intact pupils | 113 | 3,14 | ,446 | 134 | 1,113 | ,022 |
| Pupils with SEN | 23 | 3,02 | ,581 | | | |

Various factors may influence the quality of school life, such as gender, age, size of class.
As it is seen in Table 2 there are statistically significant differences in 6 from 7 scales ( except for General Satisfaction). Intact pupils are more satisfied with their school in general, they believe that school is useful, have more positive view of their status within their school, feel more safe and supported in school than pupils with special educational needs.

  

*Table 2 The final score for each dimension/scale - SEN pupils vs. intact pupils*

| Scale of QoSL | type of schooling | M | SD | df | t | p |
|---|---|---|---|---|---|---|
| General Satisfaction | I | 24,75(3,09) | 4,511 | 134 | 1,95 | ,472 |
| | SEN | 22,78(2,85) | 3,837 | | | |
| Negative Affect | I | 27,57(3,44) | 2,313 | 134 | 2,38 | ,015 |
| | SEN | 25,26(3,15) | 4,506 | | | |
| Teacher-pupil | I | 25,65(3,21) | 3,803 | 134 | ,707 | ,000 |
| Relationships | SEN | 24,96(3,12) | 6,321 | | | |
| School Status | I | 25,37(3,17) | 4,251 | 134 | 2,46 | ,001 |
| | SEN | 22,70(2,84) | 6,731 | | | |
| School Success | I | 25,58(3,18) | 4,146 | 134 | ,887 | ,000 |
| | SEN | 24,61(3,08) | 6,731 | | | |
| Social Support | I | 24,79(3,11) | 3,983 | 134 | ,452 | ,000 |
| | SEN | 24,30(3,04) | 4,222 | | | |
| School Environment | I | 24,48(3,06) | 4,222 | 134 | ,804 | ,006 |
| | SEN | 23,61(2,95) | 6,727 | | | |

I – intact pupils (N=113), SEN – pupils with special educational needs (N=23), M- mean, SD – standard deviation, df- degree of freedom, t-Student t-test, p- statistical significance

## CONCLUSION

The school is usually difficult for students with special educational needs as success in school depends on understanding, analyzing and applying information, what means being able to read and write, to pay attention, control behavior and impulse and being able to understand common social situations. All students would benefit if the school they attend offers them the feeling that every student is welcome and can achieve his/her best (Brunclíková, 2015). Cabanová (2013) states that an early detection of pupils and students with special educational needs will provide the proper type of intervention from the teachers, psychologists and specialists as well as it will develop a partnership with a child's parents. Parents of children with special educational needs should be actively involved in different discussions and decisions with the aim to support their child as well as their quality of school life. A right intervention will prevent the accumulation and escalation of negative symptoms of the disorder and finally also low quality of school life. Teachers can make a world of difference for these students and can help them to succeed by implementing certain adaptations or interventions. Educators need to be aware and knowledgeable about the nature of the disorders, as well as the strategies effective in reaching and teaching these students. Brunclíková (2010) states the importance of teachers' professional development in the creating of positive attitudes towards inclusion. Developing the specific professional courses for future teachers can result in higher positive attitudes towards inclusion (Šramová, 2004). No single intervention will be effective for managing child with special educational needs. It takes vigilance and ongoing intervention plans, as well as revision of plans and changing the strategies. The teaching techniques and strategies that are necessary for the child with special educational needs are good teaching practices and helpful to all students in the classroom.

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# REALITY OF ERASMUS THROUGH THE EYES OF STUDENTS

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**ABSTRACT**
The student mobility project, Erasmus exchange program, is claimed to be the most successful component of EU initiatives. A total number of 28 European Union member and 5 non-EU member countries including Turkey participate in this program, sending their graduate and undergraduate students to study in a host university for a period from 3 to 12 months in accordance with bilateral agreements. On one hand European identity has been promoted, on the other hand intercultural communication and awareness are emphasized. There is a huge amount of budget to which Turkey has made considerable contribution. Students are provided with mobility grants to cover their study expenses. It is true to say that there has been an increased interest in Erasmus Program among the Turkish universities given the fact that the number of students sent to host countries is enormously on the increase. Yet, there is little research about what Erasmus Program brings to students in real sense. Is it worth investing so much? This follow-up case study intends to investigate the pains and gains of Erasmus experience from the perspectives of English-majoring students. To this end, a survey study was undertaken to document the contributions of the program and challenges the student face.

## INTRODUCTION

Erasmus, the European student exchange program, was founded in 1987 to strengthen European Higher Education, increase students' awareness of other cultures, develop intercultural skills to building up international networks. Cross-border cooperation and mobility of students were key to achieve the stated goals. Students who volunteer to join the program study for a period ranging from three months to an academic year in another European university with which agreement was made. It is guaranteed that lessons with credit taken abroad are recognized by the home university when the students come back to their institutions. Most European universities including the ones in Turkey have updated their curriculum and syllabuses in order to maintain consistency as much as possible. So bureaucratic formalities and discrepancies were eliminated to some degree in order to ensure professional cooperation between home and partner universities. It is, however, students' responsibility to take care of accommodation, food, transportation and everyday life challenges although many universities take some steps to make it easy for student by prearranging dormitories through their international offices. Erasmus students also receive certain amount of financial support to meet their expenses. With a budget of €3.1 billion Erasmus provided grants to 1.6 million students to study abroad and to 300 000 academic and administrative staff, Erasmus seems to be one of the most comprehensive educational programs run by the EU. Among the countries that sent staff abroad in the years 2013-2014 was Turkey that comes second after Poland. In the 2013-2014 academic years 272497 students were reported to go to another European country to study or train (European Commission, 2015) Exchange of students and study abroad programs are components of the internationalization process. Although it is also one of the main instruments for constructing European identity with an attempt to incorporate a European dimension (EU's educational policy), into national and regional education systems (Salisbury, 2011), education policy still remains mainly under the sovereignty of member states. The EU has tried to increase cooperation and coordination between them regarding higher education through the Bologna process. A total of 33 countries (28 European Union member and 5 non EU member countries including Turkey) are currently enjoying the program.

In view of comprehensive objectives, different nationalities, cultures and educational institutions, immense nobility, and a very huge amount of budget invested by all countries in Erasmus, the program has received a good deal of interest from academic circles in respect of outcomes, internalization, educational benefits, intercultural awareness and developing communicative foreign language skills. Zerman (2014) indicates that mobility contributes to intercultural dialogue, enabling people to overcome their prejudices. In a rare survey study Öner (2015) investigated the incoming students' perception of Turkey and its EU membership bid with a view to understanding Erasmus program's influence on student European identity, and their perceptions about the compatibility of European and Turkish identity. Several studies have been conducted to analyze the effectiveness of Erasmus project in terms of academic, social, cultural and linguistic perspectives (Genç Ilter, 2013; Halat & Hocaoğlu, 2013; Mutlu, 2011; Ersoy, 2007). A good deal of them appear to be related to foreign language improvement with a focus on speaking skills. In a study by Ife (2000) on students' overall language development following study abroad experience, students were observed to show greater improvement in vocabulary and speaking. Emphasizing linguistic value of Erasmus, Teichler (2009), whose study focused on English as lingua franca (ELF), found that ELF communication seemed to be raising the awareness of its

  

communicative effectiveness among the participants in the European Union's Erasmus Program. In a comparative study on home and abroad context by Lopez –Serrano, (2010), students were found to have made more significant progress in oral proficiency, pronunciation and writing skill in abroad context. In addition to contribution of Erasmus program to language development, personal and professional development were also noticed (Aydın, 2012). Among the reasons for study abroad through Erasmus was learning a foreign language that comes first with 87%, academic experience 82%, career 71%, and travel 71% according to study by Teichler (2004). It is interesting to observe that 93% of Erasmus students were satisfied with Erasmus period abroad.

Erasmus is presented a very successful project as indicated in the referred studies above. It should be investigated in all respects including negative consequences if any. In a more recent study by Geyik on 45 Erasmus students (2016), communication problems come first with 40% followed by belief-related issues and values (38%). Food and discrimination were stated as problem encountered (30%). In addition to cost of living (31%), cultural differences (29%) and political issues were also the same level (30%), personal relationship (22%), and dressing style (25%) were also mentioned as challenges that the students had to face. This necessitates that it is more meaningful to see "Erasmus reality" through the eyes of Erasmus students, which is the aim of this current study. Although it is too early to measure the overall impact of this large scale program, data that this relatively very small scale research will provide is hoped to shed light on some issues for further research.

**STUDY**

Qualitative tradition was chosen as a main tool to describe students' perceptions and experiences in relation to Erasmus study abroad in an effort to reveal reality from the students' own perspectives. This approach is simply viewing event, and values through the eyes of the people we are studying. Since qualitative research is closely associated with relatively open and unstructured strategies for data collection, in-depth interview was decided to be the most appropriate data collection instrument. A total of thirty English-majoring students were interviewed. Self-reports were recorded as agreed with the students and then transcribed for themes, which emerged from the content analysis.

**FINDINGS**

Self-reports obtained from the students' face-to-face interviews indicate that students had a variety of reasons to participate in Erasmus program. Among the stated reasons was "visiting different countries" that was most frequently referred to by the students (22 out of 30 students). This was followed by gaining experience in another country "improving foreign language skills", and "improving career prospects". Students were found to have strong feelings about being and visiting a foreign country. The commonly shared thought was characterized in the following quotations:

> As a university student it was my dream to go abroad at any cost I always felt something missing in my life because I did not have foreign country experience. This made me feel bad whenever this issue came up in flow of dialogue or chat. I felt a bit guilty when I said I was not abroad. This was as a matter of proving myself, and self-confidence though I had dome fears prior to going abroad. I was also interested to know the life, and culture of other countries. The idea of sitting in a classroom in a foreign country was also motivating (S3).

> Many of my friends including me consider Erasmus as an opportunity to have fun. Once you go to a university, you can visit many other European countries as many did. The courses were said to be less demanding and relatively easier than the ones we have in Turkey. Assessment was mostly based on papers and presentation rather than exams. I wanted to see the life, different people, culture, take photos and see as many places as possible (S5).

> Our lectures always remind us to have a good CV, which will give us a good chance to find a better job or get involved in some European projects. I thought going abroad for study would be a good thing for my CV. Secondly; I thought it would be a good opportunity to improve speaking (S17).

A substantial number of students were found not to have a clear vision and academic expectations from the program. Instead, they saw it as an opportunity to go abroad. Considering the fact that the subjects participated in the study were English-majoring student, this motivation can be justified to some extent as the program intends to enable students to certainly improve their foreign language skills and develop greater intercultural awareness. This finding at the same time signals that students fail to recognize the contributions of mobility to individuals'

  

personal and professional development, focusing touristic side of the program.

Although most students appeared to have been inspired by the idea of going abroad for study through Erasmus program, the students had also some difficulties and challenges, which put off some other students. These included bureaucratic formalities (passport visa, allowance), adaptation to a new culture, different education system, accommodation, homesickness. It is important to distinguish the challenges that students had prior to going abroad and during their stay in foreign countries. To summarize the general picture the following excerpts from student interviews were selected:

> It was really painful to provide the required document on time. Sometimes I felt regret having applied to it because of the paper work. Some of my friends who had very good grades and academic performance did not apply just because of these troublesome formalities (S11).

> I think the serious problem is that we do not get the type of information we need. We mostly deal with the formalities with the advice and recommendation of our friends who went through the same procedure rather than the Erasmus Office. The requirements that Higher Education Institutions abroad demands are not standard. Things are changing. The office does not equip us with the latest information. It is funny that they sometimes learn the things from us. We sometimes get lost and have hard times. For example, it took a long time to get a document authorized by a notary. Later I learned it was not necessary (S27).

From the students' self-reports we understand that either National Erasmus Agency or the University Foreign Affairs Office did not provide adequate information about the process to be followed by volunteer students. Given the diversity of higher education in terms of regularities, priorities and practices, there is a strong need, with good institutional management, to update students providing the latest information and steps to be taken for each foreign country. It appears that students needed a better planned orientation program to introduce Erasmus mobility.

> When I applied, I was full of enthusiasm about being Erasmus student. But I could not help feeling nervous because it would be the first time to be outside Turkey, being away from your family and friends. Everything would be very new to you from transportation to food. This was a bit scary for me. I was also concerned about different education systems and course passing systems. Those friends who had Erasmus experience told us different stories because their countries are different (S2).

When it comes to the experience and challenges that students expressed to have during their stay in host universities, they are varied as follows:

> There is a big difference between our culture and theirs. Normally, they abide by the rules and they respect you individually. The things I saw in my dormitory were really shocking for me. One thing which was very annoying was their questions about our religion. The relationship was totally different. There was no caring and sharing. When I offered something to eat in the dormitory, they did not know how to behave. Unlike us they talk everything calmly (S6).

The irony is that some students were found to be complaining of living in a different culture whereas one of the Mobility purposes is to open minds to different cultures. This indicates that there was a big difference between what students hoped to find and what they found when they arrived in the host countries.

> I was asked by the host Erasmus coordinator to take courses some of which had nothing to do with my own area and would make no contribution to my career. Second surprise was that a lecture many times switched to Italian language from English while I was in class though she knew I did not know Italian (S10).

  

> I was a bit shocked when I saw some instructors, who had Erasmus students, were not good at English. We had sometimes communication problem. So I did not have to attend courses I just gave papers and had fun outside, to be honest (S14).

In terms of academic and professional contribution, the education programs need to be more standard and transparent. Perhaps it is this area that needs to be improved much. While a good deal of students were found to have developed some sort of dialogue with the people of other cultures with appreciation when they were exposed to different cultures during their stay in foreign countries, many were observed not to appreciate the academic and professional values of Erasmus program. Some were impressed by the education system in general. This did not make any contribution to their professional development. It was just " it is nice to know this". They might need to stay longer in order to benefit academically and professionally from the program or the courses and their activities should have been well organized. Getting a certain number of courses with credits seems to be main objective regardless of content and suitability of the course.

> Although many Germans have a good command of English, and kind when I try to speak English with them in particular outside the campus as my English is much better than my poor German, they insisted that I speak German. I felt irritated. It was not a matter of choice but a matter of survive for me. Some Germans go very far in their nationalist feelings. This is a dark side of being European (S19).

> For me the biggest problem was food. I was starving to death. The food serviced at university, though relatively cheap, was not up to Islamic dietary rules There was a long list of ingredients on many products either unacceptable or unfamiliar to us. Those who went to Gemany did not have the same problems as there were many Turkish restaurants and Helal food. In Poland, this was a serious problem (S28).

> Most people I met were nice and behaved well. However, I do not know whether it is matter of ignorance, or prejudice but some students have very negative ideas against some nations. There was a Turkish girl from another university. She was wearing headscarf. One of French friends in my class made very ugly remarks associating her wearing headscarf with terrorism. I felt guilty and realized that they did not show us enough empathy (S20).

While a good deal of students were found to enjoy different cultures and adapted themselves to them though with some difficulty, they were observed to complain that other people were not that much successful to show empathy towards Turkish students as represented by (S20).

> At the beginning I stayed away from any conversation that took place around me. I mostly listened to them and spoke with inner thought silently. This lasted for a month. There was a Polish student whose English was not better than mine but joined all conversations and very active and interactive with his poor English regardless of it. Other people did not bother it all. I realized we were unnecessarily perfectionist about our English. This gave us unnecessary burden to carry, causing us to lose our self-esteem about socializing with people and expressing ourselves. The moment I felt I create an obstacle in front of us, I freed myself from it, not caring much about correctness of my English (S15).

> There were some Germans whose English proficiency was really good and better than us. They were very comfortable. There were some whose English in general were not better than us but spoke better than us. I have to confess that in terms of having an English discussion, doing English presentation and having authentic conversation we were really not good. In the following months, I myself made good progress in speaking (S21).

The students were asked to state the pros and cons of having been Erasmus students upon their return to home institution. It should be said from the very beginning that the host countries are so diverse in many respects that some of the problems can be considered specific to these countries or institutions. Doing an analysis by each

  

Erasmus country or university goes beyond the scope of this study and not feasible due to the nature of the data. Therefore we are very confined to the problems stated in general.

In relation to gains of Erasmus Mobility, perhaps the most concrete result was related to language skills as indicated by S21 and S15. A great majority of the students confirmed that they improved their foreign language skills. More important than this, students appeared to have changed their views about the function of a foreign language. Initially, as they stated during the interview, they were very much obsessed with the correctness of their English. Instead of focusing on whether the message was understood they were very preoccupied with how their English was to be viewed by other people. They had an inner fight with themselves. They discovered the value of using a foreign language for communication. The only thing they needed was some self-esteem and motivation. It was obvious that it was for the first time they used the language for getting messages across.

## CONCLUSIONS

This small-scale survey was undertaken to see the most comprehensive educational program, Erasmus Mobility, run by EU through the eyes of the students who participated in the program over the last two years. Since 1987 when the program started, three million European students had the opportunity to go abroad and study at a higher education institution or train in a company, reaching 3.3 million. A total of 3 456 European higher education institutions sent students abroad through Erasmus in 2013-14, out of a total of 4 919 institutions holding an Erasmus University Charter (European Commission, 2015). One major result from the students' self-report was that Erasmus mobility contributed considerably to participants' language skills. More improvement was observed in their oral proficiency, changing their attitudes and perceptions of foreign languages. They not only explored the value of communicating with people in a foreign language but also discovered themselves, their potential they had the opportunity to use the language for a genuine reason. The second gain from Erasmus Mobility was that having been exposed to different cultures, students developed a sense of appreciation for different cultures and widened their horizon. It is interesting to note that while appreciating the quality of education and education system in some European countries, they became more critical and realist in their perception of Europe. They arrived at a conclusion that European countries and institutions were not ideal and perfect as they probably thought them to be before. It is also very remarkable to see that they felt some discrimination and prejudices against certain cultures and beliefs. This is very crucial in that European Commission should address this issue and develop new policy to eradicate this problem, which will take some time.

Although most students regard this mobility as a travel opportunity far from academic expectations and vision, there is a strong need to plan this initiative to get more professional benefits and development on the part of the learners.

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# RECONTEXTUALISING CURRICULUM AND PEDAGOGY OF TECHNICAL VOCATIONAL EDUCATION AND TRAINING IN SOUTH AFRICA

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**ABSTRACT**

The distinctive feature of technical vocational education and training (TVET) in South Africa, until 2000, was provision of technical education with strong focus on apprenticeship training until 2006 when emphasis on apprenticeships diminished. The National Certificate Vocational (NCV) is intended to offer learners, who have completed grade 9, an alternative pathway to intermediate occupations. The NCV has a dual role – as a parallel (vocationally oriented) qualification to the NSC, taking students predominantly after grade 9; and as a post-secondary qualification. The national diploma programmes, on the other hand, offer theoretical components of apprenticeship programmes, even though the curricula of these programmes have not been revised since 1994. This paper examines the recontextualisation of knowledge and pedagogical practices of the TVET. The issues explored are i) the extent to which curricula of the sector expose students to theoretical knowledge learned in one context, whether this knowledge can be applied in another context and how students can use the skills knowledge in one context, when they need them for real in another; ii) the balance between subject content knowledge and workplace procedural knowledge; and iii) the extent to which competence or outcomes approach is appropriate for assessing both vocational skills and knowledge. It will be argued that first, although disciplinary knowledge and knowledge derived from social practice are equally critical, this balance is seldom, if ever, taken seriously in recontextualising knowledge in the curricula of TVET colleges and that emphasis is always on knowledge derived from social practice. Secondly, by concentrating exclusively on knowledge acquired tacitly, through social interaction and learning by doing, the recontextualisation process denies students the opportunity of functioning beyond their immediate environment. Thirdly, competence and outcomes tend to displace disciplinary knowledge in the curricula of TVET colleges

## INTRODUCTION

Global trends towards differentiation and diversification have seen the emergence of the term tertiary sector to describe post-school education including higher education, traditional universities, polytechnics, advanced technical colleges, universities of applied sciences, universities of technology, further education and training, and technical vocational education and training (TVET) college sector. These institutional types, in most countries, "lie somewhere between the extremes of the classical, research-oriented, Humboldtian university and the exclusively short-cycle, teaching and vocationally oriented college or institute" (Johnstone 1998, 3). However, some of the institutions constituting a tertiary sector are still considered non-university in some countries. Johnstone observes that non-university institutions usually have missions, foci, purposes and mandates to address local and regional mandates and aspirations.

The thrust of this paper is on the analysing of recontextualisation of knowledge in curricula of TVET institutions in general and in the context of the post-apartheid setting of South Africa. Recontextualisation refers to a process of how recontextualising agents (curriculum designers) of the TVET sector go about the selection of knowledge and skills students are exposed to and acquire in these institutions. Theoretical constructions comprising instrumentalism, progressivism, pragmatism, social constructivism competence-based training (CBT) and outcomes-based education (OBE) and how these influence selection of knowledge for curricula of TVET colleges in South Africa. In particular, the paper examines theoretical frame predicated on the belief that social practices including learning by doing, problem-solving, tacit knowledge and knowledge acquired through social interactions should form the basis of recontextualising knowledge in the curricula of TVET. In contrast is an alternative approach that not only questions social practice as the only source of knowledge, but more importantly, proposes a framework that recognises the balance between knowledge emerging from social practice and from disciplinary knowledge when selecting knowledge of curricula on TVET colleges.

Ontological and epistemological questions and issues developed to frame discussions in this paper are: i) the distinctiveness and boundaries of disciplinary knowledge and its relation to workplace knowledge and practice in the curricula of different fields of practice offered by TVET institutions; ii) how is knowledge of TVET distinct from that offered by universities and universities of technology (UoTs) in South Africa; iii) how have competing theoretical frameworks shaped the recontextualisation of knowledge and skills in curricula of TVET

  

institutions; iv) how have outcomes-based, competence-based and generic pedagogic modes shaped the recontextualising process; and, v) how specialist knowledge of the different sectoral fields of practices shaped their pedagogies?

**Perspectives and theories of curriculum design of TVET sector**

Generally, the growth of universities around the world is a product and an expression of the division of labour or the division of specialisation. Clark (1983) and Trow (1974) argue that the growing division of labour among institutions of higher education usually is canvassed to meet increasing diverse needs of individual students and societies.

The implicit division of labour in higher education is more pronounced in systems that retain binary policies in general such as the Norwegian higher education system, thus:

> while one comprehensive law governs this system, essentially it is binary in its division of labour between research-based universities and other institutional types. Within the comprehensive law, therefore, research-based universities in the Norwegian differentiation system are permitted to choose freely the programmes they may wish to include in their curricula. Conversely, 'other education-oriented university colleges have to undergo accreditation if they wish to move up the Bologna ladder to offer master's courses, and even PhD programmes' (Reichert 2009, p. 63).

Curricula in this article refer to shared sets of ideas and principles, knowledge, concepts and related content offered by the TVET sector, while pedagogy refers to how ideas are communicated to students. The issue warranting discussion is epistemologies underpinning the relationship between curriculum (a shared set of ideas and principles, knowledge, concepts and related content) with which students are expected to engage during a course of study and pedagogy (how lecturers communicate ideas to students).

**Instrumentalism, progressivism and vocationalism influences on curriculum design**

The dominant theories that underpinned the TVET narratives at the turn of the twenty-first century include instrumentalist, humanist and pragmatic-constructivist, outcomes-based education (OBE) and competence-based training (CBT). Although these theories were about education in general, they have however moulded knowledge in curricula.

Instrumentalism believes that education has a utilitarian purpose to serve society, improve economic and industrial growth and consequently, the contentment of the populace. Anderson (2009) argues that TVET first emerged in the context of the industrial revolution in Europe and North America as part of a philosophy of productivism. This drive towards productivity, efficiency and profit became the "principal dynamic of the new industrial mode and in this context TVET was perceived to have a fundamentally instrumental function in providing the necessary human capital required by industry" (Tikly 2013, p. 5).

Billett describes this period as the transition from a predominantly artisanal to an industrial economy based on a strong Taylorist fragmentation of the labour process and reflects views held by both governments and employers on the role of TVET. Taylor's (1911) scientific model was seen as an instrumental means of adapting workers to new industrial processes rather than of continuing their education (Billett 2013, p. 101).

Two approaches characterising this era are human capital and sustainable development. Human capital theory characterised debates on the economics of education in the 70s and 80s, the dominant approach adopted by global financial institutions such as the World Bank, the International Monetary Fund (IMF), the International Labour Organization (ILO) and by national governments, although human capital theory has changed in form and emphasis over time (Tikly 2013, p. 5). Sustainable development on the other refers to a type of development that promote economic development without depletion of natural resources or development that protects the environment. The Taylorist (1911) model influenced the purpose of TVET institutions and what should be selected and acquired by students in two ways. First, knowledge and skills to be included in the curricula of TVET colleges should have an instrumentalist flavour to prepare students for specific occupations in specific contexts. Secondly, the Taylorist model somewhat supports, albeit implicit, the idea of differentiated roles in the production of the different types of knowledge and skills. Its main objective was improving economic efficiency, especially labour productivity. Taylor described scientific management as a philosophy in industrial management and saw its widespread adoption as a route to an improved democracy and social betterment (Taylor 1911).

  

However, Tikly (2013, p. 4) observes that while the human capital and sustainable development approaches offer valuable insights, they also have limitations. Thus, while the human capital approaches emphasises the instrumental role of skills in relation to economic growth they do not seem to account for environmental, social or cultural dimensions of skills. The sustainable development approach, on the other hand, has been key in addressing some of the omissions of human capital by emphasising the role of skills to support economic, social and environmental sustainability (Tikly 2013, p. 4).

Similarly, Lucas, Spenser, Claxton, Pullen and Collett (2012, p. 3) propose instrumentalism and progressivism arguing that vocational education needs to be taught in the context of practical problem solving. The authors argue that the best vocational learning should be broadly hands-on, practical and experiential. According to this perspective, knowledge in the TVET curricula should be selected in such a way that it takes into account needs and expectations of societies in particular contexts. Thus, curriculum should promote acquisition of real-world problem-solving through enquiry, by thinking critically and producing knowledge, listening, transcribing and remembering, drafting and sketching

The humanist perspective of education and knowledge, on the other hand, emphasised the structure of a subject (consisting of the ideas, concepts, principles and their relationships) in the recontextualising process. This perspective situates humans at the centre of education and, therefore, challenges passive learning, mechanical learning associated with stimuli and responses, and instead claims that learners and, by extension, students are capable of structuring and restructuring their environment (Bruner 1960; 1961).

Tufnell, Cave and Neale also suggest governments have taken an instrumentalist approach to education and use it as a utilitarian tool "to meet better the needs of industry and commerce" (Tufnell et al. 2002, p. 276). In support of instrumentalism in curriculum design, Pavlova (2006), states it is "about training students to live and work in a market-orientated state, to be productive in seizing the opportunities of the market relevant to the economic needs of the nation and to prepare students for work and life in society" (2006, pp. 13 & 20).

*Pragmatic-constructivist*

Drawing on some elements of instrumentalism and progressivism, Dewey's pragmatist approach influenced the selection of knowledge and skills students are exposed to in TVET institutions. The distinguished element of this approach is a critique of a belief that action is inherently inferior to theoretical knowledge. Conversely, Dewey emphasised "that action is higher and better than knowledge and practice inherently superior to thought" (1988, p. 30). In his view, genuine knowledge comes neither by thinking about something abstractly nor by acting uncritically, but rather by integrating thinking and doing and by getting the mind to reflect on the act (Gordon 2009, p. 11).

Dewey (1966) summarises this pragmatic perspective well when he notes that, if modern experimental science has taught anything, it is that there is no such thing as genuine knowledge and fruitful understanding except as the offspring of *doing*.

> To understand Dewey's pragmatic constructivism, it is helpful to view it as a response to what he calls the spectator view of knowledge According to the spectator theory, people obtain knowledge similar to the way in which spectators learn about a sports event: by watching the game. This type of learning is passive, because the spectator merely watches the game and does not affect its outcome (Gordon 2009, p. 50).

Social constructivism, on the other hand, asserts that knowledge is the outcome of social practices. Thus, 'no knowledge - - - [thus] specialised, codified, or discipline-based knowledge associated with the college curriculum (and any off-the-job learning) is in principle no different from everyday common sense (or on-the-job) knowledge - it is just some other people's knowledge' (Young (2005, p. 99).

Young maintains that 'like social constructivist theories of knowledge referred to earlier, postmodernism offers superficial radical challenges to existing curricular models, however, like the earlier trends, post-modernism offers alternatives and leaves the curriculum theory on the side-lines of any serious debate' (2008, p. 82).

  

Although most of the theories discussed above are not about curriculum but about source of knowledge, how it is acquired as well the purposes of TVET institutions, these theories are often explicitly or implicitly used to guide the selection of knowledge for curricula of TVET colleges.

*Critique of pragmatic-constructivism*

Wheelahan observes that progressivism drew from 'humanism and reassembled within instrumentalism at the broader policy level, while elements of constructivism that emphasised situated learning and a focus of the student were selectively used in the implementation of CBT with its focus on workplace learning' (2010, p. 132). Similarly, vocationalism drew from progressivism a rejection of "the centrality disciplinary knowledge and school subjects in definitions of the curriculum' (Bates et al. 1998, p. 111). Progressivism was concerned primarily with the development of the intrinsic capacities of the student and the task of the teacher was not to instil disciplinary knowledge, but provide students with opportunities to construct their knowledge of the world (Bates et al. 1998, p.: 111; Wheelahan 2010, p. 132).

Similarly, Young (2008. p. 82) makes an important observation that Hirst (1993) has revisited and jettisoned his earlier thesis of forms of knowledge and argued that the curriculum must be based on social practices as '[t]he key issue is that as with the 1970 sociology of knowledge, the idea of social practices provides no grounds for distinguishing curriculum knowledge from knowledge we acquire in the course of our everyday lives'. The writings of Foucault and Lytotard critique the subject-based curriculum on the basis that it excludes all voices except those of the professional or academic elite (Moore and Muller 1999).

Young articulate another weakness of the standard-based approach thus:

> the standard-based approach to curriculum design is the attempt to relate vocational knowledge to workplace practice by claiming to be able to derive it from outcomes-based analyses of different occupational roles. However, this not only failed to lead to a practical methodology, it also neglected the extent to which only some of the knowledge relevant to particular workplaces has its origins in those workplaces. The connective approach attempt to bring these earlier approaches together by making off-the-job and on-the-job learning without any understanding of either what knowledge is acquired in two types of learning or how they might be connected (Young 2008, p. 144).

*Competence and performance models*

Bernstein defined two kinds of practices projected in two opposing models, which represent *recontextualised* knowledge (1996, p. 58), a competence model and a performance model. Competence refers to practice that is not constrained by power relationships as for example in the social constructivism. Competencies are intrinsically creative, informally, tacitly required, in non-formal interactions (ibid. p. 55). Competence relates to behaviour that manifests in co-operative social relations. Performance, on the other hand, is behaviour-shaped by social structures and produced within hierarchical social relations. Accordingly, competence models are characterised by weak classification and framing and result in few explicit (instructional) structures.

Significantly, Wheelahan (2010, p. 98) advises that in the context of the Bernsteinian model, that competence should not be confused with competence-based training (CBT) (associated with behaviourism). Rather, it refers to those capacities that are developed creatively and tacitly by engaging in informal interactions, which provide the basis for constructing meaning and the world. Competencies are 'practical accomplishments that help individuals become self-regulating and, therefore, processes which are not advanced by formal instructions' (Bernstein 2000, p. 42).

The problem with competence, as Bernstein (2000, p. 43) reasons, is that its idealised form tends to abstract individuals from their social relations and from an analysis of the way in which power differentially mediated access to the development of competences and their realisation.

Competence pedagogic modes are contrasted to performance pedagogic modes because the former seeks to develop the realisation of capacities individuals already possess, whereas the latter focusses on the acquisition of that which does not exist (and hence deficit), 'and as consequence- - -- the emphasis upon the text to be acquired and upon transmitter' (Bernstein 2000, p. 57). Thus, 'in performance modes, knowledge is strongly classified with sharply defined boundaries between the disciplines - - - knowledge is strongly framed and the pace and sequence of knowledge are external to students' (Moore and Maton 2001; Wheelahan 2010, p. 98).

  

Accordingly, the recontextualising process, where competence is distinguished from performance, is critical in recognising that disciplines have their unique intellectual history of agreement and dispute about subject matter and methods that influence what is taught, to whom, when, where, how and why. Each discipline, according to this approach, has a set of common pedagogies, such as lab instruction and problem sets in the sciences, seminars in the humanities and small group performances in theatre classes. Each field also has its own community of scholars interested in teaching and learning, face-to-face forums for pedagogical exchange, a discipline style that influences the problems we choose, the methods we use and the arguments we find persuasive. (Huber & Morreale 2003).

**Differentiation higher education in South Africa**

Differentiation in the post-1994 setting in higher education in South Africa is the product of the partial abolition of the binary policy system between universities and technikons (CHE 2000). Differentiation is intended to address the new political, social and economic requirements of the post-apartheid society, while also responding to inevitable globalisation (Human Sciences Research Council 1996; DoE 1997a). Institutional differentiation in South African higher education has been introduced expressly as a strategy to promote effective responses of institutions to the varied social needs of the country (CHE 2000, p. 64). However, the wholesale abolition of the binary policy was rejected and a modified version of a number of institutions was proposed (DoE 2001).

It is argued that institutional differentiation allows for specialisation and for the more focused and targeted pursuit of educational and social goals, foci, mandates and purposes (CHE 2000). The underlying assumption was that differentiation guarantees the production of graduates with types of knowledge and skills required by markets in society. Accordingly, institutional mandates provide the framework within which "specific institutional missions and strategies" can be developed to ensure diversity within the proposed differentiation (CHE 2000, p. 34). In particular, more diversity was envisaged in order to serve the needs of the labour market, offer more and better access to a larger student body and allow institutional specialisation by which the effectiveness of the overall higher education system would increase (Republic of South Africa 2014).

A notable recognition if institutional differentiation and differentiated curriculum in South Africa is through further education and training (FET) institutions (a predecessor) of the current technical vocational education and training (TVET) sector.

TVET in South Africa is primarily the responsibility of technical colleges and the new further education and training (FET) colleges recently created to first, cope with the burgeoning demand for tertiary education given the increasing numbers of students qualifying for tertiary education. Secondly, TVET colleges have been created as a response to the challenges of shortage of skills needed for economic growth and a response to the problem of unemployment, especially for school leavers. Government expects that TVET colleges will become the cornerstone of the country's skills development system. TVET college enrolments have been increasing rapidly over the past few years and this growth is envisaged to continue in order to address the country's acute skills shortages (Department of Higher Education 2013, p. 12).

**The new curriculum for FET colleges in South Africa**

The publication of the new curriculum and subject guidelines for the National Certificate (Vocational) marks an important development in policy on the part of the Department of Education. Since 1995 and prior to the new TVET curriculum becoming national policy, there had been an, at least tacit, assumption among policy makers[i] that a new curriculum policy for the FET colleges was not necessary.

Qualifications have important roles in modern societies in linking education systems to the wider society. They provide, among other things, some evidence of sectoral and specialist knowledge and indirect evidence of more generic capabilities of those with qualifications. Qualifications thus provide employers and others with a basis for selection and progression and act as national guidelines within which institutional programmes and curricula are developed. Essentially, qualifications turn outwards to users who may be employers or those selecting higher levels of education. They do not, except indirectly, turn inwards towards teaching and learning, except insofar as they act as motivators for learners within a step-by-step framework (Young 2008).

As in the UK case of National Vocational Qualifications (NVQs) that were launched in the late 1980s, it was assumed, most noticeably by SAQA, that the TVET college curriculum could be 'designed down' from qualifications when they were expressed in the form of unit standards (or outcomes) (Young 2008). A notable trend in the UK, Australia and in South Africa has been the usage of qualifications to develop teaching and

  

learning programmes, sometimes called the 'designing down' approach; considered problematic (Allais 2003; 2006, 2013). All outcomes or standards on their own and without a curriculum can lead to largely arbitrary lists of topics, not a curriculum (Barnett 2006).

TVET colleges in South Africa prepare learners for jobs that are based on practical activities related to a specific trade, occupation, or vocation. It sometimes is referred to as technical education as the trainee directly develops expertise in a particular group of techniques. Vocational education may be classified as teaching procedural knowledge. This can be contrasted with declarative knowledge, as used in education in broader scientific fields, which might concentrate on theory and abstract conceptual knowledge, characteristic of tertiary education (Gamble, 2006; Muller, 2006). Vocational education can be at the secondary or post-secondary level. Up until the end of the twentieth century, vocational education focused on specific trades, for example those of automobile mechanic or welder. Historical educational polarisations about the different natures and hierarchical values of general education vs. vocational vs. liberal education have been the heart of the separation of theory and practice in the history of vocational education. In colloquial usage, the term vocation education is used to refer to career-focused education (Wheelahn, L. and Moodie G. 2005).

With reference to South Africa, Young further identified the standards-based approach to curriculum design, which makes the following assumptions:

(i) The vocational curriculum needed to be controlled by the key users (the employers), not the providers (further education colleges).
(ii) The skills and knowledge needed by employees in workplaces must determine all provision for off-the-job learning in colleges.
iii) Vocational qualifications need to give priority to the assessment of competence, or what can be learned in the workplace, not the knowledge acquired off-the-job in colleges.
(iv) The traditional provider-based vocational curriculum that was based on bodies of knowledge organised and selected for teaching needed to be reformed. It was seen as stressing what students or trainees needed to know and not paying enough attention to what they would need to do when they were at work (Young 2005, p. 93).

In most countries where outcomes-based education has had a degree of significance, it has mainly been limited to vocational training. South Africa is the only country that has attempted to make outcomes-based education a central part of the whole education and training system (Allais 2003, p. 310; Spreen 2001, p. 82). Support for outcomes-based education in the anti-apartheid movement derived from a belief in the importance of placing the learner at the centre of the education process. This represented an important shift away from the purely input-based approach that had characterised most South African schooling under apartheid.

**DISCUSSIONS**

Roles, functions and purposes of TVET institutions straddled those of universities and other tertiary institutions and so is types of knowledge selected for education institutions. In some contexts, the TVET sector is part of higher education as in South Africa recently, while the sector remains part of non-universities in other countries. Generally, through the ages, TVET institutions were created to fulfil specific roles of providing regional and local industries with specific types of applied knowledge and skills in different contexts and at different historical epochs.

The discussions suggest that despite nuance differences and emphasis globally, TVET institutions have a distinctive role that sets them apart from other institutional types, these difference seldom are explored. The issue has been whether TVET institutions should provide students exclusively with narrow skills and skills for specific occupation, or whether these institutions should also provide students with general education to develop a total person and provide them with knowledge and skills they can use in different occupations and different contexts.

Furthermore, the narratives of TVET have been driven globally by instrumentalism, progressivism, humanism, pragmatism and social constructivism (pragmatic-constructivism) depending on countries' existing philosophies, national policies and priorities underpinning education and higher education priorities.

The area where there has been less consensus is how much of conceptual and applied knowledge and skills should the curriculum of TVET institutions entail, the nature of knowledge, how this knowledge is distinct from

  

knowledge in curricula of universities and UoTs in South Africa and how opposing theoretical constructs have influenced the selection of knowledge.

In South Africa, the discussion examined ways in which selection of knowledge and skills in the curricula of TVET institutions in the post-apartheid setting have been shaped by the NQF vocabulary and the preeminence of outcomes, competent-based (CB) and more recently, graduate outcomes.

The discussions suggest that conjectures by instrumentalism, progressivism, pragmatic-constructivism that *recontextualising* knowledge in the curriculum of TVET should be predicated exclusively on hands-on practice or problem, experiential learning and problem solving is epistemologically problematic..

First, the approaches above are generally silent about knowledge (content) and skills students need, but rather prioritise government industry interests. The problem of overemphasis on government and industry as the only stakeholders in *recontextualising* knowledge of TVET is that their demands constantly change leaving students with obsolete knowledge that is no longer relevant in new environments. Secondly, the belief by pragmatists that everything should be reduced to doing is simplistic because it discountsconceptual and theoretical knowledge to develop students' intellectual powers that can enable them to transcend challenges and problems of immediate contexts to other contexts.

Thirdly, the supposition by social constructivist that all knowledge is a product of social practices fails to appreciate inherent differences and boundaries between the different types of knowledge (codified, discipline-based and experiential knowledge on-the-job and off-the-job) knowledge. This argument is untenable because TVET institutions and higher education should ideally expose students to different types of knowledge from the knowledge acquired through social interactions, tacitly acquired knowledge and on-the-job knowledge.

Fourthly, despite nuanced epistemological differences between instrumentalism, progressivism, social constructivism narratives on what curriculum of TVET institutions should entail and the type of knowledge to which students need to be exposed, these approaches collapse vocationalism and competence-based training (CBT). Significantly, these approaches deny a place for disciplinary knowledge in TVET curricula. Similarly, recontextualisation of knowledge of TVET institutions needs to take into account the distinction between competence and performance models in the Bernsteinian sense (see Bernstein 1996). The distinction further highlights the problem of displacing disciplinary knowledge in favour of tacit knowledge and knowledge acquired through social interactions, on-the-job and knowledge acquired from social practice.

Notably, the dismissal of disciplinary knowledge in *recontextualising* knowledge of curricula of TVET in South Africa has been reinforced by the preeminence of outcomes-based model. Key features of OBE that shape recontextualisation process of knowledge of TVET curricula in South Africa, are as follows: i) emphasis on generic pedagogical modes is done at the expense of pedagogical modes relevant to specific disciplines; and ii) design down of qualifications often lead to a situation where outcomes or standards and results into arbitrary lists of topics that replaces curriculum (content) (see Allais 2003, 2013; Allais, Raffe, Young 2009: Barnett 2006). .

Fifthly, curricula of TVET institutions prepare students for specific occupations and vary in terms of specialisation, the extent to which their practices are identified as procedures and the extent to which they draw primarily on procedures formed by identifying codifying marketing or on disciplines-based knowledge. They are applied drawing on an existing understanding of the world; sectorally-derived from occupational industrial service sector (medicine and hospitality curriculum less homogenous); specialist disciplines – specialist disciplines drawn vary according to sector or occupation, disciplines may be vertically hierarchically maths, sciences or maybe characterised by disagreements (social sciences).

The discussions above advise that vocational subjects are far less homogenous than academic subjects, which share a location in the institution of the school. Thus, in some vocational fields like hairdressing, much of the necessary vocational knowledge can be acquired in the workplace, in others such as engineering and electrical maintenance it cannot. The problems of new vocational subject areas such as customer service is they have no agreed body of vocational knowledge or common workplace procedures and no professional body to draw on for expertise. The issue of assessment and the adequacy of a competence or outcomes approach for incorporating both vocational skills and vocational knowledge, and the relative importance of generic pedagogic skills that are common across different vocational areas, and how they can be translated into curriculum (trainability and competence-based are debatable in the recontextualisation of knowledge in TVET curricula (see Bernstein 2000).

  

Similarly, relying on one type as in a knowledge-based approach, or in collapsing these types of knowledge derivable from occupational standards is unconvincing as this does not recognise the differences in content, structures and purpose between off-the-job and on-the-job knowledge are recognised. Both these approaches mask crucial epistemological differences between types of knowledge and assume that the only differences that are relevant to the vocational curriculum are those around the question of control (whether it is employers or educationists who decide) not content (Young 2008, p. 144).

Education and training needs to go beyond work to develop the complex knowledge skills and capacities individuals need as a precondition for exercising skill at work. Moreover, the knowledge that we need does not always arise from our practice and we need to go beyond our practice to learn new knowledge, transform that knowledge in the process of application and creatively apply it to new contexts. This restores the importance and complexity of vocational knowledge by not reducing knowledge to the situational and contextual (and ultimately ephemeral).

Lastly, the processes of learning cannot be restricted to the workplace or to the educational institution, if students were to be adequately prepared to function beyond immediate contextual and situational situations, but rather that recontextualising should provide an opportunity for students to function in many different sites. Both sites are needed if individuals are to learn how to be a member of a community of practice and enrich that community through incorporating new knowledge, understandings and creative application (Young 2004).

## CONCLUDING REMARKS

While employers may need specific skills, the condition for securing these skills rests upon individuals' capacity to exercise them and this capacity cannot be developed by limiting teaching to those skills. This is one reason why competency-based training paradigms in VET is particularly problematic, because in ignoring the wider contexts in which people live through focusing only on skills for work, the result is an impoverished education that is not able to develop the high-order skills needed for work, let alone for life.

It is appropriate for employers to pay for their staff to be taught specific knowledge and skills that the employer needs just for their business and just for now (which may be limited to specific skill sets and not full qualifications). However, it is not appropriate to limit publicly funded education and training to these skills, because qualifications that prepare individuals for specific vocations need to equip individuals with the knowledge, skills and capacities to live, while the focus of the qualification must be necessarily on the vocation for which the person is preparing (Wheelahan 2007).

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# REFLECTIONS OF BRAIN RESEARCHES ON EARLY CHILDHOOD EDUCATION

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**ABSTRACT**
The brain is the organ in which the learning occurs. Therefore, discovering its structure, functioning, and learning styles has become a focus of interest to the educators. Brain researches that come into question at this point reveal many unknowns about the brain and learning and correct the inaccurate information. As a result of brain researches, plasticity (flexibility) feature of the brain which was thought not to change is found that is to say that its variability and formative characteristics are accepted. In light of this information, early childhood period is considered as a critical period in terms of development and learning in a child's life. Researches about the synapse connections that are important in terms of brain development also confirm this opinion. The purpose of this study is to create question marks about how these researches can be benefited in early childhood education by drawing attention current brain research topics. For this purpose, suggestions for what the teachers and parents can do for brain development in this critical period in the light of the data obtained from brain researches to the techniques and tools used in brain researches and to the brain which is the learning organ were included in this study. Through literature review, obtained data is presented to the readers in theoretical dimension.

**Keywords:** Critical period, synapse, plasticity, brain research, brain imaging tools

## INTRODUCTION

Human brain is considered to be the most complex, detailed and effective structure on earth. Even though it is complex and detailed, it reaches to the adult size faster compared to the other organs (Berk, 2013a). Even though the basic structure of the brain is similar to each other, its size, functioning, and organization vary according to gene, environment and experience of each individual. Brain development includes an increase of synapses connecting axon, dendrites, neurons and neural networks with the experience. The studies show that the brain development depends on the existence of good and bad experiences, quality lives and appropriate time. Brain development affects who we are, how we behave and what we learn and think (OECD, 2007; Westwell, 2009).

Number of brain researches conducted to discover the function, structure, and learning style of the brain has increased in the last 25 years. The results obtained from the researches draw attention to the developmental dimension of learning and emphasize especially the importance of 0-6 years in terms of development. Taking advantage of the results of these studies in modern development and education is useful in terms of making sense of how children develop and how their thinking capacity differ and bring a new dimension to the education (Aydın, Madi, Alpanda and Sazcı, 2012; Madi, 2005).

Explanation of the tools used for monitoring the structure and functioning of the brain will be useful by implementing the results of the brain researches in education field and having the educators made sense of this. Educators and psychologists adapting the results of the studies conducted on neuroscience to learning, teaching and education subjects also think that learning without knowing the operating system and functionality of the brain would not be meaningful (Haktanır, 2011). The purpose of this study is to raise question marks about how to benefit from these researches on early childhood education by drawing attention to the subject of current brain research topics. For this purpose, matters such as brain, technique and tools used in brain researches, results of some brain researches conducted during early childhood, suggestions to be given to the parents and teachers in early childhood education will be investigated.

## BRAIN

Brain is a physical organ and the most important part of the nervous system. While nerve cells (neurons) constitute the gray part, nerve connections constitute the white sections. Gray part is called as gray matter and the white part is called as white matter. When the outer part is examined, the most prominent feature is the curved structure. Owing to these curves, more cells can place in less space and the brain cells can spread to more areas. In the outer part of the brain, there is a 2-6 cm thick brain shell named as cortex. Exterior of the cortex is surrounded by a 3-layered membrane. These membranes perform the functions like protecting and feeding the brain (Junqueira and Corneiro, 2009; Keleş and Çepni, 2006; Kim, 2011).

Brain consists of two hemispheres. The region connecting these two hemispheres is called as Corpus Callosum. On the basis of some cognitive impairments, behavioral disorders, learning difficulties, and structural defects in

  

this region are determined (Aydın et al., 2012). Researchers who separate the brain as left and right hemispheres have seen that the hemispheres have very specialized functions and these functions are classified although partially. However, this classification does not mean that the functions occur independently. Because when the brain is perceived as a whole, it can fulfill its own tasks exactly (Caine and Caine 2002).

Brain forms in the prenatal period. In the brain formation, firstly sperm unites with ovum and form the embryo. 2-3 weeks after the embryo forms, the first cells of the nervous system start to form. Formed cells form neural tube that will form brain and spinal cord by multiplying and folding on each other. In a newly formed embryo, specific proteins determine which cells would be brain cells. Proteins are also determine which brain cells will be neurons or glia cells. The structure determining these specific and important proteins is the genetic code. After formation of brain cells is completed, fibers formed by various proteins and glia cells send the brain cells to go to their task regions. There are approximately 100 billion cells in human brain. The most important ones from these cells in the brain are neurons. Neurons are differentiated and form connections between them when they are migrating to the main part of the brain in order to create anterior, middle, and posterior side of the brain in the fourth week from the neural tube via migration (Goswami, 2004; Şenel, 2003).

Towards the end of the prenatal period, a structure named as myelin forms which provide the conduction between the neurons to be fast and protect the axon section of the neurons by covering with fat. The process of the formation of this structure is called as myelination. While a large part of myelination of the neurons located in the center nervous system is completed in a year, it takes up to 10-12 years in the functional neurons forming later and related to learning. Myelination has an important role in the child's development and is required to be completed for the child's development (Madi, 2011; Stiles and Jernigan, 2010). .

There are many more glial cells present between neurons compared to them and feeding and cleaning them. Neurons consists of axons, body and dendrite structures. Neurons have thousands of arms providing communication with the other neurons and cells. Neurons provide movement, taste and smell, thinking, feeling and so on. Information transfer from one neuron to another is made via electrical and chemical ways. Axons are responsible for transferring the signals to the dendrites of the other neurons. They are bigger and more branched compared to the other sections in neurons. Dendrites are responsible for taking the stimulation coming from the axons. During this communication, connections named as synapses are established between two neurons. Even though the fibers coming from the neurons come close to each other, they do not contact with each other. They transfer the incoming signals to the next neuron via chemical ways with neurotransmitter substances. Neuron fibers and synaptic connections rapidly increase during the infancy period. In order to ensure brain development and thus fulfill the body-related functions; neurons should grow, there should be a connection between neurons and the number of axons, dendrites and synapses should increase (Güneysu, Çağlayan and Kaygısız, 2005; Keleş and Çepni, 2006; Şenel, 2003).

The formation of the synapses performing the connection between neurons is made with synaptogenesis. Synaptogenesis begins in the prenatal period and continues rapidly until adolescence. In the first two years after the birth, synapse formation in the hearing, seeing, and language areas of cerebral cortex takes place quite rapidly. Synaptogenesis takes place in two stages as branching and pruning. In branching phase, synapses spread to various part of the brain and form the branching under the genetic control. This branching occur quite intensely in infants during the first year of the life. In the second phase, synaptic pruning; synapses used less between the neurons disappear (Thompson, 2008; Webb, Monk and Nelson, 2001). The basis of learning forms with the increase of synapses. Higher number of synapses formed by neurons provides the learning process to be effective and powerful. If the stimuli between neurons repeat frequently, connections between them increase and new biochemical information pairs form. Due to the formed multiple experiences, both the number of synapses increases and the cerebral cortex gets thicker (Madi, 2011).

Brain development occurs as a result of two types of stimuli and experiences. Firstly, *experience expectant brain development* is specific to species and performs similarly for the all members of those species. Stimuli and experiences waited by the genetic infrastructure are the absolutely necessary one. Not getting the necessary stimuli here leads to permanent behavioral problems. For example, Normal level of light and visual stimulus should be received for development of visual cortex. If it is not received, visual cortex do not develop and vision problems occur. Second type of development is called as *experience expectant brain development*. A similar development is not observed here in all members of the species. Stimuli obtained individually provide different synaptic activities and this is effective on compliance of the individuals in the next life conditions (Hannon, 2003).

One of the issues come to the forefront in the brain-related researches is the case called as "brain plasticity". Brain plasticity known as the ability of brain cells to change them against the stimuli they receive is the basis of learning and memory. In addition, it also means that neural networks to form themselves according to the

  

activity when people repeat an activity repeatedly. When people stop trying or implementing new things; the brain eliminates, recommends or prunes the connected cells forming paths or roads (Selçuk, 2011).

**TECHNIQUES USED IN BRAIN RESEARCHES**

Before neurophysiological techniques, different techniques had been used in brain researches. First studies were conducted on animal brains, *different parts of the brain* were destroyed, and the relationship between these destroyed regions and behaviors was investigated. Then, technique of cauterization by electricity was developed. In this technique, an electrode is extended to a predetermined point of the brain and current is given and that part of the brain is destroyed. Compared to techniques of destroying different regions of the brain, this technique gives an opportunity to investigate the function of a more evident point. Another technique used in the history of brain researches is *stimulating the brain electrically*. Thus, without harming any region of the brain, information about the function of that region is obtained. *The technique of stimulating the brain chemically* is performed by inserting a thin tube into the brain. When the thin tube comes to the region requested to be investigated, another capillary tube is lowered through the tube and chemical substance in the tube is discharged at the requested point. In this way, how neurotransmitter substances among synapses affect the brain and thus the behavior is investigated (Cüceloğlu, 2006).

Together with the developing technology, the techniques used in brain researches have developed. Brain researches have been conducted with the help of brain imaging tools at the present time rather than surgical techniques used in the past (Hall, 2005).

**BRAIN IMAGING TOOLS**

*Positron emission tomography (PET):* It is based on radioactive injection. A large amount of radioactive traces occur in the brain regions where the blood circulation is high and thus the location of different neural activities can be determined.

*Magnetic Resonance Imaging (MRI):* The person is put into a big magnet tube. This technique operates by measuring the magnetic resonance signals created by protons in nerve cells. When the blood circulation in certain areas of the brain accelerates, this changes the water diffusion in the brain tissues. This allows measuring the oxygen level of hemoglobin associated with neural activity.

*Functional Magnetic Resonance Imaging (fMRI*): It is a special magnetic resonance imaging technique that can determine the blood flow variations related with the neural activity of brain. In medical studies, patients' neural responses to various stimuli can be evaluated with fMRI. For example, different images are shown to the patient via monitor and which images from the monitor cause an activity increase in which part of the brain is monitored with fMRI records obtained at the same time.

*Computed Tomography (CT):* It is the method of imaging thin sections of brain with X-rays.

*Electroencephalography (EEG)*: It is one of the imaging techniques that can be used safely for children. Owing to the sensitive electrodes placed on the scalp, brain activity records are kept. Electrical energy produced by the brain gives information about the working of the brain. EEG investigates the systematic deviations caused by electrical effects and it is used widely in the evaluation of cognitive processes related to perception, memory, attention, language, and emotional states in adults and children (Goswami, 2004; İşoğlu Alkaç, 2009).

*Event-Related Potentials (ERPs):* By using EEG, frequency and severity of brain waves forming as a result of specific stimulus are recorded. Which regions the stimulus -induced activity occurs at is determined.

*Near-Infrared Spectroscopy (NIRS)*: With the help of a cap placed on the head, invisible light is given to the brain by using thin and flexible optical fibers. During the procedure, each field of the cerebral cortex absorbs at different rate and this case is determined by blood flow and oxygen metabolism. It is appropriate since it allows infants and young children to move in a limited space (Berk, 2013b).

**RESULTS OF THE BRAIN RESEARCHES**

Brain begins to develop in the perinatal period and the first three months is important for brain development (Şenel, 2003). During this period, some measures should be taken in order for brain development to progress naturally. In the United States of America, in the joint report submitted by National Research Council and Institute of Medicine, factors causing problems in brain development in prenatal period are stated in three categories as infectious diseases, neurotoxins, and nutritional deficiency (Hannon, 2003).

According to the researches conducted on brain and early childhood, the first four years of the life is a period when the brain structure and function develop rapidly. In particular, the synaptic connection in the cerebral cortex increase in up to the age of four and number of synaptic connections doubles in some brain areas like frontal lobe compared to number of the synaptic connections in adult brain. Half of these synaptic connections disappear by being pruned according to the case of using or not using status. In addition, high energy is required

  

for synaptic development and myelination of nerve fibers. fMRI researches reveal that the energy in the cerebral cortex reaches to its peak at these ages (Estes, 2004; Madi, 2011).

Recent researches have focused on infants' brain development and thus qualified stimulant environment requirements from birth and perinatal period for the performance in the adulthood. The reality obtained by the experts conducting brain researches is that first six years of life mainly 0-2 years are the golden years for the brain development to be healthy and suitable for development. According to the results of Hebb's study, concepts covered by general ability, thinking styles, and perception ways develop in early childhood in the normal ways. Experiences gained in early childhood are more effective than the experiences gained in adulthood in terms of brain development and general ability (Ersoy, Avcı and Turla, 2006; Senemoğlu, 2011).

The studies show that extreme sensory deprivation leads to permanent cerebral damage and loss of functions. For example, in the infants born with cataract in both eyes, a rapid improvement is observed in their seeing abilities when they are operated between four and six months. However, if the surgery is left after the infancy period, their visual skills recover less. If the surgery is performed in adulthood period, seeing is severely and permanently damaged. This result shows that there is a critical time in synaptic connections about seeing in brain and if this period is passed, establishing synaptic connections again will be more difficult (Lewis and Maurer, 2005; Maurer, Lewis, Brent and Levin, 1999).

In the study conducted by Maguire et al., in 2000 on brain plasticity in brain researches, hippocampus sizes of the people who were taxi drivers in London and the people who were not were investigated by using cranial imaging techniques. Hippocampus is located in deep in the temporal lobe of the brain and this is a part containing memory, emotions, and memories. It was concluded that hippocampus sizes of the taxi drivers from the experimental group were seen to grow compared to the people from the control group and this grow was directly proportional with the years passed by using taxi. The related studies and the present study have revealed that changes can be made in the adults' brains as in the infants and children and the brain has plasticity feature. For the brain whose plasticity feature is determined, early childhood experiences are very important. Experiences and synaptic connections are established during the early childhood period. Thus, the connections established with the brain having plasticity feature are possible to be developed (Twardosz, 2012).

## SUGGESTIONS FOR TEACHERS CONCERNING BRAIN DEVELOPMENT IN EARLY CHILDHOOD

There are critical periods and windows of opportunities in neuron development and the increase of number of synapses. Early childhood period is accepted to be a critical period in terms of brain development by experts. Brain development in 0-6 years reaches to 70% of an adult brain. In this process, the regions related to physical coordination, perception, attention, language, memory, logical thinking, and imagination also develop (Aydın et al., 2012). Due to the rapid development of the human brain in the first years of life, it is important for the children to live experiences with a rich stimulant environment especially in this period. Since the experiences with the rich stimulant environment will increase the number of synapses, rate of learning increase and the brain development is positively affected from this case (Wolfe and Brandt, 1998).

Brain is an organ that can be shaped through experiences. However, flexibility of a developing brain decreases over time. Even though brain plasticity is also seen in adulthood, it is not as much as in the early childhood period. Therefore, experiences provided by the teachers and the enriched environments in early childhood period also gain importance. A positive atmosphere, appealing to all senses, absence of stress factor for children, being developmentally appropriate for the child, providing social interaction, addressing to all developmental areas, providing the child to decide or change the decision when necessary, being able to get pleasure from learning, and qualifications to ensure the children's active learning should be present in the enriched environment arranged by the teacher (Thompson, 2008; Wolfe and Brandt, 1998). In addition, the studies reveal that frequent usage strengthens the neural networks. Each reuse in neurons leads to the emergence of tendency for the procedure to be repeated (McFadden, 2001). Therefore, it is important to frequently repeat the learned information to the children for strengthening the memory and performing the learning more effectively.

Numerous brain researches show that physical activities (such as moving, bending, stretching, and walking) and musical activities will increase learning. In early childhood period, teacher should design different movement activities with children, make them use their body and apply them. Such activities improve the brain by providing both hemisphere of brain to function (Jensen, 2000). In a brain research conducted with monkeys, interesting results are found. When a monkey gets a banana, neuron moving in the brain also moves when the monkey watches the same process. In other words, seeing or doing in the brain create the similar stimuli in the brain. This neuron is called as mirror neuron. Mirror neurons are the cells taking the signals from outside world and storing them via all senses starting from hearing and seeing. Therefore, pre-school teachers being the correct role model in early childhood period is important for the children to repeat the correct behaviors (Kim, 2011).

  

Interpretation of the information for the children is performed via patterning. Patterning is classification of the information in a meaningful organization. In this way, related connections will be established in the brain and the information will be learned more easily. At this stage, teachers' duty is to guide the children in the discovery of the patterning ways proper for the subject and guide them in this regard (Caine and Caine, 2002). Every study made for the diversification of learning experiences enriches the learning environments in terms of stimuli by taking the learner in the center. It will be helpful for the teachers to improve themselves by following the current issues about the brain researches. In this sense, teachers will notice that when they learn more about the neuro-development systems, their systematic guidance to the learners clearly strengthen the important brain functions (Serin, 2012).

## SUGGESTIONS FOR PARENTS CONCERNING BRAIN DEVELOPMENT IN EARLY CHİLDHOOD

In prenatal period which is critical for brain development, it is necessary for the mothers to take care of themselves, not to get infectious diseases, or stay away from alcohol, tobacco or harmful chemicals. In addition, there are findings about presence of the effects of nutrition on brain development in this period. Therefore, mothers' paying attention to the nutrition in this period and taking useful items for babies will also support brain development (Hannon, 2003).

Sleep-wake rhythm is stated as an important part of the brain development of infants. Six types of sleep-wake status are defined in infants. These are REM (active sleep), nonREM sleep (quiet sleep), sleepiness, wake, noisy, and active crying. REM sleep is very important for brain development of infant. Meanwhile, intrinsic neuronal activity continues and thus brain development is supported at this time when the external stimulus is less. A decrease is observed in cerebral cortex and brain stem sizes and tissue proteins in adulthood period of the mice whose REM sleep is suppressed with drugs in neonatal period. The parents' providing children to get enough sleep will be helpful for future brain development of the child (Mirmiran, Maas, and Ariagno, 2003).

Brain researches have shown that rich environment and nutrition have positive effects on brain development. For this, rich stimulant environment provided at home for children and early experiences offer unique opportunities for brain development. In a rich environment, the child communicating with his/her parent will establish more connections among neurons during synaptogenesis stage and does not lose the connections necessary for brain development by having less pruning during pruning stage. In addition, various studies have revealed that the children living with parents who constantly fight and being exposed to violence and abuse has more health problems both physically and cognitively in childhood and adulthood. Families should establish healthy communication with their children for healthy brain development of children, create a positive communication atmosphere at home, and be more sensitive to this issue during early childhood period (Özmert, 2006; Wolfe and Brandt, 1998).

Findings indicating that the results of seeing and doing in brain are similar pointed out the existence of mirror neurons. Mirror neurons play an important role in the children's development and imitation. For this, parents being both the correct model and being selective about the TV programs children watch will be helpful for brain development (Kim, 2011).

## CONCLUSIONS

Brain researches are primary one of the issues pointed out in our era and these researches shed light to the educators. Knowing how the cognitive structure of the learners operates, which type of activities is for what part of the brain, how the brain can be used more or what can be done for developing the brain will guide the educators about how they configure the education more accurately.

Brain researches reveal that early childhood period is one of the critical periods in terms of brain development. Living this period in a qualified way, supporting it with rich stimuli, and the child's using the reasoning in this period affect the synaptic connections and become necessary for his/her future life. Since the period is passed both with parents and teacher, the support of these two groups to the child for his/her development gains importance. Increasing of brain researches and the number of researches about the early childhood period will provide reaching more knowledge about the brain which is the basis of life activities and informing teachers and more researchers about the critical period. Therefore, conducting studies about the brain researches and early childhood education and increasing their number will be useful.

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# REFLECTIONS OF SOME SCIENTIFIC CONCEPTS ON BASIC DAILY ACTIVITIES

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**ABSTRACT**
With the science teaching program that is implemented in Turkey, it is aimed to raise individuals who is able to do researches, question the things, and make cause and effect relations by using the new information in his daily activities. This study aims to determine how much 6th grade students can relate some science concepts that are in "Force and Motion" unit of science lesson to their basic daily activities. Qualitative analysis was done for the study. It was implemented by using semi-structured interview forms with 18 6th-grade students of a secondary school in Istanbul, who studied specified subjects previously and have low, medium and high academic achievement. To achieve internal validity for the interview form, 2 academicians were asked for their opinions and the form took its final form accordingly. Semi-structured interview form was designed after a related literature review was done. Content analysis was used for the data analysis. As a result of a content analysis done on the students' answers, it was seen that the students can relate the scientific explanations related to the concepts of directions and aspects of force, resultant force, balanced and unbalanced forces and speed from "Force and Motion" unit of science lesson to their basic daily activities to a small extent.

## INTRODUCTION

As the effects of recent developments in science and technology on people's daily lives increase day by day, it is now a must to raise science and technology literate students. In our country, with the science lesson, it is aimed to raise students who can do researches-ask questions, make effective decisions, who have related knowledge and skills with positive attitude towards science lesson, know their responsibilities, take responsibilities on daily problems and use their knowledge and skills about science to solve these problems (MEB, 2013). That is why, the information, skills and experiences that the students gain from science lessons are highly important to make their future life easier.

As learning occurs with a conceptual basis, students must learn and internalize the concepts in the process of science education. Meaningful learning is only possible when students relate the new concepts to the incidents that they encounter or get affected by in their daily life (Ayas and Özmen, 1999; Coştu and Ayas, 2005; Martin, 1997; Smith and Siegel, 2004). By making high quality of education possible, this relationship enables students to have high motivation towards the lesson, adapt new information to different situations, have a happier life by adapting to daily life better and become environmentally friendly people (Pınarbaşı, Doymuş, Canpolat ve Bayrakçeken, 1998).

When we look at the subjects of physics, chemistry and biology that form the whole Science, we can see that all the subject matters are related to daily life (Enginar, Saka and Sesli, 2002). However, plenty of studies show that students cannot relate what they learn at school to their daily life (Anagün, Ağır and Kaynaş, 2010; Balkan and Kıyıcı, 2008; Taşdemir and Demirbaş, 2010; Yiğit, Devecioğlu and Ayvacı, 2002).What they find difficult most is that science lessons are comprised of concepts which are mainly abstract and difficult to understand, and as a result of this, students memorize the subjects rather than learning them in a meaningful way (Sökmen and Bayram, 1998; Sökmen, Bayram and Gürdal, 2000; Yıldırım, Kurt and Ayas, 2011). It was seen that science teachers found it the most difficult to teach the subjects of pressure, simple machines, heat and temperature, and force and motion (Güneş, Dilek, Demir, Hoplan ve Çelikoğlu, 2010). After a literature review, as a variety of studies on the subject of "Force and motion" suggest, it has been concluded that students have difficulties in understanding related concepts and they have some misunderstandings (Sadanand and Kess, 1990; Nuhoğlu, 2008; Demir, 2008; Köse, 2010; Gürel and Gürdal, 2002; Soner, 2006; Genç, 2008; Kurt and Akdeniz, 2004). For this reason, it is important to do researches on the extent to which the students can relate the concepts that are in "Force and Motion" unit of science lesson to their basic daily activities.

  

## THE STUDY

Qualitative research method was used in this study.

### Aim of the Research

The aim of this study is to determine the level of which the 6th grade students can relate some of the concepts that are in "Force and Motion" unit of science lesson to their basic daily activities.

### Problem of the Research

The problem of the study was defined as "How much do the 6th grade students relate the scientific explanations related to the concepts of directions and aspects of force, resultant force, balanced and unbalanced forces and speed from 'Force and Motion' unit of science lesson to their basic daily activities?"

### Sample of the Research

The sample of the study is made up of 18 6th-grade students of a secondary school in Istanbul, who studied specified subjects previously and have low, medium and high academic achievement of science lesson.

### Data Collection Instrument

A semi-structured interview form which was designed by the researches and had questions about the specified subjects was used for this study. The interview form was created after a research on secondary school 6th grade Science books and MEB objectives, and a literature review were done. The questions were prepared in a way so that they reflect real life activities and include the subjects of directions and aspects of force, resultant force, balanced and unbalanced forces and speed. A pilot study including 7 questions which were shaped with the views of experts was implemented with 2 students, and these students shared their opinions about the clearness and comprehensibility of these questions. The interview form took its final form in this way. Reliability of the study was defined with the formula of Miles and Huberman (Reliability = Agreement + Disagreement x 100) (1994). The consistency between the coding of the two experts was defined as 90%. This proves the validity and reliability of this study.

### Analyzing Data

In the study, a content analysis was done for the answers given to the questions which were prepared by reflecting the subjects of directions and aspects of force, resultant force, balanced and unbalanced forces and speed in the unit of 'Force and Motion' of 6th grade students' science lesson to daily life activities.
Analysis: It was done by taking the steps as putting data in order (coding and defining categories), summarizing the data (listing all the data related to the same category under the same heading), making comments about the data (drawing conclusions with the help of inductions) (Büyüköztürk, Çakmak, Akgün, Karadeniz ve Demirel, 2009). Gathered data were turned into a numeral form, and frequencies and percentages were defined.

## FINDINGS

In the semi-structured interview form which was applied to the students, 2 questions about the concepts of "Directions and aspects of force" were asked, the percentage of the categories which were created with the students' answers to these questions can be seen in Table 1.

As a result of the analysis on the answers to the question of *"What can we say about the direction and aspect of the basketball that the child is bouncing?"*, it was seen that 50% of the students knew the concepts of direction and aspect, 6% didn't know the concepts of direction and aspect, 22% thought that the concept of direction and the concept of aspect were the same things, and 22% could not differentiate between the two concepts.

Some sample student views about the first question are as follows:
S4: *"The ball goes towards north-south direction. Aspect changes. When it goes up, it goes to the north; when it goes down, it goes to the south."*
S14: *"Direction is a linear direction. But we can go to different ways. While he is bouncing the ball, it is vertical. But it has no aspect, teacher."*
S13: *"Direction and aspect are the same things actually. There is no difference between them. Both means the same thing to me. Both its direction and aspect are south-north, teacher."*
S12: *"Teacher, actually the direction is north. And we can say that the aspect is north-south."*

  

As a result of the analysis on the answers to the question of *"Ms. Ayşe is going towards the cash point to pay for what she has bought with the shopping cart. What can we say about the direction and aspect of the cart?"*, it was seen that 50% of the students were aware of the missing part in the question, 28% didn't understand that the question was missing, 22% couldn't give an answer to this question.

Some sample student views about the second question are as follows:
S14*:"How can I explain? I cannot say it exactly, as I don't know where they are. It depends on the point of view. For example if the cash point is in the east direction, then the answer would be east-west direction."*
S8: *"The direction is south-north. We can estimate where she is going. She is going forward. I got it that way, I think it's like this."*
S3: *"I don't know to which direction she is going to. If she went towards the east, then the direction would be east and the aspect would be east-west. But as we are not provided with specific information, we cannot tell it exactly."*

**Table 1: The Results of the Analysis Which Was Done on the Answers That the Students Gave About the Concepts of "Directions and Aspects of Force"**

| Question | Category | f | % |
|---|---|---|---|
| 1. What can we say about the direction and aspect of the basketball that the child is bouncing? | knows the concepts of direction and aspect | 9 | 50 |
| | does not know the concepts of direction and aspect | 1 | 6 |
| | thinks that the concept of direction and the concept of aspect are the same things | 4 | 22 |
| | cannot differentiate between the two concepts | 4 | 22 |
| 2. Ms Ayşe is going towards the cash point to pay for what she has bought with the shopping cart. What can we say about the direction and aspect of the cart? | aware of the missing part in the question | 9 | 50 |
| | does not understand that the question is missing | 5 | 28 |
| | does not know the answer | 4 | 22 |

In the semi-structured interview form which was applied to the students, 2 questions about the concepts of "Balanced and unbalanced force" were asked, the percentage of the categories which were created with the students' answers to these questions can be seen in Table 2.

As a result of the analysis on the answers to the third question of *"While two little kittens are playing in the garden, one of them falls asleep, and the other one starts running with a constant speed. What can we say about the kittens' situations in terms of balanced and unbalanced forces?",*it was seen that 56% of the students knew the concepts of balanced and unbalanced force, and 44% could not differentiate between the two concepts.

Some sample student views about the third question are as follows:
S15: *"Running cat is affected by the balanced force because it runs with a constant speed, the one that is sleeping is immobile so it is also affected by the balanced force."*
S5:*"Sleeping cat has balanced force because there is no force at all. Running cat is affected by the unbalanced force. Because it is running, it is not stable."*

As a result of the analysis on the answers to the fourth question of*"Our neighbour is loading the packages to the lorry as he is moving. One of the packages falls down to the middle of the road right after the lorry sets off. While neighbours Aras and Güliz are dragging the package to the right of the road, other neighbours Filiz, Osman,*

  

*Çağlar and Ayşe are dragging it to the left side. Which group do you think can drag the package to their side?*", it was seen that 22% of the students knew how to calculate balanced and unbalanced forces, and 78% did not know how to calculate balanced and unbalanced forces.

Some sample student views about the fourth question are as follows:
S1: *"Teacher it depends on the force they use. I mean forces. We calculate both of the forces separately. The package can be dragged towards the direction where there is more force."*
S10: *"Hmm... teacher now I can say that the group which has more people can drag it. As they are more in number, it goes to that direction."*

**Table 2: The Results of the Analysis Which Was Done on the Answers That the Students Gave About the Concepts of "Balanced and Unbalanced Force"**

| Question | | Category | f | % |
|---|---|---|---|---|
| 3. | While two little kittens are playing in the garden, one of them falls asleep, and the other one starts running with a constant speed. What can we say about the kittens' situations in terms of balanced and unbalanced forces? | knows the concepts of balanced and unbalanced force | 10 | 56 |
| | | cannot differentiate between the two concepts | 8 | 44 |
| 4. | Our neighbour is loading the packages to the lorry as he is moving. One of the packages falls down to the middle of the road right after the lorry sets off. While neighbours Aras and Güliz are dragging the package to the right of the road, other neighbours Filiz, Osman, Çağlar and Ayşe are dragging it to the left side. Which group do you think can drag the package to their side? | knew how to calculate balanced and unbalanced forces | 4 | 22 |
| | | did not know how to calculate balanced and unbalanced forces | 14 | 78 |

In the semi-structured interview form which was applied to the students, 1 question about the concepts of "Resultant force" was asked; the percentage of the categories which were created with the students' answers to this question can be seen in Table 3.

As a result of the analysis on the answers to the fifth question of*"Mr Mustafa's lorry suddenly breaks down. He asks for help to the two vehicles on the road so as not to cause a traffic jam. The lorry was dragged to the side of the road with the help of these vehicles. What can we say about the resultant force which is applied to the lorry?",* it was seen that 39% of the students knew the concept of resultant force and could calculate it right, 33% knew the concept of resultant force but mixed up the calculations, and 28% did not know the concept of resultant force.

Some sample student views about the fifth question are as follows:
S1: *"We can find the resultant force with the information of applied force. Two people can do it by using forcible means. Let's say, there is a package and one uses 5N force, and the other uses 10N force. Of course they should be on the same direction for us to add them up. We can find the resultant force by adding up the two forces. For this case, we should add up the forces directed to the lorry. If the forces were on two different sides, we would do subtraction."*
S9: *"They can pull it with a rope. I know resultant force as: If two people use forces to the same thing together, it becomes like one force. We can find the resultant force by adding up the forces of these two cars. But I'm not sure. Maybe we should do subtraction."*
S8: *"I just cannot remember what resultant force is. They can drag the car to the side of the road."*

  

**Table 3: The Results of the Analysis Which Was Done on the Answers That the Students Gave About the Concepts of "Resultant Force"**

| Question | Category | f | % |
|---|---|---|---|
| 5. Mr Mustafa's lorry suddenly breaks down. He asks for help to the two vehicles on the road so as not to cause a traffic jam. The lorry was dragged to the side of the road with the help of these vehicles. What can we say about the resultant force which is applied to the lorry? | knows the concept of resultant force and can calculate it right | 39 | 7 |
| | knows the concept of resultant force but mixes up the calculations | 33 | 6 |
| | does not know the concept of resultant force | 28 | 5 |

In the semi-structured interview form which was applied to the students, 2 questions about the concepts of "Speed" were asked; the percentage of the categories which were created with the students' answers to these questions can be seen in Table 4.

As a result of the analysis on the answers to the sixth question of *"What can we say about the speed of the earth that is evolving around itself and a ball revolving around itself while we spin it with our hand?"*, it was seen that 72% percent of the students knew the concept of "Constant speed", and 28% did not know the concept of "Constant speed".

Some sample student views about the sixth question are as follows:
S6: *"The speed of the basketball falls because of the friction our finger causes. I think the earth evolves with a constant speed."*
S13: *"The earth evolves more slowly. The ball goes faster. The earth goes speeding down. The ball goes speeding up."*

As a result of the analysis on the answers to the seventh question of *"Ece and her mother set off with their car to go to her friend Ahmet's birthday party. The birthday party is going to start 2 hours later. Her mother tells Ece that their destination is 150 km away. Can they arrive at the party on time as they are driving with a speed of 60 kilometres per hour?"*, it was seen that 61% of the students could do calculations about speed and get the right result, 6% could do calculations about speed but got the wrong answer, and 33% could not do calculations about speed.

Some sample student views about the seventh question are as follows:
S7: *"They cannot arrive there on time because when they drive for 2 hours, they will have gone 120 km. As they have 150 km ahead, they will still have 30 km to go so they will not be on time. As 30 is half of 60, they will have arrived there 30 minutes after the party starts."*
S3: *"As the route is 150 km, we divide it by the time. If we divide it by 2, we get 75. It means they have to drive 75 km per hour. I mean I think they can get there on time. They can even go there earlier."*
S16: *"They cannot go there on time with a speed of 60 km if the route is 150 km long. I mean they cannot get the party place on time, it is a long way. They cannot go. I did subtraction. I found it as I subtracted 60 from 150."*

  

**Table 4: The Results of the Analysis Which Was Done on the Answers That the Students Gave About the Concepts of "Speed"**

| Question | Category | f | % |
|---|---|---|---|
| 6. What can we say about the speed of the earth that is evolving around itself and a ball revolving around itself while we spin it with our hand? | knows the concept of constant speed | 13 | 72 |
| | does not know the concept of constant speed | 5 | 28 |
| 7. Ece and her mother set off with their car to go to her friend Ahmet's birthday party. The birthday party is going to start 2 hours later. Her mother tells Ece that their destination is 150 km away. Can they arrive at the party on time as they are driving with a speed of 60 kilometres per hour? | can do calculations about speed and gets the right result | 11 | 61 |
| | can do calculations about speed but gets the wrong answer | 1 | 6 |
| | cannot do calculations about speed | 6 | 33 |

## CONCLUSIONS

Within the scope of this study, as a result of the semi-structured interviews done with the students, it has been discussed and evaluated how much 6th grade students can relate the scientific explanations related to the concepts of directions and aspects of force, resultant force, balanced and unbalanced forces and speed from "Force and Motion" unit of science lesson to their basic daily activities.

According to the results of analysis done on the questions related to the concepts of "Directions and aspects of force", half of the students answered the first question wrong and half of the students answered it right. It was seen that most of the students who gave wrong answers thought that the concepts of direction and aspect had the same meaning, mixed the two concepts up, and a few of them did not know the concepts of direction and aspect at all. There was an information gap in the second question about "Directions and aspects of force". Half of the students mentioned that they could not find the right answer with the data given. Along with this, half of these students knew that there was an information gap in the second question but could not get the right answer, and the rest told that they did not know the answer. The results which were gotten from the first two questions show that although half of the students knew the concepts of directions and aspects of force, it is apparent that they just remember the information by heart but they cannot relate these concepts with daily life at all. The reason for this might be that the students memorize subjects while they are studying but they cannot reflect them in their daily life. The information can be long-lasting as long as they are related to the incidents in real life (Özmen, 2003). Similarly in his study that included the analysis of 6th, 7th and 8th students' level of understanding in terms of Force and Motion subject Tokiz (2013) found out that students could not explain the concepts of direction and aspect and could not point to the aspect.

According to the results of analysis done on the questions related to the concepts of "Balanced and unbalanced forces", as for the third question, it was seen that almost half of the students knew, and the other half mixed up the concepts of balanced and unbalanced forces. Almost 2/3 of the students answered the fourth question wrong. As half of the students answered the former question correctly but the rate is 2/3 for this question, it can be said that students have difficulty in calculating balanced and unbalanced forces. In that sense, as can be understood from their views, they made the wrong deduction as "the total force is more on the side which has the most people". The same results were got in some other studies done by different researchers (Genç, 2008; Nuhoğlu, 2008; Hopkieviks, 1992).

  

According to the results of analysis done on the questions related to the concepts of "Resultant force", as for the fourth question, 2/3 of the students know the concept of resultant force but only less than half of them can get the right answer by doing the right calculation. 1/3 of them does not know the concept of resultant force. As a result of the analysis on the answers, it has been seen that more than half of the students know the definition of resultant force but they cannot relate their knowledge when they are provided with an example from daily life, they just mix up the calculations. In parallel with these results, in their studies, Yiğit et al. (2002) found out that students could relate the concepts of science lesson to their basic daily activities to a very small extent; and Doğan et al. (2004) concluded that students could not relate the concepts of science lesson to their basic daily activities enough.

According to the results of analysis done on the questions related to the concepts of "Speed", as for the sixth question, 2/3 of the students know the concept of constant speed. In the last question which involved doing calculations about the concept of speed, 2/3 of the students could do the calculations and most of them got the right answer. However, 1/3 of the students still did not get the correct answer and the reason for this might be thatstudents could not relate the concepts of speed to real life problems, did not know how to calculate it, or they did not have enough level of calculating skills. In parallel with these results, Hürcan and Önder (2012) concluded that although students can solve definite problems from the lessons, they cannot use the same ways to solve the problems that are related to daily life.

When the final results are analysed, it can be said that concept teaching should not include memorization and concepts should be related to basic daily activities to make meaningful and permanent learning possible. In a number of studies done on this topic, it has been seen that students become more successful if they are provided with a science lesson that is linked to real life (Ayvacı and Devecioğlu, 2008; Coştu , Ünal ve Ayas, 2007; Yiğit et al., 2008).

As the findings and results of this study are taken into account, so as to make meaningful and permanent learning possible and help students relate the concepts they learn from lessons to basic daily activities, it can be suggested that the topics should be taught in contexts that students can encounter in real life, different methods and techniques in which students can actively participate in lessons can be applied, the semi-structured interview form about the concepts in the unit of "Force and Motion" which was applied to the students in this study can be applied to some other student groups and the results may be compared, different interview forms about different science subjects and at different levels can be prepared and used in order to see how much the students can relate different concepts that are in different units of science lesson to their basic daily activities, and teachers can take part in in-service trainings about this topic.

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# RELATIONSHIP BETWEEN THE WRITING QUALITY AND SELF-REGULATION SKILLS OF SECONDARY EDUCATION STUDENTS

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**ABSTRACT**
The objective of this study is to examine the relationship between the writing quality and self-regulation skills of secondary education students. In the context of this study, the students were given 16 composition subjects, and they were asked to write a composition about the subject they chose. Then, the students were asked to write another composition about the same subject one hour and one day later. The "Writing Quality Scale" was used in the assessment of the compositions of the students. The compositions of the students were given scores that varied between one and four in this rubric-style scale. Self-regulation skills and the habits of reading and using social media were also investigated in the study. Upon examining the results of the study, it was concluded that there is a high level of positive correlation between the writing skills and self-regulation skills and book reading habits of the students. In addition to this, it was seen that there was a high level of correlation between the self-regulation skills of secondary education students and the compositions they wrote in terms of writing quality. This shows that both the self-regulation and writing skills of the students can be developed through writing activities.

**Keywords:** Written expression, self-regulation, writing quality, book reading habit.

## INTRODUCTION

Upon examining the literature, studies examining the relationship between the writing skill and self-regulation skill are encountered. While there are many studies carried out on the writing skill and self-regulation skill in the foreign literature, it is seen that such studies are not at the desired level yet in Turkey. It is believed that the present study will contribute to the field in that it reveals the relationship between the writing skills and self-regulation skills of the secondary education students. In addition to this, it is among the primary studies that examine the relationship between the scores that students took from three compositions they wrote at the intervals of one hour and one day in terms of writing quality and self-regulation skill, book reading habit and the habit of using social media.

Today, the objective of education is to ensure that students achieve reliable information and undertake the responsibility of their learning in this process rather than transferring certain information to students. Hence, the students will be able to control their own learning processes, achieve information without depending on their teacher, and question the reliability of the information they achieve. This makes the learning approach based on self-regulation important. When the relevant literature is examined, studies examining the effect of the writing training based on self-regulation on the writing skill are encountered (Dilber, 2014; McCoy, 2013; Sperger, 2010; Tracy, Reid and Graham, 2009; Uygun, 2012; Zumbrunn, 2010; Zumbrunn and Bruning, 2013). The common point of these studies is that the learning approach based on self-regulation has a positive effect on the writing skills of students. This shows that the writing skills of students can be developed by ensuring that they gain self-regulation skill.

The writing training is held for the purpose that students gain the skill to express their emotions and thoughts in a neat and orderly manner both in terms of grammar rules and content. Thus, writing quality is possible if the text is successful both in terms of form and content. Upon investigating the studies carried out in the field of writing training, it is seen that the problems related to grammar mistakes, incoherencies and the formal structure of the text in students' compositions are assessed, however, the elements that make up the basis of the text such as ensuring proper transition between the sentences and paragraphs, that the text is coherent as a whole, the main idea is expressed properly and supported with supporting ideas are not emphasised sufficiently. The students should be able to manage the writing process well both in formal and semantic terms. Writing training based on self-regulation is among the important methods that can be used in developing the writing skills of the students. This study aims to examine the relationship between the writing skills and self-regulation skills of the students.

  

The theoretical and conceptual framework of the study carried out starting from the problem situation is explained below.

**Self-Regulation and Writing**

The main reason for the concept of self-regulation to be in the centre of the writing skill is the studies carried out on the brain. Studies on the brain have shown the biggest advancement among the scientific studies carried out in recent years. It is for this reason that science men consider the years between 1990 and 2000 as the "Decade of Brain" (Andreasen, 2014:11). These studies have led to the emergence of a lot of important information both in regard to the anatomical structure of the brain and the biological structure of our nervous system. Hence, it has been possible to obtain more information about our education system, thinking structure and other mental activities (Stillings et al., 1994: 270).

That our brain structures and the working styles of our brains are not the same is among the most important elements in these findings. It was found out that our brain structures are not similar just like our voices and fingerprints are not similar (Calvin and Ojeman, 2009: 27). When it comes to the effects of these brain differences on language skills: brains are not the same in terms of their structure, and they are not the same in terms of their functions either. For example, we store the language skill in different areas using different regions for different components from names to predicates and different aspects of grammar (Medina, 2010: 65).

Genetic differences are among the important factors among the reasons for our brain structures not to be similar. Furthermore, while five main factors are effective in the development of our brain structures, our memory and the information we store let us think, perceive and interpret things differently from one another in our daily life. While these differences are effective in the development of our speaking skills, our unique writing styles are also effective in the development of our writing skills that have a more complex structure. The conceptual dimension of the concept of self-regulation has been revealed by these recent studies on the brain. At the same time, the development in our brain structure shows certain basic differences in the process of forming the connections between the neurons as well as being anatomical. It was found out that the connections between the neurons that manage our mental functions in our brain systematically develop up to 25 years of age (Andreasen, 2011: 91).

This information has shown that the students must rearrange their brain structures with a systematic and new method as well as their language skills in addition to all of their skills in language education. It is necessary to create a three-stage language and expression lesson systematics in order to adapt this information to the teaching of the writing skill. The first of these is to create awareness among the students, the second one is to develop activities and methods that will contribute to student's getting to know themselves correctly, and the third and last stage is to ensure that they find their unique writing method and develop it with practice. According to the findings of the new science field of self-regulation called "Cognitive Science", this information constitutes its scientific basis.

Another field that has important effects on the development of the concept of self-regulation is text linguistics. Text linguistics studies have shown that the structural integrity of a text shows numerical variabilities. This variability has clear properties even in the texts written by the same person at different times. This information shows that there is an interesting connection between the semantic integrity and writing skills and mental processes. Our study includes a field research carried out in order to show this interesting structure.

There are different approaches and definitions in the literature regarding the concept of self-regulation. Aydın and Atalay (2015) define self-regulation as an individual undertakes the responsibility of one's own learning process, plans and controls this. At the same time, Zimmerman (2000) and Zimmerman and Cleary (2006) express self-regulation as a combination of the thoughts, emotions, and acts that are produced by the individual himself/herself in order to attain an objective. Pintrich (2004) defines self-regulation as a process in which students are active participants in the learning process, can define their own targets and strategies, monitor and regulate them and can control their own motivation and behaviours. Steffens (2006) defines self-regulation in three steps: planning the learning activities, realization and observation of the learning activities, and evaluating the results of the learning activities. Starting from the above-mentioned definitions, observing, controlling and assessing the activities performed in order to achieve one's target in the learning process show that the student has self-regulation skills.

Learning based on self-regulation, in which students actively participate in the learning process and regulate their own learning according to their needs, is defined as the emotions, thoughts, and actions presented in order to achieve a particular academic target (Zimmerman, 2000). It is necessary to raise individuals who undertake the responsibility of the writing training, can control their own writing processes and actively participate in these

  

processes, rely on their own skills and positively use these skills. One of the important elements in achieving this target is self-regulation based learning (Özbay and Daşöz, 2016).

Self-regulation based learning can be considered as for an individual to undertake the responsibility of one's own learning process and design one's education process in line with one's own needs and necessities. Here, it can be said that a person undertakes all of the responsibility of one's own learning process and designs the learning process actively. Furthermore, the belief of an individual is also an important factor in self-regulation based learning. Studies carried out show that cognitive and motivational factors have an important role in the self-regulation skill (Pintrich, 2004; Zimmerman, 2008; Schunk and Zimmerman, 2007). Students with the self-regulation skill have high interest and motivation towards learning as their belief that they can ensure their own personal development is high.

Today, it is quite easy to access the information thanks to the developments in technology, however, the rapid change in the information has brought about the problem of whether the information accessed is reliable. It is necessary to have high order thinking skills such as critical thinking, creative thinking and problem-solving in order to eliminate this problem. It can be said that the students with the self-regulation skill also have good high order thinking skills. Indeed, the studies on this subject show that there is a high level of relationship between the self-regulation skill and high order thinking skills and learning based on self-regulation has positive effects on the high order thinking skills of the students (Arslan, 2014; Canca, 2005; Çiftçi, 2012; Oruç, 2012; Vandevelde et al., 2011). Today, it is necessary to raise individuals who can undertake the responsibility of their own learning, determine and update their learning process in line with their own needs. This necessitates benefiting from the learning based on self-regulation. An individual who has self-regulation skills is also an active problem solver and aims to develop one's skills (Nami et al., 2012).

Providing the students with writing skills will facilitate the transfer of the information that they previously obtained by reading or listening, and the students will be able to build their written expression in a more systematic and orderly manner. This will ensure that the text is a whole both on the surface and in deep structure. The writing strategy based on self-regulation may help students develop their skills in planning, writing and correcting, which ensure that they maintain their control on particular writing strategies, writing and learning (Zumbrunn, 2010).

Considering problems such as negative attitude towards writing and the anxiety of writing, it is necessary to perform the studies on teaching writing in a more systematic way and use different methods and techniques in teaching writing. One of these methods is the writing training based on self-regulation. Graham, Harris and Mason (2005) state that through the learning strategy based on self-regulation, students can obtain planning and self-regulation skills, which are necessary to regulate their writing studies, better understand the writing process and use the strategy taught.

Writing based on self-regulation is defined as the thoughts, emotions and acts that are used by students in order to achieve different writing targets, through which they can control the writing process (Kaplan, Lichtinger and Margulis, 2011; Schunk and Zimmerman, 2007). In the process of writing, students should control their writing process in addition to expressing their emotions and thoughts with proper sentences within a particular plan. This can be achieved by using the writing strategy based on self-regulation. Students with self-regulation skill are students who are aware of their writing and reading strategies, know which strategy to use in which case, and perform the things they need to do by the end of the writing process in a planned and systematic way. Self-regulation is a skill that can be brought to the students later. In this sense, the education and teaching activities at schools should be arranged in accordance with self-regulation (Zimmerman, 2002).

We are currently performing a study at the doctorate thesis level on developing the writing skill through the self-regulation method. The studies on the control group taught using the traditional writing method with a group that was educated on self-regulation at the research dimension of the doctorate thesis we made at Gazi University Institute of Education Sciences were completed, and the statistical measurements of the results obtained show that the writing training held with the self-regulation method yields significantly positive results. The research stage is over, however, the thesis is still being written.

**Objective of the Study**

The objective of this study is to reveal the relationship between the writing qualities and self-regulation skills of secondary education students. The answers to the following questions were sought in the framework of this general objective:

  

1. What is the level of the writing skills of the students when compared to the high schools where they studied?
2. Are the first, second and third compositions of the students different in terms of attention, arrangement, and ordering of the information?
3. Are the self-regulation skills of the students different in terms of the first, second and third compositions?
4. Is there a relationship between the writing skills and the self-regulation skill, book reading habit and social media using habits of the students?
5. To which extent do the self-regulation skill and book reading habit predict the writing skill?

## METHODOLOGY

### Research Model

The research was designed as a mixed method study. Students were given sixteen composition subjects and asked to write a composition about one of these subjects in order to determine the writing skills of secondary education students. Then, the students were asked to write another composition on the same subject one hour and one day later. The document review technique, which is among qualitative data collection techniques, was used in order to assess the written expressions of the students. The document review includes the analysis of the written materials on the phenomenon or phenomena that are aimed to be investigated (Yıldırım and Şimşek, 2013: 187). The relationship between students' writing skills, self-regulation skills, book reading habits and habits of using social media was also examined in the study. The relational screening model among qualitative research methods was also used in the study in order to reveal these relations. The relational screening model is a research model that aims to determine the existence and/or degree of the covariance between two or more variables (Karasar, 2005: 81).

### Working Group

The universe of the study carried out in the 2015-2016 academic year consists of the 12th-grade students studying in the city centre of Kırşehir. The study was conducted with the data obtained from 126 students that were chosen through stratified sampling among the 12th-grade students. Stratified sampling is a method of sampling that determines the sub-groups in the universe and ensures that these are represented in the universe with their ratio in the size of the universe (Büyüköztürk et al., 2015: 87). While the characteristics rates of the individuals that are randomly chosen in the universe can be the same, these rates may also be different; stratification secures the state of representation in this subject (Creswell, 2014: 159).

For this reason, the high schools in the city centre of Kırşehir were determined as a sample in accordance with their ranking of success starting from their TEOG test results. In this context, the Science High School, Ahi Anatolian High School, Hayriye Kımçak Anatolian High School, the Religious High School, Kırşehir High School and Âşıkpaşa Vocational and Technical Anatolian High School were determined as the study high schools. Then, the number of the students studying at these high schools was determined in order to be able to determine the number of the students to be included in the study, and the study group was determined in percentage by the total number of high school students for the purpose of ensuring that each high school is equally represented. Consequently, 18 students from the Science High School, 21 students from Ahi Evran Anatolian High School, 20 students from Hayriye Kımçak Anatolian High School, 21 from Anatolian Religious High School, 24 from Kırşehir High School, and 22 students from Âşıkpaşa Vocational and Technical Anatolian High School were included in the study.

### Data Collection Tools

The data required for the research were collected using the "Writing Skill Assessment Scale" prepared starting from Turkish Teaching Program (2006), the personal information form prepared by the researcher and the "Self-Regulation Scale" adapted into Turkish by Aydın et al. (2014).

*Personal Information Form:* It is prepared so as to collect data on the independent variables of the research, and consists of five questions.

*Writing Skill Assessment Scale:* The rubric-style scale prepared by the researchers based on Turkish Teaching Program (2006) is prepared in order to assess the written expressions of the students. It consists of six items: The title is related to the subject. The subject is explained in logical consistency and integrity. There is an appropriate transition between the paragraphs. A single emotion and thought are handled in each paragraph. The main idea that is desired to be given is achieved in the text. The main idea and emotion are supported with auxiliary ideas, and the result expression concludes the subject and is impressive. A formula of a=Range/Number of Groups to be Formed was used in the determination of the value interval of the scale (Taşdemir, 2003). Accordingly, the value interval was determined at the following levels: "1-4 "inadequate (1,00-1,75), intermediate (1,76-2,50), good (2,51-3,25), very good (3,26-4,00)".

  

The "concordance between independent observers" method was used in order to determine the reliability of the measurement scale used in the study. The concordance between independent observers is a criterion of security that is applied when more than two observers try to measure the same thing independently (Karasar, 2005: 149). Accordingly, thirty randomly selected written expression papers were assessed by the researcher, one Turkish teaching and one Turkish language and literature expert. Then, the relations between these values were determined using the Pearson's correlation analysis. As a result of the analysis, it was found that the Pearson's correlation coefficient showing the rate of concordance between the observers in the written expressions of the students is r=,84. That the Pearson's correlation coefficient is between ,70 and ,89 shows a high, and above ,90 shows a very high level of relation (Kalaycı, 2009: 116).

*Self-Regulation Scale:* The Self-Regulation Scale developed by Brown, Miller and Lawendowski (1999) in order to measure behavioural self-regulation was adapted into Turkish by Aydın et al. (2014). The scale consists of three factors and 51 items. The first factor, self-reinforcing, consists of 29 items; the second factor, self-monitoring, consists of 18 items; and the third factor, self-assessment, consists of 4 items. The Self-Regulation Scale was applied to 321 university students outside the sample in order to determine the fitness of the model. The model fitness values were determined by the researcher using the confirmatory factor analysis. The results obtained are as follows: x2/df= 1,93; RMSEA= 0,072; SRMR= 0,065; GFI= 0,88; AGFI= 0,89; CFI= 0,94; IFI= 0,93 and NNFI= 0,95. Furthermore, the internal consistency level of the scale was examined using the Cronbach's Alpha coefficient, and it was found as α=,831.

**Data Analysis**

First, the fitness of the data for the normal distribution was examined in order to determine the statistical method to be used in the study. The Kolmogorov-Smirnov normal distribution test was performed as the number of the data is higher than 50 in order to test the fitness of the data for normal distribution (Wright, 2006: 94). As a result of the normal distribution test, it was determined that the value of significance is higher than 0,05, and it was decided that the data show normal distribution considering the kurtosis and skewness coefficients, and the histogram graph (Kalaycı, 2009: 6-10). For this reason, the one-way variance analysis (ANOVA) was used in order to determine whether the writing skills of the students vary by the high schools where they study and their first, second and third written expressions. In addition to this, the Pearson's Moments Correlation Coefficient (r) was calculated in order to determine the writing skills of secondary education students and other variables. Furthermore, the Multiple linear regression analysis was performed in the analyses aimed at predicting the writing skills of the secondary education students. The Standardized Beta (β) coefficient and the t-test results on its significance were taken into consideration in the interpreting of the regression analysis.

IBM SPSS 20 program was used for the analysis of the data, LISREL 8,80 program in the confirmatory factor analysis of the Self-Regulation Scale, and the significance level of 0,05 was sought in the interpreting of the data.

**FINDINGS**

This section focuses on the findings based on the data collected in line with the sub-problems of the study. Table 1 features the statistical values concerning the scores obtained by secondary education students with regard to their first, second and third expressions.

**Table 1**: Average scores of secondary education students regarding their written expressions

| *Variable* | *High School Type* | *n* | $\overline{X}$ | *Ss* |
|---|---|---|---|---|
| **1st Written Expression** | Science High School | 18 | 3,44 | ,615 |
| | Ahi Anatolian High School | 21 | 3,28 | ,783 |
| | Hayriye Kımçak Anatolian High School | 20 | 2,95 | ,887 |
| | Kırşehir Anatolian Religious High School | 21 | 2,80 | ,749 |
| | Kırşehir High School | 24 | 2,37 | ,923 |
| | Âşıkpaşa Technical High School | 22 | 2,22 | 1,151 |
| **2nd Written Expression** | Science High School | 18 | 3,38 | ,607 |
| | Ahi Anatolian High School | 21 | 3,14 | ,853 |
| | Hayriye Kımçak Anatolian High School | 20 | 2,70 | ,864 |
| | Kırşehir Anatolian Religious High School | 21 | 2,71 | ,717 |
| | Kırşehir High School | 24 | 2,33 | ,916 |
| | Âşıkpaşa Technical High School | 22 | 2,13 | 1,125 |

  

| | | | | |
|---|---|---|---|---|
| **3rd Written Expression** | Science High School | 18 | 3,55 | ,511 |
| | Ahi Anatolian High School | 21 | 3,33 | ,730 |
| | Hayriye Kımçak Anatolian High School | 20 | 2,95 | ,944 |
| | Kırşehir Anatolian Religious High School | 21 | 2,85 | ,792 |
| | Kırşehir High School | 24 | 2,20 | ,779 |
| | Âşıkpaşa Technical High School | 22 | 2,09 | 1,108 |

While in Table 1, it is seen that the students of the Science High School have the highest score from the "Writing Skill Assessment Scale", the students of Kırşehir High School and Âşıkpaşa Vocational and Technical High School have the lowest scores. It is seen that the score obtained by the students in their second expression is lower when compared to their first expression scores. While the written expression scores of the Science High School and Ahi Anatolian High School are at the very good level, the scores of the students from Hayriye Kımçak Anatolian High School and Kırşehir Anatolian Religious High School are at the good, and the scores of the students from Kırşehir High School and Âşıkpaşa Vocational and Technical Anatolian High School are at the intermediate level. Table 2 shows the statistical values that the secondary education students obtained in terms of the attention, arrangement and ordering of the information in their first, second and third compositions.

**Table 2:** Statistical information regarding the structure of the first, second and third written expressions of secondary education students

| **Configuration of the Parts that Form the Text Structure** | **1st Written Expression** | **2nd Written Expression** | **3rd Written Expression** |
|---|---|---|---|
| Compositions starting with the main idea | 42 | 31 | 51 |
| With the main idea in the development part | 26 | 15 | 21 |
| Compositions ending with the main idea | 35 | 41 | 44 |
| Compositions starting with a question | 12 | 8 | 9 |
| Compositions starting with an example | 25 | 16 | 18 |
| Compositions starting with a quotation | 9 | 5 | 7 |
| Those starting with a dialogue, story or anecdote | 21 | 15 | 28 |

Upon examining Table 2, it is seen that there are clear differences in the written expressions of secondary education students in terms of the attention, arrangement and ordering of the information in their first, second and third written expressions. Table 3 shows statistical data regarding the written skills, self-regulation skills, book reading habit and habits of using the social media in the first, second and third compositions written by secondary education students.

**Table 3:** Correlation table between the writing skill and other variables

| | | **Self-Regulation** | **1st Written Expression** | **2nd Written Expression** | **3rd Written Expression** | **Book Reading Habit** | **Habit of Using Social Media** |
|---|---|---|---|---|---|---|---|
| **Self-regulation** | r | 1 | ,679** | ,649** | ,733** | ,521** | -,320** |
| | *p* | | ,000 | ,000 | ,000 | ,000 | ,000 |
| **1st Written Expression** | r | ,679** | 1 | ,926** | ,956** | ,396** | -,203* |
| | *p* | ,020 | | ,000 | ,000 | ,000 | ,023 |
| **2nd Written Expression** | r | ,649** | ,926** | 1 | ,906** | ,410** | -,167 |
| | *p* | ,000 | ,000 | | ,000 | ,000 | ,061 |
| **3rd Written Expression** | r | ,733** | ,956** | ,906** | 1 | ,439** | -,249** |
| | *p* | ,000 | ,000 | ,000 | | ,000 | ,005 |
| **Book Reading Habit** | r | ,521** | ,396** | ,410** | ,439** | 1 | -,261** |
| | *p* | ,000 | ,000 | ,000 | ,000 | | ,003 |
| **Habit of Using Social Media** | r | -,320** | -,203* | -,167 | -,249** | -,261** | 1 |
| | *p* | ,000 | ,023 | ,061 | ,005 | ,003 | |

*. Correlation is significant at the 0.05 level. n=126

**. Correlation is significant at the 0.01 level.

When Table 3 is examined, it is seen that there is a high-level significant relationship between the writing skills and self-regulation skills of the secondary education students (r=,679, p<,01; r=,649, p<,01; r=,733, p<,01). While there is an intermediate level of relationship between the writing skill and book reading habit (r=,396, p<,01; r=,410, p<,01; r=,439, p<,01), there is a significant negative relationship between writing skills and the habit of using social media (r=-,203, p<,05; r=-249, p<,01).

  

Furthermore, it is seen that there is an intermediate level of significant relationship between the self-regulation skills and book reading habits of secondary education students (r=,521, p<,01). The negative significant relationship is observed between the self-regulation skill and the habit of using social media (r=-,320, p<,01). The graded regression analysis results on the prediction of the writing skills of the secondary education students by the variables are shown in Table 4.

**Table 4:** Multiple regression analysis results on predicting the writing skill scores of secondary education students

| Predictor Variables | R | $AR^2$ | Std. Error | $R^2$ Change | F Change | F Regression | Beta | t | p |
|---|---|---|---|---|---|---|---|---|---|
| **Self-regulation** | ,537 | ,533 | ,671 | ,533 | 143,579 | 143,579 | ,841 | 11,863 | ,000 |
| **Book Reading Habit** | ,537 | ,541 | ,673 | ,008 | ,220 | 71,448 | ,028 | ,469 | ,640 |

When Table 4 is examined, it is seen that there is a significant relationship between the writing skill and self-regulation skill. These predictor variables explain 54,1% of the total variance in writing skills. The self-regulation skill explains the writing skills of the students at the rate of 53,3% of and the book reading habit at the rate of 0,8%.

## DISCUSSION AND CONCLUSION

The results obtained in the study carried out for the purpose of determining the relationship between the writing skills and self-regulation skills of secondary education students are as follows with discussions.

It is seen that the writing skills of secondary education students vary by the high schools where they study. Upon examining the average scores of the "Writing Skill Assessment Scale", it is seen that the students of the Science High School have the highest score, while the students of Kırşehir High School and Âşıkpaşa Vocational and Technical Anatolian High School have the lowest scores. It is seen that the score obtained by the students from their second written expressions is lower when compared to their first written expression scores. This may have resulted from the fact that students wrote a second composition about the same subject. For, the students wrote the second text shorter; and this may be interpreted as the students did not pay much attention to their second composition.

While it is observed that the written expression scores of the students from the Science High School and Ahi Anatolian High School are at a very good level, it is seen that the scores of the students from Hayriye Kımçak Anatolian High School and Kırşehir Anatolian Religious High School are good, and of the students from Kırşehir High School and Âşıkpaşa Vocational and Technical Anatolian High School students are at the intermediate level.

It was concluded that there are clear differences in the written expressions of secondary education students in terms of the attention, arrangement and ordering of the information in their first, second and third written expressions. This shows that each student's writing skill develops differently. Thus, the writing strategy based on self-regulation shows that each student should regulate one's writing strategy according to one's own skills and habits rather than receiving a standard writing training.

It was concluded that there is a positive significant relationship between the writing skills and self-regulation skills of the students as a result of the Pearson's correlation analysis carried out in order to determine whether there is a significant relationship between the two. Accordingly, the relationship between the writing skills of secondary education students and their self-regulation skills are at the level of ($1^{st}$ written expression r=,679, p<,01; $2^{nd}$ written expression r=,649, p<,01; $3^{rd}$ written expression r=,733, p<,01). It is seen that there is a higher correlation between the third written expressions and self-regulation skills of the students. This means that the students with self-regulation skill can develop their writing skills by making writing practices.

Upon examining the literature, it is seen that learning activities based on self-regulation have a positive effect on the writing skill of the students (Dilber, 2014; McCoy, 2013; Sperger, 2010; Tracy, Reid and Graham, 2009; Uygun, 2012; Zumbrunn, 2010; Zumbrunn and Bruning, 2013). In addition to this, the studies in the relational screening model that examines the relationship between the self-regulation skill and writing skill also show that there is a high level of relationship between these two variables (Gouin, 2012; Sieben, 2013). This shows that the students' writing skills can be developed by bringing the students the self-regulation skill. If students have a high level of self-regulation skill, it will be possible for them to produce high-quality texts in terms of writing quality, for writing is an activity that the students plan themselves and manage the process actively (Sieben, 2013).

  

While there is an intermediate level of relationship between the writing skill and book reading skill (r=,396, p<,01; r=,410, p<,01; r=,439, p<,01), there is a negative intermediate level of relationship between the writing skill and the habit of using social media (r=-,203, p<,05; r=-249, p<,01). Accordingly, it can be said that the writing skill scores of secondary education students will increase in case their self-regulation skills and book reading habits increase. In addition to this, it can be also said that the writing skill scores of the students will increase as their habit of using social media decreases.

In his study, Eroğlu (2013) concluded that there is a relationship between the book reading habit and the writing skill, and students with book reading habit are also successful in their written expressions. Gouin (2012) also expresses that there is a high level of relationship between the self-regulation skill and writing skill.

The multiple linear regression analysis was performed in order to determine to which extent the self-regulation skills and book reading habits of secondary education students predict their writing skills. As a result of the analysis, it was concluded that there is a high level of significant relationship between the writing skill and self-regulation skill, while there is no kind of relationship between the writing skill and book reading habit. Accordingly, the self-regulation skill explains the writing skill of secondary education students at the rate of 53,3%, and book reading habit at the rate of 0,8%. Upon examining the standardized (β) coefficient and t-value, it can be said that the self-regulation skill can be a significant predictor of the writing skill.

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# RELEVANCE BETWEEN CONCEPT AND MEANS IN PIANISM

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ABSTRACT
The present study reflects the personal experience of the researcher as concert artist and teacher, conceived as "know how"- compendium of pianistic knowledge and skills. Ambition of the musician must be recreating the content of the work, performing not the notes only, but the music of the composer. To "play" piano, idiom in most languages, just as a sport, is not enough to reveal the spiritual substance of the music.

The presented method aims to unite form and content: "what" and "how" to be identical. Result is achieved by following the composer's intention, given the amazing regularity that the optimal realization proves to be the most easily feasible. Natural at playing sensory "muscle joy" and intuitive melodic intonation enjoyment must be shaded to avoid the "algorithm of monotony." Similar is valid to some "clichés", such as that Bach should always be performed *non legato*, despite declarations of himself that his main task is teaching his students to acquire the ability to play *cantabile*. Thus solid educational background and lore are indispensable for proper interpretation.

We also need to know the features of the mechanics of the instrument piano like a pilot knows his machine. For example, on dynamics: what is the limit of the maximum power that can be exerted on the key. Otherwise, if it exceeds the optimum, you will hear mechanical noises, which inevitably affect the quality of the sound emission, unless this very effect is wanted in contemporary concrete, avant-garde music, etc. These and other principles are *condicio sine qua non* regarding professional criteria.

## INTRODUCTION

The presented work reflects the personal practical experience of the researcher as pianist and pedagogue. Here we are emphasizing more the philosophy of our craft and some aspects of technological side we described in «The Art of the Scales in the methodology of Piano Education» (Ivanova).

## OBJECTIVES

The teacher has the professional and moral commitment to build the student's taste and criteria, as well as a direction to right resource for realization of musical intents. This is the essence of the practical task. All we have to do is reassemble form and content after clarifying «what» kind of music we are playing and «how» to perform it the best way.

Our purpose is to expand musical view of the piano player and of the musician-performer in general. For instance, do not rely on «postulates» like the one, that first time is always strong. On the contrary, from a statistical point of view, in most cases it is the weakest, because there the cadence phase is «reset», (Ivanova, 2015), being starting point of a new momentum and a connection with the following unit. Therefore, accentuation, sudden attack should be avoided in order to give place to softened flexible motion, a controlled introduction on the «tangent».

## METHODOLOGY

The essence of method consists in the realization of correlations on a mental level and further – on a physical one, by proving the immanent interaction between movement in the context of musical idea and tone, which is its product. The result is conscious, cognitive, and not instinctive, contraindicated playing for classical music. The holistic approach recommended here, as well (Ivanova, 2015), applied in the teacher's practice and consequently in the performance practice, shows a sustainable achievements, saving significant efforts and time, that can be redirected in other activities, adequate and reflecting our creative efforts, which are contributing to developing personality - reading, studying, sports, rest, listening to music.

  

The understanding should be the leading one. For instance, when we are building a house we need a project, conceived by architect and engineer-builder, investments, excavation and construction works, i.e. working team, a technical manager, supervisor, and investor and from there the size of enterprise depends on magnitude of our capital resources. This situation counts also with respect to our musical projects, where architect is the composer. Approach is generally similar, regardless of whether this is an amateur or professional endeavor, bearing the same responsibility, no matter if we are building a bungalow or a skyscraper. Everything should have a solid basis, knowing well what we are doing, why and what we have. In this context it doesn't make sense to apply ferroconcrete reinforcement for low construction or level beam for a massive construction. This is an analogy of wrongly selected means of expression in playing music without considering the specifics of what is being performed. Then, due to uniform device treatment is «produced» only unified *alla Hammer-Clavier* "percussion" sonority. The reasons could be reduced to two categories: either insufficient basis for idea evaluation, i.e. undifferentiated musical ideas, or inability for its embodiment, or a lack of control, considering the output, i.e. feedback with reality. Hence, our pedagogical and creative work is complex due to unbreakable unity of factors and components on mental or physical level, forming our interpretation. In this spirit are present other submissions that are illustrating from diverse angle the issues we are pondering on. Various associations enrich our ideas, develop and stimulate the imagination, search and innovations. It is appropriate to remind the famous sentence of Robert Schumann: «Not a good musician who is only a good musician» (Schumann, 1993). And inversely: acquired «professional» pianistic skills develop personal horizons, expand power of consciousness, extrapolating and adding them in the sphere of other activities and life practices, where applies the Latin maxim: «We are studying not for the school, but for the life» (Non scholae, sed vitae discimus). For the pianist playing piano is a way of life.

DESCRIPTION

The performer should aim for recreating content of work during its performance. Not only notes, written by composer, but his music. Actually, in most cases, there is a «playing» piano, as used in most languages, while spiritual substance-essence of music is not considered and interpreted. The form is dominant, even the sport is prevailing in this act.

Action is last «instance», «sanction of thought». Hence, it is subject of control from it. Self-control should become a natural state, automatic. Ultimately, deed is an act or lack of action, which has a specific impact through movement or a sequence of movements.

Each logical music unit, corresponding to «bit information», should be modified in a motional one, and specific solution should be justified contextually. Motion should merge with music, receive and reveal its spirit.

Music is alive; it needs to breathe in and out. Every work represents by itself a separate, closed and complete system, acting according to its own inner laws. In this context, there is a «ceiling» and a «floor» of parameters, whose non-compliance leads to «incidents». It is a question of regard, «touching», a communication with yourself in symbiosis with the instrument.

ANALYSIS

Formal, structural and stylistic analysis should reflect cohesion of the separate components of form and content as an interpretational task and means of expression in their unbreakable link and compactness. We mean main sound-creating parameters like tempo-rhythm and dynamics, phrasing and articulation, finishing touches, fingering and pedalization.

Sound production is different, as the case, but the common denominator is that always should be looked for the core of key, touching, density. Sound emission consistency is decisive during sound production. It is appropriate to remind here Liszt's famous sentences about «Musical fingers and velvet paws», because there are no good and bad sounds, but only proper or improper ones. Four elements of Mozart regarding how playing piano as «the easiest thing in the world» is: in a particular moment, in a particular way, with a specific finger press a specific key Ivanova, 2015).

  

There are some particularities, for instance, maintained identical articulation in a certain part of Bach, because an excerpt of work does reflect an integral state. Afterwards, in the evolution of form and semantics of musical language, it occurs in every thematic area, then is reduced to a phrase, motive – in the romanticism, to a separate tone that holds a «universe» of meanings – proper to impressionists, avant-guardists, etc. This approach is different for various composers – through a different *«angle of attack»* (Pilot's Encyclopedia of Aeronautical Knowledge, Federal Aviation Administration, 2007), acceleration, powering on and powering off separate parts of «aggregate» (Ivanova, 2015), by controlling ratio mass-energy. With or without acceleration, depending on the situations, and based on natural processes as breath of phrase, and trends, expressed by «tectonics forces» of harmonic progressions, solid tempo-rhythm, adherence to instrument. In the very beginning of study-learning process should be detected proper interpretational intentions and their corresponding means, and should not be considered notes only firstly and after artistic, so-called «playing with performing». «Unification», imposed by application of same way of expression, leads to monotony, similar to elementary, but an accurate comparison – flavoring dishes with the same seasoning, i.e.makes them insipid. Beethoven does not like *rubato*, which, on the other hand is the «trademark» of Chopin. The analogical one in Beethoven concerning tempo deviation is the *agogica*. There are also postulated «clichés», for example, Bach should always be performed *non legato,* taking into account that composer himself outlined his main pedagogical task was to provide to his students the skill to play *cantabile. Staccato* and *legato* in Bach are two polarities depending on whether nature of passage is rather toccata, rhythmical or smooth, cantilena. Whether period will be «reduced» to smaller or bigger structural segments, a broad shape is depending largely on general stage configuration, which is a function of the play integral dramaturgy.

Technique is connected to science – it originates and develops on a scientific background – and inversely – without applicable and applied in the practice through accumulated experience –science cannot experiment nor draw resources in order to make progress and go forward. Theory and practice are and should be intrinsically linked as they originate from one another. Therefore, analysis must precede and serve as basis to the experience.

FINDINGS

Piano technique associates with a higher mastery, handling a set of logistic means, adequate and relevant to conception, as a proper selection of perfect touches, dynamics, pedaling, articulation, fingering, tempo-rhythm.

It is necessary to hear the composer's «voice». Be embodied in his personality, reflecting his character and temperament, which are giving an impact on his music. For instance, Beethoven's famous *subito*. Misunderstanding the necessity of such a differentiation unfortunately leads to tedium that is noted after the very first measures, i.e. everything sounds the same pattern. There are present composer's notes and remarks, but his music is lacking (Ivanova, 2015). Sound production has become uniform and average, most because interpretational idea itself was not clarified due to a deficit in training or a lack of desire for a more detailed and deep penetration in the musical substance. This behavior derives from an attitude, where pianist is much more concentrated on his own inner experiences and ideas, when the equilibrium with their objective resonance is compromised and is standing out of the context of composer's intents. Using same approaches and means of expression in the process of its performance, treating physical tools when using only specific part of hand and muscles, same incidence and ignoring natural transmissions of energetic streams exchange, like the wrist, elbow joints and other physiological connections, lead to the same result on any occasion. It also applies to gestures, manners and stage behavior. Full control of apparatus is *condicio sine qua non* (Ivanova, 2015). Taking into account that performance is a *happening* «right now and right here», psycho-mental condition should be maintained alert and on a high level in any moment. Such a skill is the «aerobatics» of professionalism.

There is a unique rule reflecting dependence between means and concept – and it is namely that properly selected means are also most convenient for this purpose. The amazing here is that optimal realization of conception is resulting more feasible. Feelings as sensorial «muscular delight» and intuitional melodic intonation one only, natural when playing, should be reduced in order to avoid the « algorithm of monotony » (Ivanova, 2015). Here we mean achieving pearl-matte sonority of Mozart, which excludes severity and sudden acceleration, acquiring ingenious

  

distinctness and clarity of Haydn, accumulating mass of Beethoven, or accentuation and clusters in modern music (that presuppose treatment, which would scandalize contemporaries of earlier ages). After decrypting essential specific for a given author in respect to his texture and passage configurations matrixes, we are able to look for simplifications and streamlining as logical, technological and energetic provision of their covering (Velikova, 2009), in the exactly planned balance.

Our hands and entire body is our tool of labor. Our working field, the soil, is the instrument piano, as an extension of our flesh and closest associate and partner which illustrates, objectifies and realizes the music. Pianist and piano, as the mythological centaur are in a symbiosis and constitute a unified system. And the significant, most important for proper system functioning as a whole, is all its elements and components should be coherent and work synchronized and in coordination. System should be provided with energy and resources through own renewable sources. Interconnections inside it protect it and maintain its functional life. Regardless of what dosis of resource we are handling, which depends on current requirement, we should never lose power. By obtaining a fusion, «unity with the material» - (Dyankov, Nonchev, 1991), a full contact, as the example we have to study and borrow from the stringers, who cover fingerboard with rounded fingers and a stable palm we should never lose. We mean here including that movement in the choreography of musical dramaturgy, also Martial Art techniques karate-hands techniques-*shuto*. (Dyankov, Nonchev) teach us how to manage energetics and invest an auto-resource throughout control and unblocking energy channels -*nadis*-in yoga- and suppling gears - joints (Hristov, 1992). Piano athleticism is a discussion topic. The objective is acquiring and developing a movement culture, optimizing the piano playing. A thought, embodied in a motion transforms into act and in a fact. The accomplishment is: artistic-truthful music that has «life» and makes us dance, feel and ponder upon.

The art of ballet is ideal epitome of this judgment.On memorizing the anchor that supports us, is well maintained tempo-rhythm, codified in dance beginning of musical expression (Ognenska, Kaufman 2009). Genres are embedded in each composition as the rhythm is the armature of music; it is the relationship body-motion-music. Choreography of proper movement reflects and expresses the optimal, accurate, perfect, and depicted by diagram of its vectors and parameters. Solution of those equations consists of finding out best options that do rationalize performance and create comfort. And it is already the quality and prerequisite ensuring virtuosity, which means ease, overcome the problem readily and then contributes to performance class.

Every single work, similar to a photograph, has only one optimal space focus we must find, the *tempo* enshrined in the dramaturgy of the composition. Its correct choice, coherent to the pulse of artist and music, ensures proper running of work in the time and clarity of each detail. Often we are witnessing unconsidered initial *tempo* that is regulated consequently during performance but this distorts perception of the overall running. Tempo-rhythm is the frequency of work, which should be aliquot to the one of performer and public. In order to reveal composer's heart, we must feel it. This is the semantic core of work. Correlation tempo-prosody is crucial, regarding clarity of expression and then of message. It is here that we often stumble upon discrepancy between idea and its realization. The limit of speed, of pace is when music remains articulated and to be incorporated within monolithic whole of work. Fast rate is charming us, because it symbolizes increased emotional degree, the energy. But it should be *creative, and not to destroy semantic relations within musical texture.*

We have to resort to analogies with topics and areas, relative to our research. We should recognize, for instance, author's notices in a dynamic plan, but mostly polished and embedded in meaningful context. When Chopin requires *con tutta forza* and editor marks the place through respective adopted symbols, we, actually must emphasize and exercise a direct mechanical force, and tear out that sound, which marks a huge spiritual moral and willful effort and aspiration, relevant to author's idea. Authorial designations have primarily a personalized emotional character and pertain more to psychological nature than to purely acoustic one. They should find out contextually their adequate physical reflection – as well as expression and solution on a motion level. Thus in Brahms *forte* and *piano* has different amplitude and consistence from marked in the same way dynamics, from Scarlatti, for example. Something more: even the same composer, for instance Chopin, whether it means miniature as valse and mazurka or a huge

  

sonata form, as concerto, Grand polonaise, etc. we enter in different intents, even when this is a different work period, as a late Beethoven, in opposition of the early one. Looking for the key to composer's universum it is necessary to read thoroughly musical text. Some remarks are ambivalent, as the point, which in phrasing sense should be interpreted as motive lightening, *staccato* instead. Here should be distinguished composer and editor notices. We should not be influenced by limitation of notation, like outlines that refract natural breath of phrase, for this performing by heart is the unique correct and recommended option. Advantage of memorizing is also ignoring bar lines, which are more metric formal sign, braking integrity of phraseology. Singing and articulated «pronouncing» of a specific musical expression-passage or phrase will help us to understand and feel its logic as sense, and consequently – master it. We are reminding single brain center administering both functions and unite them – motion and speech (Ivanova, 2015).

It is important to find out common denominator, code of the language of work and author. In Mozart the key to interpretation of his music consistency resides in his own replica, revealing his self-assessment that he is the «best» in opera, hence his instrumental clarity in vocals and vocal instrumental line. *Opera* in Latin means work, labor, process; Greek etymological analogue is drama, i.e. action. Drama has two manifestations: tragedy and comedy-theater, characters, action, dynamics, dance, pantomime, recitative. We must discover Mozart also as staging and game throughout the corresponding direction and choreography.

Sound and image amplitude is very large. Bach, where we have unity of articulation, respectively to thematic and figurative elements, in which every single part bears its monolithic character. Further, on the spiral of development of genres, styles, and instruments, things change drastically reaching Webern minimalism, where one sound is one universe. But in any case, «classic» unity of form and content should be respected strictly. We should not obey, making concessions to trivial taste, even it is professed by the majority, launched by «celebrities» (to whom «nothing human is unfamiliar with them»). We should strive for the artistic Truth «and nothing but the truth».

As a result of a survey I had with my students, requiring a response to the question: «Which one from the listed below has a priority over the rest: musical perception, notes visualization, keyboard, finger touch sense» - most of them gave it: Music above all. My task as pedagogue is to convince students in its absolute priority. Remaining components, each one of them significant and irreplaceable itself, step back in the hierarchy of logical order of those irrevocable ingredients of musical masonry. As factors, consolidating musical performance, they function in an unbreakable unity, in a «fusion», but the guide, traction, beacon – remains only the music (Ivanova, 2015). The sensation, that namely we are the initiators of movement, which generates, creates music, is huge and gives us the feeling of certainty and might. We must accelerate the «processor»: consciousness should predict, anticipate next move –where, how, when and how much measure and do it.

We must realize relevance between idea and means, by the body language correspondence to the musical one, expressed by the famous notion «Sound creation will» (Martinsen, 2006) and the «musical fingers» of Liszt (Ivanova, 2015). Principal situation – musical idea already clarified should conduct action, precede it. Inversely, intuitive knee-jerk reflex playing reminds a situation which puts the car before the horse. Idea, music are «motor» of performance and do ensure it psychologically. This is the same phenomenon when thrust the speed is decreasing and the plane loses power before stall (Pilot's Encyclopedia of Aeronautical Knowledge, 2007) analogically to a performance, when lifting force and thrust of the artistic imagination are not enough and we are relying on reflexes. Pianist-performer, in order to be an artist, should be «connate», to author and with respect to his vision, psychology and mastery. He is simultaneously manager, investor, designer, engineer-builder and architect, because music develops within space as a form and in the time as process. His/her responsibility for successful undertaking, in the case, the concert, is analogical to the one of pilot when performing «flight». For a good «performance» we must know features of mechanics of instrument, as the pilot knows his machine. For instance, with respect to dynamics: what is the limit of maximum force that can be applied to the key. Otherwise, if the optimum is exceeded, will be heard mechanical noises, which inevitably deteriorate quality sound emission, unless this effect is not aimed at on the specific and avant-gardist music. In the modern music such a sound, on the contrary, often is aesthetically justified

  

according to its ideology.An angle of “attack” (Pilot’s Encyclopedia of Aeronautical Knowledge, 2007), combined with flexibility on deep touching keyboard, always in close contact with its core, outlines interpretational profile. This «arsenal» and sound palette must be available to performing artist, while specific selection depends on his own decision, according to culture and taste. Basic knowledge of the mechanics of instrument and its parameters and options is an advantage, in order to penetrate in the dramaturgy, preserving objectivity and control, to accumulate energy and thus creating artistic image in favor of vocal guidance and the music.*Legato* as idea of connection between the tones, regardless of the touch, is the background of the interaction with piano, the “Way of softness” (“Judo”).

Here must be followed the maxim «Less is More», simplicity. The action carried out in the most economical way, at least expenditure of time and energy is the correct one. Solving the dynamic equation, observing the direction of rotation and the projection of the vectors greatly facilitates performing action like good surfer who anticipates the wave’s profile, follows profiting the flow and is not going against it. The principle of «golden section» is taken into account not only in terms of functionality but also in matter of the architectonic structure of the work of the macro and micro level, along with the momentums, applied forces and the trajectories of movement configurations. Thus are observed certain technological aspects, which are the reflection of physical laws and their implementations as logistical provision.

Here we mean the formulas expressing the relation of weight, momentum, acceleration-(F=MxA), the time factor, such as back-proportional to the strength, and speed as directly proportional to the power, affecting pianistic act (MxV=FxT), about push and pressure (P=F:S).

The performing artist is a unifier, a mediator between composer and audience; the body and the hand are the transmission between the instrument and player. The articulation, acceleration and finger’s angle changes are powerful tools for stylistic differentiation. While dosing the weight, switching on and off parts of the body by changing the parameters of the physical action, we are able to feel at a given moment our bones become «pneumatic», light as a bird's wing-like Mozart or back - massive when the music substance becomes denser. In works of Bach the articulation within a single musical piece is not changed because in the Baroque period each part is monolithic and expresses certain state. This is referred to *sforzato* as relative dynamic sign. It is not possible to have dynamics or any other music-symbols indication out of context, as an absolute parameter, but only as a relative one.

It is not random also the tonality of the work, which has a strict «color» and imaging dramaturgy. Irrevocable and paramount duty of the artist is to be faithful to the author's conception and imagery, of context of the style of the epoch, in resonance with his personal dimensions. The performance not only must provide a «museum» credibility, as defined by Heinrich Neuhaus (Neuhaus, 1958), but to be truthfully and artistically justified. This is what should be sought – tinted with the personal involvement of the artist, which is a function of its knowledge and cultural foundation. Between the ages there are common points, such as the parallels between Baroque and Jazz: the similarities on complementarity of rhythm, of harmonic and improvisational schemes. But if we treat them in inadequate manner, the results will be anachronisms like gaffes when capturing costumed historical scenes in which appear in the shot forgotten mobile phones or running shoes, to say.
The temporal projections, the private autobiographical elements, the physical and peculiar characteristics of the personality of the author, probably reveal to some extent his individual psychological profile: may be sanguine - choleric temperament type of Beethoven manifested by his famous *subito*, or the Brahms brachycephalic anatomical structure corresponding to the breadth of his expression, and massive, but implosive gradations. The melancholy of Tchaikovsky ... The examples are countless, as a boundless piano literature. We have to sense the timbre of the composer, to adjust consistency of sound. To investigate and hear the way, the architectonics of symphonic thinking incarnated in his orchestration, as the key to his work. Every composer has own unique « voice» that requires special treatment to achieve the «right tone»: the Scriabin’s plunge to the piano keyboard, the direct touch of Beethoven, the pearl necklace of Mozart, caress, modesty and courage of Chopin. The music is speech, a message, should be not a tongue-twister"; it is the bearer of a specific idea.

  

Speed itself is not a virtue. As with the rapid rotation of the spectral range the colors are darkening, blending together and discoloring, the presentation of the work in this fashion ultimately makes it meaningless.

To extract the necessary from the piano treasury in the interpretation of the piece, we must be familiar with orchestral, chamber and vocal creations of the composer, with his instrumentation and speech, to sense his prosody, because the music is a language that piano expresses nonverbally. After the extraction of the essence of his music, which crystallized in these forms, hence, we must activate the adequate physical resources in order to respond to this need. Like strings and other instruments and especially of the human vocal we pianists must play *vibrato* that is possible to achieve through imagination and knowledge of objective facts. Even Beethoven in his piano works sometimes puts «fork» just over one tone, expressed by whole or half a note what many people would consider acoustically impossible or habit of orchestration, and it is precisely the evidence on the above reasoning. Actually, it might be achieved on piano.

The examples that we can cite in the vast piano literature, are numerous (Ivanova, 2015). Because the piano is a sophisticated tool designed on the model of the coordinate system (Ivanova, 2015), it implies a very strong intellectual presence. Bach expressed it perfectly as «delight by intellect», and through the spirit. The piano is not just a sensory engine that we touch and provoke by feel. To recreate the work in relevant mode to the author's idea, it must be thoroughly explored and sensed in its entirety, and then in detail. In this sense, the performing artist must look into the peace of mind of the composer, to be able to reflect his *universum*. The piano is a kind of mini-orchestra and synthesizer of opportunities to reveal the author's conception. Most of the composers who have created the works for piano, first presumed his orchestral options (see the statement of Liszt that «the piano is not one but hundred instruments», Ivanova, 2015). Their scores are written for piano, but as conceived in orchestral categories with the potential to be orchestrated, which is the basic reference to learn composition. Even in the texture of mostly piano composer Chopin could be heard cello, harp, voice, for which he especially created music. The challenge here is the scale of the musical forms - from miniature to symphonic ones- to be sensed and properly represented by variability of expression and the dynamics, corresponding to the structural amplitude. *Forte* in nocturne is not identical to *forte* in the development of the sonata *allegro*. The same dynamics possesses different quantitative and qualitative characteristics in the works of Beethoven, for example.

RECOMMENDATIONS

It should always be emphasized that playing as well as any other human activity is a mental labor, and moral and willed effort to implement it. So it needs to work consciously at any moment. The opposite is absolutely counterproductive and a waste of time. After filling that our concentration dropped due to discharge of "battery", it is better to stop practicing and to get on with active or passive recreation, according to our state. For a more complete correspondence between means and purpose we must imagine the situation at the very beginning of preparing the program: where we will play and all conditions, including intended audience, hall size etc. We recommend to work by memory and not play by heart on the stage only- this is an achievement of the highest order and the key to obtain control and hence - quality of the performance. Memorizing also implies comfort and means that we have mastered the work, understood it, analyzed carefully all possible aspects and sensed, so, it is stayed now in all types of memory - rational memory, this one of a second signal system, and then already comes the visualization and sensory tactile sensitivity. Learning by heart is *condicio sine qua non* for mastering the work, even playing in notes, as in chamber music or accompaniment, where it should be at least 80% of the process to be ready. Fear of memorizing is unreasonable, having realized that memorizing is a process of profound analysis and knowledge of the music that we are performing. This presumption ensures our self-confidence.

We must provide for «adrenaline» in the simulation of live emotional experience as we manage to «can» and store in the interpretative model and secured it energetically, which implies excellent control over the situation. This is

  

another reason to reconsider every musical and conditional element of playing from the very beginning of learning the notes of the piece. Replacement of expressiveness with sentimentality only does not show refined taste. For instance, «chanting» as a permanent mode, as demonstration of musicality and sensitivity turns into its opposite, if it is overexposed. Say, some sentimentality is appropriate in certain melodic line, but in other stylistics would be groundless. Also, the *tempo* has to be «spoken» up to the pulsation of the work and from there –become coherent to the audience's pulse. We must always maintain a level of high concentration and attention, viz., of control, but by «the power of inspiration» (Statkova, 1998). And it involves intuition, imagination and knowledge. The accurate performance is not enough to satisfy us, if not animated, but it comes from the inspiration. Because to be an artist does not mean «do» the artificial things as far as the etymology of the Latin word *art* and from there – *artificial,* but have to be reborn into the characters. We have to be able to preserve the freshness of perception, the motivation. Each action should be meaningful and reasonable, deprived of an end in itself. Playing should always be spontaneous, like breathing and nature.

The rhythmic variations such as «romantic» *rubato* and «strict» αγωγικός should be approached with an extraordinary sense of proportion. *Tempo rubato*, immanent for Chopin, is unacceptable and contrary to the aesthetics of Beethoven. First one is a trademark of Chopin and inconsistent and contraindicated, for comparison, to Beethoven, whose similar vehicle is the second.

In the piano fingering on chromatic scales in the works of Beethoven, Brahms, Bach, requiring more articulation, density, texture and cohesion, it is appropriate to use the series including 1-2-3 fingers, while in the sheer sonority - Chopin, Debussy - all five fingers, guaranteeing the integrity of expression.

In the ergonomic treatment of the musical substance, other principal positions with universal applicability relative to fingering are: Voiceless fingers shift on the key, providing smooth cause-and-effect connection through quite gear giving comfort, because the convenient «before» may be ineffective «after».

Regarding the distribution of the musical texture for convenience between both hands, as typing, the «pianistic honor» is preserved considering the optimal result obtained without missing any single tone or modifying essentially the musical text. It must reason with the categories of the orchestra to reproduce adequately the concept of the composer by means of piano, which is the unique instrument with similar characteristics.

It is better to treat critical musical text edits by using them for reference and advice, but not necessarily compulsory in terms of fingering, tempo, diacritics for accentuation and metrics, phrasing and dynamics, except as expressly prescribed author's requirements. The example of Johann Sebastian Bach, who was limited to four basic parameters: keys, meter, armature and notes as symbols of tone height and durability, is instructive. With these guidelines is exhausted all information focusing music. In this sense, we could observe and develop our views based on own outlook, taking in consideration the individual physiological particularities, such as size and adaptability of hand, as well. The approach to the text should be inventive – as the conductor communicates with the orchestra led by the score, but also scientifically and analytically. Here stands out the multifunctional nature of the artist, both as subject and object, director and actor. Hence the requirement for full survey of the situation, which implies a sort of division of personality: ability to objectivity, on one part, like the external monitoring, for example by installing CCTV camera and full self-expression, on the other.

Regarding the usage of the pedal is imperative to know the scope of the pedal and its precise action. The leg should not be "glued" to the pedal, which compromises even better control of the upper motor apparatus - hands and fingers, as final performers of the musical intention. The permanent use of the left soft *una corda* pedal is not appropriate as a «surrogate» of the dynamic *piano*, as its role is rather to modify the timbre and quiet dynamics is a result, but changes sound characteristics. Otherwise any *piano* would look as uniformly muted deprived of timbre diversity, like if in the orchestra the instruments set permanently *una corda* in the occurrence of quiet dynamics. More important is to rediscover the unique qualities and take advantage of the wonderful options of *Sostenuto* pedal, giving the music

  

stereophonic and orchestrated sonority in airy and clear melodic and harmonic environment by highlighting the bass foundation.

Emotional extravagance often masks the deficit of ideas and speaks of poor taste. For example, *All the Time Evergreen*, the most popular piece «Für Elise» by Beethoven could be played sentimentally, as imitation of poetry, but Beethoven himself «does not like» this mannerism, but simplicity. The rough, directly *forte* or *sforzato*, is unacceptable in Mozart, at the same time it should be recognized that latter denotation is dependent on the context of the dynamic amplitude. To find the right touch - Chopin cannot be treated as Liszt, despite the proximity of the vision. The same is valid, as, for example, a comparison between the three "B"s - Bach, Beethoven, Brahms, Haydn and Mozart and others. The style and the time impose certain parameters, such as a square like sealed *staccato* in Bach, monolithic in Brahms, compared to the more rounded in cross section and thin touched «pearl» like such as Mozart's: with the participation of the wrist or turn of longer lever - elbow, shoulder - at a massive sonority. In the preclassic sound the articulation should be more pronounced at higher acceleration and angle close to 90 degrees (Ivanova, 2015)-but hurriedly in Jazz passages. This angle could vary to a wider to ensure a broad *cantilena* by more space and hence the wire to be excited in a way that vibrates along its entire length, providing richer overtones.

The formation of criteria, taste, aesthetics, must be educated. It comes down to interpretation. Given melody, presented by sake excessive tones may compromise certain concept, which requires a more rigorous, comprehensive and simple drawing. Again, it comes to simplicity and sense of measure, based on knowledge of the style in context of the specific work. The *ego* must be set aside and the personal to be expressed only cognitively and creatively, as conscious and striving to truthful interpretation.

To avoid distorted, incorrect or too subjective interpretation, unlike author's intent, which should serve us for paradigm, is recommendable for the students to listen mostly symphonic, chamber and opera music of the respective composer, where the individual «wish» dissolves in the mass collective «will», led by the conductor.

Maturation of work time is decisive factor (Ivanova, 2015) and helps in refining and selecting the right tools necessary for a genuine interpretation.

## CONCLUSION

Fidelity and devotion to the author's intent should be the prime objective and criteria. Violation of this rule is unacceptable for a truthful and high art. If we are able to «catalyze» and streamline the play through our personal culture and individual capabilities, the result is indeed a significant achievement, the noble purpose and moral duty of every artist. Namely placing and solving this existential problem of interpretation and piano performance is the main task of the educator: to instill ability to the student to achieve identity between form and content. This implies an overall setting, motivation and listening, verification of internal hearing with what actually receive as sound emission. Conversely, except negative result, different from our intentions, even when precise way of playing, there is the risk our execution to get closer to «perfection» of a fair, computer playback or kind of sports discipline «playing" the piano» (playing, as phrased this way in of the most languages) where everything is reduced to the delight of the achievements expressed in speed and agility, i.e., quantitatively, but not in quality.

Piano music requires high erudition. The classic music implies a rich cultural connotation, which requires lore to be understood and interpreted deeply. The education, culture and sensitivity are able to bring the interpretation to levels that make the performing artist co-author of a work – up to the principle that «the pen goes ahead of its creator».In this sense, a profound interpretation can achieve heights admired by the composer, in certain cases, even surprising for him/her by capturing, unveils and reveals dimensions reflecting his universal genius and ideas.

Our body as a whole and its individual members are our tools, not just hands and arms as part of musculoskeletal. Their appropriate use should reflect the music, to resonate with, penetrating into the fibers, and thus be molded through our fingers in the piano - «our alter ego». In fact «we play a head by hands» (M. Yudina). It then comes down to resources whose possessing and controlling make us free mentally and physically. The freedom is the basis

  

of the great opportunities, and being «recognized need», in this sense, gives weight and hence power since free physical body is always mighty.

Virtuosity means freedom.

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# REMEMBERING ERNST MACH (1838-1916) AS A SCIENTIST AND AN EDUCATOR

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**ABSTRACT**
On the occasion of the centenary of his death, we consider the figure and the work of the Austrian physicist, physiologist and philosopher Ernst Mach (1838-1916). We focus on Mach's role as an educator, at various levels, both as a professor and as a conference speaker. This becomes clear when considering his results in science education and, particularly, mathematics education. In Mach's vision, scientific education helps people to understand the world in which they live and so to act in an "economic" way (according to the very Machian meaning of the term). Therefore, with the aim of improving science and mathematics education, Mach suggested a set of operational guidelines to be implemented. We conclude by pointing out the modernity of Mach's ideas on education that still animate our present.

## 1. ERNST MACH AS A SCIENTIST

The Austrian Ernst Mach, the centenary of whose death falls in 2016, is known worldwide as a physicist and philosopher who was also concerned with epistemology and the history of science, physiology of sensations and experimental psychology, especially perception problems (see Blackmore, 1972, 1992; Blackmore, Itagaki & Tanaka, 2001; Blüh, 1967; Cohen, 1968; Haller & Stadler, 1988; Heller, 1964; Janik & Toulmin, 1973; Matthews, 1990; Zudini & Zuccheri, 2016).

Mach was professor of Mathematics and of Physics at the University of Graz and then of Physics in Prague (at that time part of the Habsburg Empire) and thereafter held the chair in the History and Theory of Inductive Sciences in Vienna. In this context, he was the inspiration for the melting pot of ideas which would become famous as the "Vienna Circle" (called also "Verein Ernst Mach") and for the new generation of physicists that was growing up at that time (among them, Albert Einstein; see Heller, 1964).

Mach's scientific and philosophical programme is based, first of all, on the development of a theory of biologically based knowledge. Heavily influenced by evolutionism, his theory regarded knowledge construction as an essentially adaptive process, placed in continuity with biological processes by which living beings adapt to their natural environment (see, on the "genetic worldview" of Mach's ideas, Siemsen, 2014). The same principles that guide the adaptation of organisms to their environment also rule the biological and psychological dynamics of human beings, including the level of knowledge, both natural and scientific. Knowledge itself is a product of universal evolution, and the general imprint of evolution and transformation must also be noticeable in ideas (Mach, 1886, Engl. transl. 1996, pp. 71ff.).

In this vision, the conceptual and mathematical instruments used in that complex and sophisticated human activity called "science" constitute a strategy that people have put in place with the practical aim of achieving greater and more complete control on reality (see Mach, 1906). According to Darwin's conception, nature is structured in an organic and simple way, and each one of its elements finds its place without excess or waste, in an "economical" way. Therefore, if science aims to help guide human beings in the world around them, in order to be of real use, it must be able to provide a description of nature that is as "economical" as possible.

## 2. ERNST MACH AS AN EDUCATOR

One of Mach's hallmarks is that science, once constructed, should be taught and disseminated. Mach was among the most brilliant scientific propagators of his time, both as a professor and as a conference speaker, and contributed with his conceptions and theories to shaping modern culture and mores mirrored in the "great Vienna" of the early 1900's. Appointed member of the Upper House of the Parliament by the Emperor Franz Joseph, he played the role of advocate of a modern, scientific, interactive, anti-dogmatic and secular education; he was aware of the necessity to propagate knowledge at all social levels (see Blüh, 1967; Hohenester, 1988; Matthews, 1990; Siemsen, 2010; Zudini & Zuccheri, 2016).

He promoted the "Volksbildungsverein" ("Association for popular culture") and the "volkstümliche Vorlesungen" ("popular lectures", i.e. the courses of lectures that were intended for the education of the working class and held by professors of the University of Vienna). He also edited the "Populär-wissenschaftliche Vorlesungen" (1896), in order to communicate his conceptions and theories even to a non-expert reading public (see, in particular, Zudini & Zuccheri,

  

2016).

## 3. MACH'S CONTRIBUTION TO MATHEMATICS AND SCIENCE EDUCATION

According to Mach's ideas, studying science – in particular mathematics – proved to be fundamental in helping human beings to observe and understand the world around them and thus to act in an "economic" way (see, e.g., Mach, 1889, Engl. transl. 1989, pp. 577ff.); therefore, scientific education should be consistently pursued (Mach, 1896, Engl. transl. 1898, pp. 360ff.).

### 3.1 HUMANISTIC CULTURE AND SCIENTIFIC CULTURE

"Über den relativen Bildungswert der philologischen und der mathematisch-naturwissenschaftlichen Unterrichtsfächer der höheren Schulen" ("On the relative educational value of the classics and the mathematico-physical sciences in colleges and high schools") is the title of a conference held by Mach in 1886, on the educational value of classical and scientific culture, and contained in his "Populär-wissenschaftliche Vorlesungen" (Mach, 1896, Engl. transl. 1898, pp. 338-374). In this conference, Mach showed himself to be a very modern scholar in his treatment of the relationship between humanities and sciences and their formative value (see Zuccheri & Zudini, 2016). He recognized that, within the cultural development of his time – by then focused on the technical-scientific aspect –, humanities could no longer be considered the only (or even the better) means to offer a higher education.

Mach countered the usual arguments in favour of the supremacy of humanistic culture with the greater value and effectiveness of teaching mathematics and science; he gave examples, claiming their superiority with regard to educational aims and for the development of ability in observation and logic (Mach, 1896, Engl. transl. 1898, pp. 344ff.).

> "I shall meet with no contradiction when I say that without at least an elementary mathematical and scientific education a man remains a total stranger in the world in which he lives, a stranger in the civilisation of the time that bears him. Whatever he meets in nature, or in the industrial world, either does not appeal to him at all, from his having neither eye nor ear for it, or it speaks to him in a totally unintelligible language.
>
> A real understanding of the world and its civilisation, however, is not the only result of the study of mathematics and the physical sciences. Much more essential for the preparatory school is the formal cultivation which comes from these studies, the strengthening of the reason and the judgment, the exercise of the imagination." (Mach, 1896, Engl. transl. 1898, pp. 359f.)

Mach indicated a set of operational guidelines for the improvement of mathematics and science education (Mach, 1896, Engl. transl. 1898, pp. 364ff.), which can be outlined as follows (see Zudini & Zuccheri, 2016):

1. avoiding premature abstraction and reducing the amount of the subject matter, inasmuch it was impossible to accumulate ideas beyond a certain level in a brain all at once;
2. using, in the presentation of a subject, examples (taken also from reading selected passages of the great classics of mathematics and science) and practical (manual and, generally, bodily) experiences to cause students to take an active part in their learning;
3. presenting, in the final classes of the higher schools, a division of the subjects into compulsory and optional, so as to enhance students' interests and inclinations;
4. preventing the most talented students, who, for some reason, had not been able to follow a regular curriculum, from being excluded a priori from entering university and academic professions; generally, there should be no restriction of access to education and the professions.

The ideal proposed by Mach (Mach, 1896) was therefore, in general, that of a non-dogmatic teaching of mathematics and science, in which the concepts should be introduced accompanied by an experience of the events that led to their formation. This should be done in order to take into account how they actually developed in the course of mathematics and science, following a historical and natural approach, with the goal of an "economical" adaptation of thoughts to facts.

In this vision, and with psychological attention to the development of the intellectual abilities, rigour should be reached in a gradual way, without an excessive use of formulas and chains of reasoning, so as not to burden the students and prevent them from forming unnecessary or incorrect concepts. As far as possible, everyday language and concepts in common use should be applied, at least in the initial phase; new concepts, hypotheses and theories should be introduced only when actually needed for the handling of a subject.

### 3.2 THE "JACOB METHOD": AN EXAMPLE OF APPLICATION OF MACH'S IDEAS IN MATHEMATICS EDUCATION OF HIS TIME

On the basis of Mach's ideas, a didactical method was developed, called the "Jacob method" – after Josef Jacob, who proposed it – and applied at the beginning of the twentieth century in the teaching of mathematics in the Austrian "Gymnasium" (pupils aged 11-18) (see Zuccheri & Zudini, 2007a, 2007b, 2008, 2010; Zudini & Zuccheri, 2016). This "practical method", supported by Jacob's teaching experience, was illustrated in a textbook to be used in training

  

"Gymnasium" mathematics teachers and published in 1913 with a preface by Mach himself (Jacob, 1913).
Jacob's treatise proceeded step by step giving practical suggestions and including very precise didactical examples, explaining to the teachers, in a clear and practical manner, how to introduce any subject, ranging from simple arithmetical operations to calculus. This was put into effect with the target of a mathematical teaching method for secondary school level, which, in line with Mach's ideas, had the following aims:

1. to make the mathematical "facts" (for instance, the sum of the angles of a triangle) and their interrelations comprehensible to young people as concisely as possible, with first simple, schematic representations;
2. to educate pupils on conceptual thought, encouraging intuition and avoiding premature abstraction;
3. to increase the value of mathematics by applying it in practical life, in technology and in science.

Therefore, Jacob proposed already at the beginning of the twentieth century a didactical method with conscious scientific foundation (i.e. Mach's theory), supported by his own teaching practice. A case study of application of the "Jacob method" is demonstrated through an examination of documents (school year-books and archival documents) concerning the teaching of mathematics in the city of Trieste, which at that time and until the end of the First World War belonged to the Habsburg Empire, and now is part of Italy (see Zuccheri & Zudini, 2007a, 2010; Zudini & Zuccheri, 2016).

## 4. CONCLUSION: THE MODERNITY OF MACH'S IDEAS

The modernity of Mach emerges in the light of his ideas on education, which were destined to have rich developments in the twentieth century and which still animate current research in the field.
The hallmark of modernity is particularly evident when considering the two following perspectives that are closely related: the cultural point of view and the educational point of view.
Mach's focus on science and on scientific culture can without doubt be acknowledged as modern from the first point of view. This aspect is, moreover, strictly connected, both in Mach's vision and in the present day, with the focus on the relationship between scientific culture and humanistic culture and on their formative value (see, among the modern treatises on the subject, Snow, 1993).
Other elements of Mach's conceptions are to be stressed from the educational point of view, such as the importance given, respectively, to teacher training and to students' intellectual development, which resound in modern studies on teaching and learning processes.
As explained in Zudini & Zuccheri (2016), an important role with educational aims is also played in Mach's theory of knowledge by manual and, generally, physical activities within the process of creation and development of concepts. As described above, on the basis of this theory, a didactical method (the so-called "Jacob method") was conceived, supplying a historical example of mind-body grounded methodology that could be compared to some aspects of modern theory of embodied cognition applied to mathematics teaching (see, e.g., Arzarello and Robutti, 2008, as well as Edwards et al., 2009, and, for more recent developments, Edwards et al., 2014).

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# RESEARCH ON THE BUSINESS RELATED FACULTY MEMBERS OF MEHMET AKIF ERSOY UNIVERSITY ABOUT THE BASIC PROBLEMS OF MANAGEMENT EDUCATION IN TURKEY

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**ABSTRACT**
While technical information related to business is one of the key factors that shape the behavior of individuals in the business life and the others are personal and professional values that they have. An important part of the technical knowledge and professional values are gained through education. As highlighted in educational institutions, technical information and personal values guide the people who take the education, professional approach will be significantly affected. Therefore, it is important that the educational institutions teach values to their students related to their fields of education.
In this study, firstly; the content of education programs providing business courses is explained in their conceptualized forms. Later; the results of the field studies conducted at Mehmet Akif Ersoy University and Bucak Zeliha Tolunay College in business administration department are subjected to statistical analysis. The results of the research is being away from life in the practical business education is seen as the most important issues have been identified. Other problem is that ethics, morals and values developed around the concept of social responsibility is seen as not given importance to education. Least care about the problem, the problem is over-analytical and numerical content of the course.

**Key Words**: Business Education in Turkey, the Basic Issues of Business Education in Turkey

## INTRODUCTION

Drucker (1993) states that the problems of least developed and developing countries, occur because of managerial reasons rather than the economic reasons. This situation increases the importance of the management education in universities.
It is known that the whole process of containing the knowledge phenomenon is constantly being renewed itself. On the other hand, it is inevitable that business areas cover many different areas of function and process information. In this context, the efforts which help business administration students to be successful in complex business organizations, has been increasing. With this development trend, management education has been transformed into one of the most important education and teaching fields in recent years (Akın ve Zor, 2009:114).

Business Administration analyze the businesses which produce economic goods and services to meet human needs by using knowledge, human power, technology, money, raw materials, equipment and so on (Öz-Alp,1972:77). In business administration departments, students have knowledge about economics, finance, management science, law, general business management with quantitative methods, production management, marketing, human resources and accounting and finance management. Students who have quite a wide range of fields of study can work various work areas. (Yılmaz,2008:2).

Personality characteristics, skills and career goals can be defined as significant factors that affects ones' work area and behavior in professional life. Furthermore, personal and business values can be defined as the one of the key factors shaping the behavior of enterprises. Particularly highlighted values in educational institutions have the potential to significantly effect in personal behavior and professional approach. As direct their in the field of

  

education. Therefore, teaching the values of the institutions to students is quite significant. (Benligiray ve Tez,2011:51). We can say that there are two main objectives of the management education. First objective is to train students with theoretical and technical information which students needs in their business life. Second one is to teach ethical principles and values that will enable them to maintain their life in an ethical way.

## 1.CONCEPTUAL FRAMEWORK

### 1.1. A Brief History of Business Education in Turkey

The modern higher education institutions in Turkey began to emerge after the second half of the 19th century. These schools are institutions which adapted to educating in the Western sense and after the Industrial Revolution conditions (Özkul,2012:223). In our country, the first business school was founded in 1881 in Istanbul (Kipping vd., 2004). Business education in Turkey, was initiated by some foreign scientists who escaped from Hitler's Germany. 1937 edition dated "General Business Economics" book is considered to be the first systematic book of business education in Turkey (Yelkikalan ve Pazarcık,2005).

In Turkey, the importance of business education has increased in the 1930s and 1940s. There are two main reasons: Tax reform of 1949 and introduced liberal economic policies after the 1950 elections. As a result the increase in demand of business administration education was observed. In the beginning, business education started with accounting and tax law after a while, with the impact of the increase in private sector business and globalization, tendency to management, human resources, marketing and so on has increased (Cömert, 1999).

The main purpose of the management programs in universities is to create human power who cope with the problems of the business world by considering the economic development, social structure and competitive environment's innovations. Therefore, it is aimed to train students to become creative and problem solver individuals (McMullan ve Gillin,1998:23). According to Arıduru (2006), management training programs aims not only to give theoretical information but also to direct students about using knowledge. A great number of employees with a wide range, educated with management education (Erdoğan,1998). Management graduates can work in the following areas (Özdaşlı, 2105: 2927):

1. Private Sector: as officers or managers in departments such as business marketing, accounting, finance, human resources, foreign trade, etc..; as clerk, manager or specialist in banks; as officers or expert in accounting and auditing firm; as expert in insurance companies; as private sector employees in many areas such as advertising and public relations expertise

2. Public Sector: as staff in the public sector based on the scores obtained in public examinations, with the Type A (Assistant Expert, Expertise, Inspectors, District Administrative Judges) Squad or Type B (Computer Operator, Clerical Work, etc...).

3. Entrepreneurship: as the owner of his/her own business

4. Academician: as research assistant or teaching assistant at schools offering administration education.

### 2.2. Basic Problems of Business Education in Turkey

The purpose of business schools is training students with the broad scale of knowledge and skills to lead the business world and general population and able to take social responsibility. Curriculum of business schools must be able to keep up to social economic and technological development. Moreover, in business administration programs, students should be trained with qualifications to put into the practice the innovations in economics and behavioral science. (AACSB,1993:1-3).Thanks to global competition in the World, future managers and operators should be equipped with the best knowledge. Thus, contemporary business education programs should be prepared with taking into account the changing conditions in national and international markets. Business Administration programs should follow economic and business innovations and applications in the world. A truly modern business education should aim to train students who have a flexible mindset and can adapt to the increasing global competition (Göksel ve Barak,2007:150).

Changes in the environment are not always in harmony with the content offered in the existing business education programs. At the beginning of criticism of the business school; course contents are over analytical and numerical. Analytical skills which are offered to students are excessive emphasized while diagnostic ability to the business's system and creating synthesis are underrated (Mintzberg, 1989).

  

Institutions providing business education for students are insufficient in terms of concepts such as ethical behavior and social responsibility while focusing on techniques and methods information (Coutou,2003). Hodgkinson (1996) makes a similar criticism. According to him, management and behavioral sciences generally give place to the manager's qualifications more than his/her personality. Manager has a tendency to avoid statements about moral character. Therefore, business education institutions may not mention about moral features

O'Toole (2005), has one of the most extensive criticism in recent years for business training. The source of such criticism is a "paradigm" changes which has been evolved over time in business education. The new business paradigm has been created by academicians and it supports their career goals on the other hand, the concept that business administration and management are a professional field, is ignored. Academically seeking the "best" concept makes business administration be away from the main purpose and mission. More specifically, the problem of business training moving away from practical life is occurred.

Generally the business courses in Turkish Universities are planned on a national scale, global changes and developments are not considered. Studies on change remain limited. The curriculum is prepared at a national level with consideration the present academic stuff, therefore the global change is missed (Yüksel ve Durukan,1998).

All fundamental issues relating to management education can be listed as follows:

1. Over-analytical and numerical course content
2. Preparing to the curriculum at a national level with consideration the present academic stuff, therefore missing the global change
3. Preparing to the curriculum at a national level with consideration the present academic stuff, therefore missing the global change
4. Preparing to the curriculum at a national level with consideration the present academic stuff, therefore missing the global change

In the research part of the study the four main problems which were detected, will be asked to the participants. Moreover, other problems will be tried to detect if participants mention about that.

## 2.RESEARCH METHODOLOGY

### 1.2. Purpose Of The Study

The purpose of the research is to present viewpoints of Mehmet Akif Ersoy University and Bucak Zeliha Tolunay High School teaching staff about the issues of management education and to identify the problems which they face with.

In addition to the limited number of studies on this topic, it is expected to contribute to the national literature. However, the scholars and practitioners of research results are expected to provide up to date information. Moreover, results of the study are expected to contribute current information to researchers and academicians.

### 1.3. Method of the Study

Research was conducted descriptive research to determine the problems of management education in Turkey. A semi structured questionnaire was created. The first part of the questionnaire consists of four questions to determine the demographics. The second part is related to four basic problems about management education in Turkey. In the third and last section participants were asked open-ended questions about other issues they see as the problem.

### 1.4. Research Population and Sample

The universe of study is consist of 18 faculty members in which eight of them from Mehmet Akif Ersoy University Faculty of Economics and Administrative Sciences Department, three of them from Bucak Management Faculty and seven of them from Zeliha Tolunay Management and Technology High School. Sixteen out of the eighteen faculty members who were reached by using the convenience sampling method, were participated in our study

  

### 1.5. Research Findings

Out of sixteen faculty members, twelve are assistant professor and four are associate professor. Five of them are women and eleven of them are men. Three of them have 1 to 5 years, thirteen of them have more than 5 years teaching experience. The age range of the participants are located in the thirty five to fifty three.
The number of acceptance of the four main problems identified in the literature are given in the following table.

Table 1: Number of Acceptance of the Issues about Management Education in Turkey

| ***Issues in Management Education in Turkey*** | **Number of Yes** |
|---|---|
| 1. Having over-analytical and numerical course content | **13** |
| 2.Preparing to the curriculum at a national level with consideration the present academic stuff, therefore missing the global change | **15** |
| 3. Not giving importance to ethics, morality and social responsibility values in education | **16** |
| 4. The lack of practical business education and being filled with insufficient knowledge for real life | **16** |

The participants have been stated that these four fundamental questions related to this issue are main problems in the business education in Turkey. Yet, "*The lack of practical business education and being filled with insufficient knowledge for real life*" and "*Not giving importance to ethics, morality and social responsibility values in education*" problems have been identified as main problems by all the participants. Moreover, "*preparing to the curriculum at a national level with consideration the present academic stuff, therefore missing the global change*" is stated as a problem for 15 of the participants.

In Table 2, the significance level of the problems according to participants is shown.

Table 2: The Significance Level of Management Education Problems in Turkey

| Problem | 1st Degree Significant | 2nd Degree Significant | 3rd Degree Significant | 4th Degree Significant |
|---|---|---|---|---|
| 1 | | | 1 Person | 12 People |
| 2 | | 2 People | 13 People | |
| 3 | | 13 People | 3 People | |
| 4 | 13 People | 1 Person | 2 People | |

The problem of number 4 which is the lack of practical business education and being filled with insufficient knowledge for real life is stated as a most important problem by 13 people.

The problem of number 3 which is not giving importance to ethics, morality and social responsibility values in education is stated as a the second most important problem by 13 people.

The problem of number 2 which is preparing to the curriculum at a national level with consideration the present academic stuff, therefore missing the global change is stated as a the third most important problem by 13 people.

The problem of number 1 which is having over-analytical and numerical course content is stated as the fourth most important problem by 12 people.

In addition to the problems in literature many issues such as importance to increase students' attention and increase in quality of postgraduate students were stated by academic staff.

### 1.6. CONCLUSION AND RECOMMENDATION

Both business people and academicians have stated the lack of practical training in management education for many years. That situation is seen in our study as well. On the other hand, the problems which are "*preparing to*

  

*the curriculum at a national level with consideration the present academic stuff, therefore missing the global change*" and "*The lack of practical business education and being filled with insufficient knowledge for real life*" are related with each other. Generally in management departments, curriculums are prepared based on the other universities' curriculums and academic staffs' work areas. Therefore, students graduate with having too much theoretical information instead of qualifications required by the market. Students graduated with theoretical information such as management, accounting, finance etc. yet they might face with issues because of lack of the practice.

The problem of "*Not giving importance to ethics, morality and social responsibility values in education*" is one of the most important issue of the management education in Turkey. . While transposing the technical information, teaching values is generally ignored. Management of the technical information based on theoretical data transfer based on the carrying value of the transfer of information is left weak. In fact, this problem is not just a problem of Turkey, it can be seen in other countries also. As it is mentioned earlier; Hodgkinson (1996) states that management and behavioral sciences generally give place to the manager's qualifications more than his/her personality. The importance of moral values and the importance of considering the whole society rather than the individual person should be adapted to the students. The examples of winning with team work should be increased. In addition, the value of honesty, trustworthiness, sharing and so on should be transposed the students. They should be stated that they could save themselves, their country and their World with those values.

Stressing that Turkey needs studies based on further research regarding management training, the following suggestions could be offered:

1. The curriculum should be redesign with considering the local, national and global markets' needs
2. The courses should be redesign with participation of local, national and even global stakeholders
3. Besides the importance of theories, importance of practical information should be introduced to students.
4. The projects which will allow students to increase internship opportunities should be realized.
5. Education programs should be placed on the courses in which both theoretical and practical information is given.

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# RESEARCH ON THE EXPRESSION OF URBAN PERCEPTION THROUGH CALIGRAPHY IN VISUAL CULTURE

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**ABSTRACT**
In this research, it is aimed to assess the works belonging to the urban perception within the context of the visual culture within the scope of the graphic design course. The qualitative research method was used and the universe of the research was formed by 6 students from fine arts departments. The questions were prepared to make interviews with the students on their works and the visual analyses and manifests of the works were examined to analyse the data by using document examination method. In the conclusion, it was seen that the connection of the city where the students live in with visual culture has been reflected to the expression through culture, past, individuality and experiences. Therefore, the expression of the visual culture with calligraphy is considered as important in terms of art education.
**Keywords:** Visual culture, Calligraphy, Interactive Art, Art Education

## INTRODUCTION

From the ancient times until today writing has been an important tool of communication and the source for the development, sharing and proliferation of the aspects of civilization such as trade, astronomy, history, science, art and others. Scientific studies gain importance with the sharing of knowledge and proliferation of written sources. Writing as an indispensable factor of art, and art itself have continuously affected and nourished each other. It is considered that writing which is an essential element of verbal arts such as poem, literature and music has a very important place in visual arts as well. Especially the visualization of religious books, stories and dramas is achieved by adhering to the written texts. In his book on iconography and iconology, Burke stresses the importance of religious texts and paintings in these words:

> "Iconography was important in that period because images were a means in transmitting religious dogmas or the inculcation of teachings in the proper meaning of the word. The thoughts of Pope Gregorious Magnus (circa 504-604) on this issue have been repeated throughout the ages. "Paintings are placed in churches so that the illiterate can "read" by looking at them." (Burke, 2009: 52).

As it has been stressed since the ancient times visual description and power of expression arises through writing. Because description takes place from the artist's perspective and world of imagery it is believed that the artist has an undeniable importance.

"Wheat Field and Crows" is known to be the last painting of Van Gogh before his death. The images which first catch one's attention from this painting are obviously that of a wheat field, crops and crows. In his book "Ways of Seeing", Berger first provides a copy of this painting and asks the reader to turn the page after looking at it for a while. In the next page the painting is given this time with the note "This is the last painting of Van Gogh before his death." This leads to a differentiation for the reader between the first impression and the impression after looking at the painting with this note. "It is difficult to explain how the added words change the image but it is certain that it does change it. Now the image enlightens the word" (Berger: 2014: 28). It is also important in terms of sensuousness for speech, writing and image to support each other.

> "Writing is a visual expression of communication based on language. It is the fundamental indicator and result of the social progress of human beings. Its evolution is in parallel with the change and/or progress of language, thought, art and culture. It has served to improve science and art and convey them to the following generations by protecting language and thought" (Sarıkavak, 2014: 2).

"Writing is the visible form of thought and knowledge and in time, the power of thought which is transformed into knowledge will have been realized and knowledge – and ergo the printed books which are means to transfer knowledge – will have proportionally gained in importance." (Sarıkavak, 2014)

It is believed that just like painting, writing has an important place in the communication, creation and expression of thoughts and the generation of new thoughts through art. The artistic expression of writing is realized with the art of calligraphy. "Calligraphy is defined as the art of beautiful handwriting" (Ambrose and Harris, 2012: 132). "The word calligraphy literally means beautiful writing; lettering produced by a writing instrument; the use of a writing instrument for the forming of writing letters. It is defined as the execution of artistic writing for handwritten works" (Sarıkavak, 2004: 225). The definition of calligraphy as the execution of artistic writing can also mean the visual artistic expression of writing (Sarıkavak, 2004: 225). For this reason, the

expression of ideas in writing and the visual description of writing through calligraphy are important for pointing out the relationship between what is written and what is seen.

Without a doubt, writing has been one of the most important tools of communication throughout history. Posters, advertisement boards and logos are created based upon the relationship between writing and visual materials. For this reason, the communicative aspect of writing is important. According to Barnard (2010: 31) what is visual in visual culture is that which can be seen and which has a functional and communicative purpose. This definition is definitely plausible. This plausibility argues that what are visual in visual culture are those things which are designed.

> "The visual arts are expanding not only their forms, but in their influence through connections to the range of social issues, including issues not always thought of as social in character, such as ecology and conceptions of self. The visual arts make up most of visual culture, which is all that is humanly formed and sensed through vision or visualization and shapes the way we live our lives." (Freedman, 2003: 1).

For this reason, the visual artistic images of the images forming visual culture, the visual materials of social life and their shaping our lives show that visual culture is in a constant trade with experiences and the environment we live in.

**THE STUDY**

The study aims to evaluate in the context of urban perception and visual culture the calligraphic works conducted within the scope of a graphic design class. The subject of the study consists of the calligraphic works done in the graphic design class and the cultural and visual interaction of the cities in which the students live, were born and raised or spent a great part of their lives.

In this study document review and interview methods from among the qualitative research methods were used. Written documents (books, journals, articles etc.), student manifestos and visual work photographs were examined and open-ended questions were asked for the interview. "Visual materials such as films, videos and photographs" can be used in qualitative research. While these materials can be the main data tools of a research on their own they can, in most cases, be used as additional sources of data along with such data collection methods as observation, interview or document review" (Yıldırım and Şimşek, 2011: 189). The interviews were recorded and transcribed and later on were coded and separated into themes.

The research was conducted on a group of six persons from a total of eight 4th grade students at the department of fine arts education in Turkey. The student exhibits and the manifestos and works of these exhibits were examined and various questions regarding the works were directed via the interviews. "Interview is necessary to understand behaviors and feelings which cannot be observed or how the people express the world around them" (Merriam, 2015: 86). The interviews were subjected to a descriptive analysis and codes and themes were determined.

After consulting with an expert four questions were formed and the interpretations, critical perspectives and interdisciplinary gains with respect to the studies they have conducted in the context of visual culture and urban perception were tried to be found. The questions aimed at revealing how the visual culture and urban perception were reflected in the artistic expression of the students' calligraphic works completed at a graphic design class.

**FINDINGS**

The findings of the study consist of two sections. In the first section, the manifestos of student artworks, interview data and visual documents were reviewed and the student works were described in writing. In the second section tables were created and interpreted after coding and then separating into themes the findings obtained from the interviews.


Photo 1: "İstanbul" A Student's Artwork

**İstanbul**

For centuries, İstanbul has been a very important city. Many immigrants from around Turkey and different countries came to İstanbul for work, with the hopes of being rich and living a prosperous life. The importance and affluence of İstanbul have been expressed with the saying "İstanbul is paved with gold". In this work the saying "İstanbul is paved with gold" is also used. The material used consists of stones, earth and special stones designed to give off the appearance of gold. Every piece of sand, stone and gold-like stone represents different people, different thoughts, ideas and classes and the rich and poor etc. No matter what their ethnicity, city of origin, religion or race is all the people of İstanbul are together. These people are crucial in carrying over the city name and culture which makes up İstanbul itself to the next generations. The representation of materials in the artwork as different people and groups shows that metaphors were used.

Photo 2: "03:02" A Student's Artwork

**03:02**

As a result of the earthquake that took place on 17 August 1999 in İstanbul and around the Marmara region many people have lost their lives and were left homeless. The earthquake occurred at 03:02 a.m. while people were defenselessly sleeping in their beds. The books used in this artwork symbolize the fact that the apartment blocks were built from simple and weak materials. The numbers formed with the books show the time that the earthquake took place. The backs of the books are painted in black. The color black symbolizes that fact that the earthquake took place in the dark after midnight and that people were helpless. It can be said that the color black metaphorically represents the darkness of the night and the darkness expresses helplessness, uncertainty, fear and anxiety at the same time.

Photo 3: "Never Mind!" A Student's Artwork

**Never Mind!**

The historical Sinop prison was a place where in addition to the variety of common criminals, those poems and writers who were accused of their ideas were also interned. With its old, cold and damp structure it simply allows us to visualize the years that the inmates, poets and writers lived through. Today, at the center of the city, it has become a museum open to public. Famous poems and writers who were important figures in Turkish

literature and who witnessed the historical events of those days were deprived of even pen and paper to write down their feelings and thoughts. Therefore, the writings which these writers and poems wanted to put down on paper but could not are represented as stuck in between the stony texture of this artwork titled "Never Mind!". "Never Mind!" is the name of the poem by Sabahattin Ali, who was a well-known author and this poem has been turned into a song and been voiced by many artists.

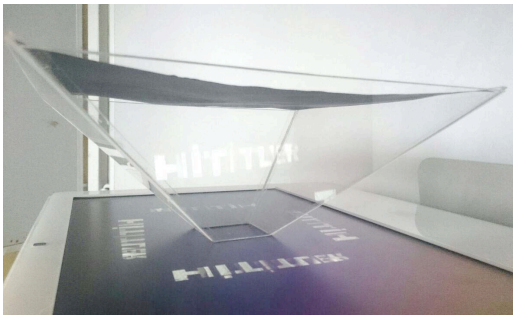
  

Photo 4: “Kite” A Student’s Artwork

**Kites**

Kars is a city of large scale emigration. This emigration is symbolized by the kites in this artwork. Kites belong neither to the ground nor to the sky. Emigrating people are represented in this piece on the basis of the theme of not-belonging anywhere. The reason is that emigrating people belong neither to their hometown where they were born and raised nor to the cities in which they live for years. This uncertainty draws our attention with the similarity established between the kite and the human being and the resulting metaphor. The materials used in the work consist of kite, poems written on the kite and a wooden frame. The kites which are hanging in space with the help of strings can be identified as representing emptiness or in other words with the theme of being uprooted. The poems written on the kites express the feelings, longings and thoughts of people who have migrated from Kars to
other cities. The connection between the individual and the kite used as a metaphor in these poems express the feelings of these people.

Painting 5: Hattusa (Hittites)

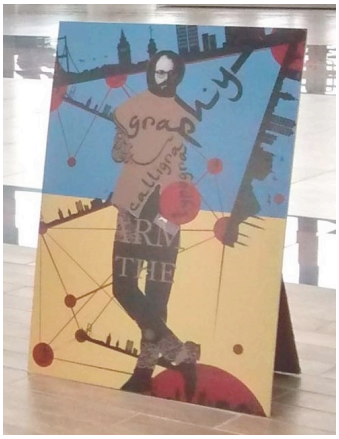


**Hattusa**

Located in contemporary Çorum Hattusa was the capital city of the Hittite civilization from the Bronze Age. Hittites belonged to one of the oldest civilizations/states to have lived in Anatolia. This city which is historically and culturally very important is visited by tourists from Turkey and around the world. During a trip to the region it was observed that while the number of foreign tourists was high the number of domestic tourists was low. After a conversation with a foreign tourist it was understood that Hattusa was not particularly visited and known by the domestic tourists. This artwork aimed to bring to attention the importance of the city of Hattusa and create awareness and a visual configuration was created with the help of a prism on a three dimensional surface and a monitor. A space in the form of a dark room was prepared for the exhibition of the artwork and its presentation to the spectators. Çorum and Hattusa writings come to the fore in this visual configuration.

Painting 6: Allen Gingsberg Digital Collage



**Allen Gingsberg Digital Collage**

Gingsberg of America was one of the most important representatives of the Beat generation. Beat generation was a group consisting of poets and writers which emerged in the 1950s and 60s. During the 1929 Depression, railroad workers would travel across America with trains in order to find jobs. It was crucial for their survival that they arrive in time for seasonal works in different places. A parallel is drawn between the difficulties experienced by the works, the pain and sorrow of the Beat generation and the condition of İstanbul. In this artwork, İstanbul is likened to a big orange, red sorrow. The fact that its name has been voiced in poems for centuries is similar to the style of expression of Gingsberg and his generation. The experiences from different cities and the multidimensionality of a city are the central themes of this work. While the artwork is created by using the digital collage method the bringing together of the words lithography, calligraphy and graphy stresses the structure and common points of language.

The data of the study was formed after being coded with the descriptive analysis of the interview records. After consulting with an expert, four questions were asked aiming to reveal the gains, thoughts, interpretations and different perspectives with regards to the research process.

| THEME | CODE |
|---|---|
| Social Media | 8 |
| Visual Communication Means | 6 |
| Art works | 3 |
| Daily life images | 3 |
| Everything | 3 |
| Communication | 2 |
| Cultural factors | 2 |
| Other | 11 |

Table 1: The Codes and themes of the question “What do you think is visual culture?”

The students were asked the question “What do you think is visual culture?”. In Table 1 the themes and codes which were formed based upon the student interviews are presented. This question aimed at revealing how the students define and perceive visual culture. Of the codes and themes which emerged as a result of the answers given to the question “What do you think is culture?” 8 refer to the social media (sharing platforms, facebook, twitter, pinterest etc.), 6 refer to visual communication means (newspaper, television, computer etc.), 3 refer to artworks, 3 refer to daily life images (advertisement boards, streets etc.), 3 refer to everything, 2 refer to Elements of Communication, 2 refer to Elements of culture (clothing, regional elements) and 11 refer to others (that which is aesthetic, meaningful, purposeful etc.). The appeal to the eye and visuality of the social media which is at the top of the list according to theme is believed to be important in terms of visual culture. We can say that the fact that people spend a great deal of their daily life on the social media increases the level of this interaction. It is believed that the visual communication means which are second on the list increase the effects of visual images in different times, places and locations during the day. Daily life images can cover almost anything which we encounter on the streets, from advertisement boards to whatever we see while walking outside. The fact that artworks have historical and cultural codes in terms of visual culture has been proven many times by different studies. Whether anything which is visible can be part of visual culture has been discussed many times but this definition was later expanded. When we consider that every cultural image which has a communicative purpose can differ from culture to culture it is believed that these images can be important for visual culture. Cultural elements are the most important factor constituting visual culture. Accordingly, the

majority of the answers to this question include the social and visual communication means media as they are based upon technological tools.

| THEME | CODE |
|---|---|
| True life experience | 10 |
| Poets, writers and their words | 5 |
| Creating awareness | 4 |
| Urban values | 4 |
| Research and preparation | 4 |
| Social depression and hardships | 3 |
| Visual and semantic expression | 3 |
| Verbal and Quantitative Expression | 2 |
| Urban history | 2 |
| Moment of the event | 2 |
| Words of the city | 1 |

Table 2: The codes and themes of the question "How did you manage the process in your calligraphic work on urban perception by relating back to your point of origin?"

The students were asked the question "How did you manage the process in your calligraphic work on urban perception by relating back to your point of origin?". In Table 1, the themes and codes which were formed based upon the student interviews are presented. Of the answers to this question 10 are related to true life experiences, 5 are related to poets, writers and their words, 4 are related to creating awareness, 4 are related to urban values, 4 are related to research and preparation, 3 are related to social depression and hardships, 3 are related to visual and semantic expression,, 2 are related to verbal and quantitative expression, 2 are related to urban history, 2 are related to the moment of the event and 1 is related to the city. The theme of true life experience which ranks the first according to the answers is about the images into which the students are born, with which they have spent the majority of their lives and to which they have been visually subjected. It is believed that the students transfer the visual images they encounter almost every day into their works that are based on their experiences via their individual perception. Creating awareness which ranks the second aims at helping the unknown and forgotten histories and cultural values of the cities to survive and bring them to attention. The fact that the students learn new information about the city through research and preparation and conduct new investigations due to their curiosity has greatly influenced their starting point in their work. Social depression, financial difficulties and other hardships have deeply affected many societies and their reflections on culture and art have shaped artworks. These difficulties come to the fore in literature and poetry as they do in many other fields of art. Verbal and quantitative expressions referring to social events have an important effect on the point of origin of these works. In terms of urban history, poetry and literature have an important role in carrying over past events into the present through writing. It is believed that many words and sentences which are expressed with poetry and texts are helpful in transferring culture in visual description and visual culture. It is also believed that the social and visual events which students have experienced, witnessed or been subjected to, the poems and other works regarding the city have an important effect on the point of origin of artworks.

| THEME | CODE |
|---|---|
| Material and paint use | 11 |
| Designing process | 5 |
| Conducting research | 5 |
| Exhibition experiences | 4 |
| Experimental learning | 4 |
| Expression of letters | 3 |
| Historical period | 1 |

Table 3: The codes and themes for the question "What are the new things you have learned with regards to the beforehand and aftermath of the work process?

The students were directed the question "What are the new things you have learned with regards to the period prior to and after the work process?" In Table 3, the themes and codes which were based upon the student interviews are shown. Of the answers to this question, 11 are related to materials and paint use, 5 are related to the designing process, 5 are related to conducting research, 4 are related to exhibition experiences, 4 are related to experimental learning, 3 are related to the expression of letters and 1 is related to the historical period. It has been found that the majority of the students have learned and gained experiences the most about material and paint use in the period prior to the work process. Creating artistic work and expression with respect to the

designing process constitute the other recently learned information. It is believed that the examination of written and other type of documents in every step of the process of completing an artwork will encourage the students' tendency to research and learn new things and accordingly boost their curiosity and trigger new research. It is among the findings of the study that the knowledge of the optimum physical area of the exhibition and the best use of tools and the knowledge required for an effective exhibition are gained through experience. During many processes of interaction such as the completion of artwork, material use and the exhibition the students gain new information through trial and error. As a requirement of the art of calligraphy the expression of letters, the meanings of these expressions and their relationship with visual materials can be important of the students to expand their knowledge. It has also been found during the studies on the calligraphic works and urban perception that in addition to many urban values new information regarding historical events and places are also learned.

| THEME | CODE |
|---|---|
| The relationship between writing and visuals and their corroboration | 7 |
| Visual attention and perception | 6 |
| True life experience | 3 |
| Multilateral interdisciplinary relationship | 3 |
| Visual expression of the city | 3 |
| Cultural transmission | 2 |
| Visual expression of the city | 1 |
| Aesthetic concern | 1 |
| Sensuousness | 1 |
| Delivering a message | 1 |
| Historical importance | 1 |

Table 4: The codes and themes regarding the question "What is the importance of the art of calligraphy and urban perception with regards to visual expression and visual culture?"

The students were asked the question "What is the importance of the art of calligraphy and urban perception with regards to visual expression and visual culture?". In Table 4, the themes and codes which were formed based upon the student interviews are presented. Of the themes and codes, 7 are related to the relationship between writing and visuality and their corroboration, 6 are related to visual attention and perception, 3 are related to true life experience, 3 are related to multilateral interdisciplinary relationship, 3 are related to the visual expression of the city, 1 is related to aesthetic concern, 1 is related to sensuousness, 1 is related to delivering a message and 1 is related to historical importance. Based upon the answers to the question it has been stated that writing and visual materials corroborate to bring out different perspectives and ideas in the sense-making and interpretation process. It is thought that the expression which is aimed to be conveyed via visuals and writing is important for visual culture. The fact that the works in are three dimensions and the size and location within enclosed space are important with respect to visual attention and perception. The reflections of the experiences and the written and visual images of the students on their thoughts and then on their visual expressions are observed in their works. It is seen that the students establish a visual and cultural relationship or a link with the visual memory which is formed as a result of experiences. The interdisciplinary relationship between writing, speech, poetry and etc. with the visual arts and the reflection of their relationship on the process of artistic expression is important. While the fact the works have an aspect of sensuousness is important with respect to perception and catching attention it also greatly enhances artistic expression. It is believed that the social message, historical importance and the carrying over of words of the city have an important role in the context/interaction of culture, visual culture and calligraphy.

**CONCLUSIONS**

According to the findings of the research, it is seen that the calligraphic works on city perception are formed on the basis of various words, poems, writings and thoughts on the city. It is within the findings of the study that in the process of creating calligraphies students gain experience in many fields such as materials, exhibition sites and exhibition preparation, research and experimental works as indicated by the interviews and the analysis of the data. Moreover, these works have been created with the help of the images and events regarding the cities in which the students grew up or are living, or the visual perceptions and experiences they have gained as a result of these events.

It is thought that the relationship between calligraphy and visuality addresses more than one sense and is mutually supportive and that accordingly in the transmission of visual expression and visual culture the joint use of writing and visuality is important. The fact that calligraphic works are three dimensional and large led in the audiences to curiosity, questioning and the establishment of a relationship between writing and visuality.

It is seen that in student artworks metaphors are used often and the idea-object relationship is important in the formation of these metaphors. Some of these metaphors include the representation of İstanbul's ability to offer

wealth with the words pave(ment) and gold in the saying "İstanbul is paved with gold", the parallel drawn between the kites not belonging to the earth or sky and the emigrants not belonging to their hometown or other cities and the depiction of the earthquake taking place at night with dark paint. It is believed that metaphors which are often used in education help individuals to develop their ability to think and be creative. Moreover, a lot of the information which is conveyed by using metaphors is easier to remember.

> Metaphors help interaction. Groups trigger their members' thinking processes by increasing inputs, generating ideas from a new perspective, separating them from traditional cognitive habits and creating new flexible environments for thinking. (quoted from Wicker by Miles and Huberman: 2015: 232).

It is seen that in the studies on city perception, the relationship between visuality and writing develops various teaching processes such as an interdisciplinary perspective, researching, questioning and learning. Accordingly, performing works on city perception and calligraphy and similar implementations is considered to be important and necessary for providing students with new knowledge in terms of art and art education.

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# RESUSTAINING PRIVATE UNIVERSITIES

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**ABSTRACT**
This article explores the key issues and challenges of resustaining private universities today. Universities are reculturing their operational processes, academic content and interactions with stakeholders to ensure sustainability. Much challenges centred around the need for university leaders to reculture the institutions and the redesigning of the teaching profession. It recommends a framework for university leaders to deal with the challenges they face. Only through reculturing, private universities are able to maintain sustainability of its workforce and student population. The article has both theoretical and practical significance for private university leaders to follow.
**Keywords:** resustaining, improvement, university leadership

## INTRODUCTION

This paper explores the conundrum of private university leadership today. It commences with a review of literature relating to the reculturing of educational institutions and look at the challenges of developing a professional learning community (PLC). The second section proposes a framework of sustainability to share with university leaders. The final section of the paper provides some implications of this study for the private higher education sector.

A study by Yu (2012) found that there are four issues and challenges facing university leaders today. These are: (1) ensuring academic freedom; (2) maintaining staff motivation; (3) maintaining academic quality and (4) providing effective leadership. Private university leaders may focus on competing paradigms such as "student as scholars" versus "students as consumers". Snyder et.al. (2007) and Giroux (2005) noted the interactive forces of mass education and of sound pedagogical principles in university education. The competitive pressure to recruit more students may prompt universities to lower the entry requirements of students, which in turn has negative implications on teachers' motivation.

University leaders have different views on delivering education based on sound principles of pedagogy and the need to create efficiencies of mass education (Coaldrake & Stedman, 1999; Meek & Wood,1997; Pratt & Poole, 1999; Ramsden, 1998). Universities have opted for either larger classes or reduced contact time, or a combination of both due to resource reduction (Longden, 2006).

In today's competitive environment, leaders need to have the courage to take action when the future remains unclear (Barnett 2004) and Hanna (2003). In the process of developing the university as a learning organisation, the leader has to establish new relationships with all the stakeholders concerned. This paper examines the notion of leadership as being enabling and capacity building. It discusses through a process of reculturing the university as learning organisations, new capacities are being developed (Lingard, Hayes, Mills & Christies, 2003; Hargreaves, 2003).

Universities have to maintain a sustainable workforce to remain competitive. Workforce sustainability is about attracting and retaining the right people with the right skills and competencies, to meet the current and future needs of the universities. It involves a high level of engagement and motivation of employees, so that they remain committed to their universities. The leaders of the universities need a clear strategy to:

- Attract and retain the right people
- Access and grow its human capital
- Build, maintain and engaged a high performing workforce
- Maintain work-life balance

*Attracting and retaining*

To attract and retain the right people, universities need to offer its employees workplace options which are flexible enough to meet their needs and changing circumstances. This includes promoting and encouraging diversity in views and opinions without fear of reprisals from university leaders.
This paper proposes a framework for university sustainability to include the following elements (Fig 1):

- Diversity
- Democracy

- Equity
- Quality

*Diversity* recognises that there are cultural, ethnic and religious groups differences. University leaders have to understand and accept that within the broader community, there are diverse viewpoints, beliefs and values. The extent to which democracy is exercised in a university reflects how much participation and representation of the relevant stakeholders is allowed by senior management of the university. The process of decision-making has to be made known and understood by the staff and other stakeholders.

The pressure is on for the university's human resource manager to meet talent needs, manages organizational transformations and identifies talent gaps. An effective workforce with diverse skills and capabilities will support the university's goals to capitalize on its strengths and exploit opportunities regarding social and economic sustainability.

University administrators have to understand the key drivers of employee attraction and employee retention (Table 1). Very often, they do not wish to acknowledge the importance of these drivers. Those drivers which relate to "curriculum" and "work environment" determine the extent of "*Quality*" improvements in the university. Those which relate to "fair compensation", "career advancement" and "learning and development" ensure there are "*Equity*" and opportunities in the organisation.

"*Democracy*" gives rise to certain "decision-making" or "participation in decision making" within the university environment. Depending on the perception of employees on the importance of each driver, the inability to fulfil these drivers may prompt employees to seek opportunities elsewhere. Employee participation could be in the form of delegation of authority by the supervisor, psychological empowerment and power-sharing.

The concept of Partnership at Work is gaining popularity in many organisations. It calls for consultative arrangements among the various participants of the organisation and encapsulates features such as joint commitment of the parties to ensure success of the organisation, building trust by recognising legitimate roles and interests and addressing the quality of working life

Fig 1: Proposed framework for university's sustainability

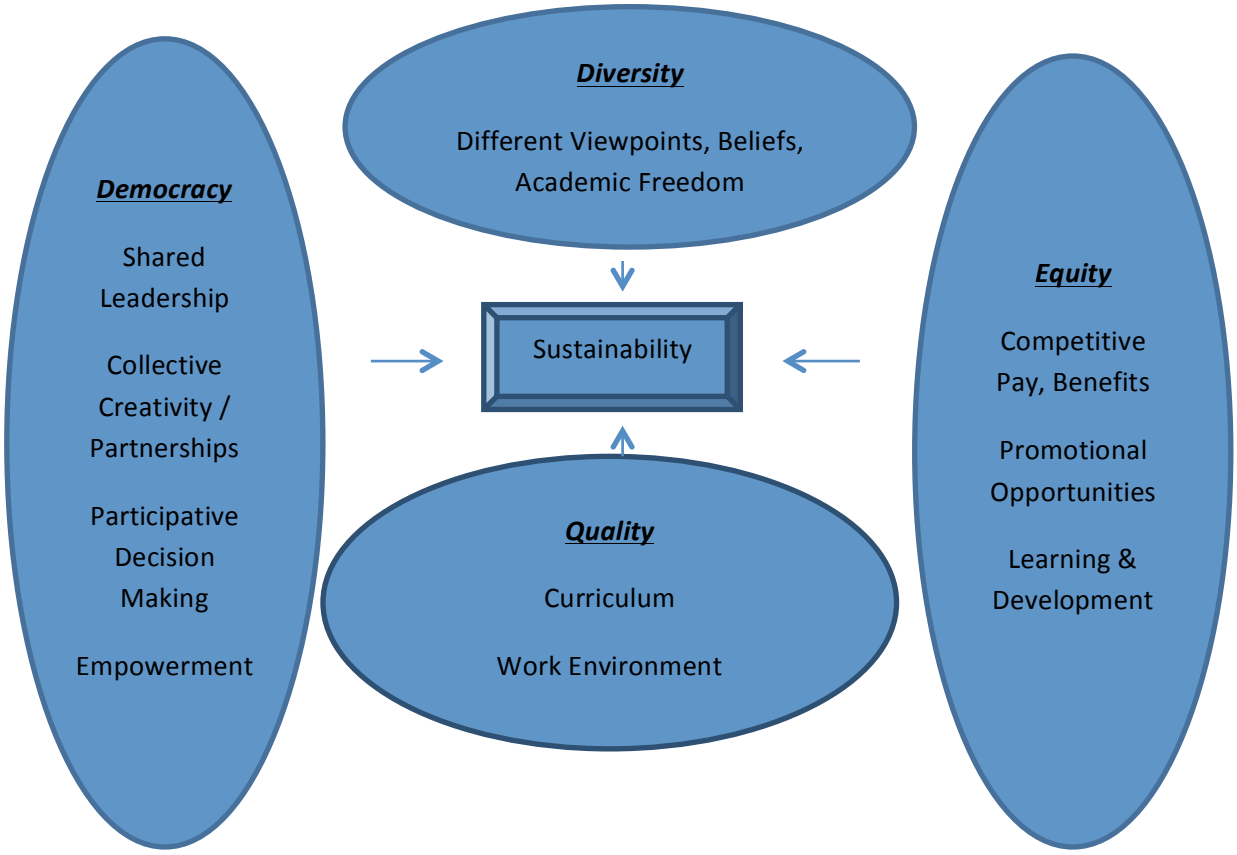


Table 1: Key attraction and retention drivers in universities

| Attraction Drivers | Retention Drivers |
|---|---|
| Competitive salary | Competitive compensation |
| Career advancement | Opportunities to learn and develop new skills and knowledge |
| Competitive benefits | Satisfaction with organisation's decision |
| Salary increment due to performance | Employee well-being |
| Learning & Development opportunities | Decision-making authority / participation in decision making |
| Profile of co-workers | Good colleagues |
| Reputation of university as a good employer | Reputation of university as caring employer |

*Assessing and growing human capital*

Assessing and growing human capital involve investing in talent development and offering opportunities for career progression. As with any comparable investment, the objective is to maximize value while managing risk. It requires careful planning that is in line with the university's vision. It also involves providing financial and non-financial support for those pursuing tertiary education or professional qualifications. University leaders need to adopt a management style in accordance to the way the university sees its mission. To create a workforce that shares this vision, university leaders have to gel the team to convey a clear and consistent portrayal of the vision by their words and actions. Huffman & Jacobson (2003) asserted that principals' leadership practices are the best predictor for teachers' participation in change efforts.

*Building a high performance workforce*

Building and engaging a high performing workforce are critical to a university's competitiveness. University leaders have to understand that a high performance workforce will directly impact the performance of the university. It has to develop and implement a workforce plan which identifies skills and technical expertise needed and actions to meet those skills gaps. Other initiatives may include fostering innovation and creativity, leadership development and succession planning.

*Maintaining work-life balance*

The university has to adopt a strategy of building a highly-skilled, flexible and high-performing workforce. It can accomplish this by implementing comprehensive benefits and work-life programs. Employees expect employers to recognize that in addition to having a job, they also have a private life. A work-life balance policy reduces the stress employees experience. It enables them to feel that they are paying attention to all important aspects of their lives. Designing an effective work-life balance program will offer the university a competitive advantage in recruiting and retaining staff, increased productivity and increased customer service.

## SIGNIFICANCE OF THIS STUDY

This study recognizes that private university leaders often operate under circumstances that are far from optimal. Very often, they may not understand the multiple complexities and challenges affecting their universities. This paper proposes a detailed framework focusing on the various elements and components of maintaining sustainability. At the heart of this is the reculturing of the universities. This paper will add significant new scholarly understanding of and insights into the complex environment of private universities and suggests ways in which implementation can be more structured.

## LITERATURE REVIEW

The university's culture can either enhances or impedes professional learning. It enhances professional learning when employees believe professional development is important and that this belief and practice pervades throughout the whole organisation. Conversely, negative culture impairs staff development. The culture reflects a shared sense of purpose and values, a commitment to the learning of all students and opportunities for staff reflection and staff inquiry ((Stein, 1998; Lambert, 1998; Fullan, 2001; DuFour & Eaker, 1998; Hord, 1998). Fullan, 1993 reiterated that change will require a radical reculturing of the school and the redesigning of the teaching profession . Studies have shown that a collaborative culture and teacher participation in decision making accompanied by transformational leadership are

conditions that enhance professional learning and educational change in schools (Sleegers, Geijsel & Van den Berg 2002, Geijsel, Sleegers, Stoel & Kruger, 2007).

Reculturing is a process of organizational change. Fullan (1993) stated that when reculturing occurs, restructuring follows. Restructuring is not the same as reculturing as restructuring alters the structure of the organization and is often non-lasting. Reculturing results in longer lasting reforms (Boyd, 1992). It alters group dynamics and the ability of employees to self-access and reassess the environment. Staff have to understand the connections between their ideas about existing conditions and the strategies to reform them. It requires a link of culture to structure (Doyle 1998).

For reculturing to be successful, administrators need to facilitate change in others (Fawcett et al., 2001). That involves engaging staff in discussions that are driven by inquiry and self-reflection. Hargreaves (1994) found that creating structures for collaborations without creating relationships is unproductive . Administrators need to encourage teachers to raise issue and critique unpopular practices and ideologies within the university. Teachers have to experience shared leadership (Huffman & Hipp, 2003) and commitment to the mission and goals of the school (Lee, Smith & Croninger, 1995). There is also a need to have clarity of purpose (DuFour, DuFour, Eaker, & Karhanek, 2004) and commitment to student learning (McLaughlin, 1993; Leithwood, Leonard, and Sharatt, 1998).

Spillane (2006) adopted a cognitive perspective when offering the distributed leadership framework as a diagnostic and design tool to help practitioners explore how the practice of leadership is "stretched over" multiple leaders, followers and situation. He suggested that leadership practice is constructed in the interactions between leaders, followers and their situations. Spillane highlights *who* takes responsibility for a task (he *wh*o leads is dictated by the task and not by his hierarchical position) and *how* the task is accomplished through interactions of multiple leaders and followers. Heck and Hallinger (1999) examined how leaders and others in the organization create shared understanding about their role and participation in school.

Ensuring academic freedom is critical to the reculturing efforts of a university. Barnett (1990) argued that academic freedom should be expanded from its narrow definition of staff immunity from censorship towards a universal mandate to present and to criticize ideas. Fessel (2006) urged universities to issue clear statements affirming their commitment to academic freedom and controversial debate. Universities should adopt clear policies supporting academic freedom and steps to deal with challenges to academic freedom in order to support higher order thinking across the campus. Academics should be encouraged to promote critical thinking and have the right to participate in how universities are run without the fear of reprisals from university leaders.

Maintaining staff motivation is a major challenge for university leaders. Research has shown that a positive school culture was associated with increased student motivation and achievement, improved teacher collaboration, and improved attitudes among teachers toward their jobs (Sashkin & Sashkin, 1990; Sashkin & Wahlberg,1993; Ogawa & Bossert, 1995).

Teachers influence students' performance if they are motivated themselves. Teacher quality has a significant impact on student's academic performance (Mwamwenda and Mwamwenda, 1989; Lockheed and Verspoor, 1991). More importantly, teachers' quality is intertwined with teachers' perception of their work life (Perry, Chapman and Snyder, 1995). Teacher job satisfaction is often regarded as an important determinant on the educational outcomes such as students' achievement (Heller, Rex and Cline, 1992; Leslie, 1989).

Raynor (1974) stressed that the higher the expected importance or value of present activities is in relation to future personal goals, the higher is the motivation of individuals and the better is their performance and learning. School management needs to pay particular attention to the way they deal with teachers. Treating teachers with respect, providing good working environment and developing teachers' skills and competencies will motivate teachers to perform better. Sirgy (1986) stressed that when the higher order needs such as esteem and self-actualization needs are met, teachers will move towards a higher level of development. The more motivated are the teachers, the greater commitment they will place in their work. When teachers see that their students are progressing and achieving their targets, they become motivated as their esteem needs have been met.

Change can take place at two levels: the organizational level and the individual level (Kotter, 1996; Lewin, 1952; Richardson & Placier, 2001). Change at the organizational level addresses issues such as organizational development and organizational climate. Change at the individual level addresses issues such as motivation, human behavior and beliefs and the relationship of the impact of these beliefs on the organization (Richardson & Placier, 2001). Change favours firms that move from static competition towards dynamic improvements and those which are able to create knowledge faster than their competitors (Porter, 1990).

**DISCUSSION ON PROPOSED DETAILED FRAMEWORK**

This paper proposes a detailed framework of university sustainability incorporating various elements affecting private universities (Fig 2). It builds on the core engine comprising Equity, Diversity, Democracy and Quality discussed in Fig. 1 and further incorporates Strategy, Culture, Structure, Stakeholders, Resources, and Systems.

*Implementing new strategies*

A private university must reculture to ensure its competitiveness. The concept of competitiveness involves both static and dynamic components. It needs a new paradigm shift to sustain its competitiveness. It must be able to manage its resources and capabilities effectively. Sustainable competitive advantage depends on the core competencies that yield long term benefits to the university. When the external environment is turbulent and complex, the university has to respond to align with the environment in order to thrive.

The increase in the availability of knowledge online necessitates a fundamental shift in the role of a university. As content is readily available online, teaching methods need to change to focus on contextualisation and student experience. Universities are engines of innovation and sources of new knowledge and ideas. At the same time, university leaders have to demonstrate a large degree of entrepreneurship in the face of competition. Our framework proposes five main components for strategic improvements:

1 .Improved Culture

a. An improved culture would encompass more inclusiveness from various participants. Universities have to encourage and support changes in the way decisions are made. An organization's capacity for learning determines whether or not it will thrive or fail (Senge, 1990). Excellence is more likely sustained in organization that promotes continuous collaborative learning rather than in organizations where top-down management approach is the norm. University leaders have to create an atmosphere of change which is conducive to innovation and encourage participation of its employees. Deep and sustained change requires attention over extended period (DuFour, 1999) and may a number of years. Commitment of the university leaders is a must to bring about a sustainable environment for learning. Staff learning is reinforced when they share ideas in faculty meetings and other school activities. Cultures that recognize and support staff learning will bolster a professional learning community.

b. Barney (2002) proposed linking a company's competitive strategy to performance. The three essential building blocks of high performance business are: (1) market focus and position; (2) distinctive capabilities; and (3) performance anatomy. High performing businesses all excel at managing five common disciplines: leadership, people development, technology enablement, performance management, and innovation. These five disciplines form the backbone of performance anatomy. Performance anatomy relates to the observable and actionable side of culture which an organization can actively manage. Applying this performance anatomy concept to private universities, university leaders have to relook at their own leadership styles, the way they interact with employees and their support for innovation.

c. The other aspects of culture in the performance anatomy framework are hidden and they relate to unwritten rules and collective memories. They may be hindrance to any change efforts which the university leaders wish to take. The culture of the university has to adapt to the demands of the industry. An adaptive culture allows the fine-tuning of the formal structures, introduce new strategies, and change the leadership styles, yet still inspire the same commitment in its employees. The university's culture needs to be aligned with its strategies and changes in its business environment.

2. Improved Structure

a. Sustained change can only be accomplished with the commitment of the leader to improve teaching and learning (Schmoker, 2006). A strong professional learning community is oriented to change and its success or failure depends on the commitment, persistence and entrepreneurialism of its leaders. Structural improvement also include capacity

enhancement such as motivation, skills, knowledge and support. Adequate capacity is needed if the institution is to carry out reculturing efforts effectively.

3. Improved access to Resources

a. Private universities need to have access to an enlarged base of funding sources. These could include private as well as public funding in the form of government grants for research activities. Besides looking for new funding resources, university leaders also have to be mindful of competition around them. They have to be receptive to shifting to new market segments or focusing to distant markets that are not focused by the competitors (Gaur, 2007).
b. The infrastructure of the university, including facilities, is critical in attracting new students to join the institution. Private universities compete aggressively in upgrading their facilities to differentiate themselves from their competitors.
c. The technological readiness of the university will enhance its productivity and increase its efficiency. Having good information and communication technologies (ICTs) such as campus-wide WIFI access will enhance the learning environment of students and staff. ICT will transform the way education is delivered and supported. New platforms such as online learning will enhance students' experience.

2. Improved Systems

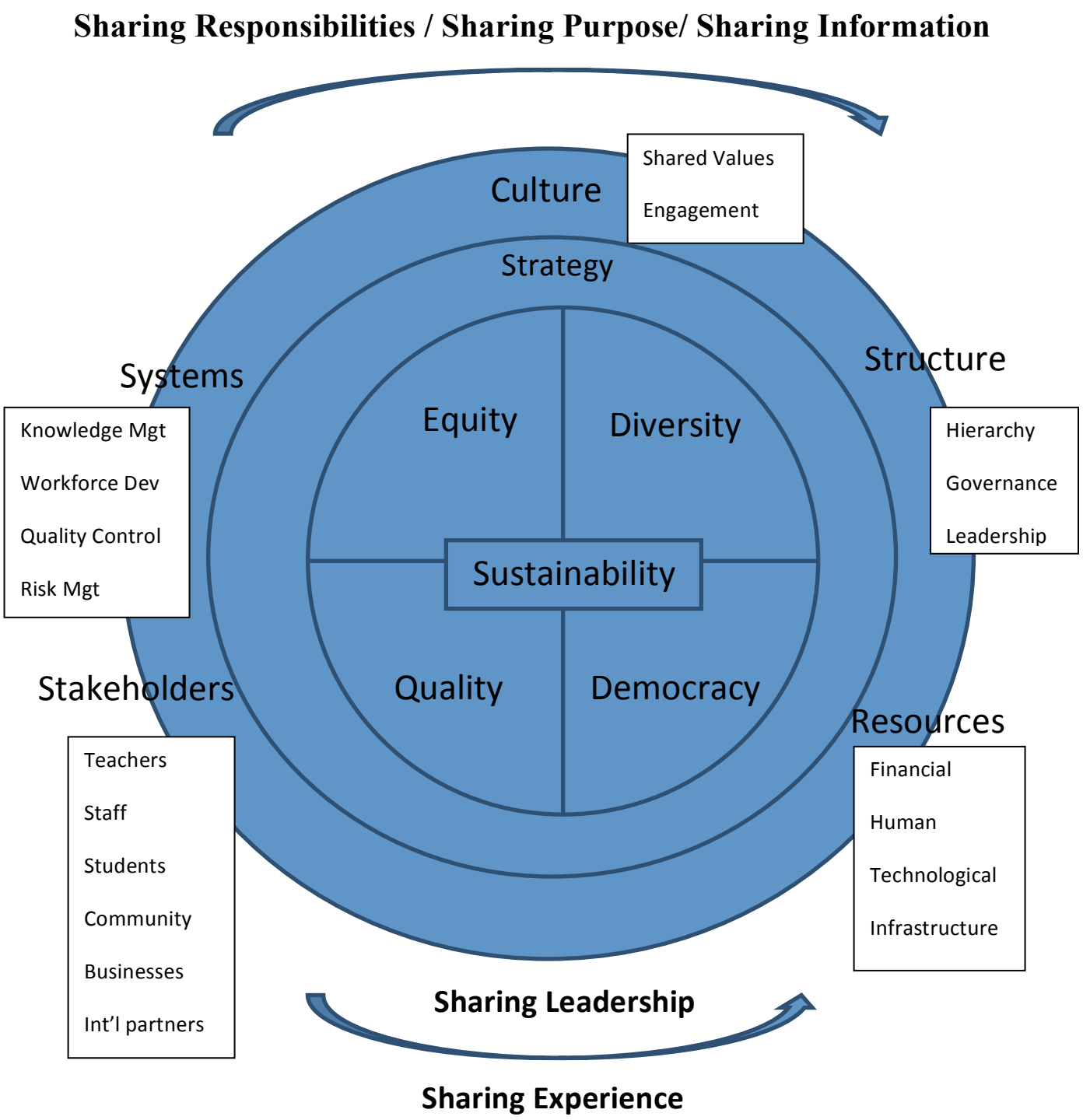
a. The proper management of university finances is critical for ensuring trust in the administration. Indicators capturing the quality of the management of finances should be reviewed periodically to highlight transparency and adherence to accounting standards.
b. Universities should reduce excessive bureaucracy, red tape and over-regulation for this will discourage employees from proposing news ideas and initiatives to management.
c. Universities need to continue to nurture their employees and provide the necessary training and development for skills upgrading. Academics need to learn to develop new curricula which are relevant to the industry before they can impart the knowledge to their students. Changing the university structure or introducing new instructional methods are not enough to alter the core assumptions about teaching and learning. To make a real difference, universities need to reculture their curricula. The promotion of a curricula culture will change the way teachers view curriculum and empower them as curriculum designers.
d. Learning communities in which teachers meet regularly to talk about their teaching and learning creates a structure of continuous improvement for learning and change (Hord, 1997). At the same time, teachers need to be trained on new pedagogical skills as they often lacked peer supervision in their work. There is a wide multitude of teaching styles as many teachers developed teaching strategies that are highly idiosyncratic.

3. Improved relationships with Stakeholders

a. Companies are looking to collaborate with universities more closely in the areas of research and product development activities. As businesses cut back on their R&D budge, they are increasingly more reliant on universities to develop new products. This relationship benefits universities in that students will be able to supplement classroom learning with real life commercial projects. The quality of a university's business network has a bearing on its competiveness and growth.
b. Private universities need to attract new talent into their workforce. They have to study new models as the needs and aspirations of academics have changed. World-class universities are characterised by a high concentration of excellence and talent. They embrace diversity rather than homogeneity in their talent pool. The increase in integration and coordination of diverse talents creates opportunities for pedagogical reculturing and new learning relationships.
c. Students need to know the various options available for them, including the multiple entry and exit points, the career prospects and the range of curricular activities. For example, they would like to know if the university has dual degree partnership arrangements with foreign universities. The university needs to foster diversity in its student population in order to promote cross-cultural and international awareness. Universities also need to embrace life-long learning in their curriculum as working adults may return to the university to upgrade their skills and increase their chances of finding work in the area of their training. (Strosnider 1998). At the same time, universities should not ignore students' non-academic outcomes such as students' involvement in student governance and their understanding of their empowerment and personal identity.

Figure 2: Detailed Framework of Sustainability in Private Universities



## CONCLUSION

The five components in our proposed detailed framework for sustainability of private universities are not independent. They are highly intertwined and tend to reinforce each other. Universities need clear and strong cultures to foster professional learning. When universities have strong positive cultures, staff and student learning will thrive. Conversely, negative cultures can impair staff development. Teachers and staff professional development and quality curriculum are the keys to successful reculturing of universities. University leaders must develop cooperative relationships with employees to build a strong learning community. With strong cultures of trust, openness and collaboration that support both students and staff learning, private universities will be able to sustain high performance and remain competitive in the long run.

The proposed framework in this paper has both theoretical and practical significance. It presents a detailed theoretical framework for private universities as learning institution. University leaders should not lose focus on the four elements discussed in Fig. 1 that determine the universities sustainability. In addition, the proposed five components for strategic improvements elaborated in Fig. 2 will position them more competitively in the face of growing demands from students and staff. The practical contribution of this paper emphasises the necessary actions university leaders must take to ensure a sustainable institution.

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# REVIEW OF OPINIONS OF COLLEGE STUDENTS ON PARENTAL EDUCATION CLASS

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**ABSTRACT**
The purpose of this study is to determine the opinions of Psychology, Teaching and Psychological Counseling and Guidance (PCG) teacher candidates on Parental Education elective class. The study is realized with 37 students who continue their education in 3rd grade in Psychology, Teaching and PCG Undergraduate Program in the Faculty of Education in Fatih University. A form with open ended questions is applied on the students who participated to the study in terms of evaluation of the class. Questions about knowledge and skills the students gain at the end of a class, expectations and suggestions regarding the class are asked. The answers students gave in the evaluation form are recorded and the expressions in the answers are summarized and interpreted through descriptive analysis technique. According to the findings of the study, expectations and opinions regarding the class and teaching process and thoughts on what parental education means in general differ positively after they take the class compared to their opinions before they take the class. Also the teacher candidates answer more questions after they take the class than before they take it and their answers take a positive course.

**Keywords*:*** Parental Education, College Students, Seminar

## INTRODUCTION

Parental education is usually underestimated. People are not aware of the importance it has on children. They read hundreds of books about their fields and make an effort to expand their general knowledge in order to have a profession, but future mothers and fathers are very carefree in this sense. As a matter of fact, there is a common conventional expression which states that “children can grow up somehow.” This expression shows how little importance is placed on children. However, Parental education has a great effect on children. Parents are role models for children, thus their communication with their children is of vital importance. The education they give to their children leaves a permanent effect on the children. Parents are the first teachers of every child. Children learn the rules and values of family and society from their parents. Family and education are important in terms of moral structure and personality.

## PARENTAL EDUCATION

Satir (1983) lays an emphasis on the connection between the education parents receive from their parents and the reflection of this education on their own children either consciously or unconsciously. Satir (1988) divides families into two categories: 1- Educative family, 2- Problematic family (as quoted by Kesici, 2013, p. 88). Educative family is a family in which family members respect each other, listen to each other and each family member shows sincerity, honesty and love towards one another. Problematic family is a family which continues to live together even though they have no common sharing, communication and ground (contrary to the educative family). The members of a problematic family tend to accuse and criticize one another all the time. These are the individuals who have low self-regard. Satir (1988) believes that problematic families can change into an educative family. Satir defines four steps for them to pass the problematic family process. 1- The family realizes and accepts that it is problematic by looking at itself. 2- The family leaves the negative experiences behind and gives itself a chance on the path of change. 3- The family decides to change. 4- The family takes the first step for change. (as quoted by Kesici, 2013, p. 88). Satir (1988) defines four basic concepts which set these two family types closer or apart from each other: 1- Self-Esteem, 2- Communication, 3- Rules, 4- Social Ties. Also, verbal or nonverbal, conscious or unconscious communication is defined as perseverance of human life. Satir, Stachowiak and Taschman (1975) define four communication methods that can be used in times of stress. These are as such: 1- Placater (Appeaser), 2- Blamer, 3- Super-reasonable (Computer), 4- Irrelevant (Distracter). In addition to these, Satir, Stachowiak and Taschman (1975) define civilized, congruent communication as the fifth communication model. (as quoted by Kesici, 2013, p. 88). Civilized, congruent communication: It is the communication that does not include any incongruity, confusion in its transmission. According to Moore and Kramer (1999), people who display this communication "share their ideas and emotions by showing them to other people and avoid manipulation" (as quoted by Kesici, 2013, p. 88).

  

**FAILURES OF CHILDREN IN SCHOOL EDUCATION**

Yavuzer (2009) explains the failures of children in school education in three important factors. These are defined as 1. House and family environment, 2. Individual qualities 3. School and teacher. In the first factor, for children to increase their success, the importance of house and family environment to provide self-confidence for the children and children achieving self-management skill and having motivation and incentive are stated and for children to be successful, the most important thing is emphasized as the attitude of parents. In the second factor, cognitive, physical and emotional capability are pointed out. At the third stage, the importance of attitude of teachers is stated (Gülşen, 2015a, p.166-170, Yavuzer, 2009, p. 161).

**THE IMPORTANCE OF A FATHER'S ROLE**

Şimşek (2013) lays an emphasis on a father's role with regards to child education. Father is defined as a head teacher for children and it is pointed out that children see their fathers as their first role models, thus fathers should be a capable head teacher for their children since this is expected by the children. It is indicated that the entire education life of children is shaped by their fathers and it takes course through the medium of their fathers. Parents are usually not aware of the sense of having a child before they get married. Therefore, when they get married and have a child, they become blindsided. (Şimşek, 2013, p. 37). It is stated that in the eyes of the children, fathers can overcome any difficulty, thus provide them an endless trust development (Şimşek, 2013, p. 37). Today's studies (Tezel, Şahin and Özbey, 2009) have determined the importance of a father's role in children's future behavioral, academic and psychological state. They point out that fathers play an important part in child development and education (as quoted by Ünlüler, 2010). Figdor (1997) also lays an emphasis on the importance of a father's role on children. As a result of long-term studies by Figdor (1997), it is stated that children of divorce who grow up only through a mother's training for a long time experience sexual identity problem in the coming years (Figdor, 1997, p. 81).

**THE IMPORTANCE OF THE STYLE OF PARENTAL EDUCATION**

When we evaluate a family in terms of reasons that hold the family members together, how their vital needs are fulfilled, protection, love, respect and sense of belonging come to the forefront. However, it is seen that mutual love, respect and justice are used frequently to define the family. Zira Honneth (2008, p. 296) lays an emphasis on the fact that this togetherness lies behind mutual love and justice concepts. The importance of a father's role in child education is pointed out.

Maintaining the structure is required for the established order in the family to continue in a healthy way, but how inter-family education is maintained is a matter of debate. When child development in a family is considered, the style of education of parents in a family is of vital importance (Gülşen, 2015b, p198-1930). American Diane Baumrind (as quoted by Zimbardo, 1999, p. 692) defines three parenting styles: Authoritative parenting, authoritarian parenting and permissive parenting. A parent who uses authoritative parenting style has many expectations from the child and want the child to fulfill these expectations. Also they take what their children say seriously, they accept what their children say, they listen to their children's wishes, they value their children and share their own thoughts with their children. They explain their rules with their reasons. They want their children to be more autonomous and encourage them to be that way. In case their expectations are not fulfilled, they demand an explanation. While they demand it, they encourage their children in this regard (Zimbardo, 1999, p. 692). In the authoritarian style, parents want their children to fulfill their demands in a strict way. They do not feel that they need to explain the reasons of their expectations from their children. They demand that their expectations are fulfilled beyond question. In case their expectations are not fulfilled, they exhibit rude behaviors. In this style of parental education, children have no chance to question what is expected of them. Mistakes are punished without justification. Permissive family types manage the children less and they do not control the children. They do not check to see whether children fulfill their expectations or not. Therefore, they do not expect much and they do not establish rules. They want children to manage themselves on their own. They prevent from intervening with them as much as possible and they do not prefer punishing them (Zimbardo, 1999, p. 692). On the other hand, in the matter of parental education, Gordon (2013) holds the parents themselves to account with regards to mistakes parents make in terms of education and lays an emphasis on the ignorance of educators in this regard. Therefore, Gordon (2013) points out the importance of educating the parents. Also he introduces "No Lose" model so that the problems parents have with their children can be solved easily. "No Lose" method is suggested by Dr. Gordon as a method of resolving conflicts. This is an alternative new method to "win-lose" which is known as a conflict resolution method. Regarding the education they provide, parents either become the loser or the winner. Some parents feel cornered because of the education they provide. They may feel confused regarding which method they should use. Sometimes they use both methods, yet they feel unhappy and desperate. This new method which is called "No lose" is defined as the third method and embraced by the parents. Regarding education, there is usually conflict in terms of formation of wishes. In these conflicts, either parents or children become the winner. There is always a winner and a loser. This shows

  

that one side is destined to be unhappy. Therefore, when this third alternative ("No lose" method) is introduced to the families, especially parents who feel at a loss relax. In this new method, the solution of problems makes both sides happy. Therefore, this method is defined as method III. This newly introduced method III is used to solve conflicts between equal or relatively equal people. Generally, there is a strong side and a weak side in the conflicts. The weak side (person who cannot risk withstanding and fighting) does have no choice but to yield. In the Method III, strong side and weak side are evaluated differently; a common decision is made and both sides become happy as a result of the solution. Conflicts are solved in a way that enables both sides to win. It is suggested that the six steps below are applied in order to be successful in Method III. Step 1: Define conflict (problem), Step 2: Brainstorm solutions, Step 3: Evaluate solutions Step 4: Choose the best solution Step 5: Determine how to implement the decision Step 6: Check the implementation of the solution for evaluation (Gordon, 2013, p. 291) On the other hand, Charpman (2004, p. 13) make a connection between these kinds of inter-family conflicts with different types of love languages. Charpman defines five love languages. Quality time, words of affirmation, gifts, acts of service, physical touch. The problems in the family result from the fact that family members do not know which love language each of them has (Chapman, 2004, p. 13).

## THE PURPOSE OF THE STUDY

The purpose of this study is to determine the opinions of Psychology, Teaching and Psychological Counseling and Guidance (PCG) teacher candidates on Parental Education elective class.

## PARENTAL EDUCATION CLASS

Many different methods, approaches and samples regarding parental education are demonstrated in practice to the teacher candidates who participate to this study for **14 weeks**, **various** activities are included simultaneously and their evaluations of these activities are received.

## METHOD

The study serves as a descriptive situation determination and it is figured based on qualitative research techniques. The aim of this study is to determine the knowledge and skills acquired by the teacher candidates in Psychology, Teaching and PCG department in Parental Education class and their expectations and suggestions regarding the class and it is considered necessary to use qualitative research techniques. Qualitative research techniques attach importance to the situation in which events and facts which enable explanation rather than calculation are presented.

## STUDY GROUP

37 students who took the Parental Education which is an elective course in Fatih University Faculty of Education PCG Department in 2014-2015 education period participated to the study. *The ages of teacher candidates who participated to the study are between 19-24*

## DATA COLLECTION TOOL

A structured evaluation form which consists of 31 questions in total of which 16 questions regarding demographical knowledge, 4 open-ended and 11 semi-structured questions regarding their knowledge and skills is applied on the teacher candidates who participated to the study in order to compare and analysis their opinions during at the beginning of the class and at the end of the class with regards to Parental Education class. The purpose of this is to collect substantial and sufficient information (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz and Demirel, 2009). The evaluation form is prepared by the researchers after the literature review and the evaluation form is run past three experts to ensure its internal validity. In accordance with the suggestions put forward by the experts, the form has reached its final state. Before the structured evaluation form is used for the purpose of study, a pilot scheme is realized with a teacher candidate and it is determined that the questions are clear and comprehensible. The application of the form is realized during the spring term in 2014-2015 school year. The application is realized by the researcher in the classroom. The students answered the evaluation form in approximately 10-15 minutes. Since the questions in the form are open-ended, some of the students have written more than one answer to the questions.

## ANALYSIS OF THE DATA

Descriptive analysis technique is used in the analysis of the data obtained from the statements in the answers given by the teacher candidates and registered in the evaluation form. The data is summarized and interpreted through descriptive analysis technique. The purpose of the descriptive analysis is to make raw data into a form that can be understood and used by the reader. For this reason, the data is created according to the themes put forth by the research questions and presented by taking the questions in the form into consideration. In the descriptive analysis, quotes are often included so as to conspicuously reflect the opinions of the individuals who are involved in the study (Yıldırım and Şimşek, 2006). The answers given by the participants are evaluated in

  

accordance with the following stages: The themes are determined with respect to the purpose of the study. Answers given to each question are analyzed through the themes determined and common opinions are pointed out by stating the number of teacher candidates who lay an emphasis on these themes. Afterwards, one or more statement is taken from the answers of some teacher candidates and interpreted by being put in quotes.

The following articles are tried to be determined through the questions asked to the teacher candidates;

1. Is there a difference between the opinions of the teacher candidates on what they gain from the class before and after they take the class?

2. Is there a difference between the opinions of the teacher candidates regarding their expectations from the class before and after they take the class?

3. Is there a difference between the opinions of the students who take the Parental Education class regarding methods/styles they know before and after they take the class?

4. Is there a difference between the opinions of the students who take the Parental Education class regarding what they understand from parental education before and after they take the class?

5. Is there a difference between the opinions of the students who take the Parental Education class regarding subjects and applications they are interested in before and after they take the class?

**FINDINGS**

In this section, the findings obtained from the answers given by the teacher candidates with regards to the questions in the evaluation form are included. The findings obtained as a result of the interviews are presented by being sorted according to the questions.

**1. Is there a difference between the opinions of the teacher candidates on what they gain from the class before and after they take the class?**

It is determined that before the class, 32 participants (86%) of the teacher candidates answered the question regarding what they will gain from the parental education class as they have no idea what they will gain from it, 3 participants (8%) thought that they will gain the necessary information about decent parental and child education from the class, the remaining 2 participants (6%) thought that they will learn what is wrong and what is right regarding this subject, see [Figure 1].

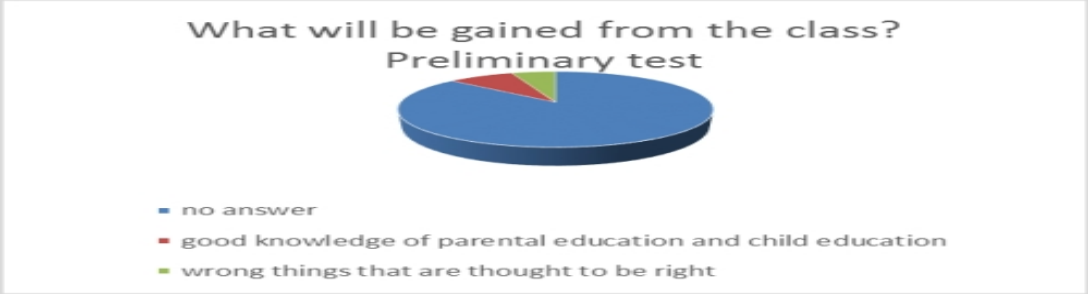


Figure 1

At the end of the class, 15 teacher candidates (41%) stated as an answer to the question about what they have gained from the parental education class that they have learned how to be a good parent and how they should behave towards children because of this class. 8 participants (22%) emphasized that they have gained a different perspective and they think more consciously now because of this class. One teacher candidate (2%) stated that he/she gained the ability to listen to children and the ability to guide the children and another candidate (3%) stated that he/she have learned what are the important points starting from the mother's womb. It is determined that the number of teacher candidates who did not make any comment about what they have gained from the class is 12 (32%), see [Figure 2].

  

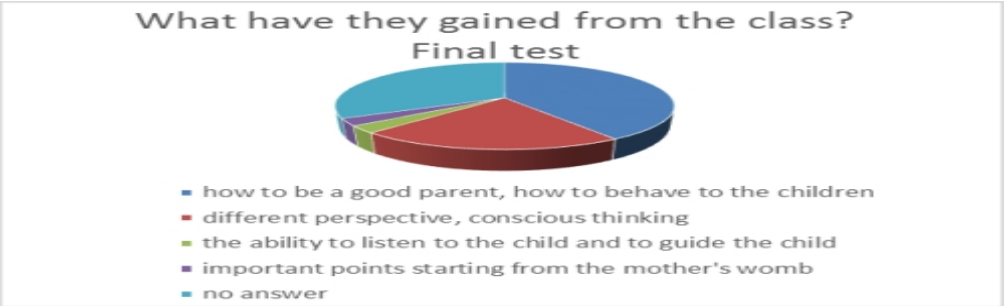


Figure 2

**2. Is there a difference between the opinions of the teacher candidates regarding their expectations from the class before and after they take the class?**

As a result of the evaluation of the answers given by the teacher candidates before the class with regards to the question about their expectations from parental education class, it is determined that 16 teacher candidates (43.24%) aim to gain the necessary knowledge about becoming an ideal mother and an ideal father and also aim to gain knowledge about being conscious parents by laying an emphasis on the deficiencies regarding parental education in our country. It is determined that 5 teacher candidates (13.51%) see the class as an investment for the future, the expectation of 3 candidates (8.1%) is to have an enjoyable course and be successful in the class, 2 candidates (5.4%) aim to determine current mistakes of parents and correct these mistakes. One of the teacher candidates (2.7%) mentioned this class as the best class he/she has ever taken and another (2.7%) told that he/she sees this class as a medium to prepare children for the social environment. 9 teacher candidates (33.3%) did not answer this question, see [Figure 3].

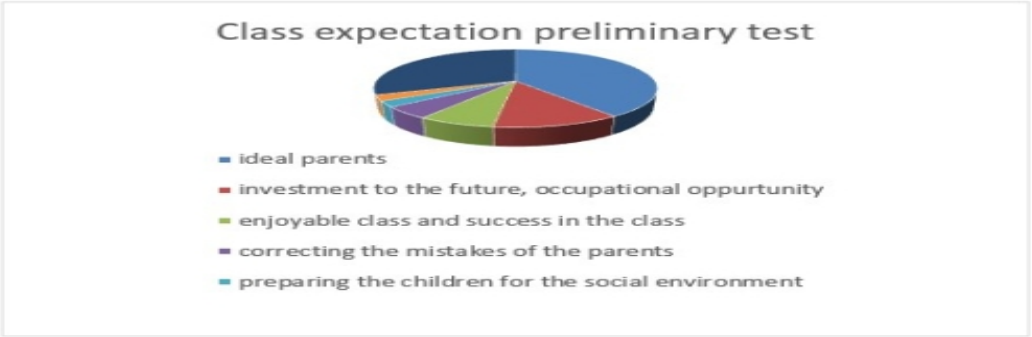


Figure 3

When the answers given by the teacher candidates after they take the Parental Education class with regards to their expectations from the class are analyzed, it is seen that 20 candidates (54%) think they have gained knowledge on how to become ideal parents and learned practical and useful methods in this regard. 6 candidates (16%) think of the class as useful for future, their profession and raising conscious generations. Another candidate states that he/she will be able to prepare children for the social environment and he/she has learnt that problems are not one-sided and what kinds of behaviors the childhood requires. Another participant stated that he/she achieved his/her objective to get a high mark and some other participant emphasized that he/she has become more sensitive with regards to parent-child relationships because of this class. One participant (3%) stated that his/her expectations regarding the class are fulfilled, see [Figure 4].

  

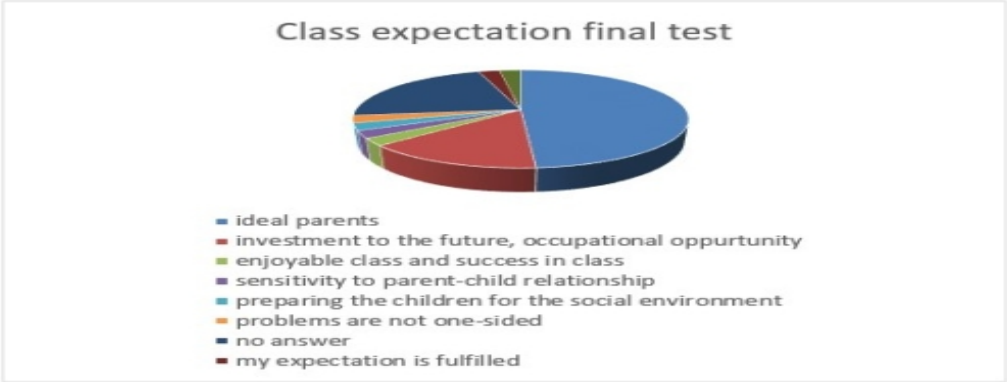


Figure 4

**3. Is there a difference between the opinions of the students who take the Parental Education class regarding methods/styles they know before and after they take the class?**
32 teacher candidates (86%) made no comment when asked which methods and styles they know about parental education before they take the Parental Education class. One teacher candidate (3%) stated that there are recess, anger management and democratic family attitude. Another candidate (3%) stated that there are raising style and nursing, another candidate stated that there are the methods of not doing everything the child wants and not comparing the child with other children. The other two candidates (6%) pointed out that there are the methods of patience, compassion, mercy and no lose, recess and nervous breakdown recovery, respectively, see [Figure 5].

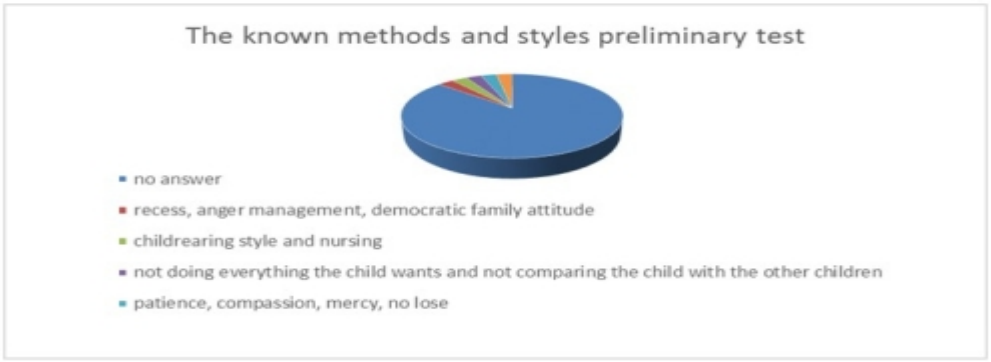


Figure 5

When the answers given by the teacher candidates with regards to the question of what they know about parental education after they take the Parental Education class are analyzed, 4 teacher candidates (11%) stated no lose method, 7 candidates (19%) stated authoritative, negligent and democratic family education styles, 5 candidates (14%) stated the methods of talking with the child as an individual, listening to the child and caring about the child. 3 teacher candidates (8%) stated the method of 5 love languages. It is evident that what the teacher candidates know about parental education after they take the class is different both in quantity and quality compared to what they knew before they take the class, see [Figure 6].


Figure 6

**4. Is there a difference between the opinions of the students who take the Parental Education class regarding what they understand from parental education before and after they take the class?**
27 teacher candidates (73%) defined the parental education as an education which turn parents into conscious and efficient parents who can use the suitable approach in terms of childrearing and 2 candidates (6%) think that

the class provides necessary information for married couple to live as a good family when asked the question of what they understand from parental education before they take the Parental Education class. Another teacher candidate (3%) emphasized that the target of this class is to turn people into better individuals. 5 candidates (18%) did not make any comment, see [Figure 7].

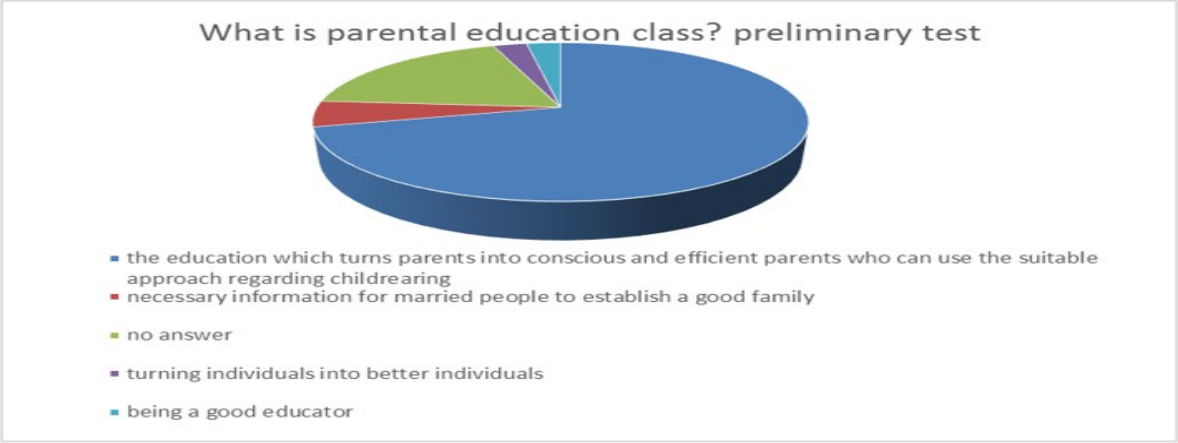


Figure 7

25 teacher candidates (68%) defined the Parental Education class as a class which teaches methods and techniques, right attitude and approaches in terms of conscious childrearing and whose purpose is for parents to raise their children properly when asked the question of what they understand from parental education after they take the Parental Education class. 1 candidate (3%) learnt how to be a good educator as a result of this class. 4 teacher candidates (11%) started to think outside the box with regards to the class after they take the class and they defined the purpose of the class as bringing up beneficial individuals for the family which is the building stone of the society and for the social order. 1 candidate (3%) stated that this class is equal to being a good educator, see [Figure 8].

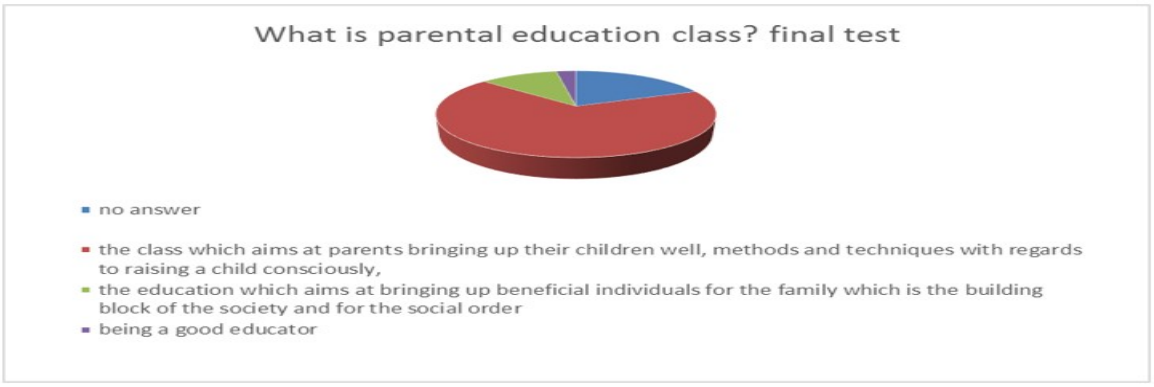


Figure 8

**5. Is there a difference between the opinions of the students who take the Parental Education class regarding subjects and applications they are interested in before and after they take the class?**
When the subjects regarding parental education that interest the teacher candidates before they take the Parental Education class are asked, only 2 candidates (6%) answered and it seen that the subjects that draw attention are five love languages, attitudes of the parents and quality time concept, see [Figure 9].

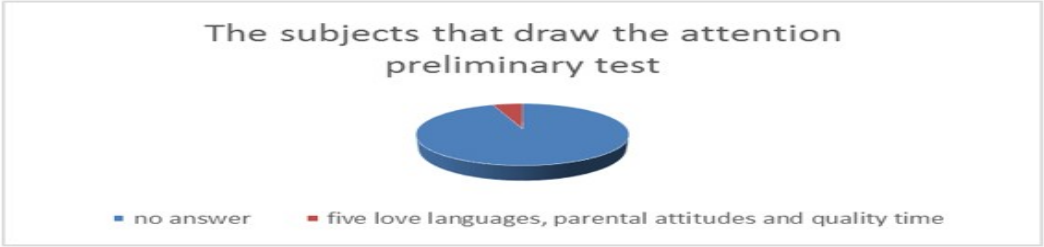


Figure 9

  

After the teacher candidates take the Parental Education class, it is seen that 8 teacher candidates (22%) are interested in five love languages, 2 candidates (6%) are interested in attitudes of the parents, 5 candidates (14%) are interested in children of divorce, 2 candidates (6%) are interested in education styles, 2 candidates (6%) are interested in toy selection, 2 candidates (6%) are interested in the experiences of the class teachers, 1 (3%) candidate is interested in communication methods, 1 candidate (3%) is interested in hyperactive children, 1 candidate (3%) is interested in the samples provided, 1 candidate (3%) is interested in the fact that the applications regarding parental education are controversial, 1 candidate (3%) is interested in pregnancy period, 1 (3%) is interested in exam period, 1 candidate (3%) is interested in no lose method and 1 candidate (3%) is interested in ADHD. It demonstrates that even though the participants have no subject that interest them when they do not have any information regarding the class, the training they receive in the class help them to be interested in this field. It is seen that the number of students who do not answer the question drop to 10 (27%) in the last test, see [Figure 10].

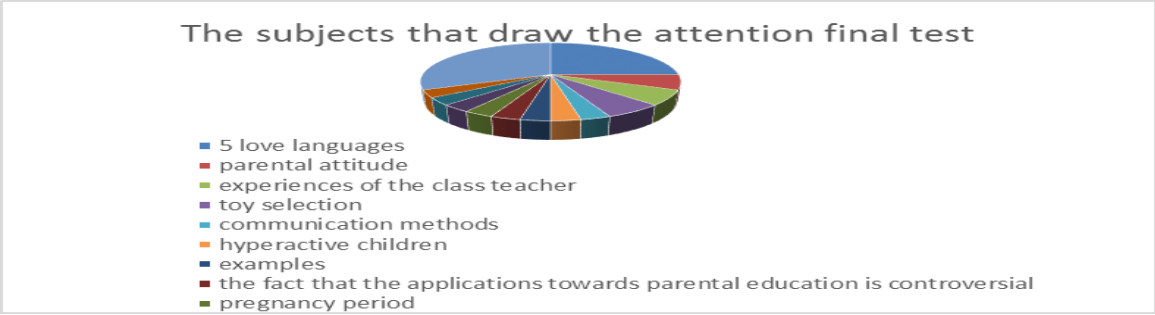


Figure 10

**DISCUSSION AND ANALYSIS**

In the evaluations realized by the teacher candidates before the class regarding what they will gain from the parental education, it is seen that most of them do not have any idea regarding what they will gain from the class, but they think they will learn the necessary knowledge regarding how to be a good parent and child education and they think they will learn the what is wrong and what is right in this regard; it is seen that at the end of the class, almost half of the teacher candidates stated that they have learned how to be a good parent and how they should behave towards children because of this class, the other half stated that they have gained a different perspective with regards to becoming a parent, they think more consciously now, they have gained the ability to listen to the children and to guide them and they have learnt the important points starting from the mother's womb. When the results with regards to what they gain from the parental education before the class and after the class are analyzed, it is seen that the number of people who do not comment on what they have gained from the class considerably decrease. Depending on this finding, it is possible to say that the parental education class is productive.

As a result of the evaluation by the teacher candidates regarding the parental education class before they take the class, it is seen that most of them aim to gain knowledge on how to be ideal parents and also gain knowledge on how to be conscious parents by laying an emphasize on the deficiencies regarding parental education in our country and they see the class as an investment for the future. Expectations of some of the teacher candidates are to have an enjoyable course and be successful in the class, the expectation of the other teacher candidates is to correct the current mistakes of the parents. Some other part of the teacher candidates mentioned this class as the best class he/she has ever taken and he/she sees this class as a medium to prepare children for the social environment. Almost one-third of the teacher candidates did not mention any expectation regarding the class.

When the evaluations realized by the teacher candidates on their expectation from the class after the class are analyzed, it is seen that there is an increase in the number of the participants who think they have gained knowledge on how to become ideal parents and learnt practical and useful methods in this regard. Similarly, the number of the participants who think of the class as useful for future, their profession and raising conscious generations is increased relatively. Also some of the candidates state that he/she will be able to prepare children for the social environment and he/she has learnt that problems are not one-sided and what kinds of behaviors the childhood requires because of this class. Another participant stated that he/she achieved his/her objective to get a high mark and some other participant emphasized that he/she has become more sensitive with regards to parent-child relationships because of this class. One participant stated that his/her expectations regarding the class are fulfilled. The number of the candidates who do not answer is 9 (24%). It is observed that the expectations of the teacher candidates from the parental education relatively differ.

  

When the evaluations of the teacher candidates are compared in terms of before they take the class and after they take the class, it is observed that the expectations of the participants are fulfilled especially with regards to gaining knowledge about becoming ideal parents and using this class for certain purposes in the future, even the candidates who do not have such expectations gain knowledge in this regard.

When methods and styles that the teacher candidates know regarding parental education are asked, 32 teacher candidates (86%) did not make any comment before they take the class. 1 teacher candidate (3%) stated that there is recess, anger management and democratic family attitude. Another candidate (3%) stated that there are raising style and nursing, another candidate stated that there are the methods of not doing everything the child wants and not comparing the child with other children. The other two candidates (6%) pointed out that there are the methods of patience, compassion, mercy and no lose, recess and nervous breakdown recovery, respectively.

When asked what they the teacher candidates about parental education, the number of teacher candidates who do not answer this question is 32 (86%) before they take the class and after they take the class, this number drops to 20 (54%). When the answers given by the teacher candidates after they take the class are analyzed, 4 teacher candidates (11%) state no lose method, 7 candidates (19%) state authoritative, negligent and democratic family education styles, 5 candidates (14%) state the methods of talking with the child as an individual, listening to the child and caring about the child. 3 teacher candidates (8%) state the method of 5 love languages. 1 (3%) teacher candidate state that he/she knows about the parental education method based on behavioral approach. When the evaluations of the teacher candidates before and after they take the class are analyzed comparatively, it is seen that there is a positive development between the answers given by them before and after they take the class not only in quantity, but also in quality, there is an increase in the number of the people who answer the question after they take the class regarding what methods and styles they know of with regards to parental education increase compared to the period before they take the class, the answers before they take the class only mention general concepts and after they take the class, the answers include more specific concepts and terms regarding parental education.

**Is there a difference between the opinions of the students who take the Parental Education class regarding what they understand from parental education before and after they take the class?**

30 teacher candidates (81%) do not answer the question regarding what they understand from parental education and 7 (19%) candidates did not make any comment before they take the class. 27 teacher candidates (73%) defined the parental education as an education which turn parents into conscious and efficient parents who can use the suitable approach in terms of childrearing and 2 candidates (6%) think that the class provides necessary information for married couple to live as a good family when asked the question of what they understand from parental education after they take the Parental Education class. Another teacher candidate (3%) emphasize that the target of this class is to turn people into better individuals.

Similar to the answer they give before they take the class, 25 teacher candidates (68%) define the Parental Education class as a class which teaches methods and techniques, right attitude and approaches in terms of conscious childrearing and whose purpose is for parents to raise their children properly after they take the Parental Education class. 1 (3%) teacher candidate stated that he/she understands how to be a better educator after the class. 4 teacher candidates (11%) started to think outside the box with regards to the class after they take the class and they defined the purpose of the class as bringing up beneficial individuals for the family which is the building stone of the society and for the social order. 1 candidate (3%) stated that this class is equal to being a good educator.

**Is there a difference between the opinions of the students who take the Parental Education class regarding subjects and applications they are interested in before and after they take the class?**

When the subjects that interest the teacher candidates regarding parental education before they take the Parental Education class are asked, only 2 candidates (6%) answered and it seen that the subjects that draw attention are five love languages, attitudes of the parents and quality time concept.

When the same question is asked to the teacher candidates after they take the class, it is seen that 8 teacher candidates (22%) are interested in five love languages, 2 candidates (6%) are interested in attitudes of the parents, 5 candidates (14%) are interested in children of divorce, 2 candidates (6%) are interested in education styles, 2 candidates (6%) are interested in toy selection, 2 candidates (6%) are interested in the experiences of the class teachers, 1 (3%) candidate is interested in communication methods, 1 candidate (3%) is interested in hyperactive children, 1 candidate (3%) is interested in the samples provided, 1 candidate (3%) is interested in the fact that the applications regarding parental education are controversial, 1 candidate (3%) is interested in pregnancy period, 1 (3%) is interested in exam period, 1 candidate (3%) is interested in no lose method and 1 candidate (3%) is interested in ADHD. According to this situation, while the teacher candidates have no subjects that they are interested in before they take the class, it is seen from how they think after they take the class that

  

the class contributes them to be interested in this field. Also the number of the students who do not answer the question regarding which subjects and applications interest them is 35 (94.5%) before they take the class and after they take the class, this number drops to 10 (27%). In this case, it is possible to say that the parental education class achieves its objective.

## CONCLUSION AND RECOMMENDATIONS

The expectations regarding the class, opinions on class scope and teaching process and thoughts on what parental education means in general differ positively after the teacher candidates take the Parental Education elective class compared to their opinions before they take the class. It is observed that the teacher candidates answer more questions after they take the class than before they take the class and it is seen that their answers take a positive course in terms of perspective, knowledge and expectations towards parental education. This study is realized in Fatih University Faculty of Education and no generalization can be made due to the limitedness of qualitative researches. Therefore, it is recommended that research designs in which quantitative and qualitative data are used together and which includes more than one university, a wider sample and scale(s) which have more articles are created in the other studies that will be realized in accordance with the findings of the study. In addition to this, some recommendations with regards to "Parental Education" class in accordance with the findings obtained from the study are below:

The findings of the study show that a lesson content shaped in accordance with interests and needs of the students might leave a more positive impression on the students. For this reason, the lesson content can be determined by way of a needs analysis applied at the beginning of the semester and the way the class is taught can be enriched in this regard.

However, it may prove useful for researchers to use a scale in addition to open ended questions to make the data collection process easier in the next studies. Since the data obtained from the study is acquired from the participants' own statements, in case there is no time limitation, the study can be performed longitudinal in order to reach more objective data and determine whether the individuals who take the class apply them or not.

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# REVIEW OF THE OPINIONS OF THE COLLEGE STUDENTS ON SOCIAL GENDER ROLES ACCORDING TO THE GEOGRAPHICAL REGIONS IN TURKEY

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## ABSTRACT

Perspective towards men and women in the culture the people brought up in is different. Therefore, expectations from men and women differ. People are born as women or men, but the culture they are brought up in raise them with certain gender roles. As in some cultures, there are limits in certain situations towards women in several regions in Turkey such as business life or education life. This situation creates taboos in thoughts and perspectives towards life of women. Contrary to these thoughts, men are given more extensive and discriminatory social roles.

This study is realized to determine the opinions of senior students who receive education in Turkey on the effect of specified cultural differences on social gender roles. This study includes the comparison of the opinions of senior students on social gender roles with different dimensions. These dimensions are egalitarian gender role, female gender role, male gender role, gender role in marriage and traditional gender role. Also there is an evaluation according to the departments the students study in. College students in different regions in Turkey are included in the study.

**Keywords:** Geographical Region, Gender, Gender Roles, Rural Region, Urban Region

## INTRODUCTION

Even though gender and social gender concepts are used for one another, there needs to be a differentiation between gender and social gender concepts. Gender is defined as genetic, biological and physiological qualities the individual present as man and woman (Vefikuluçay, Zeyneloğlu, Eroğlu, Taşkın, 2007, p. 27). Social gender is at the foundation of the categories that effects the social life (Taylor, Peplau, Sears, 2003, p. 375). We try to differentiate them when we first meet them in accordance with their male or female identities. This is almost inevitable. The reason for this is that social gender is one of the principal categories (Taylor, Peplau, Sears, 2003, p. 375). The process of classifying people as men or women is called "social gender stamping". This process happens automatically without any initial thoughts and it is a natural process. Social gender stamping includes expectations about how people should behave in accordance with their social gender (Zastrow ve Ashman, 2014, p.574).

Our initial thoughts about gender consist of observable clues such as dressing style, physical qualities of people. Individuals reflect their social genders as one of the part of their presentation of self Taylor, Peplau, Sears, 2003, p. 375).

  

## PERSPECTIVE ON SOCIAL GENDER ROLES IN ACCORDANCE WITH FEMINISM PERSPECTIVE

Towards the end of 1970s, feminist movement brought forward that biological difference is not a coincidence and defended that what is personal is also political, thus it started to criticize the ideological discourses towards the gender role attitude (Sullivan, 2003). Feminists thought that traditional gender roles forced on women and men cause gender discrimination and violence towards women during socialization process without noticing the gender and that women are victimized, pushed around; thus they presented gender roles as a problem. What this movement is in opposition to is that power, material wellbeing and the distribution of property and prestige are realized not according to individual skills, but according to the basis of gender through sexism which is an ideology that is based on the belief that one gender is superior to the other especially in terms of traditional gender roles (Sullivan, 2003).

## SOCIAL GENDER ROLES ACCORDING TO THE CULTURAL PERSPECTIVE

Social gender is a cultural concept and it is different than biological gender concept. It expresses and presents the meanings and expectations of being men and women and that are attributed to us through society and culture. It also includes psychological qualities in parallel with the biological structure of an individual. Social gender is about psychosocial qualities that differentiate the individual as being womanly or manly (Dökmen,2004,p.4). Culture is one of the main factors which determine gender stereotypes and attitudes. Roles and stereotypes created for women and men by culture change over time. Therefore, these roles and stereotypes determined for women and men have significantly changed because of reasons such as women being active in business life and the increase in the level of education of women. During this process, the distances between these stereotypes determined for women and men in traditional societies have been reduced or even these stereotypes and roles have started to share similarities (Öngen, Aktaç, 2013, p.13).

## PERSPECTIVES TOWARDS SOCIAL GENDER IN TURKISH SOCIETY FROM PAST TO PRESENT

Everything changes under the sun. Everything within the wheel that constantly moves forward and that is called time exists by undergoing necessary changes in accordance with the age. Therefore, it is not right to say that societies are stagnant and static; social structures, social dynamics, social systems, social rules constantly change (Gülşen, 2014, p.77-78; Gülşen, 2015; p,373-380; Kıray, 1999). However, Kıray states that the speed of this change is not stable, it accelerates or slows down according to ages, thus there are differences. Societies change, but in parts; the attributes of the society that change goes into a chain reaction with the other attributes and they change these attributes too. Therefore, society is whole and this whole changes continuously. It changes and rearranges itself, then it becomes a whole again (Gülşen, 2014, p.77-79; Gülşen, 2015, p,373-380; Kıray, 1999).

Social gender discrimination in Turkish society is needed to be considered together with the general structure of the social cultural basis. The existence of social gender which gives different roles to men and women in Turkish society becomes significant when it is analyzed together with the identity this society has been experiencing, creating and representing for years (Bingöl, 2014, p.110). Turkish society is a unique society with so many of its aspects like other societies; it consists many contradictory areas in itself. The variety of the society, aspects of it that are not known much, but are wrong for most of the time, excitement and boldness of it, Easterner and Westerner aspects of it, gaps between these regions, multiculturalism, traditional conservatism that is almost like a reflex or complete opposite of it, surrendering to it in an unexpected way (Bingöl, 2014, p.110).

Nirun (1994) analyzed the gender roles in Turkish society within the historical process in a study in three main titles which are pre-Islamic era, post-Islamic era and Turkey in the Republic Period. First of all, Nirun stated that social lives, approaches towards family, men and women significantly differs compared to the other times in pre-Islamic era. It is explained that social gender discrimination aimed at women almost does not exist in Turkish society in the pre-Islamic era. "Women and men are equal. Women even have an authority in the administration of the country together with the Khan. Women manage the house (Nirun, 1994: 23, 24).

Normally, when Turkish people adopted Islam, every part of their lives underwent great changes. Islam did not only change the religion in the lives of Turkish people. Byzantine-Arabic-Iran cultures were also as much effective as Islam and have left significant traces in Turkish culture (Altındal, 2004: 33). By this way, going through changes became inevitable for Turkish women and men. With Islam, place and rights of women in Turkish society have been altered because of religious judgments, rules and social beliefs that are interpreted by being deviated from the aim by the society. "Actually Islam gave great rights to women, but interpretation of some verses and hadiths in a different way than their real meanings caused women to lose the right and prestige they had had before" (Altındal, 2004: 33).

Bingöl (2014) approached to today's women in Turkey in the article as such: "In today's Turkey, women experience an inequality in many different areas in terms of men and the society in general because of the determination of social gender. Women are exposed to this inequality especially because of the lack of education

  

and socialization in accordance with their gender. All inequalities women face in social life include other variables and they are based on a single-based 'social gender discrimination/femininity phenomenon" (Bingöl, 2014, p.112).

## PERSPECTIVES OF OTHER COUNTRIES TO SOCIAL GENDER ROLES

Social gender role differentiates in accordance with the background of the existing culture. The roles determined for women and men are exaggerated in some cultures and normal in some other cultures (Zastrow and Ashman, 2014, p.577). Traditional Asian and American families are patriarchal families in which prestige is determined in accordance with age, generation and social gender role (Balgopal, 2008, p.156). Even though social gender roles differ for Mexican Americans, traditional Mexican Americans persist on the discrimination of the gender roles. According to the traditional Mexican families, men are the leaders of the family and women are in a position that requires them to obey their husbands which are responsible of taking care of the family (Aktaran, Zastrow ve Ashman, 2014, p.577). On the other hands, Afro Americans adapt more egalitarian roles (Moore 2008). Afro American women are described as such; they live their religions more actively and they present themselves as the power of the family which sacrifices itself. Their identities are more associated with motherhood. During the course of the history, especially during the unemployment period, they went out of the house as the breadwinner of the family (Aktaran, Zastrow ve Ashman, 2014, p.577).

Social gender roles in China presents some duties and privileges. Sons are valued more compared to the daughters. Continuation of the lineage depends on the man and women are adapted by the families of their husbands. First-born son is the most favored child and he takes the responsibility of the family. Traditional roles of girls are much less rewarding. Women obtain authority and respect only when they become mother-in-laws (Aktaran, Zastrow and Ashman, 2014, p.577).

In a study realized with Texas University, Audra Lee (2007) applied a scale which measures the social gender roles on the people in the region. This study realized in Texas which is divided into two sections as North and South presents that women generally forced to abide by gender roles the society attributes to them and they act in accordance with these roles. Also Audra Lee asserted with the studies that women had to give priority to houseworks when they work and their priorities differentiate in this regard.

Ifechukwu (2013) reached similar conclusions in the study applied on Nigerian students with social gender roles attitude scale. As a result of the study, it is asserted that women need to be busy with houseworks by staying at home and men are busy with outdoor works as breadwinner individuals. Ifechukwu also stated with the studies that Nigerian students generally adapt to traditional social structure.

In addition to this, in the study called "Gender Roles in Pakistan" published in Essay UK, the perspective of Pakistani people towards social gender is mentioned as such: "Since Pakistan is a country directed with Islam Regime, the effect of Islam is felt intensively in social roles. However, since 1990s, women have started to become active in political fields and business life. Still, the equality between women and men is very little. Social works for women rights started in 20th and 21th centuries and more importance is placed to women rights. In this period, many marches and media-based works were realized to defend women rights. These developments created a great effect on Pakistani people and brought along a positive process in terms of women rights and right to employment. As a result of this, today Pakistani women have become employed in a wide range of works such as nursing and piloting. Also, the author stated that this situation was a big step and a source of pride for Pakistan (Essays, UK., 2013).

Lum (2000) summarized the cultural perspective towards social gender in the book written on this subject as such: "For a person who is a member of an ethnic group not to adapt to the dominant culture he/she is born into. There are many degrees of acculturation; a person can persist on traditional cultural beliefs, values and traditions of the country [or cultural heritage] he/she has come from more or less" (Lum, 2000, s.201).

## RESEARCH METHOD

Since the acquired date presented numeric quality, the use of quantitative method was easy in the study. This is an important situation for measurement process. Turkey was divided into 3 regions visually on the map and patterned based on quantitative method techniques in this study to determine the facilitation of the attitude of the senior students in the college regarding gender roles according to this data (Kıncal; 2015).

## POPULATION AND SAMPLE

n=746 students were included within the scope of the study and 59,1% of these were consisted of women and 40,9% were consisted of men. In the sample acquired, differences according to gender, department-section, egalitarian gender role, female gender role, gender role in marriage, traditional gender role, male gender role and geographical regions in Turkey were analyzed.

  

## DATA COLLECTION

The study regarding social gender roles was applied on college students who continue their undergraduate studies. Turkey was divided into 3 regions visually and the study was applied to the senior students in different cities in these regions. The three regions were Western Region, Central Region and Eastern Region. According to this, the cities in the Western Region are Kocaeli, Tekirdağ, Ankara, Kırklareli, İstanbul, Zonguldak, İzmir, Bursa, Aydın, Bolu, Sakarya, Manisa, Edirne, Kastamonu, Balıkesir, Fethiye, Afyonkarahisar, Düzce, Çanakkale, Antalya, Denizli, Eskişehir, Yalova, İzmit, Muğla, Uşak, Kütahya. The cities in the Central Region are Çorum, Trabzon, Sivas, Sinop, Tokat, Samsun, Amasya, Ordu, Artvin, Kırşehir, Kayseri, Giresun, Adana, Rize, Hatay, Karabük, Mersin, Burdur, Isparta, Çankırı, Gümüşhane, Niğde, İskenderun, Aksaray, Bartın. The cities in the Eastern Region are Malatya, Adıyaman, Diyarbakır, Ağrı, Kahramanmaraş, Şanlıurfa, Elazığ, Bingöl, Gaziantep, Erzurum, Ardahan, Mardin, Bitlis, Kars, Erzincan, Bayburt, Muş, Van, Batman, Hakkari, Şırnak, Iğdır, Konya and Siirt. The following changes are made in the cities divided into 3 regions; even though Artvin is in Eastern Region, it is moved into Central Region because of the increase in development and literacy rate. Even though Ankara and Eskişehir are in the Central Region, they are moved into the Western Region. The reason of this is that Eskişehir is an active city full of students and Ankara is the capital. Even though Konya is in the Central Region, it is included in the Eastern Region because of the life standards. Apart from these, life standards of the countries of the foreign students who participated to the study are considered and determined as such: Georgia, Kazakhstan, Turkmenistan, Azerbaijan, Kyrgyzstan and Afghanistan were added to the Eastern Region; Somalia was added to the Central Region and Russia, Bulgaria, Canada, Lithuania were added to the Western Region. The application of the scale was realized in the fall semester in 2015-2016 school year.

## SOCIAL GENDER ROLES ATTITUDE SCALE

The necessary permit was received according to the use of the scale and the necessary direction for the use of it was included on the scale. The students within the scope of the study were asked to fill out the demographical information which consists of 5 questions and Social Gender Roles Attitude Scale developed by Zeyneloğlu & Terzioğlu (2011) and which consists of 38 articles and 5 subdimensions; 5 point likert scale was used in the attitude scale.

It is seen that factor load of reliability co-efficient articles differ between .35 and .79 in the original of the scale. Cronbach alpha internal consistency reliability co-efficient was determined as .92 for the whole scale. Cronbach alpha reliability co-efficient of female gender role subdimension is .80 and Cronbach sub-reliability coefficient of the subdimensions of gender role in marriage and traditional gender role is .78. Cronbach alpha reliability coefficient of male gender role subdimension is .72. Correlation between subfactors is 0.65-0.35 (Zeyneloğlu, Terzioğlu; 2011).

## ANALYSIS OF THE DATA

In the statistical evaluation of the data acquired, SPSS – Statistical Package for the Social Sciences – package program is used. Statistical operations are realized regarding the problem of the study and sub-problems on the data coded on the program. As statistical operation, arithmetic mean, standard deviation, one-way analysis of variance and multivariate analysis of variance (MANOVA) are used. They are tabulated so that they can be palpable (Alper, Deryakulu; 2008). Correlations are at 0.01 significance level (double queue).

## FINDINGS

In this study, Turkey was divided into 3 regions and the information below is acquired by analyzing the perspectives in these regions according to social gender roles in terms of different variations.

**Table 1:*Participation Rate in relation to Social Gender Roles Attitude Scale According to Geographical Regions in Turkey***

| Region | Frequency(f) | Percentage (%) | Effective Percentage | Cumulative Percentage |
|---|---|---|---|---|
| Western Region | 214 | 28,7 | 28.7 | 28.7 |
| Moderate | 263 | 35,3 | 35.3 | 63.9 |
| Eastern Region | 269 | 36,1 | 36.1 | 100.0 |
| **Total** | **746** | **100,0** | **90** | |

As is seen from the table, 746(n) people in total were included in the 3 regions. Among these, the percentage of the Western Region is n= 214, 28,7%; Central Region is n=263, 35,3% and Eastern Region is n=269, 36%. The Western Region has the less percentage; Central and Eastern Regions follow it, respectively. As is seen in the table, there is no significance difference in the participation rates between regions.

  

**Table 2:*Participation Rate in relation to Social Gender Roles Attitude Scale According to Gender in Turkey***

| Gender | Frequency(f) | Percentage (%) | Effective Percentage | Cumulative Percentage |
|---|---|---|---|---|
| Women | 441 | 59,1 | 59.1 | 59.1 |
| Men | 305 | 40,9 | 40.9 | 100.0 |
| **Total** | **746** | **100.0** | **100.0** | |

As is seen from the table, 746(n) people in total were included in the 3 regions. Among the participants, n=441, 59.1% of them were women and n=305, 40,9% were men. Women participants constitute the majority. The participation rate of men is lesser.

**Table 3:*Participation Rate in relation to Social Gender Roles Attitude Scale According to Department in Turkey***

| Department | Frequency(f) | Percentage (%) | Effective Percentage | Cumulative Percentage |
|---|---|---|---|---|
| Numeric | 350 | 46,9 | 46.9 | 46.9 |
| Verbal | 396 | 53,1 | 53.1 | 100.0 |
| **Total** | **746** | **100.0** | **90** | |

Students from verbal section in the study are in the rate of 53,1% with n=396 people, students from numeric section are in the rate of 46,9% with n=350 people. As is stated in the table, Verbal Section students constitute the majority of this study in which n=746 people are included. There is no significant difference in the participation rates of Numeric and Verbal Sections.

**Table 4:MANOVA Results in Gender Roles According to Gender Differences**

| Source | Sum of Squares | sd | Mean Square | F | p |
|---|---|---|---|---|---|
| Egalitarian Gender Role | 2722.156 | 1 | 2722.156 | 96.550 | .000 |
| Female Gender Role | 5311.632 | 1 | 5311.632 | 129.079 | .000 |
| Gender Role in Marriage | 5561.812 | 1 | 5561.812 | 209.549 | .000 |
| Traditional Gender Role | 6698.846 | 1 | 6698.846 | 171.822 | .000 |
| Male Gender Role | 1869.343 | 1 | 1869.343 | 84.372 | .000 |

Significant differences are acquired according to the gender in all variances in the results of multivariate analysis of variance. Egalitarian Gender Role; $F(1,744)=96.55$, $p=0.000<0.05$.Female Gender Role; $F(1,744)=129.08$,$p=0.000<0.05$. Gender Role in Marriage $F(1,744)=209.55$, $p=0.000<0.05$. Traditional Gender Role; $F(1,744)=171.82$, $p=0.000<0.05$. Male Gender Role $F(1,744)=84.372$, $p=0.000<0.05$.

It is seen that women have a more significant average compared to men in all variances.

**Table 5: *Definitive Statistical Results Given for Subtitles***

| | Region | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Egalitarian Gender Role | Western Region | 33,7523 | 5,73183 | 214 |
| | Moderate | 33,7148 | 5.44704 | 263 |
| | Eastern Region | 33,2900 | 5.76058 | 269 |
| | Total | 33,5724 | 5.64005 | 746 |
| Female Gender Role | Western Region | 27,4766 | 6.87152 | 214 |
| | Moderate | 25.9087 | 6.88116 | 263 |
| | Eastern Region | 25.1747 | 6.91602 | 269 |
| | Total | 26.0938 | 6.94440 | 746 |
| Gender Role in Marriage | Western Region | 34.3458 | 5.38665 | 214 |
| | Moderate | 33.0456 | 6.05113 | 263 |
| | Eastern Region | 33.3978 | 5.89916 | 269 |
| | Total | 33.5456 | 5.82853 | 746 |

  

| | | | | |
|---|---|---|---|---|
| Traditional Gender Role | Western Region | 27.0327 | 6.54230 | 214 |
| | Moderate | 25.4639 | 6.84211 | 263 |
| | Eastern Region | 25.6208 | 7.22282 | 269 |
| | Total | 25.9705 | 6.92291 | 746 |
| Male Gender Role | Western Region | 23.0607 | 4.69252 | 214 |
| | Moderate | 22.2129 | 4.93317 | 263 |
| | Eastern Region | 22.8625 | 5.17958 | 269 |
| | Total | 22.6903 | 4.96342 | 746 |

When Definitive Statistics are considered, means and standard deviations for each role are given according to the regions. In this case, it is understood that the difference in averages between the regions for egalitarian gender role is not too much and general average shows it. Western Region is different than others (Mean=27.5; standard deviation=6.9), even though the other two regions are close to each other, it is seen that Central Region (mean=25.9; sd=6.8) has a higher average than the Eastern Region (mean=25.1;sd=6.8). It is seen that Western Region is distinguished than other regions in a clear way in traditional gender role (Mean=27.0; standard deviation=6.5). Even though the other two regions are very close to each other, it is seen that Eastern Region (Mean=25.6; standard deviation=7.2) is higher than Central Region. Even though there is no significant difference between regions in gender role in marriage, it is seen that Western Region is higher. Even though there is no significant difference between regions in male gender role, it is seen that Western Region is higher.

**Table 6:*MANOVA Results in Gender Roles According to Regional Differences***

| Source | | Sum of Squares | Sd | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Region | Egalitarian Gender Role | 33,722[a] | 2 | 16.861 | .529 | .589 |
| | Female Gender Role | 645,450[b] | 2 | 322,725 | 6,796 | .001 |
| | Gender Role in Marriage | 208,648[c] | 2 | 104,324 | 3,088 | .046 |
| | Traditional Gender Role | 341,850[d] | 2 | 170,925 | 3,591 | .028 |
| | Male Gender Role | 97,273[e] | 2 | 48,637 | 1,979 | .139 |

In the results of multivariate analysis of variance, significant differences are acquired according to regions in gender role in marriage and traditional gender role. Female gender role is significant with 2, F=6.796 degree of freedom ($p=0.001<0.05$). Gender role in marriage is significant with 2, F=3.088 degree of freedom ($p=0.046<0.05$). Traditional gender role is significant with 2, F=3.591 degree of freedom ($p=0.028<0.05$). There is no significant difference between regions in egalitarian gender role and male gender role. All regions are at equal level for two gender roles.

**Table 7:Definitive Statistics Realized for the Faculty**

| Faculty | Department | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Egalitarian Gender Role | numeric | 33.6943 | 5.67917 | 350 |
| | verbal | 33.4646 | 5.61023 | 396 |
| | Total | 33.5724 | 5.64005 | 746 |
| Female Gender Role | numeric | 26.1029 | 6.96415 | 350 |
| | verbal | 26.0859 | 6.93570 | 396 |
| | Total | 26.0938 | 6.94440 | 746 |
| Gender Role in Marriage | numeric | 33.3657 | 6.00363 | 350 |
| | verbal | 33.7045 | 5.67215 | 396 |
| | Total | 33.5456 | 5.82853 | 746 |
| Traditional Gender Role | numeric | 25.7200 | 6.84343 | 350 |
| | verbal | 26.1919 | 6.99356 | 396 |
| | Total | 25.9705 | 6.92291 | 746 |
| Male Gender Role | numeric | 22.5486 | 4.85511 | 350 |
| | verbal | 22.8157 | 5.06003 | 396 |
| | Total | 22.6903 | 4.96342 | 746 |

  

350 people in numeric sections and 396 people in verbal sections were asked for traditional gender role and 25.7 average in numeric and 26.2 average in verbal are obtained. 350 people in numeric sections and 396 people in verbal sections were asked for egalitarian gender role and 33.6 average in numeric and 33.4 average in verbal are obtained. It is observed that all averages are close to each other for Gender Roles.

**Table 8:Definitive Statistics Realized for Gender**

| Gender | | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Egalitarian Gender Role | female | 35.1610 | 4.91601 | 441 |
| | male | 31.2754 | 5.83289 | 305 |
| | Total | 33.5724 | 5.64005 | 746 |
| Female Gender Role | female | 28.3129 | 6.31355 | 441 |
| | male | 22.8852 | 6.55869 | 305 |
| | Total | 26.0938 | 6.94440 | 746 |
| Gender Role in Marriage | female | 35.8163 | 4.33383 | 441 |
| | male | 30.2623 | 6.14598 | 305 |
| | Total | 33.5456 | 5.82853 | 746 |
| Traditional Gender Role | female | 28.4626 | 6.23583 | 441 |
| | male | 22.3672 | 6.25575 | 305 |
| | Total | 25.9705 | 6.92291 | 746 |
| Male Gender Role | female | 24.0068 | 4.26428 | 441 |
| | male | 20.7869 | 5.28253 | 305 |
| | Total | 22.6903 | 4.96342 | 746 |

A sample group with 746 people is created for all Gender Roles. This group consists of 441 women and 305 men. For egalitarian gender role, the average for women is 35.16 (sd=4,9) and for men is 31.3 (sd=5,8). In female gender role, the average for women is 28.31 (sd=6,3) and for men is 22.88 (sd=6,55). For gender role in marriage, the average for women is 35.81 (sd=4,33) and for men is 30.26 (sd=6,14). For traditional gender role, the average for women is 28.46 (sd=6,12) and for men is 22.36 (sd=6,25). Lastly, for male gender role, the average for women is 24.00 (sd=4,26) and for men is 20.78 (sd=5,28).
It is observed that in all Gender Roles, female average values are higher than male average values and they are in compatible with each other in terms of standard deviations.

## CONCLUSION / DISCUSSION / SUGGESTION

This study is divided into 3 geographical regions visually in Turkey as Eastern Region, Central Region and Western Region and the social gender roles in this regions are considered.

It is seen that female gender role, gender role in marriage and traditional gender role are significant statistically according to the regions. In the next stage, paired comparisons in each variation are realized to understand which regions have difference, homogeneous groups are created by using Tukey HSD test. In this case, regional differences for female gender role are listed as such: Western Region, Central Region and Eastern Region. Regional differences for gender role in marriage are as such: Western Region, Central Region. In this sorting, Eastern Region is not significant. If there was a significant differentiation, Eastern Region would be at the second place. Traditional gender role is the same with gender role in marriage. There is no significant difference between regions in egalitarian gender role and male gender role.

It is seen that statistical MANOVA results are significant according to the Gender Roles. It is seen that women have a more significant average compared to men in all variances. Significant differences are acquired according to the gender in all variances in the results of multivariate analysis of variance. It is seen that women have a more significant average compared to men in all variances. Even though men seem like they have more average, women having more average has disproved many thesis. It shows that even though women seem like they are at the background in Turkish society, this situation has actually changed and women play a dominant role now. Nirun (1994) analyzed the gender roles in Turkish society within the historical process in a study in three main titles which are pre-Islamic era, post-Islamic era and Turkey in the Republic Period. First of all, Nirun stated that social lives, approaches towards family, men and women significantly differs compared to the other times in pre-Islamic era. It is explained that social gender discrimination aimed at women almost does not exist in Turkish society in the pre-Islamic era. "Women and men are equal. Women even have an authority in the administration of the country together with the Khan. Women manage the house (Nirun, 1994: 23, 24). It is

  

possible to say that Turkey has undergone a positive change in this regard as a society. Based on Bingöl (2014) study; "In today's Turkey, women experience an inequality in many different areas in terms of men and the society in general because of the determination of social gender. Women are exposed to this inequality especially because of the lack of education and socialization in accordance with their gender. All inequalities women face in social life include other variables and they are based on a single-based 'social gender discrimination/femininity phenomenon" (Bingöl, 2014, p.112). It is seen that this field can be changed through education, therefore studies in this regard should be focused on. Women especially should be supported in public spheres so that they can reach places that they deserve. In actuality, there are nice variances. It is seen that women play an active role in Turkish council and other public spheres. It is important to give them support and increase the scientific studies in this regard.

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# REVIEW OF THE TURKISH TRANSLATION OF MARIAMA BA'S ''UNE SI LONGUE LETTRE'' WITHIN THE FRAME OF THE TARGET-ORIENTED THEORY

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**ABSTRACT**
In this study, Turkish translation of the text "Une Si Longue Lettre" is reviewed. Mariama Ba's work, "Une Si Longue Lettre" was translated as "Uzun bir Mektup" by Nagihan Haliloğlu into Turkish in 2010. In the study, various sentences were selected randomly and examined by dealing with preliminary norms, operational norms, the language used in translation and sentence structures. Gideon Toury's Target Oriented Theory is also addressed in this study in terms of "adequacy" and "acceptability". Also, translation strategies, which constitute the roadmap used by the translator frequency in the translation process, are also discussed. The findings show that translation strategies that are mostly used by the translator in translation process are free, reduction and addition.
**Keywords**: Translation, Translator, Translation Strategies, Toury, Mariama Ba

## INTRODUCTION

Today, information and information strategies are developing with an amazing speed. This information race is also an indicator of political, financial and intellectual power of societies (Suçin, 2007:15). One of the most important ways of knowing a foreign language, country and culture is undoubtedly the translation. Translation plays a great role in intercultural, intersocietal and interpersonal communication and thus makes it possible to closely follow the developments in various countries and know authors of foreign countries and their works (Yalçın: 2008).
Translation has had an important place in the interaction of values of societies, especially communication. In translation, what is important is that what is given in the source text makes the same impact and has a suitable equivalence in the target text. Such equivalence is possible with the use of proper translation strategies and equivalency.

Translation is defined in many ways. Translation is a way that is built by translator and enables societies to share their knowledge with each other and as defined by Göktürk (1994:15) "translation is a common language beyond individual languages, the language of languages". Catford (1965) defines translation as the replacement of textual material in source language by equivalent textual material in target language, while Theodor Savory (1957) defines translation as an art and sees it as a means of breaking down communication barriers. Eric Jakobson (1958) and Peter Newmark (1981) consider translation as an art, while scientists like Nida (1964) defines it as a science (Köksal:2008).

In translation, the text or language that will be translated is called source text or source language and the text or language that will be translated to is called target text or target language. A good translation is absolutely necessary for a quality translation. The first condition of being a good translator is being able to correctly analyze the meaning in target language. In addition, a good translator needs to know dialectics of target language in order to translate the texts more accurately (Yazıcı, 2007). İlkhan (1994:17) thinks that for a translation to be considered successful the target text should be equivalent with target text in terms of structure, style, content and expression and consequently make the impact on its own reader in its own language as the impact that translation text makes on the reader of original text in source language. Thus, translator should draw a parallelism among what is known, besides having a very good command of both source language and target language. Accordingly, the duty of translator is not only to translate the terms of text or discourse but to translate the entire semantic structure, in other words the entire linguistic system, because languages are not only "the list of terms (Saussure,1985:159).

In this study, what we will take into account are the "adequacy" and "acceptability" norms in Gideon Toury's Target Oriented Theory. Toury, who developed this translation theory, mentions of two concepts. They are "adequacy" and "acceptability". In the concept of adequacy, he refers to staying loyal to the source text. In the concept of acceptability, he refers to the compliance with the principles and rules of target language. Translation works could give weight to one of these concepts and focus less on the other. In all cases, the main purpose is to

  

achieve equivalence. In translation criticism, the critic should find out which of the two concepts that the translator gives weight to, and establish whether the translation is adequate or acceptable (Yalçın, 2003b:36-37). Toury, who places the translation right in the middle of these two poles, states that no text can achieve "adequacy" or "acceptability" because translation will always offer styles and information that will be alien to the system it is incorporated into and translation cannot be produced completely "adequately" with the original text since cultural rules of target language and culture will cause deviations in the structures of source text (Aksoy, 2002:46-47).

In this process, translator will have certain methods and translation strategies he or she will follow in order to transfer the meaning in source language to target language in the best possible way. Thanks to these strategies, a successful translation product with semantic equivalence will be created.

**METHOD**

In this study, source text and its translation will be examined. Firstly we will examine external properties of the text and then select random sentences from the source text and look into their translation in the target text. These sentences will also be reviewed in the context of translation strategies and Gideon Toury's target oriented translation theory. Translation examples will also be shown at times. In the conclusion section, similarities and differences between source text and target text will be discussed.

General Information on "Une Si Longue Lettre"

" Une Si Longue Lettre", the famous work of Senegalese author, was published in 2000. It is a novel that tells with longing and pain narrated by Ramatoulaye, a recently widowed Senegalese female teacher. This letter, which she wrote to her old friend Aissatou, is the record of an emotional fight she has to stay strong after her husband decides to marry a second wife. What her husband does is also abusing Ramatoulaye's trust in a planned way and rejecting the life they have shared. This novel witnesses the difficult situation that women who can freely express their thoughts experience in a society where the place they deserve is denied (the introduction text on back cover of the book).

**ABBREVIATIONS**

ST: Source text

TT: Target text

**FINDINGS**

**Preliminary Norms**

Back cover of the source book in question has an image of hand that writes a letter, while the translated book has the image of continent of Africa on the top right, two birds next to it and charcoal drawings of people below. Also, source text does not have any statement other than the title of book and author's name, while target text contains the phrase "Life Story of a Widow in Africa". The inner cover of source text has no statement, while target text contains the background of author. Both texts contain dedications. Back cover of the source text contains very brief information about the author and her work, while the back cover of the target text has the summary of book with a small photograph of author. The work is titled "Une Si Longue Lettre" in the source text, while it is named as "Uzun bir Mektup" in the target text. The adjective "si" in the source text is not used in the target text. Translating it as "Uzunca bir Mektup" would give a meaning that is closer to target text.

**Operational Norms**

The source text has 131 pages and 27 chapters. However, target text has 80 pages but the number of chapters is the same. When the textual chapters are examined, the chapter 1 consists of 13 paragraphs in the source text and 14 paragraphs in the target text. In the following table, we will examine the numbers of chapters and paragraphs in source and target texts.

| | ST | TT |
|---|---|---|
| 1) chapters with the same number of paragraphs | 2.,3.,4.,5.,7.,9.,10.,<br>15.,17.,32.,22. | 2.,3.,4.,5.,7.,9.,10.,<br>15.,17.,22. |

  

| | | |
|---|---|---|
| 1) chapters with different number of paragraphs | 1.,6.,8.,11.,12.,13.,14.,<br>16.,18.,19.,20.,21.,23.,<br>24.,25.,26.,27. | 1.,6.,8.,11.,12.,13.,14.,<br>16.,18.,19.,20.,21.,23.,<br>24.,25.,26.,27. |
| 3) number of paragraphs in chapter 8 | 19 | 16 |
| 4) number of paragraphs in chapter 16 | 27 | 29 |
| 5) number of paragraphs in chapter 24 | 45 | 40 |

**ANALYSIS OF THE WORK " UNE SI LONGUE LETTRE"**

This section will discuss what kind of equivalence exists between source text and target text in terms of many aspects such their sentence structures, paragraph orders, elliptical expressions, redundant information and inverted sentences and offer recommended translations at times.

When source and target texts are examined, there are sentences that are correct translations but are elliptical and irregular in terms of meaning and sentence structure, has redundant information and are not similar to each other.

*ST: starts with '' Aïssatou '' (p.7)*

*TT: '' Dear Aissatou '' (p.5)*

On the first page of source text, the author addresses to her friend with her name, but the form of address "dear" is added in target text by using the addition strategy. It is a good example for redundant information.

*ST: La petite Nabouentra, par messoins, à l'école française. (p.47)*

*TT: With my help, young Nabou was admitted into the French school. (p.29).*

The active voice in source text is translated as passive voice in target text. The alteration strategy is used. The sentence could have been translated as "*With my help, young Nabou enrolled in the French school*".

*ST: Elle raisonnait cette enfant.....Elle avaitdespoints de vuesurtout. (p.108)*

*TT: That child always rationalizes issues... She has always her ideas about everything. (p.68)*

In the foregoing sentence, the translator used the addition strategy, inverted the sentence and translated very differently from the source text. Also, our native language does not have an idiom like "*mantığa vurmak*". The idiom "*mantığa dayandırmak*" could have been used but there is already nothing that requires the use of this idiom in terms of adequacy. In the second sentence in source text, the free translation strategy was used. We could argue that target text is far from adequacy and acceptability.

*ST: Espiègle, je luidésignaislestroislits de son logis. (p.68)*

*TT: Mischievously, I pointed out to him the three beds in his room.*

The example sentence above is also translated using the free translation. 'Espiègle' means impish, mischievous. The target text seems far from acceptability.

*ST: Elle était déjà morteintèrieurement ...depuis ses épousailles avec Modou. (p.103)*

  

*TT: His soul was already dead, since he was married to Modou. (p.65)*

The elliptical sentence was translated in two sentences. The phrase "evleneli beri" was translated using the historicization strategy at the word level. The phrase "evlendiğinden beri" could have been a more proper expression instead of that.

*ST: Sont soigneusement mis dans un panierneuf, Les sept mètres de percale blanche, seul vêtement autorisé à un mort musulman. (p.10)*

*TT: They carefully put in a new basket the seven-meter white sheet, the only clothing that is authorized by Islam for the deaths (p.7).*

The inverted sentence in source text was translated as a regular sentence in target text. The phrase "white sheet" could have been subjected to domestication and transferred as "cerecloth". It could be argued that the translation is far from acceptability but close to adequacy.

*ST: Tranches de ma vie jaillies inopinément de ma pensée, versets grandioses du Coran, paroles nobles consolatrices se disputent mon attention. (p.9)*

*TT: Views from my life unexpectedly emerge in my memory. Verses of the Koran, the main words of consolation, are racing with each other to pay attention to them (s.7).*

In the foregoing sentence, the connected sentence in source text was translated in two separate sentences with a full stop in target text. In the target text, "Kuran" was translated using cultural borrowing, domestication strategy. The translation in target text does not give the same effect as in the source text.

*ST: Cette situation d'extrême tension aiguise ma souffrance et persiste jusqu'au lendemain, jour de l'enterrement. (p.10)*

*TT: This excessive tension increases my pain and lasts until the next day. The day of burial (p.7)*

The phrase 'jour de l'enterrement' in the source text is a parenthetical sentence and statement and a single sentence connected to other sentence, while the translator interpreted it in two sentences as "*The day of burial*". It could have been translated as "*This excessive tension increases my pain and lasts until the next day, which is the day of burial* ". This translation is far from acceptability.

*ST: Après son certificat d'études et quelques années au lycée, la grandeNabouconseilla á sanièce de passer le concours d'éntrée á l'Ecoledes Sages Femmed'Etat. (p.47)*

*TT: When she received the primary school diploma, the old Nabouyegenine advised her to take midwifery school exams (p.29)*

In the sentence above, the translator did not even mention some sentences in his translation. The translator used the reduction strategy. Translation of the word 'Après' was not made but it was translated as the adverb '–ınca'. We could argue that it is far from adequacy and acceptability.

*ST: Le même parcours nous a conduites de l'adolescence á la maturitéoù le passéféconde le present. (p.7)*

*TT: We took the same paths from puberty to adulthood, from where the past gives birth to present (p.6)*

Here, the translator used the alteration strategy. It is thought that a translation like "*The same path took use from puberty to adulthood where past gives birth to present''* could have been closer to the meaning in the source text.

*ST: Après s'être lavé les mains dans l'eau d'unebassineplacée á l'entrée de la maison, les hommes revenusducimetière, défilentdevant la famillegroupéeautour de nous, lesveuves. (p.12)*

  

*TT: After washing hands in a bowl at the entrance of house, the men, who are coming back from the graveyard, are passing the family around us, widows, one by one (p.8)*

In the foregoing sentence, reductions were made from the source text using the reduction strategy. It could have been translated as "The men who are coming back from the graveyard are passing in front of the family gathered around us, the widows, after washing their hands in a bowl at the entrance of house".

*ST: Le '' Zem-Zem'', eaumiraculeusevenue des Lieux Saints de l'Islam, pieusement conservée dans chaquefamille, n'est pas oublié. (p.10)*

*TT: The Zamzam water, which is brought from holy destinations of Islam and kept religiously in the house by all families, is not forgotten (p.7)*

Parenthetical sentences in the source text were interpreted with the conjunction "ve" in target text and reductions were made in the target text. It could have been translated with a more proper Turkish as "The miraculous water, Zamzam, which is kept in the house of all religious families and brought from holy destinations of Islam, is not forgotten".

*ST: Un beaujour, TanteNabouconvoquaMawdo et lui dit : '' Monfrère Farba t'a donné la petiteNaboucommefemmepour me remercier de la façondignedont je l'aiélevée. (p.48)*

*TT: On a beautiful day, aunt Nabou called Mawdo and said: "My sister Farba gave you young Nabou so that she would be your wife. Thank me for raising her good like that" (p.30)*

The regular, compound sentence in source sentence in the source text was divided into two separate sentences in the target text. The alteration strategy is used. We could argue that the translation is far from adequacy and acceptability.

*ST:* Tu me diras: la vien'est pas lisse. On y bute sur desaspèrites. Je saisaussi: nulmarriagen'estlisse. (p.81)

*TT: You could tell me the way of life is not smooth and its sharp edges injure you. I know that marriage is not smooth as well (p.51)*

The foregoing sentence in the source text does not give the same meaning as in target text. The translator used free translation and reduction strategies. We could argue that the translation is far from adequacy and acceptability.

*ST: L'odeur du savon m'enveloppe. (p.93)*

*TT: The smell of soap around me. (p.58)*

The translator interpreted the verb clause in source text as a noun clause in target text. The translator made a free translation through alteration. It could have been translated as a verb clause like "The smell of soap is wrapping me".

*ST: Sous mes pagnes noirs, le battement monoton de mon coeur. (p.126)*

*TT: Under my black cloths, my heart beats monotonously. (p.78)*

The foregoing noun clause in source text was translated as a verb clause in target text. However, it could have been translated as a noun clause like "under my black cloths, monotonous beat of my heart".

*ST: Il a le privilège de m'apporter toutes tes lettres.*

*TT: She has the privilege to bring me your letters.*

  

In this sentence, we see that the adjective "toutes" is not used in target text and reduction strategy was utilized. It could have been translated as *"She has the privilege to bring me all your letters"*.

*ST: ...A l'écriture soignée qui te reflète ? (p.104)*

*TT: Is it because of your typical, beautiful handwriting*? *(p.65)*

In this sentence, the translator used the addition strategy with the word "typical". It could have been translated as "Is it because of your beautiful handwriting which reflects you?".

*ST: ... L'onadmire le boubou de savoisine… (p.14)*

*TT: ... They are admiringly looking at the boubou of their neighbors. (p.10)*

In the foregoing sentence, the translator used the word "boubou" exactly the same and applied foreignization strategy. The translator adopted a free translation strategy. We could argue that the translation is far from adequacy.

*ST: Les '' Siguil ndigalé[1] '' se succèdent… (p.12)*

*TT: ... touching Siguilndigales[1] are received one by one… (p.9)*

1. *formule de condoléancesquicontient un souhait de redressement moral.*
1. *special condolences expressed to give moral support*

In the footnote explanations, the translator clarified them with the strategy of expanding cultural difference and made them understood that way. Also, the translator used the foreignization strategy as well. We could argue that it is close to adequacy and acceptability.

**CONCLUSION**

We examined the Nagihan Haliloğlu's Turkish translation of the work 'Une Si Longue Lettre' written by Mariama Ba. We also tried to cover preliminary norms and operational norms in this study. We see that there are naturally differences in translation into Turkish in terms of meaning and sentence structure.

In Turkish translation of the work, it is not that close to the source text. We clearly observe these differences between source text and target text when we look at the points mentioned regarding the preliminary norms and operational norms. When source and target texts are compared in terms of format, the translator did not remain loyal to source text. In this aspect, it is far from the adequacy form according to Gideon Toury's Target Oriented Theory. Also, it is possible to see expressions that are not suitable with Turkish and thus the target text is far from the "acceptability" norm in this aspect as well. However, translation of certain parts in the work is successful.

Free, reduction and addition strategies are used more in translations that are reviewed under a theory. Ourstudy does not attempt to find a wrong translation. Our purpose is to show to what extent the source text and target text share similarities. We also aim to contribute to similar studies that are conducted in this field.

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# REVISITING L2 READING COMPREHENSION WITH HIGH AND LOW PROFICIENT ENGLISH LANGUAGE LEARNERS IN A MULTIMEDIA SETTING

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**ABSTRACT**
This article reports on an experimental study that investigated the role of language proficiency on second language reading comprehension and retention, comparing EFL intermediate learners (N=37) to advanced (N=43) at a university in Istanbul. All learners were exposed to three hypermedia text types in English: animation with narration (AN), animation with narration and on-screen text (ANT), and animation with sequential narration and on-screen text (A-NT). Their performance was measured by retention and transfer test. The results first showed that advanced learners outperformed intermediate learners on both tests given after A-NT, AN, and ANT presentations, respectively. Next, although both groups performed the worst in ANT text type, the advanced still scored better than the intermediate. In addition, as well as favouring the test data, interview results explored that whether the narrator in multimedia presentations is native or non-native speaker serves a major role in helping learners process the information in working memory, thereby showing language proficiency is not a single factor that paves way for better reading comprehension in L2. A series of implications are given and suggestions made for English language teachers and multimedia researchers.

## INTRODUCTION

Second language reading, a multi-faceted and multi-lingual construct, has received a lot of attention in recent years, specifically bringing new insights to discussion on to what extent reading performance and second language development are both interdependent. 32 golden years have passed since Charles J. Alderson (1984) published his seminal article, posing with a celebrated question "Is second language reading a language problem or a reading problem?" which has prompted a number of studies to seek out the answer of whether poor reading in a foreign language is because of poor reading ability in the first language or because of insufficient linguistic knowledge in the second language.

A number of studies found that learners transfer their reading abilities in L1 while interpreting and producing various aspects of their L2 such as phonology (e.g., Hancin-Bhatt & Bhatt, 1997), morphosyntax (e.g., Hakuta, 1976; Hancin-Bhatt & Nagy, 1994), metalinguistic awareness (e.g., Durgunoglu, Nagy & Hancin, 1993; Koda, 1998, 1999), pragmatics (e.g., Rutherford, 1983; Yanco, 1985), and communicative strategies (e.g., Cohen, Olshtain, & Rosenstein, 1986; Olshtain, 1983; Scarcella, 1983). All these studies argued that once developed, reading abilities in one language can be transferred to another, finding great support from Goodman's (1973) definition of reading as "psycholinguistic guessing game" in which learners based on what they read in their L1 firstly create hypotheses immediately before reading in L2 and then either confirm or disconfirm their predictions while reading. Additionally, Cummins, (1979, 1984, 1991) proposed his "developmental interdependence hypothesis", arguing that learners' prior reading ability in L1 determines the forms and levels of their competence in L2, in the absence of which while "learning to read" is attainable, "reading to learn" is formidable (Koda, 2005). Especially bilingual studies (e.g., Cummins, 1979, 1991; Cummins & Mulcahy, 1978; Legarreta, 1979; Troike, 1978) found significant relationship between L1 and L2 reading abilities, exploring that the older students with greater L1 literacy experience, the better for developing L2 reading competence.

However, most empirical studies (e.g., Bernhardt & Kamil, 1995; Bossers, 1991; Carrell, 1991) gave much more importance to the role of linguistic knowledge in L2 than that of reading ability in L1, pointing out that inadequate linguistic knowledge is the leading factor that causes poor reading performance in L2. For instance, Yorio (1971) had claimed that "guessing or predicting ability necessary to pick up the correct cues is hindered by the imperfect knowledge of the language." (p. 108) Clarke (1980) put forward "short-circuit hypothesis", claiming that "limited control over the language "short-circuits" the good reader's system causing him/her to revert to poor reader strategies when confronted with a difficult or confusing task in the second language" (1988, p. 120). Specifically, Bernhardt (2005) stated that on second language reading comprehension while the level of L2 linguistic knowledge is 30%, L1 literacy is 20% and the role of unexplained variance is 50% (such as engagement, content and domain knowledge, interest, motivation etc.). Much more recently, Bilikozen and Akyel (2014) conducted research on advanced and intermediate EFL learners to measure any relative contribution of individual-differences (such as prior knowledge, topic interest, linguistic proficiency, gender,

  

reading motivation, and metacognitive awareness) to EFL reading comprehension and found out that linguistic proficiency itself explained 39 % of the variability.

As to the role of language proficiency in L2 reading comprehension, this study therefore specifically set out to investigate the role of language proficiency on L2 second language reading retention and comprehension. However, with regard to the instructional treatments, contrary to traditional pen and paper reading text types, the study exposed the participants to texts prepared according to rationale of multimedia theory of learning. The following section provides some information about multimedia learning briefly giving reference to the literature.

**PREVIOUS RESEARCH ON MULTIMEDIA PRESENTATIONS**

Two conspicuous theories are addressed in the literature related to multimedia learning: cognitive load theory (e.g., Paas, Renkl, & Sweller, 2003; Sweller, 1999; Sweller, van Merrienboer, & Paas, 1998) and cognitive theory of multimedia learning (e.g., Mayer, 2001, 2005), explaining cognitive processing and mental representations in working memory. While cognitive load theory argues three separate but additive sources of cognitive load in memory i) germane load, ii) extraneous load, and iii) intrinsic load, cognitive theory of multimedia learning explains learning process considering three assumptions i) dual-channel (e.g., Clark & Paivio, 1991; Paivio, 1986), ii) limited capacity (e.g., Baddeley, 1992; Chandler & Sweller, 1991), and iii) generative learning.

According to both theories, when learners listen to a text by getting help from an animation, they are more likely to comprehend the text because both animation and narration (AN) does not lead to cognitive load in working memory. However, when the text is narrated, animated, and written on the screen (ANT), then the likelihood of lack of comprehension will increase as both on screen text and narration lead to verbal redundancy. In order to make animated narration "more concise and coherent" (Mayer & Moreno, 2003, p. 48) and to free working memory capacity (Diao & Sweller, 2007), one of the components (e.g., on-screen text) should be either weeded like AN presentation or presented sequentially like A-NT presentation.

Some studies found out that redundant material such as on-screen text has detrimental effect on retention and comprehension (Craig, Gholson, & Driscoll, 2002; Diao & Sweller, 2007; Jamet & Bohec, 2007; Kalyuga, Chandler, & Sweller, 1998, 1999; Leahy, Chandler, & Sweller, 2003, Experiment 2; Mayer, Heiser, & Lonn, 2001). Kalyuga et al. (1998, 1999) therefore argued that elimination, not inclusion, of the redundant material leads to better performance and thus more meaningful learning. Similarly, Mayer et al. (2001) compared students receiving AN to those receiving ANT, and found that on-screen text in ANT presentation led to overload in working memory, thus causing less retention and comprehension. Craig et al. (2002, Exp. 2) likewise explored redundancy effect between two groups of students, receiving either an agent-spoken only presentation or an agent spoken-plus-printed presentation. It was found that the printed text and the picture caused to poor processing and representation in visual working memory; thus inducing split attention.

Diao and Sweller (2007) also found redundancy effect, exposing learners either to reading-plus-listening presentation or to reading only presentation. The results showed that learners who read and listened simultaneously had heavier mental load, and therefore they were not able to perform as well as those who read only. Gorsuch and Taguchi (2010) investigated the effects of repeated reading on second language reading comprehension, and asking learners to read each text five times and to listen to it. Learners, however, listened to the text sequentially after first time reading session, which provided less cognitive load in their working memory but more comprehension and fluency. Put simply, providing identically analogous information by involving two different learning channels, to cognitive theory of multimedia learning, is most likely to enhance meaningful learning.

**THE STUDY**

This experimental study sought to find out any effect of language proficiency on second language text retention and comprehension, providing both intermediate and advanced learners manipulated text in three different types: i) animation and narration (AN), ii) simultaneous animation with narration and on-screen text (ANT), and iii) animation with sequential narration and on-screen text (A-NT).

The research questions which underpin the study reported in this article therefore were:

1. In which type of presentation do intermediate and advanced learners of English show better performance measured by retention and transfer test?
2. Is there a significant difference between intermediate and advanced learners of English when they are exposed to redundant (ANT) and non-redundant (AN) presentation?

  

3. What do the participants think about whether the narrator is native speaker or non-native speaker?

The hypotheses related to the research questions were as follows:

For first research question, both intermediate and advanced learners were predicted to remember more idea units and produce more creative solutions in A-NT than AN, and ANT presentations respectively (Moreno & Mayer, 2002, Exp. 2; Jamet & Bohec, 2007; Author 1, 2011). Sequential presentation of the on-screen text was hypothesized to facilitate cognitive processing and mental representations in working memory (Hypothesis 1).

For the second research question, given that limited language proficiency 'short-circuits' learners' processing strategies, causing them to use strategies that poor readers generally have, it was then hypothesized that advanced learners of English would outperform intermediate learners on both AN and ANT retention and transfer test irrespective of presentation type (Hypothesis 2).

With regard to their preferences in the third research question, both advanced and intermediate learners were predicted to listen to a text voiced from a native speaker because of "real" and "standard" or "correct" pronunciation (Hypothesis 3).

**Setting and participants**

The research was carried out at a preparatory school of an English-medium university in Istanbul, Turkey, where English was taught as a foreign language (EFL). At the time of the study, before entering the faculty of their choice, all learners had to take Michigan Proficiency and Placement Exam at the school, according to which they were either allowed to enter the faculty directly or were placed into different levels where they worked until they reached a satisfactory level of proficiency.

According to their proficiency level, 80 learners were recruited for the study; two intermediate classes (N=37) and two advanced (N=43). While in the intermediate group, 62% were female and 38% male, in advanced group, 54% female and 46% male. All participants were native Turkish speakers who had studied English at primary and secondary school for almost eight years before getting into university.

**Materials**

**Pre-Instructional materials**

Before the study started, learners were first given a letter asking their consent to participate and to the results of the study being used for research purposes and possible publication. All were happy to sign and to participate. Second, to measure learners' level of knowledge on the instructional topics such as water cycle, earthquakes and photosynthesis and to leave out those who might have better domain knowledge related to the topics, they were given a prior knowledge test, a five-point Likert scale, but no one was removed on the grounds that all the participants had already insufficient topic knowledge related to the texts.

**Instructional materials**

Three different types of Power Point slides were given to the learners as used in the previous research (Author 1, 2011). First, the process of how water cycles was animated and narrated (AN); it consisted of seven slides, taking a total of 44 seconds. Then, the process of how earthquakes happen was simultaneously animated and narrated with on-screen text (ANT), a ten-slide presentation completed in 117 seconds. Finally, the process of how photosynthesis occurs was first animated and then sequentially narrated via on-screen text (A-NT), nine slides completed in 160 seconds. The slides advanced automatically. Both advanced and intermediate learners were exposed to the three types of presentations: AN, ANT, and A-NT, respectively. On-screen text was fully written under each slide in ANT and A-NT materials (see Appendix for the example). Learners could not replay the instructional slides and were required to complete both retention and transfer test immediately after each type of presentation.

**Assessment materials**

Upon completion of each type of presentation, learners immediately took a retention test, asking them to write freely what they remembered about the content of the presentation. This was followed by a transfer test, which aimed to measure learners' interpretation (comprehension) level of the target topic. The retention test lasted about five minutes; the transfer test about 10 minutes.

**Scoring**

On the retention test, as each of the topics presented to the learners consisted of six definite key idea units in common, one item-one-point procedure was used. One point was assigned for each correct idea; thus having no

  

partially-correct response and partially-correct credit. Spelling or grammar mistakes were completely ignored on condition that the key propositional idea was written. The highest score was therefore six for each topic. The transfer tests consisted of seven comprehension questions for each of the presentation types. One item-one-point procedure was similarly followed; thus the highest score was seven. Wording and grammar mistakes were ignored.

**Interviews**

After all texts were presented, focus-group interviews were conducted with randomly selected ten intermediate and ten advanced learners to elicit their opinions of whether they comprehended the text when the narrator is a native speaker or a non-native speaker, because while one of the texts (AN) was narrated by a native speaker, the other (A-NT) was narrated by a non-native speaker. Thus, they were asked such questions as:

1. Did you like the presentation types?
2. Which one did you like much?
3. Do you prefer a native speaker or non-native speaker`s voice?
4. How does it affect your comprehension when you receive a text narrated by a native speaker or by a non-native speaker?
5. Why?

The interviews were held by inviting small groups of three to five students to meet with researchers after class. Small group interviews were considered suitable for this study since the presence of peers might encourage participants to contribute and help them to remember things they might otherwise have forgotten (Dawson, 2009, chapter 3). The first question was both to warm up the interviewees and to ensure a basic understanding of the texts presented differently. Question 2 and 3 aimed to investigate the interviewees' personal opinions. Question 4 was designed to explore their preference as to when the text was narrated by native speaker or non-native speaker. Question 5 was to encourage the interviewees to elaborate on their preference. The interviews were recorded on a small portable recording device and notes were taken by the first author. After transcribed, the data were analysed to explore whether learners give importance to native speaker or to non-native speaker as narrator.

**RESULTS**

**Test Data**

The highest score was six on retention test; seven on transfer test. To find on which type of presentation the participants had highest performance, descriptive statistics were conducted for both retention and transfer test scores and displayed in Table 1 and 2. To explore any significant difference between intermediate and advanced students on non-redundant (AN) and redundant (ANT) retention and transfer test, independent sample *t*-tests were run for the analyses.

**Table 1:** Mean scores and standard deviations of intermediate students on retention and transfer test for three presentations

| | **Retention Test** | | **Transfer Test** | |
|---|---|---|---|---|
| **Intermediate** | **M** | **SD** | **M** | **SD** |
| A-NT | 2.50 | .51 | 2.67 | .61 |
| AN | 3.47 | .94 | 2.80 | 1.50 |
| ANT | 2.37 | .77 | 2.10 | .76 |

**Table 2:** Mean scores and standard deviations of advanced learners on retention and transfer test for three presentations

| | **Retention Test** | | **Transfer Test** | |
|---|---|---|---|---|
| **Advanced** | **M** | **SD** | **M** | **SD** |
| A-NT | 5.37 | 1.03 | 4.93 | .91 |
| AN | 4.20 | .98 | 4.17 | 1.29 |
| ANT | 3.23 | .68 | 3.43 | .50 |

RQ1: In which type of presentation do intermediate and advanced learners of English show better performance measured by retention and transfer test?

  

The mean scores of the retention test showed that advanced learners performed much better than intermediate learners on all types of presented text. Put another way, while advanced learners gained higher scores respectively on A-NT (M=5.37, SD=1.03), AN (M=4.20, SD=.98), and ANT (M=3.23, SD=.68), intermediate learners gained lower scores on AN (M=3.47, SD=.94), A-NT (M=2.50, SD=.51), and ANT (M=2.37, SD=.77). The mean scores of the transfer test likewise showed that advanced learners outperformed intermediate learners on each of the presentation materials. That is, advanced group produced many creative solutions when answering comprehension questions respectively on A-NT (M=4.93, SD=.91), AN (M=4.17, SD=1.29) and ANT (M=3.43, SD=.50).

RQ2: Is there a significant difference between intermediate and advanced learners of English when they are exposed to redundant ANT and non-redundant AN presentation?

The results showed a significant difference. First, independent sample *t*-test analysis was run for any difference on non-redundant AN retention and transfer test results, which showed that advanced learners (M=4.20, SD=.98) remembered significantly better than intermediate learners (M=3.47, SD=.94) on AN retention test, $t$ (78) =2.94, $p$=.005. The same analysis also revealed the superiority of advanced learners (M=4.17, SD=1.29) over the intermediate (M=2.80, SD=1.50) on the same AN transfer test, $t$ (78) =3.79, $p$=.000.

Next, to find out any difference between the groups on redundant simultaneously presented ANT retention, *t*-test analysis was conducted and according to the results it showed that advanced group (M=3.23, SD=.68) performed significantly better than the intermediate group (M=2.37, SD=.77) on the retention test, $t$ (78) =4.64, $p$=.000. On ANT transfer test, the same result was again found, advanced learners (M=3.43, SD=.50) outperforming the intermediate (M=2.10, SD=.76), $t$ (78) =8.01, $p$=.000.

**Focus Group Interview Data**

In addition to investigating any improvement of advanced and intermediate learners, this study also looked into the participants' opinion related to the role of English native speaker or non-native speaker narrator who voiced the texts (the third research question). Thus, interviewees were asked whether they comprehended the text much more when the text was narrated by native speaker than when it was narrated by non-native speaker. Almost all interviewees (N=17) whether advanced or intermediate stated that they liked all types of texts presented in different ways, but notably the one narrated with sequential animation and on-screen text (A-NT), and as for the reason arguing that they were not felt overloaded by the information in the video because they had enough time to read the text after some time when the animation was given. Specifically, five interviewees (3 advanced, 2 intermediate) stated for A-NT text type that:

*Interviewee 2: The animation given before the text on screen helped me to make some predictions about content of the text, and then either to confirm or disconfirm my hypotheses.*
*Interviewee 5: The animation gave me a visual picture on which when the text was written, it provided me to combine what I saw with what I read, and allowed me to recall more ideas related to the text.*
*Interviewee 8: The text written on-screen and simultaneous narration did not cause overload in my memory, because I felt already ready thanks to the earlier animation.*
*Interviewee 15: I was able to read and comprehend the text easily in A-NT text type because of the sufficient time I had after animation.*
*Interviewee 18: The text and narration would cause overload in my working memory when the text was not narrated by a non-native speaker.*

Upon those responses of the interviewees, especially after the response of the interviewee 18 attributing greater importance of listening to a non-native speaker, rather than native, as a narrator, the interviewees were asked why they preferred A-NT material over AN, and ANT respectively. All learners stated that they preferred a text narrated by a non-native speaker to the one narrated by a native speaker. When their opinions as for the main reason were further asked, in contrast to the common view, the interviewees (N=18) argued that it was much more comprehensible when the text was narrated by non-native speaker than when narrated by native speaker, which thus showed that sequential on screen A-NT presentation type is not the only factor that might influence better retention and comprehension. Whether a native speaker or non-native speaker narrates the text also plays an important role for better recall and comprehension irrespective of whether learners are advanced or intermediate. Interviewees stated specifically that

*Interviewee 4: I felt more relaxed when I heard a pronunciation similar to mine.*
*Interviewee 11: The narrator in A-NT sounded more like me; so I did not find him incomprehensible.*
*Interviewee 13: I could combine the text in A-NT easily with what the non-native speaker said, because he was easy and comprehensible to follow.*

  

*Interviewee 14: I was not in hurry when it was narrated by non-native speaker, but when it was narrated by a native speaker I felt uncomfortable and anxious.*
*Interviewee 17: Although I am at advanced level, what the native speaker as a narrator told in AN was unclear to me.*
*Interviewee 20: I found the native speaker in AN too difficult to understand because of his difficult accent.*

In conclusion, as for the test results showing both advanced and intermediate learners performed better on A-NT than ANT text type, the interviews found two main reasons: the role of sequentially presented on screen text as found in the literature (Moreno & Mayer, 2002, Exp. 2; Jamet & Bohec, 2007; Author 1, 2011) and non-native speaker as a narrator (Author 1, 2015)

**DISCUSSION & SUGGESTIONS**

This study investigated any role of language proficiency on second language text comprehension – manipulated text according to the rationale of multimedia theory of learning. First, the results showed that language proficiency is a significant factor that helped advanced learners in the study to outperform intermediate learners on the three types of texts. The only difference between the groups was that while advanced group performed the best on both tests after A-NT text presentation, the intermediate on AN text presentation. Having said this, it can be argued that the first hypothesis was partially confirmed, predicting that both groups would remember more idea units on retention tests and produce more solutions on transfer tests on A-NT, AN, and ANT text types, respectively. The performance difference between the groups still showed that redundancy effect remains for both levels of proficiency as they performed the worst on simultaneously presented ANT presentation.

The fact that the mean scores of the advanced were the highest on A-NT, according to research in the literature (e.g., Moreno & Mayer, 2002, Exp. 2), shows that the text does not create the redundancy effect on condition that it is sequentially provided after animation; instead, the text has beneficial effect for learners' better retention and comprehension. That is, detrimental effect of on-screen text (such as split attention) could be minimized when animation precedes the text. As with the result of this study, Moreno & Mayer (2002) found out that redundant text group (A-NT) performed much better than non-redundant without text group (AN) when the text was sequentially presented.

Adesope and Nesbit (2012) did a meta-analysis involving 57 studies to explore the effects of spoken-only, written-only, and spoken-written presentations on retention and transfer and it was likewise found that although the performance of the spoken-only group and the written-only group did not differ, learners who were exposed to spoken-written presentations gained better scores than those receiving the spoken-only presentation. However, this finding was dependent on learners' prior text knowledge, pacing of presentation, and inclusion of animation. Put simply, when reading a text, learners have many other components to overcome for better retention and transfer.

Yue, Bjork, and Bjork (2013) carried out two studies, in which they exposed learners to a redundant on screen text either having greater discrepancy with the animation or having lower discrepancy with the animation. They found that too much discrepancy is detrimental to learning and remembering; whereas slightly worded text is better for learning.

Similarly, in their recent research, McCrudden, Hushman, and Marley (2014) exposed their participants either to a redundant condition in which they read a scientific text while watching a corresponding visual display with redundant text segments or to a non-redundant condition in which the scientific text was given without text segments on the visual display. It was found that redundant text segments helped their participants to enhance their retention test scores significantly, which thus shows that when manipulated, the redundancy effect may not have detrimental effect on memory. All these results are consistent with the results of the present study, finding out that especially advanced learners performed much better on A-NT presentation than on AN and ANT text types on condition that the on-screen text was manipulated. It was however AN, A-NT, and ANT, respectively, for the intermediate learners, still showing that redundant text type ANT was the least performed.

The second hypothesis predicting that advanced learners would perform better than intermediate learners on both redundant ANT and non-redundant AN text types was confirmed, because advanced learners outperformed intermediate learners on both types of tests. This effect can be attributed to the role of language proficiency. That is, those highly proficient learners in the language were able to deal with animation and narration only (AN) to remember more idea units than those less proficient. This outcome partially confirms Clarke's (1980; 1988) "short-circuit" hypothesis, claiming that limited control over the language may preclude notably the intermediate

  

to process the data in the input and thus may cause them to revert to use the strategies that poor readers generally prefer.

However, on the other side of the same coin, it is easy to notice that the advanced group still performed their worst on animation and on-screen text (ANT) text type. The fact that having better control over the language or in other words being a highly proficient reader can provide advanced learners an advantage was not confirmed in this study, especially when redundant ANT was presented. This result showed that language proficiency is not the single factor per se that is likely to enhance or preclude comprehension; but rather it showed that there may be some other components such as split attention effect. Chandler and Sweller (1991) and Baddeley (1992) put forward "limited capacity assumption" suggesting that information processing channels have limited capacity at one time and argued that if one learning channel is overloaded, the split attention effect occurs. Furthermore, Ketabi, Ghavamnia, and Rezazadeh (2012) carried out research on cognitive strategies that Persian EFL graduate students used while reading a hypermedia text and found out that 'only 8% of the information-processing techniques' (p. 45) were related to annotations on the hypermedia text. It is most likely because of the simultaneous presentation of the redundant on-screen text, which caused the split attention effect. In addition to the split attention effect, second language reading researchers should consider Bernhardt's (2005) unexplained area (50%) for better reading comprehension (e.g., engagement, content and domain knowledge, interest, motivation etc.)

According to the results of the present study, the unexplained area that Bernhardt pointed out should also include "non-native speaker" as a narrator especially in hypermedia text comprehension; therefore, the third hypothesis was not confirmed. Contrary to common view, the participants in this study did not prefer a native speaker narrator. Learners stated that they comprehended the text when it was narrated by a non-native speaker. It corroborated the same result found in Author 1's (2015, p. 2847) study, similarly having revealed that when narrated by a non-native speaker, the learners felt "more relaxed" and more "intelligible" as it did not further cause hurdle on working memory capacity.

As a result, it can be argued that language proficiency in L2 is important, but it is not the only component that paves the way for better comprehension. There can be some other components to consider such as sequential presentation of the redundant on-screen text and native speaker as narrator.

Bearing these results in mind, both textbook writers and especially language teachers can restructure their classrooms. For instance,

- As redundant it seems, on-screen text can be manipulated if it is presented after animation.
- In addition to native speaker narrator, textbooks could include a non-native speaker to narrate the text.
- Linguistic knowledge should be increased for better retention but it is not enough because there is no certain linguistic threshold, which changes according to the task (Carver, 1990; 2000).
- Bernhardt's unexplained area necessary for better reading should be considered carefully. Learners' engagement, motivation, and interest should be enhanced.

## CONCLUSION

Exposing both advanced and intermediate EFL learners to three different types of text prepared considering the multimedia theory of learning, this study explored the role of language proficiency in L2 for better comprehension in second language reading. More important, it also found out that when manipulated, the on-screen text can help both groups of learners, irrespective of language proficiency, to learn better from multimedia presentations. Last but certainly not least, the study showed that it could be much better when English textbooks on the market give much more place for non-native speakers to narrate the texts as well as native speakers. To generalize the findings, more studies could be conducted on different types of learners using different types of texts.

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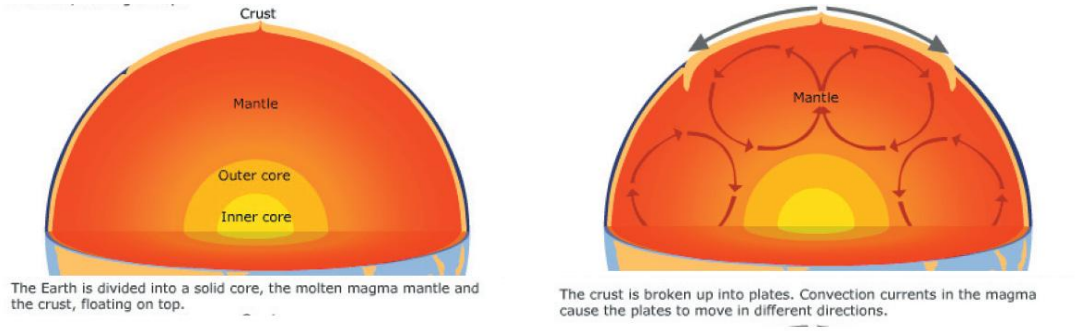
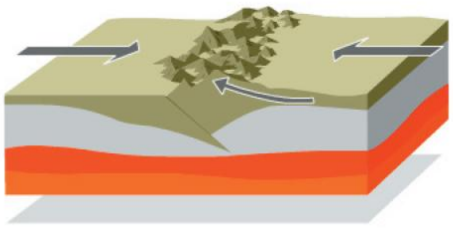
**APPENDIX**

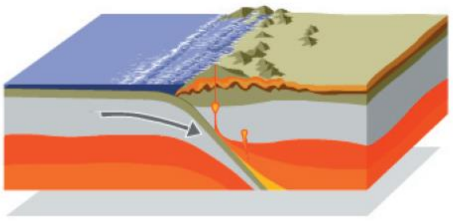
An example slide from animation with simultaneous narration and on-screen text (ANT)



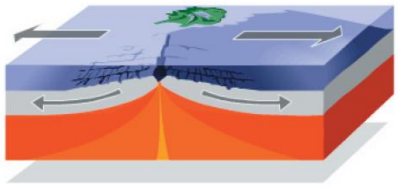

  



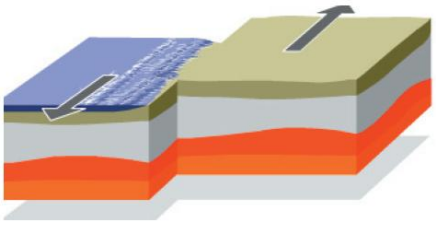
Where plates collide, rock layers are forced upwards creating mountains.



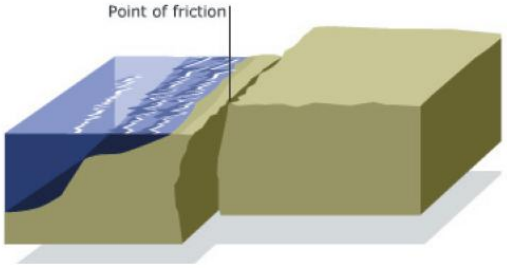
Where plates converge, one plate is drawn slowly beneath the other. This takes place over thousands of years.



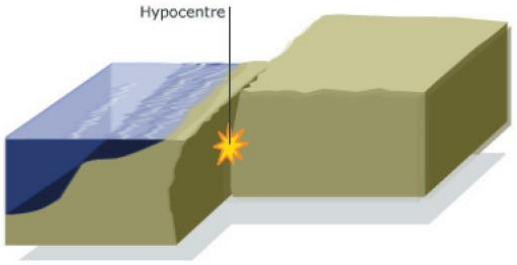
Where plates diverge, lava emerges from the mantle and cools to form new sections of crust. Diverging plate boundaries are often found underwater.



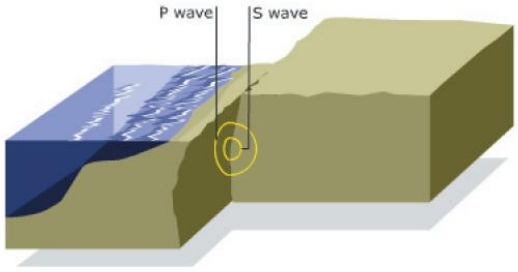
Other plates move very slowly alongside each other. Faults are found at the edges of the plates where the crust is moving in different directions.



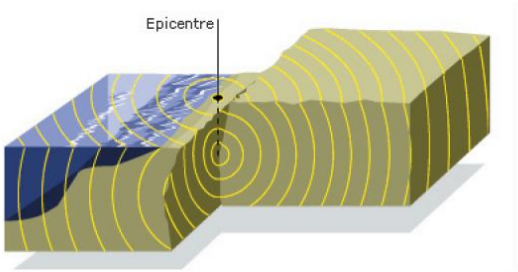

In some places the plates become locked together. Kinetic energy builds up in the locked plates.




When the plates give, the stored energy is released in the form of an earthquake. The point of the earthquake's origin beneath the surface is called the hypocentre.




An earthquake emits its power as three waves of energy. Primary, or P-waves are felt as a sudden jolt. Secondary, or S-waves waves arrive a few seconds later and are felt as a more sustained side-to-side shaking.




Surface waves radiate outwards from the epicentre - the point on the surface directly above the hypocentre - and arrive after the main P and S waves.

# ROBOTIC TEACHING OPPORTUNITIES IN THE HIGHER EDUCATION

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**ABSTRACT**
It is well known that robotic teachers have been already tested in South Korea and Japan. They were also being used for teaching children with special needs, especially with autism, in the USA. A lot of studies analyzed weather robots should help teaching in preschools and kindergarten classes. Children are enthusiastic about this matter. This research presents what high school students think about robot teachers. Their superior technological skills are being compared with the ability to feel, question, research and discuss. The results show a glance into a future of robotic teachers in the higher education.

**Key words**: robotic teachers, technological skills, discussing findings.

## INTRODUCTION

Back in time, among all professions, one of the most prestigious one, was – being a professor. Professors were smart, educated, intelligent and polite. Even more, prestigious and demanding was being a university professor. For centuries, this didn't change. Nowadays, technology entered in all pores of our lives. Slowly, it occupied all segments of our everyday activities. And, finally, it entered into a learning process. Professors can be humans. But, also, nowadays, they can be robots. Children are very happy having robots everywhere around them. They don't mind communicating with a robot, either in playground, or in school.
This research presents what college students think about robot teachers. Their superior technological skills are being compared with the ability to feel, question, research and discuss, through a survey. We tried here to perceive a future of robotic teaching in the higher education.

## ROBOTIC TEACHING AROUND THE WORLD

It is well known that robotic teachers have been already tested in South Korea and Japan (Jung, 2010). They were also being used for teaching children with special needs, especially with autism, in the USA. A lot of studies analysed weather robots should help teaching in preschools and kindergarten classes, and showed that children are mostly enthusiastic about this matter (Turkle, 2011).

In Japan, calligraphy robot teaches schoolchildren the art of "Shodo" writing.The brush itself is being held dead straight, just as an expert who has spent years learning the art of "shodo" — Japanese calligraphy — would do. The machine itself consists of multiple engines and a mechanical arm, which is attached to a brush. Its hard drive has been imputed with the skills of 90-year-old Juho Sado, a master calligrapher who taught the robot how to write a series of "Kanji" characters down. "Kanji" characters need the most imperceptible of wrist movements and brush strokes. The robot's complex sensors recorded everything, the stroke order, the brush angle, and the thickness of the line. It then relays those memories to students and gently corrects their hand movements if they go wrong. Professor Katsura who teaches children how to use the robot it the school, said: "The process of transmitting knowledge by hand is often requiring and long process of acquiring techniques, intuition and experience. With this robot, the process becomes faster and more efficient."
Nao, the robot teacher became newest edition to Kansas school's teaching staff. It has 58 cm in height, and is the first humanoid robot (SoftBank Robotics, 2016). Since July 2015, a new type of hotel has been opened, where NAO was selected to provide the reception services. He welcomed the guests and provided them with information in a variety of languages.

Universities have considered robot teachers a major recruiting tool, too (Turkle, 2015). The University of Tokyo purchased 30 Nao models, in an experiment to program the robots into active laboratory assistants. Professor Yoshihiko Nakamura said that Nao offered a natural platform for programmers to test their skills. "We will use this robot for several purposes, for movement studies, communication between men and robots," he said.

  

Furthermore, robots are used to teach English in South Korea (Jung, 2010). South Korean government has used a pilot program to test the effectiveness of robot teachers in elementary school classrooms -- and plans to expand the program to 18 schools by the end of the year. In high-tech South Korea, robots serve a variety of educational purposes and the government is pressing ahead with plans to expand its robot learning: "R-learning," program. According to National Geographic, the government hopes to see a robot in every household in the country by 2020. Robots inside the home can provide a variety of services such as completing household chores and entertaining children.

A human teacher outside the classroom, whose face appears on the screen, controls Telepresence robots remotely. Price tag, for this purpose is of around $21,000 to $70,000.
Robots are a cost-effective way to help teachers when relatively simple and repetitive training is required. "We do not intend to substitute real teachers with robots," the chair of the program said. "Rather it is important for us to develop robot systems that provide satisfiactable assistance to teachers." "Robots are very helpful to enhance the concentration capability of children in class."
For now, teachers don't have to be worried about being replaced in the classroom. "Due to the limitations on the current robotic technologies, robots cannot completely supplant human teachers in the educational field". And there are doubts about whether they will ever be capable of doing that.

Robotic technology is still developing and it'll be a long time, if ever, before robots are capable of leading a classroom on their own. "I don't think a robot will ever be better than a person. Teaching is probably the most challenging role for artificial intelligence", prof Balch said (Tucker Balch`s homepage, 2016).
Robots are effective in subjects like foreign language or in repetitive therapies used to treat developmental problems like autism. Most computer scientists reply that they have neither the intention, nor the ability, to replace human teachers.
"The problem with autonomous machines is that people are so unpredictable, especially children," said Corinna E. Lathan, chief executive of AnthroTronix (AnthroTronics, 2016). "It's impossible to anticipate everything that can happen."
Nevertheless, children are enthusiastic about this matter. Most of them find robot teachers very exciting.

## POSSIBILITIES OF IMPLEMENTING ROBOTIC TEACHING IN HIGHER EDUCATION IN SERBIA

This research presents what college students think about robotic teaching. Their superior technological skills are being compared with the ability to feel, question, research and discuss. The results can show a glance into a future of robotic teachers in the higher education.
We made the survey, held with 83 students, aged 21, at ICT College Belgrade, Serbia. They answered the following questions:

1. Could you communicate with a machine?
2. Do you believe into an automatic (robotic) evaluation of your knowledge?
3. Do you think that robotic teaching can be used more in teaching theoretical or practical skills?
4. Do you have any experience in communicating with a machine (robot)?
5. What do you think is the most common discrepancy in robotic teaching?
   (no live communication, no adequate answering questions, no quick reaction, or no pedagogical skills)

In the Figure 1, it can be seen that 57% of students never communicated with a machine.

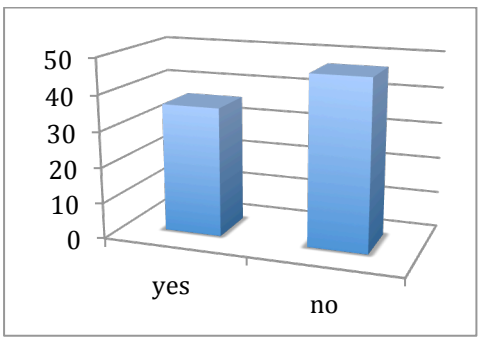


*Fig 1. Could you communicate with a machine?*

  

In the Figure 2, it can be seen that 64% of the students don't believe in an automatic (robotic) evaluation of knowledge.

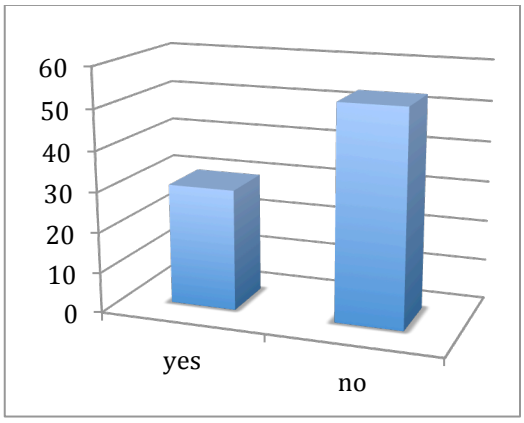


*Fig 2. Do you believe into a automatic (robotic) evaluation of your knowledge?*

In the Figure 3, it can be seen that 25% of the students think that robots can be used better in teaching theoretical skills, 20% of the students think that robots can be used better in teaching practical skills, and 55% students doubt their overall teaching skills.

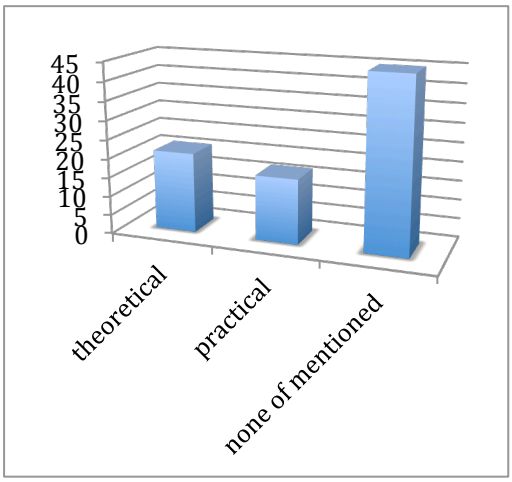


*Fig 3. Do you think that robotic teaching can be used more in teaching theoretical or practical skills?*

In the Figure 4, it can be seen that 65% of the students don't have any experience in communicating with a machine (robot).

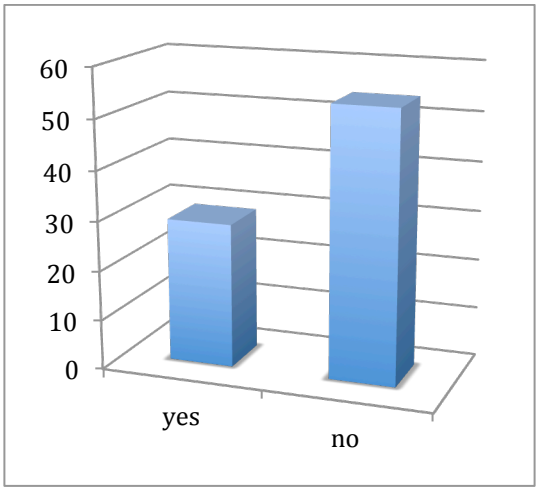


*Fig 4. Do you have any experience in communicating with a machine (robot)?*

  

In the Figure 5, it can be seen that, concerning the most common discrepancies of robotic teaching, most of students (50%) find that the main discrepancy is that they do not have pedagogical skills.

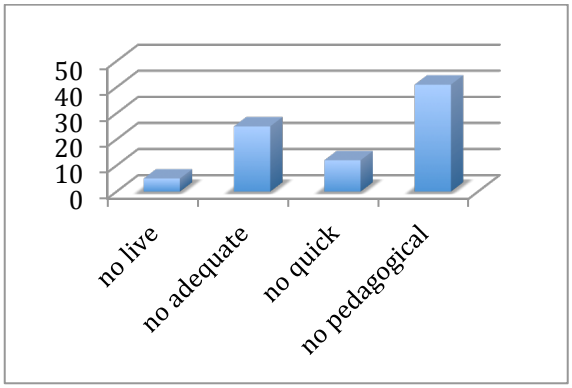


Fig 5. *What do you think is the most common discrepancy in robotic teaching?*

**CONCLUSION**

Despite world trends, that led to implementation of Robotic teaching, mostly in the field of small children learning, we share our doubt concerning university teaching.

Our survey showed that students in Serbia believe that robots don't have the right pedagogic skills, cannot answer complex questions, and cannot lead discussions. Students don't think robots could evaluate their knowledge in the right manner (64% of them don't believe in an automatic (robotic) evaluation of knowledge).

The superior technological skills have been compared and put on test by students, and lost the battle, compared with the ability to feel, question, research and discuss.

This survey shows that students in Serbia are not ready jet for adopting R-teaching, because they have strong doubts concerning the pedagogical skills and discussing ability that someone who is considered a "good professor" must have.

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# ROLE OF DATA AND GRAPH INTERPRETATION IN INQUIRY BASED PHYSICS LABORATORY

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**ABSTRACT**
In this study, inquiry teaching was used to overcome prospective elementary science teachers' misconceptions in Newtonian mechanics. Because students have difficulty in drawing a conclusion by themselves in inquiry teaching, some additional teaching techniques were used in one group so that students could draw the desired conclusions (scaffolded inquiry teaching). In the end of the treatments, students took a three-tier diagnostic test on mechanics to assess their misconceptions. Accordingly, there were no significant difference between mean misconception scores in mechanics ($t = -.311$; $p = .76$). However, prior to do treatments, a Science Process Skills Test had been administered and whether students with different levels of process skills are influenced in the same way by the treatments was also investigated using the Johnson-Neyman technique. Accordingly, any interactions could not be observed for the dimensions apart from the data and graph interpretation. In conclusion, scaffolded inquiry teaching seems to be more effective for students with high level of data and graph interpretation.

## INTRODUCTION

Helping students acquire high level of science understanding is one of the major goals of science education. However, achieving this goal is not so easy (Gallagher, 2007, p. 2). If someone can use and apply a science knowledge he or she holds, then he or she can be assumed to understand science (Gallagher, 2007, p. 13). That is, holding a knowledge does not necessarily mean understanding. In addition, students should be able to use it in problem solving. However, science understanding cannot be achieved particularly with the traditional instruction most of us experienced (Gallagher, 2007, p. 2). In addition to the difficulty in using a science knowledge in problem solving, students may have some knowledge which conflicts with scientific knowledge. This type of knowledge students hold is called as misconception (Hammer, 1996; Peşman & Eryılmaz, 2010). Therefore, another purpose of science education is to remediate misconceptions students have. However, traditional instruction seems to be insufficient for achieving this goal, either (Hake, 1998).

Providing students with the ability to use the science knowledge they have, that is, teaching science for understanding requires to help students acquire some skills beyond the knowledge. There are four dimensions of science a person should have in order to be scientifically literate (Gallagher, 2007, p. 14): (1) Conceptual knowledge of science – the body of knowledge that comprises science, (2) science processes – the mental tools that scientists use to carry out inquiry and create the concepts that make up the body of knowledge, (3) Applications of science – the ways in which science concepts and processes are used in the world of experienced, (4) Nature of science – the ways in which scientist work collectively in a professional milieu to generate, validate, and communicate scientific knowledge. The National Science Educational Standards proposes the use of inquiry teaching as an alternative to the traditional teaching in science classrooms for scientifically literate citizens (NRC, 2000). In order to solve a problem, scientists generate scientific knowledge to be used. Until the scientific knowledge is generated, scientists use some science process skills. In other words, science is a combination of knowledge and process. In inquiry teaching students are encouraged to behave like a scientist to construct knowledge (NRC, 2000, pp. 21-33). Accordingly, five essential features of classroom inquiry is suggested as well: (1) learner engages scientifically oriented questions, (2) learner gives priority to evidence in responding to questions, (3) learner formulate explanations from evidence, (4) learner connects explanations to scientific knowledge, and (5) learner communicates and justifies explanations. In case inquiry teaching is implemented properly, students not only learn scientific knowledge but also about how science processes are used to validate the science knowledge. However, students may draw different conclusions with the same data they have from their observations in inquiry teaching (Gallagher, 2007, p. 14). That is, fulfilling the fifth essential feature of inquiry teaching seem to be a little difficult. Students may draw different conclusions and they may not be the scientific explanations. Therefore, more guidance in that phase of inquiry teaching may be beneficial. As known, the distance between the actual developmental level which a person can reach individually and the potential development level which a person can reach under adult guidance or in collaboration with more

  

capable peers is called as the zone of proximal development (Vygotsky, 1978; as cited in Brown & Palincsar, 1989, pp. 409-413). Also, the instructional role assumed by an instructor in guidance is defined as scaffolding. In sum, use of scaffolding in the fifth phase of inquiry teaching (scaffolded inquiry) may provide students with the capability to reach desired scientific explanations (potential development level). The term scaffolded inquiry was used in some other research studies as well (e.g. Linn & Eylon, 2006; Linn, Husic, Slotta & Tinker, 2006; as cited in Slotta & Peters, 2008).

*Purpose of the Study*

The effect of scaffolded inquiry teaching with respect to inquiry teaching on prospective science teachers' misconceptions on mechanics was explored in this study. In addition, if students with different levels of science process skills benefit similarly from inquiry and scaffolded inquiry teaching was explored. In detail, if how students with a low level of science process skills are influenced by inquiry and scaffolded inquiry, and how students with a high level of science process skills are influenced by inquiry and scaffolded inquiry are similar or not was explored. In other words, if there is an interaction between preexisting science process skills and the treatments (inquiry versus scaffolded inquiry) was explored.

## METHOD

This study is an Aptitude Treatment Interaction (ATI) experimental research study (Koran & Koran, JR., 1984). In traditional experimental studies, effect of a new intervention with respect to a traditional intervention is explored using average scores of the groups. All the students in a group are assumed to be influenced by an intervention similarly. However, students in a group are different in nature. For example, their prior achievement, personality, motivation and attitude towards the lesson may be differing. Therefore, students with such different aptitudes may be influenced differently by different interventions. Exploration of such an interaction is called as ATI research.

In this study, there were two groups in mechanics laboratory. In one group, inquiry teaching was used. In the other group, scaffolded inquiry teaching was used. Students' misconceptions were assessed following the interventions. In addition, science process skills had been assessed prior to the interventions.

### *Population and Sample*

All the prospective elementary science teachers at Fırat University comprises the accessible population of the study. Freshman students who were taking mechanics laboratory in the 2015-2016 academic year was selected to draw the sample of the study. Therefore, the sampling technique was convenience cluster sampling (Fraenkel & Wallen, 1996, pp. 90-113). In total, there were 51 females and 14 males. Distribution of them among the groups is given in Table 1.

Table 1. Distribution of students among experimental and control groups

| Groups | Female | | Male | | Total | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Experimental | 24 | 72.7 | 9 | 27.3 | 33 | 100 |
| Control | 27 | 84.4 | 5 | 15.6 | 32 | 100 |
| Total | 51 | 78.5 | 14 | 21.5 | 65 | 100 |

Following the sample selection, every individual in the sample was randomly assigned to the experimental and control groups. Therefore, many threats to internal validity is assumed to be controlled by means of the random assignment.

### *Instruments*

*Force and Motion Three Tier Test*

This test which was developed by Turker (2005) was used to evaluate prospective science teachers' misconceptions and achievement on mechanics. While the researcher developed the test, mostly benefited from Force Concept Inventory (Hestenes, Wells, and Swackhamer, 1992) which is one of the most popular diagnostic instruments in physics education. It is consisted of 16 three-tier test items. The first tier is a traditional multiple choice question. The second tier consists of several choices which questioned the reason of the responses by students to the first tier. In the final tier, students are asked whether or not they are confident about their responses to the first two tiers. Thus, it may measure students' misconceptions in a more valid way. In this study, reliability coefficients for students' test scores and misconception scores were calculated respectively as 0.48 and 0.62.

*Science Process Skills Test*

  

Science process skills test (SPS) which was developed by Burns, Okey & Wise (1985) and adopted to Turkish by Özkan, Aşkar & Geban (1992) was used to determine level of prospective science teachers' science process skills. This test with 36 items assess the skills which scientists presents when they carry out science processes. The reliability coefficient of SPS was calculated as .60 in this study. Distribution of items in the test according to the science process skills are presented in Table 2.

Table 2. Distribution of items in the Science Process Skills Test according to the skills.

| Skills | Items |
|---|---|
| Identifying Variables | 1,3,13,14,15,18,19,20,30,31,32,36 |
| Operationally Defining | 2,7,22,23,26,33 |
| Stating Hypothesis | 4,6,8,12,16,17,27,29,35 |
| Data and Graph Interpretation | 5,9,11,25,28,34 |
| Designing Investigations | 10,21,24 |

***Data analysis***

In order to explore if or not the effect of scaffolded inquiry with respect to inquiry teaching on overcoming misconceptions about mechanics is dependent on science process skills of prospective science teachers, a technique known as Johnson-Neyman (Fraas & Newman, 1997) is utilized in this study. How the Johnson-Neyman technique is used is not in the scope of this study. It is explained in detail by the Fraas and Newman paper. However, there are briefly three main steps. First, if only there is a significant interaction between the teaching intervention (inquiry versus scaffolded inquiry) and aptitude (science process skills) is tested through multiple linear regression. Second, in case of a significant interaction, the intersection point in the scatterplot demonstrating the interaction is calculated. Finally, the regions in which the effects of interventions are significantly different are determined statistically.

***Procedure***

In experimental and control groups, small groups with four students were formed. In both groups, the inquiry teaching was utilized to teach the content. However, students in the experimental group were provided with scaffolding when they drew a conclusion based on their data they collected so that they could reach the desired outcome. In contrary, the students in control groups drew their conclusions without any scaffolding. That is minimum guidance was provided for them in that phase. The activities took an eight-week period. Prior to the activities small groups were given worksheets. In this worksheets, the small groups were encouraged to construct hypothesis, carry out an experiment for testing their hypothesis, analyze their data and draw a conclusion. The worksheets for experimental and control groups were almost the same apart from drawing a conclusion phase. In that phase of the experimental group students were provided with scaffolding techniques such as analogies, metaphors, questioning, and role playing. In addition, it is paid attention that the content was studied in the same period of time in both groups.

**FINDINGS**

As aforementioned, five dimensions of science process skills were assessed through SPS. The Johnson-Neyman technique was used separately for each of these skills. As explained in Fraas and Newman (1997), if there is a significant interaction between the independent variable and each of those skills was tested using multiple linear regression analyses (see Table 1).

Table 1. Multiple linear regression outputs for each science process skill

| **Regression Model Variables** | **Regression Coefficient** | **t-value** | **p value** |
|---|---|---|---|
| (Constant) | 8.147 | 5.541 | .000 |
| Identifying variables*approach | .071 | 1.283 | .204 |
| Identifying variables | -.028 | -.780 | .439 |
| Approach | -2.238 | -1.058 | .294 |
| $R^2$=.028 Adjusted $R^2$= -.020 | | | |
| Residual Sum of Squares= 658.138 | | | |

| **Regression Model Variables** | **Regression Coefficient** | **t-value** | **p value** |
|---|---|---|---|
| (Constant) | 7.443 | 4.988 | .000 |
| Operationally Defining*approach | .022 | .643 | .523 |
| Operationally Defining | -.007 | -.256 | .799 |
| Approach | -.846 | -.437 | .663 |
| $R^2$=.010 Adjusted $R^2$= -.038 | | | |
| Residual Sum of Squares= 670.032 | | | |

  

| Regression Model Variables | Regression Coefficient | t-value | p value |
|---|---|---|---|
| (Constant) | 8.895 | 3.324 | .002 |
| Stating Hypothesis*approach | .073 | 1.350 | .182 |
| Stating Hypothesis | -0.31 | -.690 | .493 |
| Approach | -3.963 | -1.231 | .223 |
| $R^2$=.041 Adjusted $R^2$= -.006 | | | |
| Residual Sum of Squares= 649.338 | | | |

| Regression Model Variables | Regression Coefficient | t-value | p value |
|---|---|---|---|
| (Constant) | 11.055 | 5.880 | .000 |
| Data and Graph Int.*approach | .100 | 2.252 | .028 |
| Data and Graph Int. | -0.68 | -2.206 | .031 |
| Approach | -5.627 | -2.057 | .044 |
| $R^2$=.089 Adjusted $R^2$=.044 | | | |
| Residual Sum of Squares= 616.545 | | | |

| Regression Model Variables | Regression Coefficient | t-value | p value |
|---|---|---|---|
| (Constant) | 8.581 | 3.832 | .000 |
| Designing Investigation*approach | .009 | .230 | .819 |
| Designing Investigation | -0.22 | -.689 | .494 |
| Approach | -.452 | -.159 | .874 |
| $R^2$=.013 Adjusted $R^2$= -.036 | | | |
| Residual Sum of Squares= 668.251 | | | |

Accordingly, the only interaction effect was observed for "data and graph interpretation" dimension. The scatterplot showing the interaction is given in Figure 1. As seen in the figure, misconception scores on mechanics is represented at y-axis. The higher the misconception score, the more misconceptions the prospective science teachers hold. At x-axis, data and graph interpretation skill prior to the interventions is presented. The straight line shows the relationship between the misconception scores and data and graph interpretation skills for the experimental group in which the scaffolded inquiry was implemented. The dashed line shows the relationship for the control group in which the inquiry teaching was implemented. The intersection point and the boundary levels were estimated as explained in Fraas and Newman (1997). The intersection point was approximately 56.3, and the upper and lower boundary levels were 40.0 and 73.0.

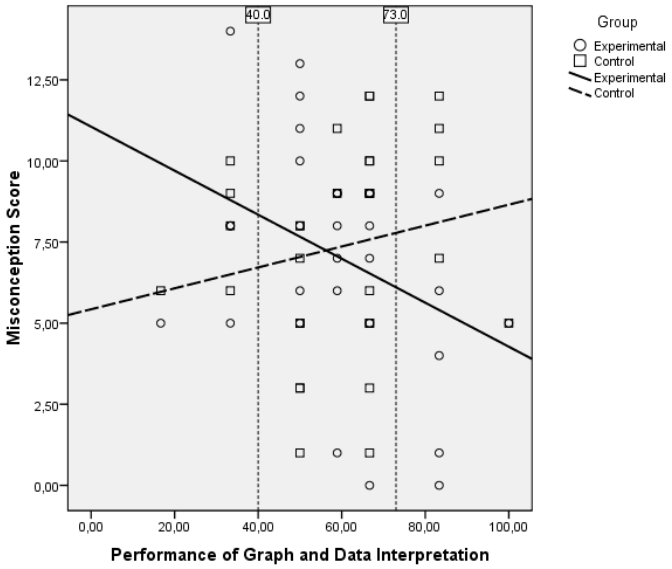


Figure 1. The scatterplot demonstrating the interaction between data and graph interpretation skill of prospective science teachers and teaching methods.

  

For prospective science teachers with data and graph interpretation skills above 73.0, scaffolded inquiry was observed to be more effective on overcoming the misconceptions about mechanics. For prospective science teachers with data and graph interpretation skills below 40.0, inquiry teaching was observed to be more effective on overcoming the misconceptions about mechanics. In addition, the effects of inquiry and scaffolded inquiry teaching were observed not to differ for the prospective science teachers with data and graph interpretation skills between 40.0 and 73.0.

## CONCLUSION AND IMPLICATION

Inquiry teaching may be very beneficial in science classes. However, students may have difficulty in drawing a conclusion by themselves in inquiry teaching (Gallagher, 2007, p. 14). Even, they may acquire misconceptions instead of scientific concepts. Therefore, scaffolded inquiry can be suggested as an alternative to inquiry teaching. However, the findings of this study reveals a very interesting interaction which is not easy to make sense of.

Students with low level skill of data and graph interpretation hold less misconceptions under inquiry teaching with respect to scaffolded inquiry teaching. However, for students with high level skill of data and graph interpretation, scaffolded inquiry seem to be more effective. What factors there are beyond such an interaction can be investigated by means of a qualitative research. Therefore, conducting qualitative research studies are suggested for researchers so that the nature of such interaction can be investigated. In addition, students with low and high level skill of data and graph interpretation may be divided into two groups so that inquiry and scaffolded inquiry teaching are implemented separately. Such an intervention in instruction may be much more effective.

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# ROLE OF SELF TALK IN PREDICTION OF PASSION LEVEL IN PHYSICAL EDUCATION CLASS ENVIRONMENT

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**ABSTRACT**
The purpose of this study was to investigate the role of self talk in predicting of the passion level in physical education class environment. The present research was consisted of 117 girl ($X_{age}$= 16,34 ± 1,15) and 184 male ($X_{age}$= 16,28 ± 1,16) totally 301 students ($X_{age}$= 16,30 ± 1,28) on voluntary basis. Average sport experience of respondent students oriented on team-based or individual sport branches (soccer, basketball, volleyball, tennis, athletics, bicycle and etc.) was determined as 39,15 ± 11,60 months. To achieve the purpose of the study, Self Talk Questionnaire-PE was developed by Zervas, Stavrou ve Psychountaki (2007) and it was adapted to Turkish culture by Bayköse and Engür (2015). Additionally Sport Passion Scala was developed by Vallerand at al. (2003) and it was adapted to Turkish culture by Kelecek and Aşçı (2013) were used. Whereas descriptive statistical methods were employed in analysis and assessment of collected data; independent samples t-test and multiple step regression analysis was utilized. Aforesaid analyses were conducted through the SPSS package software and significance level was considered as $P<0.05$. Finally, it could be concluded that passion levels of student, a significant psychological factor in their sport performances, are related with their self-talk level and one of the important determinants of their passion levels.

## INTRODUCTION

In our contemporary world, both in Turkey and in rest of the world, studies conducted on the athletes sampling group (Hardy, Jones and Gould, 1996; Hardy, Oliver and Tod, 2009; Raalte et al., 1995; Krane and Williams, 2006; Bayköse, 2014) and on physical education sampling group (Anderson, Winett & Wojcik 2007; Kolovelonis, Goudas & Dermitzaki, 2011) are supporting the view that utilization of psychological techniques could have positive impact on performance. In general, it was found that mental education was effective on performance success and in developing mental skills among athletes (Vealey, 2007). Additionally, since children are supported to learn and apply such variable mental techniques at expert level (Orlick and McCaffrey, 1991), usage of mental skills (e.g.; mental illustration, setting target and relaxation) it was suggested as performance developer tool in primary school physical education (Anderson, Winett & Wojcik 2007). A common mental technique utilized in sport environments is self-talk (Hardy, Oliver and Tod, 2009).

Empirical study has provided an evidence for efficiency of self-talk in sport environment. Especially, self-talk was positively effective on young basketball players' bouncing and passing skills (Perkos, Theodorakis and

  

Chroni, 2002), shooting performances of selective female soccer players (Johnson, Hrycaiko, Johnson and Halas, 2004), university physical education students' basketball shooting skills (Theodorakis, Chroni, Laparidis, Bebetsos and Douma, 2001), college tennis players' serving skills (Landin and Hebert, 1999); and for injury rehabilitation (Theodorakis, Beneca, Goudas, Antoniou and Malliou, 1998).

Another subject considered in our researches was passion. Based on the explanations introduced to the passion concept, researchers reported that majority of individuals have certain passion level for activities (Vallerand et al., 2003; Vallerand et al., 2007). In the parallel of these explanations, passion could either be in harmony or obsessed level. Whereas a passion with harmony indicates that an activity is in conformity with other activities of individuals during the day; an obsessed passion indicates that excessive desire and effort displayed towards the activity conducted by individuals with respect to the other activities in their lives (Vallerand et al., 2003; Vallerand et al., 2007). On the basis of this information, researchers revealed the relationship between passion and motivation (Vallerand et al., 2006). In the meantime, while researchers have emphasized that passion constituted foundation of numerous psychological factor, they reported that passion was one of the determinants of psychological dynamics such as flow and target orientation (Carpentier, Mageau & Vallerand, 2012; Kelecek, 2013).

In terms of functional aspect, when positive impact of self-talk on performance is taken with different point of view, psychological dynamics which enable self-talk to occur for learning or motivational purposes have been mystery. In this regard, whatever the activity is, passion level of individual toward that specific activity could exhibit difference (Mageau & Vallerand, 2007).Vallerand et al. (2003), in their binary model regarding the passion concept, suggested that passion needs to be considered in two dimensions under harmony and obsessive passion dimensions.

Along this information, the current study was focused on role of passion in determination of self-talk levels of students in physical education courses. Accordingly, first, it was investigated that whether learning and motivational self-talk was one of the determinants of harmony and obsessive passion level. Secondly, it was investigated that whether self-talk and passion levels differ significantly in terms of gender variable.

To that end, following questions were tried to be answered in the present study:

1. What is the estimation power of self-talk levels of participant students on their sport passion levels?
2. Whether sport passion levels of participant students with various gender differ with respect to their self-talk level?

## METHOD

In this section, research model, research group, measurement tools and statistical methods utilized in this research were exhibited.

### *Research Design*

In this study, survey method (Büyüköztürk, Çakmak, Akgün, Karadeniz and Demirel, 2008; Karasar, 2009) and relational survey method were utilized (Büyüköztürk et al., 2008; Karasar, 2009; Büyüköztürk, 2014). According to Fraenkel and Wallen (2006), the purpose of relational researches is to investigate the relationships among two or more variables without interfering them. In the meantime, existence and degree of the relationships among dependent and independent variables were tried to be revealed based on the model (Crano and Brewer, 2002). Karasar (2009) describes purpose of relational survey models as determining existence and degree of relationships among two or more variables. On the other hand, survey model is the approach which tries to describe a past or present status as it is. Research subject, which could either be an event, a person or a subject, is tried to be defined within their unique conditions and as is (Karasar, 2009). In the present study, relational research, one of the quantitative research methods, was employed and this constitutes an example of a research conducted based on survey model.

### *Participants*

The present research was consisted of 117 girl ($X_{age}$= 16,34 ± 1,15) and 184 male ($X_{age}$= 16,28 ± 1,16) totally 301 students ($X_{age}$= 16,30 ± 1,28) on voluntary basis. Average sport experience of respondent students oriented on team-based or individual sport branches (soccer, basketball, volleyball, tennis, athletics, bicycle and etc.) was determined as 39,15 ± 11,60 months.

### *Measuring Instruments*

  

*Self-talk Questionnaire for Physical Education (STQ-PE)*

Self-talk Questionnaire (STQ) (Appendix 1) was developed by Zervas, Stavrou and Psychountaki (2007) to expose individual differences in terms of motivational and cognitive processes concerning self-talk in determined dimensions (Zervas et al., 2007). It was adapted into Turkish by Engür (2011). The scale is comprised of 11 items each of which provide 5 different answer options for respondents :(Never (1); Occasionally (2); Sometimes (3); Mostly (4); and Always (5) and it includes 2 sub-scales. These sub-scales are Motivational Function and cognitive Function. As Cronbach's alpha value represents internal consistency coefficient, in the study of Engür (2011), it was estimated for "motivational function" and "cognitive function" as 0.93 and 0.87 respectively. In general, reliability coefficient of the scale was estimated as 0.95 (Engür 2011).

*Sport Passion Questionnaire (SPQ)*

Another used instrument was the Turkish adopted version of Passion Scale (SPS; Kelecek and Aşçı, 2015) that was developed and psychometrically validated on the basis of the revised English Passion Scale (Marsh et al., 2013). Another used instrument was the Turkish adopted version of Passion Scale (SPS; Kelecek and Aşçı, 2015) that was developed and psychometrically validated on the basis of the revised English Passion Scale (Marsh et al., 2013)." We will refer to this subscale as dedication to the sports activity. The psychometric properties of the SPS are good, especially in physically active individuals who served as a large part of the validation study (Chamarro et al., 2015). The internal reliability of the SPS is $\alpha = .81–.87$.

*Personal Information Form*

In order to collect personal information of respondent athletes, personal information form prepared by the researcher was utilized. In the Personal Information From, respondents were asked questions regarding their ages, gender, sport experiences and their current sport branches.

*Data Analysis*

Whereas descriptive statistical methods were employed in interpretation of data, t-test and Multi Stepwise Regression Analysis methods were utilized for independent samples. The SPSS package software was utilized for analyses of collected data; and significance was determined as $P<0.05$.

## FINDINGS

**Table 1. Regression Analysis Result Regarding Role of Students' Self-Talk Levels in Determining Obsessive Passion Levels**

| | β | T | P |
|---|---|---|---|
| Motivational Self Talk | 0,407 | 8,769 | 0,000 |
| Cognitive Self Talk | 0,301 | 6,494 | 0,000 |
| R=0,630; R2=0,397; Adjusted $R^2$=0.394; $F_{(2,417)}$ =137,030; p=0.000 | | | |

According to the Multi Stepwise Regression analysis results, a significant relationship was determined between obsessive passion levels and student's motivational self-talk levels and cognitive self-talk levels (R=0.63; F=137.030; $p<0.05$). Athletes' motivational self-talk scores and cognitive self-talk scores were able to explain 40% of the total variance related with their obsessive passion levels ($R^2$=0.40; $p<0.05$).

**Table 2. Regression Analysis Result Regarding Role of student' Self-Talk Levels in Determining Harmonious Passion Levels**

| | β | T | P |
|---|---|---|---|
| Motivational Self Talk | 0,512 | 7,295 | 0,000 |

  

| | | | |
|---|---|---|---|
| Cognitive Self Talk | 0,176 | 2,501 | 0,000 |

R=0,659; R2=0,434; Adjusted $R^2$=0.430; $F_{(2,298)}$ =114,286; p=0.000

According to the Multi Stepwise Regression analysis results, a significant relationship was determined between harmonious passion levels and students' motivational self-talk levels and cognitive self-talk levels (R=0.66; F=114.286; p<0.05). Students' motivational self-talk scores and cognitive self-talk scores were able to explain 40% of the total variance related with their harmonious passion levels ($R^2$=0.43; p<0.05).

**Table 2. Pearson Correlation Table Indicating the Relationship between Passion Levels (obsessive and harmonious passion ) and Self Talk (Cognitive and Motivational Self-Talk)**

| | Mean | Ss | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| 1. Motivational Self Talk | 2,8619 | 1,24140 | r=1 | | | |
| 2. Cognitive Self Talk | 2,9551 | 1,32715 | r=0,784** | r=1 | | |
| 3.obsessive passion | 3,6550 | 1,56298 | r=0,601** | r=0,521** | r=1 | |
| 4.harmonious passion | 4,1717 | 1,65621 | r=0,650** | r=0,577** | r=0,733** | r=1 |

According to Table 2, positive and significant relationship was determined between .obsessive passion (r=.579, p=.000), harmonious passion (r=.579, p=.000), motivational self talk ((r=.579, p=.000) and cognitive self talk (r=.572, p=.000).

**Table 4. T Test Table Results Regarding the Relationship between Passion Level and Their Self-Talk Levels in Terms of Studens' Gender**

| | Gender | N | Mean | Std. Deviation | T | p |
|---|---|---|---|---|---|---|
| Obsessive passion | Female | 117 | 3,0028 | 1,55132 | -5,999 | 0,000 |
| | Male | 184 | 4,0697 | 1,42633 | | |
| Harmonious passion | Female | 117 | 3,4131 | 1,68006 | -6,579 | 0,000 |
| | Male | 184 | 4,6540 | 1,45113 | | |
| Motivational Self Talk | Female | 117 | 2,3516 | 1,18124 | -5,997 | 0,000 |
| | Male | 184 | 3,1863 | 1,17029 | | |
| Cognitive Self Talk | Female | 117 | 2,5278 | 1,36093 | -4,503 | 0,000 |
| | Male | 184 | 3,2269 | 1,23383 | | |

According to analysis results, statistically significant difference was observed on obsessive passion sub-dimension, one of the passion level dimensions of students, in terms of gender variable (t =-5,999; p< 0.05).

According to analysis results, statistically significant difference was observed on harmonious pssion sub-dimension, one of the passion level dimensions of students, in terms of gender variable (t =-6,579; p< 0.05).

According to analysis results, statistically significant difference was observed on motivational self talk sub-dimension, one of the self-talk level dimensions of students, in terms of gender variable (t =-5,997; p< 0.05).

According to analysis results, statistically significant difference was observed on cognitive Self Talk sub-dimension, one of the self-talk level dimensions of students in terms of gender variable (t =-4,503; p< 0.05).

## CONCLUSIONS

  

According to the results of the multiple progressive regression analyze conducted to determine self-talk levels of student indetermination of their passion levels, a statistically significant relationship was determined between students' motivational and learning self-talk levels and their passion levels. Student motivational self-talk scores and cognitive self-talk scores explain the total variance regarding harmony and obsessive passion levels by 43% and 39% in the harmony and obsession passion sub-dimensions, respectively.

When it is viewed from the theoretical aspect, the results of the present study could be explained based on the self-sufficiency theory suggested by Bandura (1997). In the study of Hardy (2006) conducted to introduce an extensive explanation to the self-talk literature, reported that self-sufficiency theory was one of the essential theories regarding self-talk. If it is necessary to explain further, Bandura (1997) described as "personal judgment regarding his/her capacity to organize necessary activities and to display certain performance". Zimmerman (1995) defines self-sufficiency as "judgments of individuals regarding performing and accomplishing". Along this information, it is possible to claim that nature of self-talk relies on individual talent to regulate behaviors and affections through self-talk (Hardy, 2006; Van Raalte, Vincent & Brewer, 2016). There are studies in the literature supporting self-talk and self-sufficiency relationship (Weinberg, 1986; Masters & Ogles, 1998; Araki, et al., 2006) which were considered as determinants of harmonious and obsessive passion and they were explaining learning and motivational self-talk could be explained in the passion aspect. In this regard, when passion literature was investigated, it was observed that Mageau and Vallerand (2007) reported in their study that whereas the harmonious passion is elevated, positive affection increases and takes longer as well; whereas obsessive passion is elevated, positive affection decreases. Vallerand et al. (2007) found that as harmonious passion of students toward this course increases, their study period and hard study and well-being increase as well; as their obsessive passion toward the course increase, their hard work and well-being increase. Philippe, Vallerand, Houlfort, Lavigne and Donahue (2010) determined similar findings. In the first study section conducted on 195 respondent, harmonious passion was correlated with positive affections such as positive affection state and happiness; and it was determinant of quality of interpersonal relationships in the meantime. Stenseng, Rise and Kraft (2011) revealed in their study conducted on 377 respondents that as the obsessive passion increases, their joy from life decreased and accordingly their happiness levels decreased and individuals gained a negative affection status. In the light of this information, as it was suggested by researchers (Hardy, 2006; Van Raalte, Vincent & Brewer, 2016) self-talk has multi-dimensional structure; and self-talk, either learning or motivational-purpose, is a strong determinant of self-talk be9cause an individual who talk to himself would have positive or negative self-talk characteristics either learning or motivational-purpose (Hardy, 2006; Van Raalte, Vincent & Brewer, 2016).

In terms of gender variable, when obtained findings are considered, in all of harmonious passion, obsessive passion, motivational self-talk and learning-purpose self-talk sub-dimensions, it observed that male students had greater mean scores with respect to the female students. In the meantime, it was observed that the difference between these mean scores was statistically significant. Based on these findings, when the relevant literature was investigated in terms of obsessive and harmonious passion findings, in the study of Kelecek et al. (2015) conducted on passions of fitness leaders towards their profession, they reported that there was no difference in terms of gender variable. When findings of the study conducted by Mageau et al. (2009) on children and youngster are considered, it was reported that there was no significant difference in terms of gender variable. In this regard, findings of both researchers were contradictory with our research findings. However, on the other hand, study findings of Philippe et al. (2009a; 2009b), which aimed to investigate the gender difference in passion, support our findings. In the study of Philippe et al. (2009a; 2009b) conducted on basketball players and the ones who participate in various reactive activities, it was determined that obsessive passion levels of male respondents were greater than female.

Along this information, in terms of gender variable, when self-talk researches were investigated, e.g. study of Nergiz, Bayköse and Yıldız (2015) on dancers, it was reported that female dancers were inclined to learning and motivational self-talk with respect to the male dancers. In this regard, these findings contradict with our research. In the research findings reported by Hardy (2005) on the basis of athletes sampling, our study findings are supported. In the study conducted by Bayköse (2014), it was reported that no any statistically significant difference was determined in terms of gender variable. Results of the study conducted by Katsikas et al. (2009) exhibit similarity with the present study. In this regard, it is possible to conclude that results reported by numbers of studies in the relevant literature display inconsistency with each other. However, it should not be underestimated that sampling or cultural differences among studies could play important role on these inconsistent results.

In the parallel of this information, as a result, it is possible to suggest that passion, a significant psychological factor in performance of athletes, is significant determinant of passion level and correlated with individuals' self-talks. Our study results suggest that both dimensions of self-talk are positively correlated with obsessive and

  

harmonious passion. Based on the relevant literature, it is considered that existence of studies which supports our results indirectly even though they do not support directly, the studies which will be designed by the researchers in the future could investigate the effects of positive and negative psychological factors on passion. In the meantime, it is suggested to investigate the effect of self-talk on performance in terms of its relationship with primary psychological factors or direct performance through empirical studies. Additionally, it is considered that investigation of positive and negative determinant effect of self-talk on passion is one of the most important needs in the future.

**Authors' Disclosures of Potential Conflicts of Interest**

The authors indicated no potential conflicts of interest.

**Footnotes**

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# SAĞLIK EĞİTİMİNDE BİR UZAKTAN EĞİTİM ÖNERİSİ; LİSANS TAMAMLAMA

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**ÖZET**

Son yıllarda her alanda artan teknolojik gelişmeler de artık kaçınılmaz olarak teknolojinin eğitimle ilişkilendirilmesi gereğini ortaya çıkarmaktadır. Bunun için, öğretme-öğrenme süreçlerini daha verimli yapmanın, yani nitelikli bireyler yetiştirmenin bir yolu da, teknolojinin eğitimle bütünleştirilerek kullanılmasıdır. Teknoloji, tüm eğitsel sorunlara çözüm olabilecek bir unsur olmasa da, eğitim öğretim faaliyetlerinde teknolojinin kullanılması eğitimde ilerlemeyi sağlamak adına önemli bir role sahiptir. Sağlık alanında ön lisans diplomasına sahip ebelik ve hemşirelik programlarından mezun olanlara kendi alanlarında, diğerlerine ise Yükseköğretim Kurulunun belirleyeceği, ebelik ve hemşirelik dışındaki ilişkili alanlarda lisans tamamlama eğitimi olanağı başlamıştır.

Bu eğitimler, Yükseköğretim Kurulunun belirleyeceği alanlarda uzaktan eğitim yöntemleri ile verilecek, uygulama eğitimleri için Sağlık Bakanlığı ile Yükseköğretim Kurulu işbirliği yapacaktır.

Lisans tamamlama eğitimleri, uzaktan öğretim ile üniversitelerimizce belirlenen çeşitli yöntemlerle verilecek olup alanına, müfredatına uygun şekilde yürütülecektir.

Sağlık alanında teorik eğitimlerin büyük bir bir kısmı uzaktan eğitim yöntemleriyle verilse bile önem arz eden uygulamalı eğitimler yüz yüze yapılmak durumundadır. Uygulamalı eğitimler için üniversitelerimizin sağlık uygulama araştırma merkezleri (üniversite hastaneleri) yanı sıra Sağlık Bakanlığına bağlı hastaneler de üniversitelerimizin ilgili birimlerinin sorumluluğunda kullanılabilecektir.

Türkiye'de sağlıkta lisans tamamlama alanları; Acil Yardım, Acil Yardım Teknikerliği, Acil Yardım Teknikleri, Adli Tıp, Adli Tıp Teknikerliği, Ağız Diş Sağlığı, Ağız ve Diş Sağlığı, Ambulans ve Acil Bakım Teknikerliği, Ambulans ve Acil Bakım, Ameliyathane Hizmetleri, Ameliyathane Teknikerliği, Anestezi, Anestezi Teknikerliği, Cerrahi Teknikerliği, Çevre Sağlığı, Diş Protez, Diş Protez Teknikerliği, Diş Protez Teknolojisi, Diş Teknik Sekreterliği, Diyaliz, Ebelik, Eczane Hizmetleri, Eczane Teknikerliği, Elektronörofizyoloji, Engelli Bakımı ve Rehabilitasyon, Evde Hasta Bakımı, Fizik Tedavi, Fizik Tedavi ve Rehabilitasyon, Fizyoterapi, Hastane Yönetimi ve Organizasyon, Hemşirelik, Hidroterapi, İlk ve Acil Yardım, İş ve Uğraşı Terapisi, Laborant ve Veteriner Sağlık, Nükleer Tıp Teknikleri, Odyometri, Optisyenlik, Ortopedik Protez ve Ortez, Otopsi Yardımcılığı, Paramedik, Patoloji Laboratuvar, Patoloji Laboratuvar Teknikleri, Perfüzyon, Perfüzyon Teknikleri, Podoloji, Protez ve Ortez, Radyoloji, Radyoterapi, Sağlık Kurumları İşletmeciliği, Sağlık Yönetimi, Sağlık Memurluğu, Sağlık Teknikerliği, Tıbbi Görüntüleme Teknikleri, Tıbbi Laboratuvar, Tıbbi Laboratuvar Teknikleri, Veteriner Sağlık Teknikerliği, Yaşlı Bakımı, Yaşlı Bakım Hizmetleri, Yaşlı Hizmetleri Bakımıdır.

  

**Anahtar Kelimeler:** Uzaktan Eğitim, Sağlık Hizmetleri Eğitimi, Lisans Tamamlama

# A PROPOSAL FOR A DISTANCE LEARNING IN HEALTH EDUCATION; DEGREE COMPLETION

**ABSTRACT**

In recent years technological advances increasing in every field and reveals the need to be associated with education technology. Integrating with technology in education is used for teaching-learning process more efficient and way the training of qualified individuals. Use of technology in education has an important role in education and training activities. Education via the Internet is particularly widespread in higher education stage.

Nurse and midwife who graduate from associate degree in the field of health and nursing and midwifery program in their fields, while other healthcare workers will be determined by the Board of Higher Education, license in areas outside the associated possibility began of continuing education in Turkey.

This training, higher education and distance learning methods in the field will be determined by the Board of Higher Education will cooperate with the Ministry of Health for practice training. Complete undergraduate education is to be given in various ways determined by our universities with distance education field the curriculum will be implemented accordingly.

A big part of the theoretical training in the healthcare can be applied distance learning method. The important at least one part of practice education must be made face to face training. Practical training can be made in university research centers and Ministry of Health hospitals as well.

Bachelor degree in health areas in Turkey; Emergency aid, Emergency Technician, Emergency Technician, Forensic Medicine, Forensic Technician, Oral Health, Mouth and dental health, Ambulance and Emergency Care Technician, Ambulance and Emergency Care, Operating Room Services, Operating Room Technician, Anesthesia, Anesthesia Technician, Surgical Technologist, Environment, Environmental Health, Denture, Dental Technician, Dental Technology, Dental Technical Secretariat, Dialysis, Midwifery, Pharmacy Services, Pharmacy Technician, Electro neurophysiology, Disabled Care and Rehabilitation, Patient Care at Home, Physiotherapy, Physical therapy and rehabilitation, Physiotherapy, Hospital Management and Organization, Nursing, Hydrotherapy, Emergency and First Aid, Occupational Therapy, Veterinary Sciences, Nuclear Medicine Techniques, Audiometry, Optician, Orthopedic Prosthetics and Orthotics, Autopsy Assistant, Paramedic, Pathology Laboratory, Pathology Laboratory, Perfusion, Perfusion Techniques, Prosthetics and Orthotics, Radiological, Radiotherapy, Health Care Management, Healthcare Management, Health Officer, Health Technician, Medical Imaging Techniques, Medical Laboratory, Medical Laboratory Techniques, Veterinary Technologist, Aged Care, Elderly Care Services, Elderly Care Services.

**Key worlds** : Distance Learning, healthcare education, Degree Completion

## GİRİŞ

Bir ülkenin gelişebilmesi için yeterli sayı ve nitelikte yetişmiş insan gücüne gereksinim vardır ve bu da o ülkenin eğitim sisteminin verimli biçimde çalışması ile ilişkilidir (Sünbül, 1998). Günümüzde her insan, bilgisi oranında güçlü ve o oranda saygındır. Bu nedenle, eğitim kurumlarının toplumdaki yeri ve işlevleri değişmiştir. Üniversiteler, toplumların kalkınmasında, gelişmesinde ve saygınlığında öncü; ekonomik ve siyasal yaşamında etkin rol oynayan kültürel iletişim merkezleri haline dönüşmüştür. Bilimsel araştırma yapma, bilgi üretme ve yayma, eğitim öğretim yapma, nitelikli insan gücü yetiştirme, topluma önderlik etme ve kamuoyu oluşturmaları bakımından üniversiteler ve meslek yüksekokulları yadsınamaz konumdadır. Ön lisans eğitiminin temel amacı meslek sahibi insan yetiştirmektir. Bunun anlamı; yaratıcı, üretken, bilgi ve teknolojiyi iyi kullanabilen, kendini

  

tanımaktan ve tanımlamaktan korkmayan, mesleğini iyi bilen, çok yönlü düşünebilen, evrensel değerlere sahip, çevre koruma bilinci gelişmiş insandır. Ayrıca lisans ya da ön lisans eğitimi alan birey; günlük hayatta karşılaşabileceği sorunların üstesinden gelebilecek yetide, sosyal, iletişim becerileriyle donanmış olup karşılaştığı problemleri çözme olgunluğundadır.

Geleneksel öğretimin sınırlılıklarından dolayı öğrenciler yeterli eğitim hizmeti alamamaktadırlar. Bu bağlamda; bilim ve teknoloji alanındaki gelişmelerle birlikte öğrencilere eşit eğitim şartları sağlayan "Web Tabanlı Uzaktan Eğitim Programı" geliştirilmiştir. Son yıllarda her alanda artan teknolojik gelişmeler de artık kaçınılmaz olarak teknolojinin eğitimle ilişkilendirilmesi gereğini ortaya çıkarmaktadır. Bunun için, öğretme-öğrenme süreçlerini daha verimli yapmanın, yani nitelikli bireyler yetiştirmenin bir yolu da, teknolojinin eğitimle bütünleştirilerek kullanılmasıdır. Teknoloji, tüm eğitsel sorunlara çözüm olabilecek bir unsur olmasa da, eğitim öğretim faaliyetlerinde teknolojinin kullanılması eğitimde ilerlemeyi sağlamak adına önemli bir role sahiptir. Sağlık alanında ön lisans diplomasına sahip ebelik ve hemşirelik programlarından mezun olanlara kendi alanlarında, diğerlerine ise Yükseköğretim Kurulunun belirleyeceği, ebelik ve hemşirelik dışındaki ilişkili alanlarda lisans tamamlama eğitimi olanağı başlamıştır.

Türkiye'de sağlıkta lisans tamamlama alanları; Acil Yardım, Acil Yardım Teknikerliği, Acil Yardım Teknikleri, Adli Tıp, Adli Tıp Teknikerliği, Ağız Diş Sağlığı, Ağız ve Diş Sağlığı, Ambulans ve Acil Bakım Teknikerliği, Ambulans ve Acil Bakım, Ameliyathane Hizmetleri, Ameliyathane Teknikerliği, Anestezi, Anestezi Teknikerliği, Cerrahi Teknikerliği, Çevre Sağlığı, Diş Protez, Diş Protez Teknikerliği, Diş Protez Teknolojisi, Diş Teknik Sekreterliği, Diyaliz, Ebelik, Eczane Hizmetleri, Eczane Teknikerliği, Elektronörofizyoloji, Engelli Bakımı ve Rehabilitasyon, Evde Hasta Bakımı, Fizik Tedavi, Fizik Tedavi ve Rehabilitasyon, Fizyoterapi, Hastane Yönetimi ve Organizasyon, Hemşirelik, Hidroterapi, İlk ve Acil Yardım, İş ve Uğraşı Terapisi, Laborant ve Veteriner Sağlık, Nükleer Tıp Teknikleri, Odyometri, Optisyenlik, Ortopedik Protez ve Ortez, Otopsi Yardımcılığı, Paramedik, Patoloji Laboratuvar, Patoloji Laboratuvar Teknikleri, Perfüzyon, Perfüzyon Teknikleri, Podoloji, Protez ve Ortez, Radyoloji, Radyoterapi, Sağlık Kurumları İşletmeciliği, Sağlık Yönetimi, Sağlık Memurluğu, Sağlık Teknikerliği, Tıbbi Görüntüleme Teknikleri, Tıbbi Laboratuvar, Tıbbi Laboratuvar Teknikleri, Veteriner Sağlık Teknikerliği, Yaşlı Bakımı, Yaşlı Bakım Hizmetleri, Yaşlı Hizmetleri Bakımıdır.

Uzaktan Eğitim:

Günümüzde sosyal hayatın ihtiyaçlarının çeşitlenmesi ve giderek artması, birden fazla uzmanlık alanının iç içe girdiği çoklu alan bilgisine sahip bireylere gereksinimi gündeme getirmiştir. Bu durum, birden fazla temel alandan bilgi edinilmesini gerekli kılmaktadır. Ancak eğitime yönelik klasik bakış, gerek yasa ve mevzuat açısından, gerekse disiplinler arası öğretime uygun müfredat kitaplarının bulunmayışından; yasa-mevzuat-müfredat uygun olsa bile bir öğretim kurumunun çatısı altında çoklu disiplin öğretimini yürütmeye yetecek kalifiye öğretim elemanı bulma güçlüğünden dolayı, eğitimde yeni anlayışlar şekillenmeye başlamıştır. Zengin olanaklara sahip olan web ortamının gerek bilgi gerekse teknolojik altyapısından faydalanan, dinamik bir yapıya sahip ve öğrenmeyi hedef alan "Web Tabanlı Uzaktan Eğitim" anlayışı doğmuştur. Bu anlayış sayesinde öğrenenlerin bireysel gereksinimlerini karşılamak, onları öğrenmeye motive etmek ve çağın gerektirdiği bir öğrenme-öğretme ortamı sağlamak mümkün olabilecektir (Stromen, 1992). Web Tabanlı Uzaktan Eğitim uygulamaları, geleneksel sınıflarda genellikle yetersiz olan etkileşimi arttırmak amacıyla kullanılmaktadır. Bilimsel ve teknolojik gelişmeler, eğitim isteğindeki artış, maliyet, etkililik ve verimlilik, web tabanlı uzaktan eğitimin gelişmesini sağlayan nedenlerdir. Farklı yerlerde bulunan eğitmen ve öğrenciler arasında gereksinim duyulan yazılı, sesli ve görüntülü iletişim İnternet yoluyla sağlanabilmektedir. Bu yolla öğrenci, herhangi bir anda istediği bir derse katılabilmekte ve bu durum zamanın daha etkin kullanılmasını sağlamaktadır. Öte yandan öğrencilerin ve eğitmenlerin sınıftan bağımsız olması, bina ve personele gereksinim duyulmaması, öğretim masraflarının azalmasına da neden olabilecektir (Yeniad, 2006).

İnternet aracılığıyla eğitim özellikle yüksek öğrenim basamağında hızla yaygınlaşmaktadır. Yüksek öğrenimde, WTE aracılığıyla gerçekleştirilmeye çalışılan amaçları şunlardır (Kaya, 2005):

  

• Tüm dünyadaki insanları uzaktan eğitmek
• Öğrencilere belirli bir yerleşkede açılmamış derslere katılma olanağı sağlamak
• Öğrencilere farklı üniversitelerde açılan derslere katılma olanağı sağlamak
• Yerleşkeler arasında gidip gelmeye gerek kalmadan, uzaktan öğrenenlere bir sınıfa katılma şansı vermek ve onlara uygulama örnekleri göstermek
• Öğrencilere dünyanın değişik yerlerindeki uzmanlarla etkileşim olanağı sağlamak
• Uluslararası programlarda öğrenim gören öğrencilerin kendi aralarında ve uzmanlarla toplantılar düzenlemesine olanak sağlayarak öğrenmelerini desteklemek
• Dünyanın farklı yerlerinde bulunan uzman ya da öğrencilerle değişik konularda toplantılar düzenlemek
• İş başvurusunda bulunmak isteyen öğrencilerin ilgililerle görüşme yapmalarına olanak tanımak.

ABD, Almanya, İngiltere gibi gelişmiş ülkelerde, çeşitli özel ve kamu kuruluşları tarafından uygulanan WTE, ülkemiz eğitim kurumlarınca da hayata geçirilen uygulamalar arasındadır. Ülkemiz; uzaktan eğitimde bilgisayar destekli öğretim ve çoklu ortamlardan (multi-medya) yararlanma konusunda oldukça geride olmasına rağmen, bazı üniversitelerde (örneğin başta Anadolu Üniversitesi olmak üzere, Fırat, İTÜ, ODTÜ, Başkent ve Çukurova) uzaktan eğitimde teknoloji ve yöntemlerden yararlanmaya yönelik çalışmaların yapıldığı dikkat çekmektedir (Yeniad, 2006).

e-öğrenme ortamları, bireylerin gerçek yaşamlarında karşılaşabilecekleri durumlara uygun projeler halinde desenlendiği ve farklı öğrenme hızına sahip bireylere değişik düzeyde güçlüklerin sunulduğu sanal ortamlar olmalıdır. Güçlüklerle karşılaşan bireyin, kendi olanaklarıyla başa çıkamadığı durumlarda ise bir e-arkadaşa yönlendirilmesinde yarar vardır. Oluşturmacı kuramın en temel özelliklerinden biri, ortaklaşa öğrenme ortamlarına uygun eğitim ortamlarının tasarlanmasıdır. Benzer ya da farklı öğrenme özelliklerine sahip diğer e-bireylerle etkileşen bir kişi, sanal ortamda yalnızlık ve soyutlanmışlık duygusuna da kapılmayacaktır.

## TARTIŞMA

Verilen eğitimde istenen başarıların sağlanması için kişilerin tutumları da verilecek eğitim yönünde olumlu olmalıdır. Böylece eğitim alan kişilerin de üst düzey doyum alması sağlanabilir. Öğrenenlere özgü içerik geliştirilmeli, kullanıcılar katılıma teşvik edilmeli, motivasyon eksiklikleri giderilmeli, konu seçiminde konuların tamamı değil, ölçülerek ihtiyaç duyulan konular hakkında eğitim verilmelidir. Uzaktan eğitimde karşılaşılan en büyük sorunlardan biri teknik alt yapı eksikliğidir. Ülke genelinde de internete sorunsuz ve hızlı bağlanabilmek için geniş ağ kapasitesine ihtiyaç vardır. Ya da mevcut internet altyapısı göz önüne alınarak ders içeriği ve uygulamalar hazırlanmalıdır. Yüz-yüze eğitimin en önemli özellikleri iletişim, anında geri bildirim, hatalı ve yanlış öğrenmeyi düzeltebilmedir. Uzaktan eğitimde etkileşimsiz ortamların sohbet ortamı, e-mail, forum gibi eşzamanlı ve eş zamansız gibi teknolojilerle desteklenmesi daha sağlıklı iletişim kurulmasını sağladığı görülmektedir.

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# SAĞLIKLI YAŞAM BİÇİMİ DAVRANIŞLARININ GELİŞTİRİLMESİNDE İNTERNET KULLANIMI

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## ÖZET
İnsanlar günümüzde interneti sağlıkla ilgili birçok alanda kullanabilmektedir. Sağlık kuruluşundan randevu alma, laboratuar sonuçlarını ve çeşitli tetkiklerin sonuçlarına ulaşma, hekimin önerisini alma, evde sağlık takibini yapma gibi birçok örnek sayılabilir. Ancak internet bundan başka, hekime başvurmadan önce hastalıkla ilgili bilgi alma hatta kullanacağı tedaviye karar verme gibi farklı amaçlarla da kullanılabilmektedir. Özellikle günümüzde internet aracılığıyla beslenme, fiziksel aktivite, ruh sağlığını koruma/güçlendirme gibi birçok alanda önerilerde bulunulmaktadır. İnsanların bu tür bilgilere güvenilir sitelerden ulaşması ise diğer önemli bir boyuttur. Bu kapsamda internetin sağlıklı yaşam biçimi davranışları üzerinde olumsuz etki örnekleri görülebildiği gibi bazı çalışmalar da olumlu etkileri olduğunu ortaya koymaktadır. Diğer taraftan internet destekli çeşitli eğitimlerin de insanların davranışlarında olumlu yönde değişiklik oluşturduğu gözlenmektedir. Günümüzün büyük gerçeklerinden olan internetin vazgeçilemez yaşam parçalarımızdan biri olduğunu bilmekteyiz. Ancak bu vazgeçilemezliğin zararını yaşamanın ötesine geçip kazanım haline getirmeye çalışmalıyız. Bu derleme makalenin amacı da sağlıklı yaşam biçimi davranışlarının internetten ne yönde etkilendiğini belirleyerek olumlu kazanımlar için önerilerde bulunmaktır.
**Anahtar Kelimeler:** Sağlıklı yaşam biçimi davranışları, internet

## GİRİŞ
İnsanlar ergonomik bir yaşam için birçok keşif yapmaktadırlar. İnternet de bu keşiflerin başında gelmektedir. Günümüzde insanların yaşamı internetten oldukça etkilenmektedir. Elbette ki istendik olan, bu etkinin olumlu yönde olmasıdır. Bu olumlu etki bilim, sağlık, eğitim, eğlence gibi birçok alanda karşımıza çıkmaktadır. İnternetin birçok alanda insan yaşamını kolaylaştırması da beklenmektedir. İnternet kullanım istatistiklerine bakıldığında oranların hiç de azımsanmayacak düzeyde olduğu görülmektedir. Ülkemizde, TÜİK 2015 verilerine göre hanelerde internet kullanımının %55.9'a ulaşmış olduğu görülmektedir. Başka bir ifadeyle, on haneden yedisi internet erişimine sahip durumdadır denilebilir. İnternet kullanan bireylerin %94.2'si ise interneti düzenli olarak kullanmaktadır (TÜİK, http://www.tuik.gov.tr/PreHaberBultenleri.do?id=18660 ET. 01.07.2016). Türkiye'de 2008 – 2010 dönemindeki internet kullanıcılarının interneti kullanım amaçlarında ilk 3 sıra e-posta göndermek / almak, sohbet odalarına girmek ve internetten gazete / dergi okumak olarak göze çarparken, bu durum Avrupa Birliği 27 ülkelerinde e-posta göndermek / almak, mal ve hizmetler hakkında bilgi almak ve sağlıkla ilgili bilgi aramak (yaralanma, hastalık, beslenme vb.) olarak ortaya çıkmaktadır (Urhan ve Kızılca, 2011). Bu rakamlara bakarak ülkemizde henüz internetin bilgi arayışından çok iletişim, haberleşme ve eğlenme aracı olarak düşünüldüğünü söylemek yanlış olmayacaktır. Ancak internetten bilimsel anlamda da yararların ortaya çıktığı ve kanıtlanmış bilgilerin olduğu da bir gerçektir.

## İNTERNETİN SAĞLIK ÜZERİNE ETKİLERİ
İnternet sağlık alanında bilgiye ulaşma amacıyla kullanıldığı gibi hizmet alımında, hizmet sunumunda ve tedavi/bakım amacıyla da kullanılmaktadır. Yapılan çalışmalarda internetin sağlık üzerine etkilerinin araştırılmasının yanı sıra internet kullanılarak yapılan girişimlerin etkisi de incelenmektedir. Yapılan bir çalışmada 16-40 yaş arasındaki bireylerin sağlığa ilişkin bilgiye çoğunlukla internet üzerinden ulaştıkları ve %85.6'sının sağlık bilgisi kaynağı olarak interneti işaret ettiği görülmüştür. Sağlık programlarını 41 yaş ve üstündeki bireyler genç yaştakilere oranla daha fazla izlemektedirler. Kadınların erkeklere oranla sağlık bilgisine ulaşmak ve tıbbi gelişmeleri takip etmek amacıyla televizyonu, erkeklerin ise interneti tercih ettikleri görülmektedir (Bulduklu 2010). Başka bir çalışmada ise bireylerin hekim, diş hekimi ve hastane seçiminde sosyal medyayı yaygın olarak kullandıkları belirlenmiştir. Araştırma sonuçları sosyal medyanın sağlık hizmeti satın alma davranışlarında etkili bir kanal olduğunu göstermektedir (Tengilimoğlu ve ark 2015). Hizmetle ilgili bu araştırma bulgusunun yanında internette sağlıkla ilgili araştırma yapma oranı hiç doktora gitmeyenlerde %23.8 iken, 5'den fazla gidenlerde %63.4 olup doktora sık gidenlerde bu oran anlamlı şekilde daha yüksek bulan çalışma da mevcuttur. En sık yapılan aramalar beslenme (%30.8), belirli bir hastalık/tedavi (%25.3), alternatif tıp (%21.2), egzersiz (%8.9), reçeteli ilaçlar (%8.9), herhangi bir doktor/hastane hakkında bilgi edinme (%4.8) şeklinde olduğu görülmüştür (Önder ve ark 2014). Bu konuya diğer taraftan bakıldığında ise hekimlerin %13.6'sı her gün, %36.4'sı ise haftada en az bir hastasının internetten elde ettiği bilgiyi kendisiyle tartışmak

  

istediğini belirtmektedir (Zülfikar 2014). Genel olarak internet aracılığıyla insanlar kendi sağlıkları hakkında daha çok söz hakkına sahip olmakta, sağlık ya da hastalıklarını eskiye oranla daha çok yönlendirebilmektedirler. Ancak bütün bunlar kişilerin sağlığını ya da hastalıklarını her zaman olumlu yönde etkilememektedir. Çünkü hastalıkların belirtileri, tedavi şekilleri gibi pek çok durum kişilere göre değişiklik gösterebilmektedir. Dolayısıyla internetten elde edilen bilgilere göre kişilerin kendi kendilerine teşhis koymaları yanıltıcı olabilmektedir. Yine internetten elde edilen bilgiler her zaman güvenilir olmadığı gibi bazen tehlikeli de olabilmektedir (Eryiğit Günler 2015).

Birçok çalışmada karşımız çıkan diğer bir konu internetin bağımlılık yapması olarak karşımıza çıkıyor. İnternet bağımlılığı ile yapılan çalışmalarda çeşitli sonuçlar elde edilmiştir. Balcı ve Gülnar'ın (2009) 953 üniversite öğrencisi ile yaptıkları çalışmada öğrencilerin %23.2'sinin internet bağımlılığı belirtisi gösterdiği tespit edilmiş. İnternet bağımlılığı üzerinde demografik değişkenlerin (cinsiyet ve aylık harcama miktarı) ayırt edici bir etkisinin bulunmamasının yanı sıra internet bağımlılarını, bağımlı olmayanlardan ayıran en güçlü iki değişkenin sırasıyla internet kullanım süresi ve internete duyulan güven olduğu ortaya çıkmıştır. Net bir ifadeyle internet bağımlıları daha uzun süre internet kullanmakta ve internete daha fazla güven duymaktadırlar (Balcı ve Gülnar 2009). Adölesanlarda internet bağımlılığı prevalansının belirlenmesi ile internet bağımlılığının psikopatolojik semptomlar ve obezite üzerindeki etkisinin saptanması amacıyla yapılan başka bir çalışmada ise problemli internet kullanımı prevalansı adölesan internet kullanıcıları arasında %7.1 olarak bulunmuş. Aşırı internet kullanımı olanlarda ise anksiyete, depresyon ve anksiyete-depresyon puanlarının yüksek olduğu tespit edilmiş. Problemli internet kullanımı ile obezite arasında ise bir ilişki bulunmamıştır (Çam ve Nur 2015). Çiğdem ve Yarar'ın (2015) çalışması ise meslek yüksekokulu öğrencilerinin internet bağımlılık düzeylerinin kendilerini çeşitli açılardan kötü bulan öğrencilerin lehine anlamlı derecede farklılık gösterdiğini ortaya koymaktadır. Sonuç olarak da eğer öğrencilerin genel olarak iyilik halleri geliştirilirse, internet bağımlılık düzeylerinde azalış görülebileceği belirtilmiştir (Çiğdem ve Yarar 2015). Bir başka çalışma ise internet bağımlılığının uyku kalitesi üzerine etkisini belirlemek amacıyla yapılmış ve çalışmaya katılan tıp fakültesi öğrencilerinin %62.5'inde uyku bozukluğu olduğu saptanmıştır. Uyku bozukluğu olanlarda İnternette Bilişsel Durum Ölçeği toplam puan ortalaması (84.6±38.4), uyku bozukluğu olmayanların toplam puan ortalamasına (74.4±31.5) göre daha yüksek saptanmıştır. Sonuç olarak internet bağımlılığı üniversite öğrencilerinde uyku kalitesini bozmakta ve uyku bozukluğuna neden olmaktadır (Demirci ve ark. 2015). Berber ve arkadaşlarının (2014) çalışmasında ise adölesanların haftalık internet kullanım süresi arttıkça hamstring kısalığı görülen öğrenci yüzdesinin arttığı saptanmıştır. Ayrıca günlük beş saatten fazla oyun oynayan öğrencilerde obezite gelişme riskinin çok yüksek olduğu tespit edilmiştir ve dijital oyun oynama süreleri ile vücut kitle indeksi arasında doğrusal bir ilişki bulunmuştur (Berber, Karadibak ve Günay Uçurum 2014). Üniversite ve lise öğrencilerin internet kullanımlarının problemli olduğu, yalnızlık düzeylerinin orta seviyede olduğu ve esenlik hallerinin düşük olduğu da başka bir çalışmanın bulgusudur. Öğrencilerin problemli internet kullanımları ile yalnızlık düzeyleri arasında pozitif yönde, problemli internet kullanımları ile algılanan esenlik halleri arasında ise negatif yönde anlamlı ilişki vardır. Öğrencilerin problemli internet kullanım düzeyleri cinsiyet, yaş, sınıf ve öğrenim görülen zaman değişkenlerine göre anlamlı fark göstermektedir (Çağır 2010). Uzun süreli internet kullanımına bağlı en fazla görülen problemler ise, gözlerde yanma, boyun kaslarında ağrı ve uykusuzluk olduğu ve öğrencilerin %14.6'sında problemli internet kullanımı davranışı olduğu farklı bir çalışmada da belirtilmiştir (Sevindik 2011). Ancak internetin kullanımıyla ilgili yapılan bir çalışmada ise sosyal ağ sitelerini etkin kullanan öğrencilerin iletişim becerilerini davranışlarına yansıtabildiği görülmüştür (Kaya ve ark. 2015).

Çalışmalardan da görüldüğü üzere internet önemli bir bağımlılık konusudur ve etkileri de bilimsel anlamda kanıtlanmaktadır. Ancak giderek artan bu sorun ile ilgili özellikle de bağımlılığın sağlık üzerine olan etkileri konusunda daha fazla çalışma yapılması gerekmektedir. Özellikle de bağımlılıkla ilgili mücadelede yeni girişimler üzerinde yoğunlaşılabilir. Örneğin Türkiye Bağımlılıkla Mücadele Eğitim Programı (TBM) olarak adlandırılan programda öğrencilere ve ebeveynlere bağımlılık hakkında eğitim verilmektedir. Programın bir ayağını ise internet üzerinden web tabanlı verilen eğitim oluşturmaktadır. Bu eğitim kapsamında etkinlik tabanlı interaktif eğitsel materyaller geliştirilmiştir (Gücükoğlu, Ceyla, Ağır 2015).

Yukarıda belirtilenlerden başka, yapılan çalışmalarda internetin sağlık üzerine olumlu etkilerini kanıtlayan çalışmalar da bulunmaktadır. Çalışmalarda adölesanların diyabete bağlı yaşam kaliteleri, öz yeterlilikleri, HbA1c değerleri, öz yönetim düzeyleri, stresle baş etme durumları, sosyal yeterlilik, aile çatışması, problem çözme becerileri irdelenmiştir. Tip 1 Diyabetli adölesanlara verilecek sağlık eğitimlerinin web üzerinden sağlanmasının hastalık yönetimi üzerine olumlu etkilerinin olduğu, HbA1c düzeyini iyileştirdiği, problem çözme becerileri üzerine olumlu etkilerinin olduğu görülmektedir (Ayar ve Öztürk 2015). Tip 1 diyabetli hastaların bilgi arayışında internet tutumlarının değerlendirilmesi amacıyla yapılan bir diğer çalışmada ise internet kullanım oranlarının eğitim düzeyi ile pozitif korelasyon göstermekte olduğu, kullanıcıların %33.3'ünün günde en az bir kez internete bağlandığı, diyabetle ilgili arama yapanların en fazla aradığı konunun diyabetle ilgili yeni

  

gelişmeler olduğu, internet kullanım amacında ilk sırada sosyal ağların yer aldığı belirtilmektedir (Feyizoğlu 2015). Başka bir çalışmada ise katılımcılara gönderilen online mesajların diyet ve fiziksel aktiviteye olumlu etkisinin olduğunu ortaya çıkarmıştır (Nyquist et al 2011)

**SONUÇ**

Çalışmalar göstermektedir ki, internet mutlaka bir şekilde hayatımıza girmekte ve oldukça etkili olmaktadır. Sadece gereksinim duyulan sağlık durumlarında mı internet kullanılmalı, yoksa sağlığımız yerindeyken daha da iyiye götürmek için mi kullanılmalı? Elbette ki her durumda kullanılmalı, ancak ne yazık ki genellikle sağlığı geliştirme amacıyla kullanım karşımıza pek çıkmamakta. Hatta Sevidik'in (2011) çalışmasında öğrencilerin problemli internet kullanımının, sağlıklı yaşam biçimi davranışlarını olumsuz etkilediği görülmüştür. Yapılan bir sistematik incelemede ise internet aracılığıyla yapılan girişimlerde çeşitli davranış değişiklikleri ve geliştirici unsurların kullanıldığı ve bu yöntem ve stratejilerin çeşitli yaşam biçimi davranışlarında değişkenlik gösterdiğini ortaya koymuştur. En çok interaktif unsurlar ve e-posta/telefon geri bildirimler önem kazanmaktadır. Ek olarak, bu etkilerin ölçümlerinde çok fazla çeşitliliğin olduğu ve sürekliliğin de olmadığı görülmüştür. Sonuç olarak da akran ve danışman desteğinin önemli olduğu, ölçüm araçlarının ve sürekliliğin olmamasının olumsuz etkilediği belirtilmiştir (Brouwer et al 2011).

Sonuç olarak internetten her kesimin etkilendiği, ancak özellikle gençlere olan etkisinin yadsınamayacak düzeyde olması bu konunun önemini ortaya çıkarmaktadır. Genç yaşlarda edinilen alışkanlıkların yaşam biçimini önemli derecede etkilediği bilinmektedir. Bu nedenle özellikle gençlerin sağlıklı yaşam biçimi davranışları geliştirebilmesi adına okullarda web tabanlı bu tür projeler gerçekleştirilebilir. İnsanların sağlıklı yaşam biçimi davranışlarını geliştirebilmeleri için internet olanakları gözden geçirilebilir.

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# SANAT EĞİTİMİNDE DAHİ OLAN GOYA'NIN VE KATHE KOLLWİTZ'İN ÖZGÜNBASKILARI ÜZERİNE BİR İNCELEME

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**ÖZET**
İnsanlık tarihinde kültürel, siyasi, dini, sosyal ve sanatsal değişim ve dönüşümler yaşanmıştır. Toplumda yaşanan bu değişimlerden sanatta etkilenmiştir. Sanatçılar, toplumdaki bu değişim ve dönüşümleri, savaş, barış, şiddet, acı, hüzün, sevinç vb. her türlü konuyu eserlerine yansıtmışlardır.
Bu çalışmada, sanat tarihinin en önemli isimlerden olan 16.yy'da yaşamış İspanyol dahi, sanatçı Goya'nın ve II. Dünya Savaşını görmüş, acıyı, hüznü, savaşı eserlerine yansıtan Alman sanatçı Kathe Kollwitz'in özgün baskıları üzerine bir inceleme yapılmıştır. Sanat eğitiminde yerleri tartışma götürmez olan bu dahi sanatçıların eserlerini çözümlemeye geçmeden önce, toplumun sosyal, kültürel durumu ortaya konulmuş, sanatçıların eserleri içerik ve biçim bakımından açıklanmıştır. Toplumu derinden etkilenen, halkı, saray yaşamını, savaşı, vahşeti, şiddeti son derece vurgulu şekilde ele alan, zekice kurgulayan Goya'nın ve diğer yandan II. Dünya Savaşının getirmiş olduğu acı, şiddet ve vahşeti eserlerine plastik ve düşünsel yapıda sunan Kathe Kollwitz'in özgün baskıları çözümlenmiştir.
Bu çalışmada, sanat eğitiminde önemli yer tutun Goya ve Kollwitz'in özgün baskıları üzerine yapılan incelemenin, sanat eğitimi alan/veren öğrenci/akademisyenlere, sanatseverlere bir kaynak niteliğinde olması ve söz konusu grupların sanatsal gelişim süreçlerine katkı sağlayacağı düşünülmektedir. Bu araştırmada betimsel araştırma modeli kullanılmıştır. Kitap, makale, dergi, sözel ve görsel materyaller taranarak araştırma oluşturulmuştur.
**Anahtar kelimeler: :** Sanat eğitimi, Sanat, Özgün baskı, Goya, Kathe Kollwitz.

# AN ANALYSİS OF THE PRİNTMAKİNG WORKS OF GOYA AND KATHE KOLLWİTZ

**ABSTRACT**
Human history has undergone a great many cultural, political, religious, and social changes and transformations over its course, which in turn have had a profound effect on art. Artists have depicted such social changes and transformations as war, peace, violence, suffering, and joy in their works.

This study aims to analyze the prints made by Goya, a prominent figure in the history of art, who was an ingenious Spanish artist of the 16th century and who was able to depict the profound effects of war, violence, and savagery on the general public as well as the life in the palace in a masterly way, and the German artist Kathe Kollwitz, who, based on her experience of World War II, depicted pain, sorrow, and war in her works in an ideational way. Prior to the analyses of the works of these two artists, the social and cultural context was described, and their works of art were explained as regards content and style.

It is hoped that the analyses of works by masters Goya and Kollwitz made in this study could provide a valuable resource for students and academics of art as well as art-lovers, and contribute to their artistic development process. For the purposes of this study, descriptive research methodology was employed and books, articles, magazines, and verbal and visual material were reviewed.

**Key words:** Art education, Art, Printmaking, Goya, Kathe Kollwitz.

**FRANCISCO GOYA**

**YAŞAMI**

Resim 1: Francisco Goya, Otoportre

*"Aklın uykusu canavarlar üretir. Aklın terk ettiği düş gücü olanaksız, işe yaramaz düşünceler yaratır. Akılla bir arada kullanılan düş gücü sanatın anası ve bütün güzelliğinin kaynağıdır."*

*Goya*

*"Üç ustam vardı. Doğa, Velazquez ve Rembrandt."*

*Goya*

Dünya sanat tarihinde müthiş yeteneğe sahip, yaratıcı, bütün teknikleri kullanabilen, başarılı fresklere, yağlıboyalara, gravürlere, desenlere imzasını atmış, görülmemiş ölçüde verimli olan Goya, ardından 700 resim, 300 baskı ve 1000 kadar desen bırakmıştır.

Babası tezhipçi Jose Goya'yla annesi Gracia Lucientes'in dördüncü oğlu olan Francisco Goya, 30 Mart 1746'da Zaragoza'nın Fuendetodos kasabasında doğmuştur.

Sanatçı, Colegio de Escuelas Pias'ta, Peder Joaquin'in okulunda ilköğretime başlamıştır. 1758'de heykeltıraş Jose Ramirez de Arellano'nun resim okuluna, iki yıl sonra da Jose Luzan'ın okuluna gitmiştir. Burada Aragon resminin özünü öğrenmiştir. Goya'nın ilk eserleri günümüze gelememiştir. Goya 1763 yılının sonunda San Fernando Kraliyet Güzel Sanatlar Akademisinin açtığı resim bursu yarışmasına katılmak üzere Madrid'e gitmiştir. Üç yıl boyunca Madrid'de kalmıştır: Yakın dostu Francisco Bayeu'nun akademisinde Ramon Bayeu' nun özel akademisinde eğitim görmüştür. Aynı yıllarda Madrid Kraliyet Sarayı'nda Bayeu'yla birlikte çalışmıştır. 1766'da San Fernando Kraliyet Güzel Sanatlar Akademisinin giriş sınavlarında başarısız olmuştur. 1770'de İtalya'ya gitmiştir ve Roma'da yaşamıştır. Parma Güzel Sanatlar Akademisi'nin resim yarışmasında ikincilik ödülünü almıştır. Zaragoza'daki El Pilar Katedrali'nin freskleri siparişini tamamlamıştır. Zaragoza'daki Sobradiel Kontu Sarayı'nın şapelini 1772'de bitirmiştir ve Madrid'e gitmiştir. Maria Josefa Bayeu'yla evlenmiştir. Cartuja de Nuestra Senora de Aula Dei Kilisesinde resimleme işini almıştır.

Otuzlu yaşlarına yaklaşırken kayın biradeli Francisco Bayeu'nun tavsiyesiyle Saray Başressamı Antonio Rafael Mengs, sanatçıyı Madrid'e çağırmıştır ve Goya, Santa Barbara Kraliyet Halı Fabrikası'nın desen ressamlığını almıştır.

1776'lı yıllarda Velazquez'den etkilenerek gravürler yapmıştır. Sanatçının ilk asite yedirme işleridir. 1780'de San Fernando Kraliyet Güzel Sanatlar Akademisi'ne girmiştir. San Francisco el Grande Kilisesi için sipariş almıştır. 1785'te San Fernando Güzel Sanatlar Akademisi resim bölümü yöneticisi ve ardından saray ressamı olmuştur.

1792'de ciddi bir hastalık sonucu sağır olmuştur. Aynı dönemlerde boğa güreşi temalı resimler yapmıştır. 1796'da Endülüs'e gitmiştir ve ardından hastalanmıştır, Güzel Sanatlar Akademisi müdürlüğünü bırakmış ve kendisine Onursal Başkanlık ünvanı verilmiştir.

Kapriçyolar'ın seksen levhalık baskısı yayınlanmıştır. Aynı dönemde birçok önemli portre dizisi gerçekleştirmiştir.1798'de İsa'nın Yakalanışı'nı resmetmiştir. San Antonia de la Florida Kilisesi'nin duvar

bezemelerini yapmıştır.1805-1810 Savaş ve Fransız işgaliyle geçen dönemde Savaşın Felaketleri isimli seksen iki levhalık baskı yapmıştır.
1812 yılında eşi ölmüştür ve iki yıl sonra 2 Mayıs ve 3 Mayıs 1808 adlı resimlerini tamamlamıştır."Fransızlar'ın İspanya topraklarından çekilmesinin ardından Goya 24 Şubat 1814'te Kral Naipliğine, "Avrupa'nın tiranına karşı şanlı ayaklanmamızın en dikkate değer ve kahramanca eylemlerini ya da sahnelerini fırça aracılığıyla ölümsüzleştirme yolundaki şiddetli arzusunu bildirdi.
1816'da Boğa Güreşi dizisine başlamıştır.1810-1815 tarihlerinde Savaşın Felaketleri isimli 80 levhalık aside yedirme baskı dizisini yapmıştır. Sanatçı, baskılara İspanya'da Bonapart ile Yapılan Kanlı Savaşın Korkunç Sonuçları ve Diğer Vurgulu Kapriçyolar ismini koymuştur.
Sanatçı giderek inzivaya çekilmiştir.
1819 da ilk litografi çalışmalarını yapmıştır.1816'da Kapriçyolar ve Savaşın Felaketleri'nin ardından üçüncü seri olan Boğa Güreşi gravürleri satılır.
Goya, Ramon Pignatelli'ye ithaf ettiği bu diziyle ilgili çalışmalarına 1814'de başlamış, kimi levhalar Nicolas Fernandez de Moratin'in 1777 tarihli İspanya'da Boğa Güreşlerinin Kökenine ve Gelişmesine Dair Tarihsel Çizelge'sinden esinlenmiştir.İlk basım otuz üç baskıdan oluşmuştur(Akkoyunlu Ersöz, B, Bahar,T, 2012,51).
Goya, 1817-18'de Zırvalar isimli on sekiz levhalık gravür serisine başlamıştır.
Sanatçı, yetmiş sekiz yaşında birçok hastalıktan muzdarip sağırlığının da vermiş olduğu yalnızlıkla Fransa'ya gitmiştir. Ağır bir hastalık sonucu duyma yetisini yitirmesi nedeniyle sanatı, bu hastalığın öncesi ve sonrası olarak iki döneme ayrılmaktadır: hastalıktan önce hırslı ve iyimser bir ressam iken, hastalığı sonrasında içe kapanmış ve buna bağlı olarak depresif ve karanlık resimler üretmeye başlamıştır.
Dört yıl süren Fransa yıllarında Bordeaux'nun Boğaları dizisini tamamlamıştır.
Goya, 1828'de Bordeaux'da ölmüştür.

## RESSAM VE GRAVÜR SANATÇISI GOYA

Goya, saray ressamlığına atanır atanmaz gravürde şansını denedi: orijinal eserleri çoğaltacak yeni bir estetik anlatım tekniğini uygulamak istiyordu. Başarılı olabilirse hem şöhret hem kazanç elde edecekti. …. Goya'nın aside yedirme baskıdan taşbaskıya, yaratıcı gravürün bütün teknik imkanlarını adım adım, kararlı bir biçimde keşfettiğini gözlemek mümkündür.İlk dizisi, 1778 yılında Velazquez'in eserlerinin kopyalarından oluşan bir koleksiyondu ve gravürcü olarak ilk fiyaskosunu da bu dizi oluşturdu: bununla birlikte bu dizi, Kapriçyolar'la başlayan daha sonraki döneminin ilk tohumlarınını da içinde barındırır(Akkoyunlu Ersöz, B, Bahar,T, 2012,59).

## KAPRİÇYOLAR SERİSİ (1799)

Kendine özgü, yeni ve isabetli fikirler oluşturabilecek bir zekaya sahip olduğu şüphe götürmez olan Goya'nın ilk önemli albümü Kapriçyolar serisidir. Goya tarafından tasarlanan ve leke baskı tekniği uygulanarak oluşturulan tuhaf konulu seksen baskıdan meydana gelen koleksiyon, ilk döneminde İspanya'da fazla etki yaratmamış olmasına rağmen, 1799'da satışa çıkarılmış ve İspanya dışında büyük yankı uyandırmıştır. Yazar Leandro Fernandez de Moratin'in de yardımıyla ve Goya tarafından da açıklanan amacı genel hatlarıyla, gülünçlüğe en fazla malzeme sağlayacak ve hayal gücünü de en fazla harekete geçirebilecek olanları seçmesi, şeklinde açıklanmıştır. Öyle ki, "Goyaesk" olarak adlandırılan üslubun başlangıcını oluşturan bu seride kullanılan yenilikçi ve cüretkar dil 19. yüzyıl sanatçıları tarafından da benimsenmiştir.

Goya, gravürlere ilk olarak cepheye gittiği Zaragoza'da 1809'un ilk aylarında başlamıştır. Hazırlık aşamasındaki ilk düşüncelerini değiştirmeden oymaya başladığı levhaları Bağımsızlık Savaşını konu alan yurtsever bir albüm oluşturmak için planlamış olsa da, çalışmanın yavaş ilerlemesi ve İspanya'daki diğer siyasi gelişmeleri kapsayacak şekilde genişleterek Vurgulu Kopriçyolar serisinin özünü oluşturmuştur.
Savaşın Felaketleri isimli seri ilk olarak 1810-1823 tarihleri arasını kapsayan bir dönemi işlemiş olarak gözükse de son konusu eserlerin kronolojisi 1810-1815 olarak tarihlenmiştir. Bu kısa kronolojinin hemen ardından gelen ve seksen levhadan oluşan, Vurgulu Kapriçyolar, kronolojisi ise üç bölüm olarak değerlendirilebilir (Akkoyunlu Ersöz, B, Bahar,T, 2012,50).

1-47 numaralı baskılardan oluşan birinci bölüm savaşa ayrılmışken, 48-64 numaralı baskıların yer aldığı ikinci bölüm, 1811 ve 1812'de Madrid'de hüküm süren açlık yıllarına ayrılmıştır. Son on altı eser ise, VII. Fernando'nun baskıcı rejimini konu edinmiştir.

Sanatçının eserlerinde yansıttığı temaya uygun olarak işlediği ana konular olan ölüm, acı, keder, hüzün ve ideolojik baskı bir propaganda nesnesi olarak değil, toplumda gördüğü gerçekliği yansıtan serbest eser konuları olarak benimsenmiştir.


Resim 2:Francisco Goya,"Otoportre", Aside yedirme baskı, leke baskı, iğne kazı ve çelik kalem, 220x153 mm
Resim 3:Francisco Goya,"Al birini vur ötekine", aside yedirme baskı, leke baskı, iğne kazı, 200x151 mm
Resim 4:Francisco Goya,"Başka çare yoktu", aside yedirme baskı ve perdahlanmış leke baskı, 219x452 mm

Resim 2, serinin 1 numaralı eseri olan yukarıdaki çalışmada, ressamın alaycı, huysuz ve küçümser ifadeli otoportresi yer almaktadır.
Resim 3, serinin 5 numaralı eseri olan bu çalışmada, Goya, tartışmalı bir konu olan erkeklerin mi kadınların mı daha kötü olduğuyla ilgili temayı işlemiştir.
Resim 4, seride 24. sırada olan bu çalışma, idam hükmü verilen ve sokaklarda zafer yürüyüşüne neden olan masum kadını utandırmak için uğraşan kalabalık resmedilmiştir. *"Utanacak şeyi olamayanı kimse utandıramaz."*



Resim 5: Francisco Goya,"Niye saklıyorlar ki?", aside yedirme baskı, perdahlanmış leke baskı ve iğne kazı, 218x153 mm
Resim 6: Francisco Goya,"Aklın uykusu canavarlar doğurur", aside yedirme baskı ve leke baskı, 218x152 mm
Resim 7:Francisco Goya, "Islah", aside yedirme baskı ve perdahlanmış leke baskı, 217x150 mm

Resim 5, albümün 30. çalışması, seksen yaşını doldurmuş bir aylık ömrü kalmış ve buna rağmen parasız kalacak kadar uzun yaşamaktan korkan harcamak istemeyen cimriliğin hesapları içindeki bir ihtiyarı konu almaktadır.
Resim 6, serinin 43 numaralı eseri olan bu çalışmada, akıldan uzak hayal sadece korkunç canavarlar üretirken, bunun aksine akıl hayalle bütünleştiğinde hayal sanatın ana üreticilerinden birisidir.

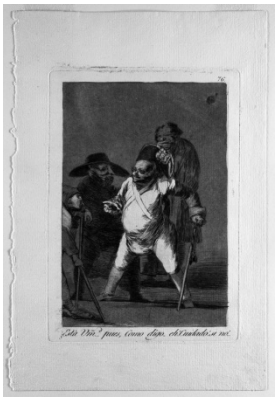
Resim 7, resimde uykuya dalan ressamın,arka planında baykuşlar vardır. Baykuş, bilgeliğin semboli olarak yaklaşılsa da Goya, baykuşları olumsuz olarak ele almış ölümü ve ölümün habercisi olarak yaklaşmıştır.
Serinin 46 numaralı eseri olan yukarıdaki çalışmada, ıslah ve tekdir olmadan hiçbir dalda ilerlenemeyeceği belirtilmektedir.



Resim 8: Francisco Goya, "Çinçillalar", aside yedirme baskı, perdahlanmış leke baskı ve çelik kalem, 207x151 mm
Resim 9:Francisco Goya, "Çıkış ve iniş", aside yedirme baskı ve perdahlanmış leke baskı, 217x152 mm
Resim 10:Francisco Goya, "Kimin aklına gelirdi!", aside yedirme baskı, perdahlanmış leke baskı ve çelik kalem, 209x153 mm

Resim 8, dizinin 50. sırasında bulunan yukarıdaki eser, hiçbir şey duymayan, hiçbir şey bilmeyen kişi asla bir işe yaramamış kalabalık Çinçillalar familyasındandır.
Resim 9, serinin 56 numaralı eseri olan bu çalışmada, talih kendisine kur yapanlara çok kötü davranır. Yükselme çabası zorluklarla dolu bir yol iken yükselmiş olanı da aniden düşürebilir.
Resim 10, albümün 62. çalışması, Dostluğun erdemli bir davranış olduğunu, kötülerin yalnızca suç ortağı olabileceklerini ama asla dost olamayacaklarını tema edinmiştir.


Resim 11:Francisco Goya, "Körükle", aside yedirme baskı, leke baskı, iğne kazı ve çelik kalem, 214x152 mm
Resim 12:Francisco Goya,"Anladın mı?... Şey, nasıl desem...ayağını denk al, yoksa…", aside yedirme baskı ve perdahlanmış leke baskı, 217x152 mm
Resim 13: Francisco Goya,"Toparla, uyanıyorlar", aside yedirme baskı ve perdahlanmış leke baskı, 218x152 mm

Resim 11, seride 69. sırada olan bu çalışma, çocukların dahi katledildiği VII. Fernando'nun baskıcı rejim dönemi resmedilmiştir.
Resim 12, dizinin 76. sırasında bulunan yukarıdaki eserde, baskı rejimi döneminde altındakilere karşı kibirli, aşağılayıcı ve küstahça yaklaşanların, kendinden üstün olanlara karşı düştükleri eziklik ve pespaye durum anlatılmaktadır.
Resim 13, serinin 78 numaralı eseri olan yukarıdaki çalışmada, şeytanlar kötülük yapmakla, başkalarının iyilik yapmasını engellemekle ya da hiçbir şey yapmamakla uğraşanları anlatmaktadır.

**SAVAŞIN FELAKETLERİ (1810- 1820)**

1808 yılında patlak veren İspanyol Bağımsızlık Savaşı onu derinden etkiledi; savaşı fırça darbeleriyle korkusuzca ve sansürsüzce yansıttı. Varlığının derinliklerinde bir sarsıntı yaşayan Aragonlu üstad, sert ve dokunaklı Savaşın Felaketleri( Los Desastres de la Guerra) serisinde, bir trajedinin vakanüvisi gibi hareket ederek savaşın dehşetini ayrıntılı bir şekilde tasvir etmiştir. O zamana kadar sanat, hükümetler ve mutlakiyetçi rejimler tarafından bir propaganda aracı olarak kullanılmıştı; sanatçı görevi gereği genellikle dev boyutlardaki görkemli tablolarda savaşlarda kazanılan zaferleri tasvir ediyordu. Savaş, iktidar ve zafer demekti, uluslar için olumlu bir anlamı vardı, ta ki Goya bu yaygın kanıyı yıkana ve çatışmaların acı yönünü açıkça gözler önüne sermeye cüret edene kadar. .. Savaşın Felaketleri, özgün bir sanatçının sonraki yüzyıllarda diğer sanatçılarda şok etkisi yaratacak cesaretinin ve hayal gücünün geleneksel ve akademik eğitimle harmanlanması sonucu ortaya çıktı. Bu yenilikçi ve özgün ruh, onu bütün zamanların zirvedeki sanatçıların arasına yerleştirdi. Savaşın acımasızlığının yarattığı azap, Goya'yı sanata dekor olarak değil, bir misyon gereği yaklaşan, kozmik ruhuyla baş başa kalmış bir sanatçıya dönüştürdü. Üstadın bu güçlü kişiliği çağdaşları arasında da hayranlık uyandırdı ve İspanya'nın sınırlarını aşmıştır (Akkoyunlu, Ersöz, B, Bahar,T, 2012,12).

Resim 14: Francisco Goya,"Haklı mı haksız mı?", aside yedirme baskı, suluboya, iğne kazı ve çelik uç ve perdah kalem, 150x209 mm
Resim 15: Francisco Goya, "İstemiyorlar" , aside yedirme baskı, leke baskı, iğne kazı ve çelik uç, 156x209 mm

Resim 14, Goya, Savaşın Felaketleri serisinin 2. sırada olan bu çalışmada, meçhul askerlerden oluşan ellerinde tüfekler bulunan bir grup, elinde bir bıçak tut an, kanlar içindeki iki adama silahlarını doğrultmuşlardır. Eserde, İspanyol halkı ve Fransız ordusunun askerlerinin karşı karşıya gelme anını, savaşın vahşetinin çıplak yüzünü resmetmiştir. Arkada askerler ve köylüler savaşmaktadır.
Resim 15, albümün 9. çalışması başıboş Fransız askerlerin, kırsal bölgede genç bir kadına saldırması ve kadına yardım eden arka plandaki yaşlı annesinin askeri sırtından bıçaklama anını göstermektedir.

Resim 16:Francisco Goya, "Çare yok", aside yedirme baskı, iğne kazı, çelik uç ve perdah kalemi, 142x168 mm
Resim 17:Francisco Goya, "Bakmak mümkün değil," aside yedirme baskı, suluboya, iğne kazı ve çelik uç, 145x210 mm

Resim 16, serinin 15 numaralı eseri olan bu çalışmada Goya 1814'te yaptığı 3 Mayıs 1808 tablosunda elleri arkadan direğe bağlanmış, gözleri bağlı, ayak ucunda öldürülmüş bir adam bulunan ve arkasında direklere bağlanarak infaz edilen kişileri, yaşanan katliamı tüm çarpıcılığıyla betimlemiştir.
Resim 17, seride 26. sırada olan bu çalışma, zulumden kaçan kadınlı, erkekli, çocuklu İspanyol bir grup, savaştan, katliamdan kaçmak istemektedir. Mağaranın ağzında tüfeklerle, süngülerle bekleyip katliam yapılma anını resmetmişlerdir.Yaşanan vahşet çarpıcı bir şekilde verilmiştir.

Resim 18:Francisco Goya,"Savaşın getirdiği yıkım", aside yedirme baskı, iğne kazı, çelik uç ve perdah kalem, 141x170 mm

Resim 18, dizinin 30. sırasında bulunan yukarıdaki eserde, kolunda bebeğiyle yerde yatmakta olan bir kadın ve odanın içindeki eşyaların havada uçuştuğu savaş anı betimlenmiştir. Kadının etrafındaki kişiler öldürülmüş yerde yatmaktadır. Dizinin son derece çarpıcı eserlerinden biridir.

**BOĞA GÜREŞİ (1815-1816)**

Sanatçı, yaşamı boyunca boğa güreşlerine ilgi duymuştur ama Bağımsızlık Savaşı sonrasında Boğa güreşlerine ilgi artınca bunu fırsata çevirmek istemiştir. 1884'te başladığı Boğa Güreşi serisini 1816'da bitirmiş ve bu serinin başlangıcı Savaşın Felaketleri'nin bitimi ve Zırvalar'ın eskiziyle aynı dönemdedir. Zırvalar'ın birini Boğa Güreşi'ne eklemiştir. Konusunu boğa güreşçilerinin yeteneğini anlatan seriyi daha öncede bir çok sanatçı tarafından işlenmiştir: Bu sanatçılardan en dikkat çeken isim ve baskıları birçok ülkede kopyalanan Antonio Carnicero'nun, Bir Boğa Güreşinin Başlıca Aşamalarının Koleksiyonu isimli gravür baskılarıdır. Goya, bu seride birden otuzüç numaralı, son yedisi A'dan G'ye alfabenin harflerini taşıyan toplamda kırk baskıdan meydana gelmiştir.Seri pek fazla dikkat çekmemiş ve bunun nedeni de folklorcu akım dizilerindeki doğrusal, didaktif anlayışı benimsemeyip, uygulanan grafik anlatımın yeniliği olmuştur.

1779 yılı civarında ilk boğa temalı baskılar yapmıştır. 1812-1819 yılları arasında boğa güreşlerini çalışmaya sürdürmüştür.1816'da Boğa Güreşi'nin ilk baskılarını yayınlamıştır.

Otuz üç aside yedirme baskıdan oluşan bu dizi, boğa güreşinin bütünlüklü bir resmini sunmayı amaçlar. Serinin ilk on üç levhası, Endülüs'e Mağribiler tarafından getirilen boğa güreşinin tarihini anlatmaya ayrılmıştır…. Fransa'daki emeklilik yıllarında, Goya dört tane boğa güreşi baskısı üzerinde çalışmaya başladı. 1825'de tamamlanan deneysel Bordeaux Boğaları, yeni taş baskı tekniği kullanılarak yapılan ilk çalışmalar arasında yer almaktadır. Baskılar o döneme dek geleneksel yöntemlerle, imgenin ahşap ya da metal üzerine kazınması ve sonra mürekkeplenmesi yöntemiyle yapılırdı. Taş baskıyla birlikte çizgiler kazınmak yerine mum boya ile doğrudan taş üzerine çizilmeye başlandı ve böylece daha yumuşak hatlı biçimler elde edildi." (Ed. Öztürk, 2011;140-144)

Resim 19:Francisco Goya, "Mağripliler üzerlerindeki entariyle bir kez daha boğayı kızdırıyor", aside yedirme baskı ve leke baskı, 247x356 mm

Resim 20: Francisco Goya, "Boğanın arenadaki bir Mağripliye boynuzlarını geçirişi", aside yedirme baskı ve leke baskı, 249x356 mm

Resim 19, serinin 6 numaralı eseri olan yukarıdaki çalışmada, boğanın pelerinle kızdırıldığı anı resmetmişlerdir.

Resim 20, serinin 8 numaralı eseri olan bu çalışmada Goya, bir Mağripli'nin elindeki zıpkını boğaya saptama isteme halini resmetmiştir. Boğanın en acı, hüzünlü anıdır.

Resim 21: Francisco Goya, "Martincho'nun Zaragoza arenasındaki cesaret göstermesi", aside yedirme baskı ve leke baskı, 249x357mm

Resim 21, albümün 18. çalışmasındaki gösteri 1764 yılında, Zaragoza'daki yeni arenanın açılışında yapılmıştır. Ayakları kelepçeli, sandalyede oturan Martincho'nun elinde değneği gizleyerek şapkayı öne sürüp boğayı öldürmeyi hedeflemektedir. Seyirciler bu ana tanıklık etmek için merakla bakmaktadırlar.

**ATASÖZLERİ (ZIRVALAR) (1815-1824)**

Sanatçının, olasılıkla yedi senede tamamladığı (1816-1823), yaşamında aynı Savaşın Felaketleri gibi yayınlanmayan Zırvalar serisi, on sekiz levhadan ve ayrıca basımda olmayan dört kalıptan oluşmaktadır. Seri ilk olarak talihsiz Atasözleri başlığıyla Madrid'de San Fernando Kraliyet Akademisinde gerçekleşmiştir. Dizi, insanın derin mizacı konusunda kaygı ve sorunlara kaynak olabilir. Çalışmada güçlü duygular, yücelik, korkunçluk ve korkunun iç içe geçmiş karışıklığıyla ekspresyonizmin bir yansıması görülmektedir. Ayrıca zaman zaman grotest vasıtasıyla karşımıza çıkan kötümserliği de algılamanın mümkün olduğu seri adını tam anlamıyla hak ederek "zırva" şeklinde resmedilmiştir.

Resim 22: Francisco Goya, "Kadınların Zırvalığı", aside yedirme baskı, leke baskı ve iğne kazı, 247X359 cm
Resim 23: Francisco Goya, "Budala", aside yedirme baskı, perdahlanmış leke baskı ve iğne kazı, 247x359 mm

Resim 22, serinin 1. numaralı eseri olan bu çalışmada sanatçı, bir çok kadın eliyle gerip ortalarına açtıkları örtüde kuklaya benzeyen iki adamı tutmaktadırlar. Örtüde eşek figürü belirerek karnavala gönderme yaparak kadınlar erkek üzerindeki gücünü temsil etmektedir.
Resim 23, serinin 4 numaralı eseri olan bu çalışmada Goya, kollarını açmış, iki tarafından yüzler veya maskeler çıkan, karşısındakine gülen dev, dans etmektedir. Önünde genç bir kadın tutan yaşlı kadın gizlenmektedir.

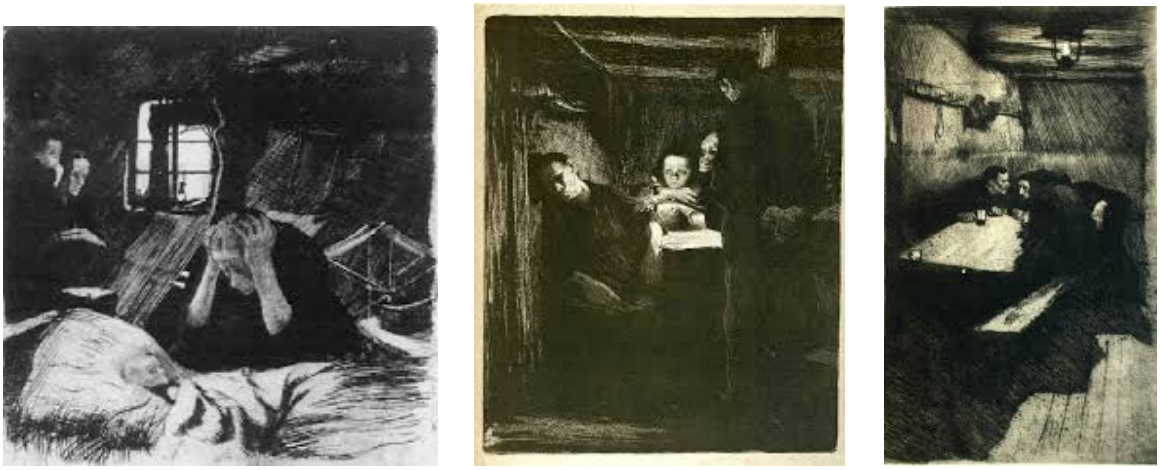
**KATHE KOLLWİTZ**
**YAŞAMI**

Resim 24: Kathe Kollwitz Çalışırken

1867 - 1945 yılları arasında kalan 77 yılda sayısız eser üretmesinin yanı sıra gerek döneminde gerekse de dönemi sonrası sanat dünyasında, özellikle baskı konusunda, çığır açan Alman ressam, oymabaskı sanatçısı ve heykeltıraş.
Doğu Prusya'da Dresden yakınlarında Königsberg'de (bugün Kaliningrad) doğan ve Hıristiyan olmasına rağmen sosyalist dünya görüşüne sahip bir ailenin ferdidir. Küçük yaşlardan itibaren yeteneğini belli etmesi üzerine babası tarafından ünlü resim ve grafik ustalarından ders almasını sağlamıştır. 1884'te Berlin'de başlayan sanat eğitimi, 1986 Berlin Kadınlar Akademi'nde ve sonrasında, 1888-1889 yıllarında Münih'te devam etmiştir.
Käthe, yapıtlarında gerçek yaşamda tanık olduğu insanlara ve olaylara yer vermiştir. Özellikle XIX. yüzyılın sonunda işçilerin ve dolayısıyla hemen tüm halkın içinde bulunduğu olumsuz koşullardan, toplumsal eşitsizlik ve adaletsizlik durumları onu derinden etkilenmiştir. Siyasi konularda son derece bilgili olan ve döneminin önemli fikir insanlarından birisi büyükbabasının "*yetenekli olmak insana sorumluluk yükler*" sözlerini aklından çıkarmayarak kendisini ve sanata bakışını şekillendirmiştir. Ayrıca "*sanatçıyı çağının yarattığını*" düşünen sanatçı, daha sonraki çalışmalarında bu fikirden hareketle hep toplumsal olarak hor görülenlerin, ezilenlerin, adaletsizliğe uğrayanların, açlık çekenlerin, horlananların yanında olmuştur.
1894'te bir tıp öğrencisi olan ve daha sonraki yıllarda yoksulların yaşadığı bir Berlin mahallesinde açtığı kliniğe başvuranların Kathe'nin başlıca modelleri olmasının önünü açan Karl Kollwitz'le evlenmiştir. O dönem meydana gelen ve Silezyalı dokuma işçilerinin başkaldırışını konu alan Bir *Dokumacılar Ayaklanması* adını verdiği oymabaskı eserlerden oluşan dizisini başladıktan dört yıl sonra 1898'de tamamlamıştır.Bu dizi ile elde ettiği üstün başarı sonucunda hak ettiği altın madalya ödülünü alması dönemin yöneticileri tarafından engellenmiştir. Bu olumsuz durum Kathe'nin duraksamasına neden olmamiştır ve *Köylüler Savaşı* adını verdiği dizisi tamamlamıştır. Bu iki dizisinde kadınların, ana ve çocukların özel bir yeri vardır öyle ki kadınların sosyal değişim içindeki rolleri vurgulanmıştır.
Käthe ve Karl'ın iki oğlundan biri olan Peter, 18 yaşındayken I. Dünya Savaşı'nda yaşamını yitirmiştir. Savaşa tüm benliğiyle karşı olmasının yanında ve oğlunu kaybetmenin vermiş olduğu ruh hali ile yaşamaya çalışan Kathe için, ölüm teması adeta peşini bırakmayan bir karabasana dönüşmüştür. Sekiz eserden oluşan ve "ölüm" temasını işlediği bir taş baskı dizisi yapmıştır. Nazi döneminde meydana gelen olaylar ve II. Dünya Savaşı'nın çıkması zaten işlemekte olduğu "ölüm" temasının daha da belirginleşmesine neden olmuştur. Nazi yöneticilerine ve yönetimine aykırı davranışlar sergilediği için 1933'te yapıtları "yoz" ilan edilerek akademideki görevine son verilmiştir. Üstelik evi ve atölyesinin 1943 yılında bombalanması sonucu yapıtlarının çoğunu da yitirmiştir. Her türlü toplumsal eşitsizliği kendisine konu edinen sanatçının oto portre çalışmaları ise yaşamı boyunca içinde bulunduğu durumların eserlerde nasıl şekil aldığını göstermesi açısından önemli olmuştur.

**BİR DOKUMACILAR AYAKLANMASI (1894 - 1898)**
Gerhart Hauptmann'ın "Dokumacılar" adlı oyunundan etkilenerek, benzer siyasi endişelere sahip olması nedeniyle bu oyundaki durumları bir baskı dizisi haline getirmeye karar vermiştir. Sanayi Devrimi'nin işçi kesimi üzerindeki olumsuz etkilerine karşılık insancıl beklentiler resmedilmiştir. Altı konunun işlendiği seri sekiz parçadan oluşuyor olmasına rağmen içinde barındırdığı sömürü düzenine olan karşı tavır ve özel mülkiyetin meydana getirdiği olumsuzlukları konu edinmesi bakımından önemlidir. Serinin büyük bölümünde geleneksel akademik anlayış hakim olmakla beraber, natüralist ve sembolist ifadelerin barındığını söylemekte mümkündür.



Resim 25:Kathe Kollwitz,"Yoksulluğun Çaresizliği", 1893-97, Serinin 1.yaprağı, Litografi, 15.4 X 15.3 cm.
Resim 26: Kathe Kollwitz, "Ölüm", 1893-97, Serinin 2.yaprağı, Litografi, 22.4X 18.5 cm.
Resim 27: Kathe Kollwitz, "Müzakere", 1893-97, Serinin 3.yaprağı, , Litografi, 29.5X 17.6 cm.

Resim 28 :Kathe Kollwitz,"Müzakere", 1893-98, Serinin 3.yaprağı, Litografi, 27.4 X 16.9 cm.
Resim 29 :Kathe Kollwitz,"Dokumacıların Göçü", 1893-98, Serinin 4.yaprağı, Litografi, 21.5 X 29.7 cm.

Resim 30 :Kathe Kollwitz,"Saldırı", 1893-97, Serinin 5.yaprağı, Litografi, 23.4 X 29.6 cm.
Resim 31 :Kathe Kollwitz,"Son ", 1893-97, Serinin 5.yaprağı, Litografi, 24.5 X 30.7 cm.

**SAVAŞ (1921-1922)**

Sanatçı, bir yaz tatili sonucu döndüğü Berlin'in artık eskisi gibi olamayacağını düşünür. Çünkü Hitler'in kuracağı yeni Almanya düşüncesi ile tüm toplumu olumsuz olarak etkileyeceğine inandığı bir savaşın kıyısında olunduğunun farkına varmıştı. Bu savaşın tüm toplumda büyük bir yıkım oluşturacağına olan inancı ile söz konusu dizisini yapmaya başlamıştır. Yedi konunun islendiği toplam on eserlik dizi savaşın tahribatını konu edinirken genellikle geride kalanlardan yola çıkmıştır. Savaş esnasında muhtemelen ölecek olan erkeklerin

geride bıraktıkları eş, anne, baba ve çocuklar kaderlerinin karanlıkları içerisinde resmedilmişlerdir. Seri Alman yönetimine karşı bir eleştirel duruş olarak oluşturulmuş, ağaç baskı ve litografi tekniği kullanılmıştır.

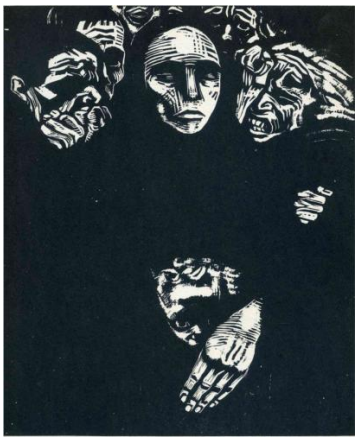
Resim 32 :Kathe Kollwitz,"Kurban", 1922, Serinin 1.yaprağı, Ağaç baskı, 37.1 X 40.1 cm.
Resim 33 :Kathe Kollwitz,"Şehit Düşmüş", 1920, Serinin 2.yaprağı, Litografi, 40.8 X 38.5cm.

Resim 34 :Kathe Kollwitz,"Gönüllüler", 1921-22, Serinin 2.yaprağı, Ağaç baskı, 35X 49.6 cm.
Resim 35:Kathe Kollwitz,"Ebeveyn", 1921-22, Serinin 3.yaprağı, Ağaç baskı, 35 X 42.2cm.

Resim 36:Kathe Kollwitz,"Dul ", 1918, Serinin 4.yaprağı, Gravür, 25.8X 25.7 cm.
Resim 37 :Kathe Kollwitz,"Dul ", 1921-22, Serinin 4.yaprağı, Ağaç baskı, 37 X 23cm.

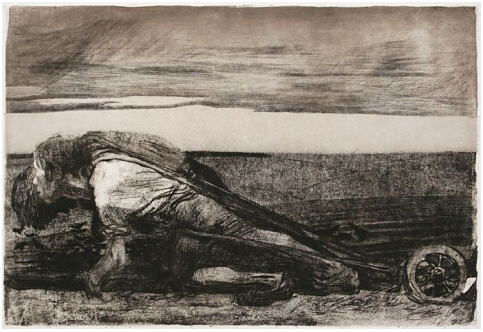

Resim 38 :Kathe Kollwitz,"Dul II ", 1893-97, Serinin 5.yaprağı, Ağaç baskı, 31 X 53 cm.
Resim 39 :Kathe Kollwitz,"Anneler ", 1919, Serinin 6.yaprağı, Litografi, 44.4 X 58.6 cm.

Resim 40 :Kathe Kollwitz,"Anneler ", 1921-22, Serinin 6.yaprağı, Ağaç baskı, 34.2X 39.8 cm.
Resim 41:Kathe Kollwitz,"Halk ", 1922, Serinin 7.yaprağı, Ağaç baskı , 35.7 X 30 cm.

**KÖYLÜLER SAVAŞI (1902-1908)**

Ana fikir olarak "Bir Dokumacılar Ayaklanması" serisi ile bire bir örtüşüyor olmasına rağmen bu seride toplumsal yapı içerisindeki kadının yeri konusunda daha baskın ifadeler yer almaktadır. Tarihsel Sanat Derneği için yedi yaprak sekiz eser olarak oluşturulan seri sonucu sanatçı, "Villa Romana" ödülü ile onurlandırılmıştır.




Resim 42 :Kathe Kollwitz,"Sabancılar ", 1906-7, Serinin 1.yaprağı, Gravür, 31 X 45.7cm.
Resim 43 :Kathe Kollwitz,"Irzına geçilmiş", 1906, Serinin 2.yaprağı, Gravür, 30.6 X 52.9 cm.


Resim 44 :Kathe Kollwitz,"İlham", 1904*1905, Serinin 3.yaprağı, Gravür, 56.4 X 29.3 cm.
Resim 45:Kathe Kollwitz,"Tırpanı bilerken", 1905, Serinin 3.yaprağı,Gravür, 29.7X 29.4 cm.

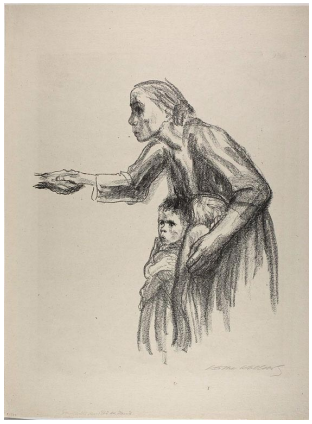


Resim 46 :Kathe Kollwitz,"Hücuma Kalkış", 1902-03, Serinin 5.yaprağı, Gravür, 51.2X59.8 cm.
Resim 47 :Kathe Kollwitz,"Savaş Meydanı", 1907, Serinin 6.yaprağı, Gravür, 41.5 X 53.1 cm.
Resim 48:Kathe Kollwitz,"Esirler ", 1908, Serinin 7.yaprağı, Gravür, 32.6 X 42.5 cm.

**ÖLÜM ( 1934-1937)**

1910 yılından itibaren ilgi duyduğu "ölüm" konusu üzerine başlarda yetkin ama sayıca az eser veren sanatçı 1923 yılından bu konu üzerine çalışmaya ara vermiştir. Daha sonraları edindiği tecrübeler ve ülkesinin de içinde bulunduğu savaş ortamının neden olduğu ölümlerle beraber bu tema üzerinde çalışmalarının sıklaştığı anlaşılmaktadır. Bu tema ile ilgili olarak beslendiği ana kaynağın dönemin edebiyat ve resim sanatında zaten popüler olan ölüm tasvirlerinin geldiğini söylemek yanlış olmaz. 1934-1937 dönemi arası sekiz eserlik bu seriyi tamamlayan Kollwitz "ölüm"ü adeta insanın hemen yanı başında hatta ensesinde soğuk nefesini hissedecek kadar yakın resmetmektedir. Bu yakınlık sonucu ölümü korkulacak bir şey olmaktansa bedene yavaş yavaş sokulan ve huzur veren bir tür dost olarak tanımladığını söylemek bile mümkündür.

Bu serinin, sanatçı açısından bir diğer önemi ise katıldığı son akademik sergi olmasıdır. 1936 yılında Nazi yönetimi tarafından gerek akademik sergilere gerekse de satış amaçlı sergilere katılımı yasaklanmıştır. Sanatçı tüm bu olumsuzluğa rağmen sanatından kopmayarak kişisel atölyesinde çalışmalarına devam etmiştir.



Resim 49 :Kathe Kollwitz,"Kadın Kendini Ölüme Emanet Ediyor", 1934, Serinin 1.yaprağı, Litografi, 45.7 X 39.8 cm.
Resim 50 :Kathe Kollwitz,"Ölüm Kızı Kucağında Tutuyor", 1934, Serinin 2.yaprağı, Litografi, 43.1 X 37.6 cm.
Resim 51 :Kathe Kollwitz,"Çocukları Yakalayan Ölüm", 1934, Serinin3.yaprağı, Litografi, 50.2 X 41.5 cm.

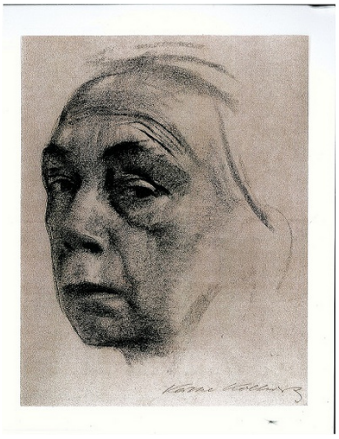
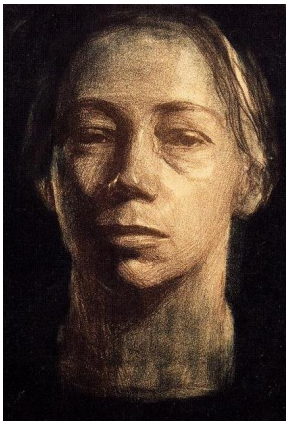


Resim 52 :Kathe Kollwitz,"Ölüm Kadını Yakalıyor ", 1934, Serinin 4.yaprağı, Litografi, 50.7 X 36.5 cm.
Resim 53 :Kathe Kollwitz,"Sokakta Ölüm", 1937, Serinin 5.yaprağı, Litografi.
Resim 54 :Kathe Kollwitz,"Onun İçin Artık Dost ", 1937, Serinin 6.yaprağı, Litografi, 31.4X 32.6 cm.


Resim 55 :Kathe Kollwitz,"Suda Ölüm", 1934, Serinin 7.yaprağı, Litografi, 49 X 37 cm.
Resim 56 :Kathe Kollwitz,"Ölümün Çağrısı ", 1937, Serinin 8.yaprağı, Litografi, 37.8 X 39.7 cm.

**OTOPORTRE VE AFİŞ ÇALIŞMALARI**

Sanatçının çalışmalarında önemli yer tutan otoportreler ekspresif tarzda, büyük bölümü litografi, geri kalanı gravür ve ağaç baskı olarak yapılmıştır. Kollwitz'i en çok Rembrandt'ın yaptığı otoportreler ve portrelerdeki ifade anlayışı etkilemiştir. Sanatçıyı diğer etkileyen sanatçı samimi olan ve yalnızlıklar içindeki Van Gogh'tur. Kollwitz, çalışmalarında realist tarzda, elleri sembolik olarak kullanan, ifadeci bir anlatım tarzıyla eserlerini gerçekleştirmiştir.

Resim 57 :Kathe Kollwitz,"Alnına Konulmuş El ile Oto-portre", 1910, Gravür, 15.7X 13.8 cm.
Resim 58 :Kathe Kollwitz,"Otoportre ", 1924, Litografi, 30 X 22.2 cm.
Resim 59 :Kathe Kollwitz,"Karşıdan Oto-portre", 1904, Litografi, 43.7X 33.1 cm.

## SONUÇ

Sanat tarihinde önemli bir yeri olan İspanyol sanatçı Goya, ardından 300 kadar özgün baskı ve binin üzerine desen bırakan, yaşadığı dönemi, toplumda yaşanan savaş, ölüm, acı, keder, hüzünü, insanların negatif karakter ve davranışlarını tüm çarpıcılığıyla, çıplaklığıyla yansıtan eserler üretmiş, yaratıcı bir sanatçıdır. Çalışmada sanatçının özgün baskıları üzerine derinlemesine inceleme yapılmış ve serileri açıklanmıştır. Bunlar Kapriçyolar Serisi, Savaşın Felaketleri, Boğa Güreşi, Atasözleri (Zırvalar) serileridir.
Çalışmada diğer önemli bir sanatçı olan Alman sanatçı Kathe Kollwitz'in özgün baskılarına da yer verilmiştir. II. Dünya Savaşını yaşamış ve oğlunu bu savaşta yitiren kadın sanatçının eserleri incelenmiştir. Savaşı, vahşeti, ölüm, şiddet ve acıları vurgulayıcı eserler üreten Kollwitz, toplumu derinden etkilemiştir. Özgün baskı serileri Bir Dokumacılar Ayaklanması, Savaş, Köylüler Savaşı, Ölüm ve Otoportre ve afiş çalışmalarıdır.
Farklı dönemlerde yaşamış olan ama toplumdaki bu acıları, savaşları, vahşeti, korkuyu, ölümü yansıtan sanatçıların eserleri, sanat tarihinde çok önemli bir yer teşkil etmektedir.

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# SANAT EĞİTİMİNDE DİSİPLİNLERARASI YAKLAŞIMLAR

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**ÖZET**
20.yy'da bilimsel araştırmalarda önemi fark edilen disiplinlerarası çalışmalar, sanat ve sanat eğitiminde de özellikle 1950 sonrası sanat anlayışı ile kendini göstermiştir. Bu durumu etkileyen birçok önemli faktörler vardır. Öncelikle Dada ile başlayan ve Sürrealizm ile devam eden sanat üretim ve anlayışındaki yenilikçi arayışlar etkili olmuştur. Bu değişime eşlik eden yeni sanat okullarının anlayışlarındaki güncel sanat yaklaşımıları da yayılmayı hızlandırmıştır. ABD ve akabinde Avrupa sanat okullarının disiplinlerarası sanat ürünlerine yönelik eğitim anlayışları 1950 sonrası sanatın güçlenmesini sağlamıştır. Yaratıcı sanat uygulamalarının sanat eğitiminde deneysel yaklaşımlar ile çoğalması da disiplinlerarası sanatın hem interdisipliner hem de multidisipliner olarak uygulamalarını çoğaltmıştır. Güncel sanat uygulamaları olarak da nitelenen disiplinler arası sanat eğitimi aslında sanatsal yaratıcılığın özünde zaten var olan ve uygun zaman diliminde kendini güncelleyen bir yaklaşımdır diyebiliriz.

**Anahtar Kelimeler: 1950 sonrası Sanat, Dada, Sürrealizm, Disiplinlerarası Sanat**

## DİSİPLİNLERARASI ÇALIŞMALAR VE SANAT

20.yy tüm alanlarda önemli gelişmeleri sanat ve bilim insanlarının iletişim halinde yaşattığı önemli bir dönüm noktasıdır. Disiplinlerarası çalışmaların öneminin anlaşıldığı ve yaşanan gelişmelerin bu sayede olduğunun da bilincina varılmıştır. Bu yüzyılda bilimsel araştırmalarda önemi fark edilen disiplinlerarası çalışmalar sayesinde, sanat ve sanat eğitiminin bilimsel ilerlemedeki öneminin fark edildiği ve eğitim alanında da tartışılmaya başlandığı önemli açılımların yaşandığı bu süreçte elbette kazana çocuk gelişimi ve eğitimi olmuştur.

Bilim ve sanatın özellikle kendini gösterdiği 1950 sonrası sanat anlayışı ile de gelinen aşama eğitime önemli açılımlar getirmiştir. Bu durumu etkileyen birçok önemli faktörler vardır. Öncelikle Dada ile başlayan ve Sürrealizm ile devam eden sanat üretim ve anlayışındaki yenilikçi arayışlar etkili olmuştur. Dada sanat anlayışının geleneksel kalıpları sanat düşüncesi ve yaşam ilşkisi bağlamında getirdiği aşamayı takip eden sürrealist yaklaşım bir sonraki aşamaya taşımıştır.Sürrealizmin gerçeklik algı ve anlayışı özellikle yaratıcı düşünceyi desteklemiş ve kendine ait sanatsal algısıyla sanat ve eğitimde önemli kapılar açmıştır. Bu değişime eşlik eden yeni sanat okullarının anlayışlarındaki güncel sanat yaklaşımıları da yayılmayı hızlandırmıştır. Sanat ve bilimsel yaklaşımı kendi potasında eriten eğitim anlayışlarını benimseyen okullar öğrencilerin gelişimlerini ve yaşam algı kalitelerini yükseltmişlerdir. Elbette çocukluk döneminde verilen sanat eğitimi bir çocuğu sanatçı yapmayı amaçlamamaktadır. Bu dönemde verilen sanat eğitiminin temel amacı çocukların kendilerine ait olanı keşfetmeleri ve yaratıcılıklarının gelişimi için bir yol sunmasıdır. Özellikle de henüz yazma ve okuma düzeyindeki dil edimine sahip olmaya çalışan çocuklar için resim ve sanatsal teknikler kendilerini ifade etmede en etkili araç olmaktadır. Sanat eğitimi yaratıcılığı geliştirdiği ve bilim disiplinine, sanatsal bir yaklaşım kazandırdığı için önemlidir. İnsan ruhunun yüceltilmesi, psikolojik farklılıkların gözetilerek bireylerin ruhsal gereksinimlerinin doyurulması, ruh sağlığı açısından dengeli bir kişi yaratma çabası sanatın eğitim amaçları arasında yer almaktadır (Türkdoğan G.,1984).

ABD ve akabinde Avrupa sanat okullarının disiplinlerarası sanat ürünlerine yönelik eğitim anlayışları 1950 sonrası sanatın güçlenmesini sağlamıştır. Yaratıcı sanat uygulamalarının sanat eğitiminde deneysel yaklaşımlar ile çoğalması da disiplinlerarası sanatın hem interdisipliner hem de multidisipliner olarak uygulamalarını çoğaltmıştır. Güncel sanat uygulamaları olarak da nitelenen disiplinler arası sanat eğitimi aslında sanatsal yaratıcılığın özünde zaten var olan ve uygun zaman diliminde kendini güncelleyen bir yaklaşımdır diyebiliriz.

  

Okul öncesi eğitimde nerdeyse tüm etkinliklerde kullanılan sanatsal yöntemler, okul eğitimi aşamasında henüz yeterli ilgiyi çekememektedir. İşte bu ilgisizlik üzerine yoğunlaşmayı önemseyen bu araştırma, öncelikle sanat ve bilimin birbirlerine alternatif değil, disiplinlerarası çalışma bağlamında destek olduğunun soruları/cevapları üzerine yoğunlaşmaktadır. Bilindiği üzere Iilkokul eğitiminde temel bilimlerle tanışmış ve hayata bilimsel çerçeveden bakabilen öğrencilerin, sanatsal üretim aşamasında da öğrendiklerinin bir işe yarayacağını görmeleri eğitime ve bilime olan güvenlerini ve isteklerini arttırmaktadır. Buluş yolu ile eğitimin bir yolu olan bu yöntem onların bilgiyi kullanmalarını da sağlamaktadır. Tikelden Evrensele kuramında da David Feldman'ın bilginin sanat yoluyla deneyimlendiğini ve dünyayı algılamasına yardımcı olduğu ve dünyayı algılaması için olasılıkları kurabildiğini belirtmektedir(Kırışoğlu O., Stokrocki M., 1997). Buluş yolu ile öğrenme öğrencinin, öğrenme merakını uyandırmakta, öğrenmeyi güdülemekte, sorunlar üzerinde çalışmaya, bilgiyi analiz etmeye, özümsemeye ve sentez yapmaya zorlamaktadır (Senemoğlu N., 2011).

"Öğrenme esnek ve buluş yolu ile olmalıdır. Eğer öğrenci bir kavramı, ilkeyi,bulmaya,problemi çözmeye uğraşıyorsa, öğrenciye zaman verilerek gerektiğinde ipuçları sağlanarak öğrencinin problemi kendi kendine çözmesi sağlanmalıdır." Senemoğlu N., 2011,s: 470). Bruner'e göre merak öğrenmede önemlidir. Sanatsal eğitimde önemli yere sahip olan baskıresmin merak ve problem çözme üzerine şekillendiği bilinmektedir. Baskıresim Yapılandırılmamış Buluş yöntemini sanatsal üretim olması nedeniyle içerisinde taşımakta ve öğrenmede öenmli bir yerde durmaktadır." Yapılandırılmamış buluş yolu kullanmak okul öncesi dönemdeki çocuklar için uygun olmakla birlikte, özellikle ilköğretim, ortaöğretim ve yüksek öğretim de yapılandırılmamış buluş tercih edilir. Yapılandırılmamış buluş etkinliklerinin yönetimi zor olduğu gibi, sonuç elde edilemeyebilir"(Senemoğlu N., 2011,s: 473). Sanat sonuç değil, süreç olarak etkili olması bakımından da bu eğitim modeline yatkındır. Aynı zamanda baskıresim sanatsal eğitim yöntemleri ise buluş yoluyla öğrenmeyi destekleyen önemli çalışmaları, teknik ve yöntem açısından içermektedir. Bilindiği üzere sanat, çocuklukta mantığın uykuda olduğu zaman işlev görerek ussal gelişmeye yardımcı olmaktadır. Bu nedenle de okul öncesi eğitimde sanat temelli yaklaşımlar uygulanmaktadır.

Sanat yolu ile eğitim kuramının kuramcısı H.Read'e göre duyuların eğitimi çok önemlidir (Read,H, 1974). Duyularla kazanılan estetik deneyimler, bütün ussal alanları ve bunlara bağlı tüm davranışları etkilemektedir. Bu nedenle duyuların eğitimi insan bilincinin, zekasının ve dahası yargı yeteneğinin temelini oluşturur. Eğer bu duyular dış dünya ile sürekli ve uyumlu ilişki içinde olursa, toplumda kendisiyle barışık, kendi içinde bütünleşmiş(tutarlı) bir kişilik yaratılmış olur (Read,H, 1974) .

İlkokul öğrencilerinin matematik, fizik ve diğer doğa bilimlerinde soyutlama yetenekleri önemlidir. Çoklu zeka kuramında da sanat eğitimini ilgilendiren, sanatın düşünme geliştirici boyutunun öteki alanları da etkileme gücüne sahip olduğu belirtilmektedir. Sanat eğitimi aracılığı ile öğrenci olasılıkları düşünmeyi, ikilemleri keşfetmeyi, farklı açılardan bakmayı öğrenir. İster fen bilimleri, ister beşeri bilimler ya da sanat alanlarında başarılı olmak için yaratıcı, eleştirel, analitik, sentez bakış açısı olmazsa olmazdır. Yaratıcılığı da soyutlama olmadan düşünmek mümkün değildir. Tümevarımsal yaklaşımı içeren sanatsal yöntemler de öğrencinin sezgisel düşünmesini geliştirmektedir (Kırışoğlu O., 2009).

**SONUÇ**

Her yaş grubu için resim ve tekniklerinin yanısıra bunlardan türetilmiş yöntemler yaratıcılıklarını, soyutlama yeteneklerini ve bilimsel düşünce kabiliyetlerini arttırabilecek disiplinlerarası yaklaşımlar öenmlidir. Örneğin iki ayrı disiplin olan sanat ve bilimin baskı resim sayesinde aslında hayatın içinde ve çözüm odaklı olduğunu ve sanıldığı kadar karmaşık, korkutucu olmayıp aksine eğlenceli olabileceğini fark ettirmeyi hedeflemektedir. Bu hedefler ile beklenen, bilimsel yönteme ve baskı resim yaparken öğrendikleri soyutlama yeteneğine sahip olan öğrencilerin, aynı yetenekleri fen bilimlerine de uygulamaları mümkün olduğu sonucuna ulaşmalarıdır. Bilim öğretmenin temel şartı bilimsel yöntemin doğru olarak hazmedilmesini sağlamaktır. Bilimsel yöntem ise deney yapabilme, bunları kontrol edebilme ve sonuçlarını irdelemeyi gerektirmektedir. Baskıresim uygulamasında doğal olarak yer alan: kapsamlı düşünme; birden fazla yöntem, beyin fırtınası, grup çalışması, sentez yöntemi, çağrışımlar beyni zenginleştirecek kaynaklar, aynı zamanda yaratıcı yöntemlerin içerisinde önemli bir yere sahiptir.

Baskı resimde kullanılan boyaların akışkanlık ve ton gibi özellikleri, birebir üzerine baskı yapıldığında gösterdikleri

  

etkinin, rengin değişmesi gibi şartlar, boyanın açıldığı yüzeyde ve kalıp üzerinde homojen dağılımının sağlanmasını, her baskı için bu koşulların tekrar yapılabilmesini içermektedir. Bu şartları öğrenmek ve istediği etkiyi elde etmek için sanatçının deneyler yapması, bu deneylere göre kullandığı boyaları değiştirmesi, ya da uygulama sırasını düzenlemesini, içermektedir. Sonuç olarak disiplinlerarası çalışmalar için öneli olan Baskıresim ile eğitimde elde edilen çıktıları sıralamak müküdür:

1. Sorunlara yaratıcı çözüm üretilebilmesi,
2. Bilgi birikimini kullanılması,
3. Analiz sentez yolu ile yaratıcı teknikler geliştirilmesi,
4. Matematiksel çözüm önerilerinin geliştirilmesi
5. Deneysel yaratıcı etkilerin yakalanması
6. Özgüvenin sağlanması, arttırılması
7. Sosyal ve paylaşımcı özelliklerin arttırılması
8. Disiplinlerarası çalışılması

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# SANAT EĞİTİMİNDE MEKÂNIN ALGISINA YÖNELİK BİR ÖNERİ: YAZI VE MEKÂNIN BÜTÜNLEŞTİĞİ ESERLER

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## ÖZET

Yazı, somut varlığıyla kavramların, duygu ve düşüncelerin anlatımında iletişimin en önemli unsurlarından biri olmuştur. Düşünceyi ifade etmenin en açık yollarından biri olan yazı, sanatçıların eserlerinde farklı dönemlerde farklı şekillerde yer almıştır. Gelişen teknolojiyle birlikte yazının kullanımı, bazı eserlerde galeri mekânlarından bağımsızlaşmış, bazılarında ise galeri mekânı ile bütünleşmiştir. Sanatçıların eserlerinde yazı ne sadece bir defterdeki beyaz sayfa, ne de sadece galerinin beyaz duvarlarında yer alan metin olmuştur. Yazıya hem farklı alanlarda, hem de farklı mekânlardaki çağdaş sanat yapıtlarında yer verilmiştir. Peter Downsbrough, Joseph Kosuth, Jenny Holzer, Job Koelewijn, Xu Bing, Barbara Kruger, Ayşe Erkmen gibi sanatçılar yazı ve mekânın birlikteliğine ilişkin yeni düşünsel ve biçimsel anlayışlar sunmaktadır. Yazı ve mekân birlikteliğinin farklı bir anlayışla ele alındığı bu arayışlar, günümüzde de çok sayıda çağdaş sanat eserlerinde devamlılığını sürdürmektedir. Bu arayışlar göz önüne alınarak sanatçıların eserlerindeki yazı ve mekânın birlikteliğinin incelenmesi ve sanat eğitiminde mekânın algısına yönelik yeni olası öneriler sunmak bu araştırmanın temel amacını oluşturmaktadır. Araştırma süresince nitel araştırma modelinden yararlanılmıştır. Literatür taraması ile birlikte bu alanda yapılmış araştırma örnekleri de incelenerek mekânın yazı ile olan ilişkisi incelenmiş ve çözümlemeler sanatçıların eserleri doğrultusunda yapılmıştır. Bu araştırmada, sanat eğitiminde mekânın algısına yönelik bir öneri olarak yazılı mekân kullanılan eserlerin incelenebilmesi araştırmada yer alan bölümler ışığında çözümlenmeye çalışılmıştır. Bu araştırmanın sonucunda sunulan yeni olası önerilerin sanat eğitimi alan öğrencilerin yaptıkları çalışmalarda mekânı algılamaya yönelik karşılaşılan sorunlara çözüm olacağı düşünülmektedir.

**Anahtar Kelimeler:** Sanat, yazı, algı, mekân, resim.

# A RECOMMENDATION FOR THE PERCEPTION OF LOCALE IN ART EDUCATION: WORKS OF ART INTEGRATING SCRIPTURE AND LOCALE

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## ABSTRACT

Writing has become one of the most important elements of communication in describing the concepts with physical existence, emotions and notions. One of the most clear methods of expression thought, writing has been included in the works of artists in different ways at various eras. With the advances in technology, the use of writing became independent of the galleries in some works, and integrated with the gallery in others. Writing in the works of artists has been neither a blank page in a notebook, nor a script on the gallery's wall. Writing has had its place in different areas and in contemporary artwork in various locales. Peter Downsbrough, Joseph Kosuth, Jenny Holzer, Job Koelewijn, Xu Bing, Barbara Kruger, Ayşe Erkmen and other artists offer new intellectual and formative understanding on the coexistence of scripture and locale. These approaches, dealing with the coexistence of script and locale in a different way, maintain the continuity in numerous contemporary works of art. In consideration of these pursuits, examining the coexistence of scripture and locale in the works of artists and proposing recommendations for the perception of locale in art education are the fundamental aims of this study. The study utilized the qualitative research model. In addition to the literature scan, sample studies in this field have been examined to evaluate the relation of locale and scripture and analyses have been proposed in line with the artists' works. This study aims to analyze the examination of artwork using locale with scripture in line with the chapters in the study with the view of perception of locale in art education. It is believed that new possible recommendations proposed in this study may serve solutions to problems of perceiving locale in the works of students receiving art education.

**Keywords:** Art, scripture, perception, locale, painting.

# GİRİŞ

Birey için dil eğitiminin önemini farkına varma iyi bir sanat eğitimi için önem taşımaktadır. Dil sadece günümüz dünyasıyla iletişim kurmaya, yaşantılarımızı ve deneyimlerimizi aktarmaya değil, gelecek kuşaklarada iletmeye yardımcı olmaktadır. Dil olarak kullanılan yazı, yaşantılarımızı ve deneyimlerimizi aktararak iletmede kalıcılığı sağlayan temel bir özelliktir. Bu temel özelliğin etkili kullanımını sağlamak için amaç önceden belirlenmiş olmalıdır.

Günlük hayatta belirli bir amaç için kullanılan yazı, sanat eğitimi için gerekli bir ihtiyaçtır. Yazı, sanat eğitiminde bireyin içerisinde bulunduğu ortama ayak uydurabilmesi, etkili ve kapsamlı bir iletişim kurabilmesi ve kendini ifade edebilmesi, sanatsal yaratımda bulunabilmesi gibi açılardan önem taşımaktadır. Günümüzde hem tek başına hem de resimle birlikte farklı alanlarda farklı şekillerde kullanılmaya başlayan yazı, sanat eğitiminde de farklı yöntem ve tekniklerle yapılan uygulamalarda kullanılmaktadır.

Farklı alanların yanısıra görsel sanatlar alanında da yer alan yazı, sanatçıların belli kurallara ve kalıplara karşı gelerek, harflerin ve kelimelerin plastik bir form olarak sanat yapıtlarında oldukça fazla kullanılmasında önemli bir rol oynamıştır. Sanatçılar yapıtlarında geniş kitlelere düşüncelerini aktarmak için dilin varolabileceği tüm alanlardan yararlanmışlardır. Sanatçıların kullandığı yazı formları bazen bir metin, bazen bir soru, bazen tek bir kelimedir ve bu formlar yapıtta içerik ve bağlamı oluşturmuştur. Sanatçılar yapıtlarındaki kelimelerin herkes için aynı anlamı taşımadığını değişim göstereceğini düşünerek, izleyiciye kelimeleri düşündürmeyi ve sorgulatmayı amaçlamışlardır. Sanatçılar yapıtlarında kent sokaklarını, sokaklarda yer alan binaları, alışveriş merkezlerini, kamu alanlarını özellikle kentin en yoğun olduğu hemen hemen her yerde insanları bilgilendiren, dikkatini çeken ya da mesaj vererek düşündüren yazıları kullanmışlardır.

Yazı özellikle 1960 sonrası ortaya çıkan kavramsal sanat yapıtlarında izleyiciye sunulmuştur. Bazı sanatçılar yapıtlarında yazı formunu mekânla bütünleştirirken izleyiciyi de yapıtlarına dâhil etmişlerdir. Böylece izleyici mekân içerisinde yürürken yapıta sadece karşıdan bakmak yerine yapıtın içerisinde, arasında ya da çevresinde aktif olarak yer almıştır. İzleyici yapıtla buluştuğunda oradalığı ile bir deneyim yaşarken, o deneyimin düşünselliği ile buluşmaktadır.

**PROBLEM DURUMU**

Eğitim kurumlarında gerçekleştirilen sanat eğitimi sürecinde, yeni deneyimleri kapsayan sanat alanları, her dönem gösterdiği değişim göz önünde bulundurularak değerlendirilmelidir. Sanat eğitiminin kendine özgü bütünlüğü içerisinde birey aldığı bu eğitimle, hem geleneksel sanat hem de çağdaş sanat anlayışları açısından bilgi sahibi olarak yeni deneyimlere yönelmelidir. Sanat eğitimi bireyin içinde yaşadığı çevreye yeterince duyarlı olabilmelerini, çevreyle çok yönlü, yararlı etkileşim ve iletişimde bulunabilmelerini, estetik gereksinimlerini giderebilmelerini, sanatsal yaratma ve yorumlama güdülerini doyurabilmelerini, yaşamlarını daha anlamlı duruma getirebilmelerini esas almaktadır (Uçan, 2005, s. 125). Bu eğitim süreci içerisinde çeşitli sorunlar ve eksiklikler karşımıza çıkmaktadır. Bu eksikliklerden biri de bireyin mekânı algılamasına yöneliktir. Bireyin mekânda yaşamını sürdürmesindeki temel etken mekânı algılamasıdır. Mekânsal ilişkilerin anlaşılması için, öncelikle mekânın nasıl algılandığının açıklanması gerekmektedir. Mekânın algılanması, bilinmesi ve değerlendirilmesinin sürekliliği, çevrenin duyu organları ile hissedilmesi, mekânın algılanma biçiminin anlaşılması ve mekânın niteliklerinin tanınması sonucunda seçim yapma ve karar verme sürecidir (Rapoport, 1997, ss. 31-38).

Bireyin mekânı algılama süreci, çevreden gelen uyarıların duyu organları tarafından algılanmasıyla başlamaktadır. Duyu organlarıyla çevreden bilgi toplama süreci bireyden bireye farklılık göstermektedir. Farklı yaşlardaki bireylerinde çevreyi algılamaları birbirinden farklı olduğundan, bireyin hangi yaşlarda neyi öncelikli olarak algıladığının bilinerek mekânın buna uygun tasarlanması, çevresiyle daha kolay etkileşime girmesini sağlamaktadır (Piaget ve Inhelder, 1967).

Sanatçıların yazı ile mekânın bütünleştiği yapıtlarının incelenmesi, yetişen bireyin yazı ve mekânı yepyeni bir bakış açısıyla görmesine, algılamasına ve yorumlayarak değerlendirmesine katkı sağlayacaktır. Sanat eğitimi ile bireye sunulan örnekler, akımların beraberinde getirdiği yeni anlayış, bireyin yapıttan önce düşünceye, eserin iletmesi gereken mesaja duyarlılıklarını arttıracağı düşünülmektedir. Ancak, bireyin sanat eğitimi ile sanatta meydana gelen değişimleri kavraması kendisini yenilemesine katkı sağlayacaktır ki bu nokta da geniş kitlelere düşüncelerini aktarmak için farklı akım sanatçılarının yapıtlarında kullanılan metinler, dilin öğeleri, kelimeler, cümleler vs. mekânla birlikte kullanılan anlatım biçimlerini içeren yapıtlar karşımıza çıkmaktadır.

## ALGI

Algı; göz, kulak, deri, burun, dil gibi beş duyu organıyla alınan uyarıcıların nesnel gerçeklik ve öznel yaşantı boyutlarında etkileşerek, organizmayı harekete geçiren anlamlı uyaranlar haline dönüştürülme sürecidir. Bir uyaranın anlamlandırılabilmesi için önce bilinmesi gerekmektedir. Eğer bir şey, onunla ilgili bilgiye sahip değilse uyarıcıya anlam verilmesi imkânsızdır (Turan, 2006). Bilişsel sürecin ilk adımı, algı ile başlamaktadır. Algı, dış dünyanın duyular yolu ile gelen imgesinin bilinçte gerçekleşen tasarımı, nesnel dünyayı duyular yoluyla öznel bilince anlamlı uyaranlar haline dönüştürerek aktarmaktır (Hançerlioğlu, 1989, s. 9). Yani; algı sadece bilgiyi duyular yoluyla pasif bir şekilde almak değil, aynı zamanda aktif yapılandırma sürecinin bir ürünü olarak kabul edilmektedir (Gillian ve McManus, 1998, s. 25). Bilgi, duyular yoluyla alındığından itibaren tüm etkenler göz önünde bulundurulup bilinçte tasarımlanarak, yapılandırma süreciyle anlamlı hale getirilmektedir. Algı; çevredeki uyaran görüntülerinin organizasyonu ve yorumlanması süreci olup, duyusal verilerin bütünsel bir örüntü halinde bir araya getirilmesi ile belirmektedir (Atkinson, Atkinson ve Hilgard, 1995, s. 192).
Algı, duyudan farklıdır. Algılama anında beyin, bireyin içinde bulunduğu durumdan beklentilerini, geçmiş yaşantılarını, diğer duyu organlarından gelen başka duyuları, toplumsal ve kültürel etkenleri hesaba katmaktadır. Gelen duyuları seçme, bazılarını ihmal etme ve eleme, bazılarını kuvvetlendirme, arada olan boşlukları doldurma ve anlam verme bu aşamada yapılmaktadır (Ayaydın, Vural, Tuna ve Yılmaz, 2009, s.149).

## MEKÂN ALGISI

Mekân algısı genellikle etrafımızı saran nesnelerin somut varoluşları ve algılayan öznenin onunla kurduğu ilişki üzerinden temellendirilmektedir. İlk vurgu genellikle "özneden bağımsız" nesnelerin konum sırası ile ele alınsa da, 20. Yüzyıl ile birlikte konumlanışa algılayanın görünür olarak katılma biçimi, daha sonra bu katılışın duyumların ortaklığı şeklinde biçimlenmesi şeklinde yeniden ele alınmaktadır (Acar, 2013, s. 49). Mekân algısı ile ilgili birçok tanım yapılmıştır. Mekân algısı Shemyakin tarafından "mekânın insan zihnindeki yansımaları ve mekânın bileşik sisteminin insan beyninde oluşan aktiviteleri" şeklinde tanımlanmıştır. Hart ve Moore (1973) mekân algısını "mekân ilişkilerinin ve mekânın içsel ya da bilişsel temsili, içselleştirilmiş yansıması ve mekânın düşüncede yeniden yapılanması"; Laurendeau ve Pinard ise mekânın algısını "düşüncedeki bir objenin zihinsel bir reprodüksiyonu" şeklinde tanımlamaktadır (Hart ve Moore, 1973, ss. 27-49).

Mekânın nesnel varlığını oluşturan üç boyutunun ötesinde, duyularla tanımlanmaya ve çevresiyle etkileşime başlandığı andan itibaren mekânsal algı devreye girmektedir (Rapoport, 1997, ss. 31-38). Çocuğun çevresiyle etkileşime girmesinde görme duyusu, en gelişmiş ve algılamaya en fazla yardımcı olan duyudur. Çevreden edinilen bilgilerin yaklaşık olarak %80'i görme aracılığı ile sağlanmaktadır. Mekândaki renk, doku, form gibi mekân içerisinde yer alan elemanlar görme duyusuyla görsel algılamaya hitap etmektedir (Porter, 1997, s. 30).

Görsel duyuların dış dünyanın algısına dönüşme süreci beyin ve göz arasındaki karmaşık etkileşimi içermektedir. Görmenin algıdaki rolü büyük olsa da, bir mekânı algılarken duyma, koklama, dokunma gibi duyular da aktif olarak yer almaktadır. Mekân algısı ele alınırken her ne kadar ilk başta görme duyusu kaynaklı algıya ağırlık verilerek diğer duyular ihmal edilse de algı, tüm duyulardan farklı oranlarda etkilenmektedir. Algılamanın çeşitli duyuların birleşimiyle mekân algısının da tüm duyuların etkisiyle oluştuğu göz önünde bulundurulmalıdır (Lawson, 2001).

Algılama ve mekân konusundaki çalışmaların ilk örneklerinden 1920' lerde bir grup Alman psikolog tarafından geliştirilen Gestalt Kuramı, mekânın görsel organizasyonunu irdelemektedir. Gestalt teorisi içerisinde görsel algı büyük önem taşımaktadır. Gestalt anlayışına göre nesneler, asla boşlukta değildir. Gestalt psikologları "tasarımda bütün kendisini oluşturan parçaların toplamından farklıdır." ilkesini savunarak tümün parçaların matematiksel sentezinden daha çok olduğunu kanıtlamaktadır (Zengel, 2008, s. 27). Gestalt psikologları oluşturdukları görsel algı teorileri ile görsel alanın düzenlenmesiyle ilgilenmiş, görsel dünyayı nasıl algıladığımıza çözümler aramışlardır. Psikologlar, gözün görsel deneyimleri nasıl algılayıp organize ettiğine dikkat çekerek, parçaların tek tek düşünüldüğünde anlamlı olmayacağını, algı için parçalarda bütünlüğün olması gerektiğini öne sürmektedirler. Teoriye göre, parçalar bütünü oluşturacak biçimde gruplandırılıp tamamlanarak anlamlı hale gelmektedir. Bütünü oluşturan öğelerin tek parçalar halinde işlevini bilmek yetmemekte çünkü bütün parçalar farklı anlam taşımaktadır.

## SANAT EĞİTİMİ VE YAZI

Sanat eğitimi, "bireye, kendi yaşantısı yoluyla amaçlı olarak belirli sanatsal davranışlar kazandırma ya da bireyin sanatsal davranışında kendi yaşantısı yoluyla amaçlı olarak belirli değişiklikler oluşturma" sürecidir. Sanat eğitimi, temelde bir estetik davranış kazandırma ya da estetik davranış değişikliği oluşturma işidir. Sanat eğitimi, bir bütün olmakla birlikte çeşitli kollara ve dallara ayrılarak, davranış ve içerik, araç ve gereç, yöntem ve teknik,

ortam ve düzey, aşama ve süre bakımından çeşitlilik gösterir. Örneğin, fonetik, plastik ve dramatik sanatlar eğitimi; ses, söz, oylum mekân, devinim ve eylem sanatları eğitimi gibi (Uçan, 2005, s. 125).

Sanat, düşünme, hissetme, akıl ve zekâ yoluyla dile dayanır. Birey, üç boyutlu(geçmiş-hal-gelecek) bir zamana sahip olduğundan, zaman ve mekân dil sayesinde aşılabilir. Yazıda kullanılan bir dildir. Yazı, konuşma dilinin yazıya geçirilmiş şekli olması gerekirken kendine has kuralları ve geleneği bulunması yönleriyle konuşma dilinden ayrılır. Yazı, duygu ve düşüncelerimizi dilin kaidelerine uygun olarak aktarma işlemidir (Güler, 1997, ss. 9-12-159). Bu aktarma işlemini iletilmek istenenin görselliğe dayalı algı yoluyla bireye ulaştırılması olarak "Verba volant scripta manent-Söz uçar, yazı kalır" Latin deyimi çok güzel vurgular.

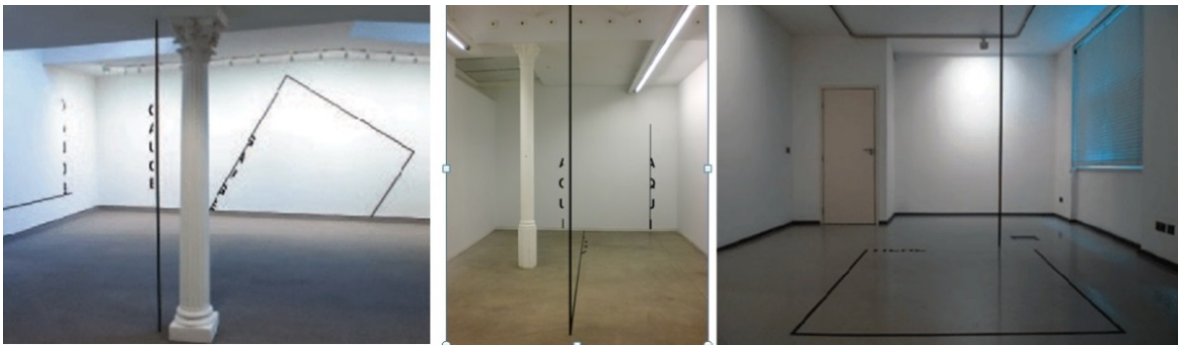
Günümüzde yazı tasvire dayalı gibi görülse de, teknolojide meydana gelen gelişmeler, endüstrinin kullanımının artması, ekonomik ve toplumsal değişimler, iletişim yollarının ilerlemesi, değişime ve teknolojiye açık bireylerin yetişmesi yazının kullanımında da farklılıklar yaratmıştır. Yazı, günümüz sanatçılarının da eserlerinde geleneksel sanatların dışına çıkarak ağırlıklı olarak yer almaya başlamıştır. Sanatçılar, harfleri ve yazıları eserleri ile bütünleştirerek anlatım biçimlerini genişletmişlerdir. Bu sayede izleyici de sanatçıların eserlerini sorgulamaya ve analiz etmeye odaklanmaktadır.

## YAZI VE MEKÂNIN BÜTÜNLEŞTİĞİ ESERLER

Günümüz sanatında yazının kullanımı büyük yenilikler ve gelişmeler göstermiştir. Yazı, sanatçıların yapıtlarında hem form, hem de içerik olarak kullanılmıştır. Sanatsal çalışmalarda yazının bağlamını yapısal ve kavramsal bir değer olarak belirdiği kimi durumlar, bir anlamda grafik sanatını da içermektedir (Akay Şumnu, 2014). Sanatçılar yapıtlarında kuralların ve belirli kalıpların dışına çıkarak, dış dünyanın birebir sunumunu reddederek, yeni formlar, biçimler ve anlatım dillerine başvurmuşlardır. Sanatçılar harfleri ve yazılı dil formlarını neon ışıklarını kullanarak, kolaj olarak ya da baskı tekniklerini kullanarak, dijital olarak yansıtarak, kaligrafik unsurları katarak v.b. farklı tekniklerle yapıtlarında kullanmışlardır. Tüm bunların sonucunda basılı malzeme geleneksel resme karşı çıkışın en önemli araçlarından bir tanesine dönüşmüştür (Hikmet ve Dikbaş, 2011, s. 75).

Yazı, zamanla eserlerde soyut formlara dönüşerek görsel iletişimin ilk adımlarını oluşturmuştur. Yazı formunun soyut yapısı bireyi her dönemde etkilemiştir. Yazı formu, grafik tasarım, resim ile yazının birleşimini sağlayarak, aynı zamanda güçlü, etkin iletişim aracı olan plastik forma dönüşmektedir. Grafik sanatının gelişimine katkı sağlayan yazı ustaları, kaligraflar, tezhipçiler ve sanatçılar, yapıtları ile bu iletişim aracını bir sanat dalına dönüştürmüşler ve hatta iletişimin sanatını yapıtlarında izleyicinin seyrine sunmuşlardır. Yazı formu tarihsel gelişimi içinde, iletişim aracı olmakla birlikte, 20. yüzyılın başlarında gelişen sanat akımları ve tipografi ile sanatçıların yapıtlarında plastik nitelikleri olan bir forma dönüşmüştür (Ağgez, 2009).

1940 New Jersey doğumlu Peter Downsbrough; kitaplar, maketler, fotoğraflar, mekân duvarları, seslerden, filmlerden oluşan çok yönlü bir uygulama izlemiştir. Açık havaya da taşınan heykel çalışmaları izleyiciyi bir noktada bağımlı hale getirmektedir. Sanatçı, çalışmalarının hepsinde yalınlaştırılmış sanatsal dilbilgisi ile oyunlar oynamaktadır. Ancak, çalışmaları daha yakından incelendiğinde, yaptığı işlerin doğası soyut bir göstergedir. Sanatçı için iç mekân ya da dış mekân olsun uzamın bir uzantısı olarak mekâna birşeyler yerleştirmek ilgi odağı olmuştur. Sanatçı, çalışmalarını seri olarak hala devam ettirmektedir (Preece, 2013).



Resim 1: Downsbrough, "*Gauge / to"*, 2009, alüminyum çubuk, yapışkanlı kâğıtlar, bant (solda).
(www.sculpture.org/documents/scmag13/oct_13/fullfeature.shtml).
Resim 2: Downsbrough, *"Aqui"*, 2008, alüminyum çubuk, yapışkanlı kâğıtlar, bant (ortada).
(http://angelsbarcelona.com/en/artists/peter-downsbrough/projects/sculptures-and-wall-pieces-selection/428).
Resim 3: Downsbrough, "*Here"*, 2012, alüminyum çubuk, yapışkanlı kâğıtlar, bant (sağda).
(www.sculpture.org/documents/scmag13/oct_13/fullfeature.shtml).

Downsbrough, resim 1, resim 2 ve resim 3'te görüldüğü gibi bir iç mekân, tavan ve zemin arasındaki mesafeyi çalışmalarında konu olarak ele almış, mekân içerisinde ya da dışarısında bulunanlardan çalışmalarıyla farklı bir ortam hissettirmek istemiştir. Sanatçının çalışmalarında kullandığı harfler bazen bir soru, bazen tek bir kelimedir ve bu harfler içerik ve bağlamı oluşturmaktadır. İzleyici, mekânda yürürken çalışmanın içerisinde yer almaktadır. Sanatçı, kelimelerin herkes için aynı anlamı taşımadığını harekete bağlı olarak değişim göstereceğini düşünerek, izleyiciye kelimeleri düşündürmeyi ve sorgulatmayı amaçlamıştır. Çalışmalarında bazen çizgiler bazende kelimeler bir başlangıç oluşturmakta ve daha sonra boşluk bulunmaktadır. Sanatçı için harflerin birbirinden uzaklaşıyor ya da tekrar bir araya geliyor olması hep bir belirsizlik parçasıdır.

Downsbrogh, tipografik oyunu çağrıştıran yazıları üçüncü boyuta taşımaktadır. Sanatçının çalışmalarında yazı, formun ortaya çıkmasında yapısal ve kavramsal değerdedir. Kendine sürekli bir bağlam arama çabası içindeki yazı, bağlam arayışı sırasında dilde sözün bir eki olduğu gibi, görsel ve plastik anlatımın da bir ekidir. Kendini sürekli olarak bir başka gerçeklikle birlikte sunma potansiyeline sahip yazı, artık sadece okunan zihinsel bir metin değil, bulunduğu ortam bağlamında dokunulan, izlenen, yaşanılan bir gerçekliktir (Akay Şumnu, 2014, s. 105).

Resim 4: Job Koelewijn, *"Ne Olursa Olsun, Yeniden Dene, Yeniden Kaybet, Daha İyi Kaybet ( No Matter, Try Again, Fail Again, Fail Better)"*, 2001 (http://www.bkor.nl/kunstwerken/formule-b/).

1962 doğumlu Hollandalı ressam Job Koelewijn resim 4'te görüldüğü gibi, Westersignel kanal suları içinde 45 metre uzunluğunda ve 2 metre genişliğinde metin yazmıştır. Sanatçı kanalın sularını kısacık, geçici, bir şiir gibi düşünmüş ve beyaz bir sayfa gibi kullanmıştır. Sanatçının çalışmasında su altında bir mekânizma tetiklendiğinde önceden programlanmış harfleri görünür kılar ve yüzeye hava kabarcıkları gönderdiğinde sözler su yüzeyinde bir ışıltıyla oluşmaktadır. Koelewijn suyun yüzeyine sekiz kelimeden oluşan *"No Matter - Try Again - Fail Again - Fail Better"*, "*Ne Olursa Olsun, Yeniden Dene, Yeniden Kaybet, Daha İyi Kaybet"* sözlerini yazarak, çalışmanın bulunduğu yerdeki insanlara başlarına gelen kötü durum ne olursa olsun ayağa kalkmaları gerektiğini hatırlatmaktadır. Yazıttaki anlam artık sadece zaferi değil, yenilgileri de yüceltebilmektedir (Akay Şumnu, 2014, s. 105). Bu mekânizma zaman zaman çalışmaktadır. Koelewijn geçici nesneler ve kurulumları ile tanınmaktadır. Bu kanal projesi de geçici çalışmalarından biridir. Suyun üzerine yazma fikri çağdaş yazıtlarda zaman algısı ve geçiciliği belkide en iyi açıklayan düşüncedir.

Resim 5: Xu Bing, *"Yaşayan kelime (The Living Word 3)",* Morgan Kütüphane & Müze, New York City (solda) (http://capitolfile-magazine.com/the-secrets-of-art-basel-hong-kong).
Resim 6: Xu Bing, *"Gökten Kitap (Book from the Sky)",* yerleştirme (sağda) (http://flickr.com/photos/75088974@N00/160662196).

1955 doğumlu Çinli sanatçı Xu Bing'in, resim 5'te görüldüğü gibi "Yaşayan kelime" isimli çalışması zemin üzerindeki bir blokta renkli Çince yazılardan oluşmaktadır. Bloktaki son söz kuş kelimesinin çincesidir. Bu kelime düz bir zeminden havada sarkan tellerle tekrarlanarak yukarıya doğru gelmektedir. Sanatçı hem mekânın zemininde hem de boşlukta kelimeleri kullanmıştır. Dil, Xu Bing çalışmalarında yinelenen bir temadır.

Sanatçının resim 6'da görülen çalışmasının üç farklı versiyonu Queensland Sanat Galerisi, Hong Kong Müzesi, Ludwig Müzesi koleksiyonlarında vardır. Sanatçının 20. yüzyılın en önemli ve en etkili çalışmalarından biri olan "Gökten Kitap" çalışması Çin dilini incelemektedir. Geleneksel ağaç blok baskı metodunu kullanan sanatçı 4000 eşsiz logogram sembol yaratmıştır. Bu logogramlar geleneksel Çince karakterlerin çoğu özelliklerine sahip olsa da, karakterin kendileri gerçek anlamına sahip değildir. Çalışmada 400'den fazla kitaplardan görüntüler yüklenmiş, mükemmel bir şekilde hizalanmış satırlar halinde yerleştirilmiş ve zemin boyunca özel olarak tasarlanmış kitaplar yan yana yerleştirilmiştir. Yan yana dizilmiş kitaplar arasında çok az boşluk bırakılmıştır. İki açık kitap merkezlenerek, dik satırları ile iki tarafta çok fazla boşluk bırakılarak sayfaları açık bir şekilde yerleştirilmiştir. Kitaplar siyah mürekkeple oymalı ahşap bloğa basılmıştır. Tanınabilir elemanlarından oluşmalarına rağmen, geleneksel dilsel işaretler olarak okunamazlar (Stanley, 2001, s. 171).

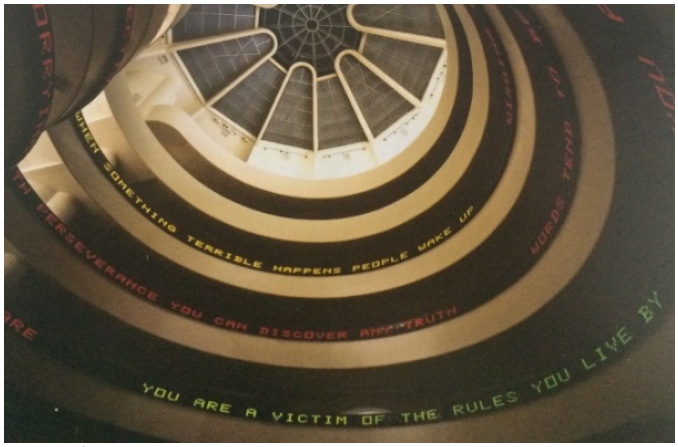

Resim 7: Allan Kaprow, *"Sözcükler(Words)",* mekân düzenlemesi, 1962. (Antmen, 2010, s. 68). (http://www.kaosgl.com/sayfa.php?id=12458).

1927 doğumlu Amerikalı sanatçı Allan Kaprow'un resim 7'de görülen "Sözcükler" isimli düzenlemesinde yarattığı mekânda isimler (kişiler) sürekli yer değiştirerek, tebeşir, pastel boya ve karakalemle duvardaki kâğıtlara sözcükler yazmaya davet edilmişlerdir. Sergi izleyicileri sergi sırasında katılımcılara dönüşerek sergiyi oluşturmaya devam etmişlerdir. Kolajın kendi kendini tersyüz etmek gibi saklı bir arzusu var gibidir. Mekân düzenlemesi halindeki kolaj ile asamblaj, üç boyutlu tablonun başlı başına bir tür olarak ortaya çıkmasıyla netlik kazanmıştır. Üç boyutlu tablolarla birlikte geleneksel resmin içindeki yanılsamalı mekân algısı, bir kutu işlevi gören galerinin içine taşınmıştır (Antmen, 2010, s. 68).

1950 doğumlu Amerikalı sanatçı Holzer, geniş kitlelere ulaşmak ve düşüncelerini aktarmak için dilin varolabileceği tüm alanlardan yararlanmıştır. Şehir sokaklarında, hemen hemen her yerde insanları bilgilendiren renk renk ışıklı yazılar bulunur. Holzer sanatını yaparken, grafik tasarımda kullanılan çeşitli tipografi tiplerinden

yararlanarak oluşturduğu metinleri ve yazıları; şehirlerde sokakların çeşitli yerlerine yerleştirme yöntemi ile izleyicinin görmesini sağlamıştır. Metni direkt olarak sanat olarak kullanan Holzer'in amacı; yazılarını kamusal alanlara ve genel olarak de şehrin en yoğun olduğu yerlere yerleştirerek, şehirli insanların bu kelimelere dikkatini çekmek ve düşüncelerini izleyici ile buluşturmaktır (Aksoy, 2014, s. 106).




Resim 8: Jenny Holzer, *"İltihaplı Denemeler* (*Inflammatory Essays)",* 1990, ışıklı elektronik ilan panosu, Guggenheim Müzesi, New York, ABD (Selvi, 2010, s. 572).

Holzer'in resim 8'de görülen bu mekâna özgü yerleştirmesinde pek çok serisinden metinler spiral şeklinde bir rampanın çevresini saran ışıklı bir ilan panosuna yerleştirilmiştir. Farklı renklerde aydınlatmalarla oluşturulmuş ifadeler, Feminist ideolojinin bildirgeleridir (Selvi, 2010, s. 572). Sanatçı çalışmasıyla izleyiciyi yukarıya doğru bakmaya odaklamış ve bu şekilde izleyicinin dikkatini çekerek düşüncesini izleyici ile buluşturmuştur.
1945 doğumlu Amerikalı sanatçı Kruger, başta kadın düşmanlığı ve güç suiistimali olmak üzere toplumsal içerikli konuları ele almıştır. Sanatçı, tüketim toplumunun ikonografilerini mesajını iletmek üzere ters yüz etmiştir (Selvi, 2010, s. 572). Sanatçı, insanları eğlendirirken aydınlatabileceğini düşünmüştür. Kruger'in "varım çünkü alışveriş yapıyorum" ifadesi ironik bir ifade olarak değil, gerçek bir ifade olarak anlaşılmış, hatta alışveriş poşetlerinin üzerine yazılmıştır. Kruger, popüler eğlencenin yöntem ve malzemelerini – büyük ilgi uyandıran reklam panoları ve parlak posterlerden tutun da, en yeni gösterinin reklamını yapan panonun, gösterinin kendisi gibi hızlı hareket eden parlak ışıklarına kadar – kullanmakla kalmamış, onları onaylamıştır (Kuspit, 2010, s. 110). Kruger, kadın bedeninin doğum, regl gibi fiziksel özelliklerine odaklanmak yerine kadın üzerindeki bir takım kültürel kodların sanatsal çözümlemesine yönelmiş, çalışmalarında erkek egemen düşünsel yapılara eleştirel göndermelerde bulunmuştur (Sağlık, 2012, s. 41).



Resim 9: Barbara Kruger, *"İnanç+Ümit* (*Belief + Doubt),* 2012, Hirshorn Müzesi, Washington (solda)(http://artobserved.com/2012/08/washington-dc-barbara-kruger).
Resim 10: Barbara Kruger, *"Beni Al, Hayatını Değiştireceğim (Buy me I'll change your life)",* 1984 (sağda) (http://visual-poetry.tumblr.com/post/14267071399/buy-me-ill-change-your-life-by-barbara-kruger).

Barbara Kruger'in resim 9 ve resim 10'daki eserlerinde görüldüğü gibi eserlerinde ilgi çekici olan asıl nokta, grafik öğelerinin hep sözcüklerle veya harflerle birlikte mekânlarda yer almasıdır. Mekân içerisinde mekâna bakarken yazılarda okunabilmektedir. Sanatçı, eserleriyle bütünleştirdiği mekânları sanat yapıtına dönüştürmektedir. Sanatçının kullandığı yazılar gerçek bir mekânın duvarları, tavanı, tabanı mekânın tamamını kaplamaktadır.

Kavramsal Sanatta düşüncenin sanata dönüşmesi söz konusudur. Düşüncenin sanata dönüştüğü bu akımda Joseph Kosuth'un çalışmaları ile görsel algı, dil ve kavramın ilişkileri sorgulanırken izleyiciler zihinsel bir sürece dâhil edilmektedir (Aslan, 2010, s. 49). Kosuth'un sözcük ve dilsel anlatımları kullandığı yapıtlarında ready-made benzeri bir fonksiyonla karşılaşırız. Sıradan sergileme ortamlarının dışına çıkarak göstergelerine afişlerde, dergi gazete gibi yayınlarda, bina duvarlarında yer vermiştir. Kullanılan sözcükler veya kavramlar dilin genel geçer özelliklerinden bağımsız bir soyutlamaya yakın biçimde kullanılmıştır (Süsoy Şimşek, 2006, s. 58).


Resim 11: Joseph Kosuth, *"Sıfır ve Değil (Zero or Not)",* Yerleştirme(detay), 1985 (solda) (https://elyseworksinprogress.wordpress.com/2011/02/08/joseph-kosuth-lecture-art-as-an-installation-%E2%80%94-some-history-and-some-theory/).
Resim 12: Joseph Kosuth, *"Dengenin Dili (The Language of Equilibrium)"*, 2007 (sağda) (https://aajpress.wordpress.com/2011/09/03/joseph-kosuth-the-minds-image-of-itself-3%E2%80%99-a-play-of-architecture-and-the-mind-100911-011011-spruth-magers-london/).

Kosuth'un resim 11'de görüldüğü gibi "Sıfır ve Değil" isimli yerleştirmesinde her ne kadar yazıları okumak mümkün olmasada tarifsiz somut şeylerin anlamı üzerine işaret etmek istemiş, Freud'un bir metnini kısmen silerek gerçekleştirmiştir. Bununla birlikte silme, belki de yapıbozumcu bir metnin içeriğini sadece bu yöntemlerle okumayı sağlayan bir teknik ve yazma biçimidir. Sözcükleri bozuma sokmak, sanatı yapıbozumu stratejilerine yakınlaştırmaktadır (Şahiner, 2009, s. 172). Ayrıca sık sık onun çalışmalarında kullanılan bir yöntem olan yokluğun anlamını sorgulamaktadır. Sanatçı mimariyi metinlerle form oluşturarak kullanmış pencere, kapı gibi boşluklarda bırakmıştır. Çalışmanın sunumu her zaman değişmiştir. Ayrıca sanatçı mimarlığı düşündüğünü ifade etmek için bir yer olarak görmüştür ve duvarlar sanatçı için algı arayüzleri gibidir. (https://elyseworksinprogress.wordpress.com/2011/02/08/joseph-kosuth-lecture-art-as-an-installation %E2%80%94-some-history-and-some-theory/).

Kosuth'un resim 12'de görüldüğü gibi "Dengenin Dili" isimli diğer bir çalışmasında Ermeni rahipler topluluğunun güzel bir manastırda yaşadığı San Lazzaro degli Armeni Adasında binanın dış cephesinde 750 metre neon ışıklarıyla oluşturulan yazılar yazmıştır. Ermeni, İtalyan ve İngilizce sözlü yazılar aracılığıyla sarı ton neon terimleri ve işaretleri doğrudan dört farklı mimari yüzey üzerine yazılmıştır. Sanatçının notlarına göre "Sarı neonları" "Erdem, akıl, saygı ve görkem" sembolik anlamından dolayı manastırın kurulması sırasında bu çalışma için seçmiştir. Burada, "su" kelimesinin tanımı 1749 Ermeni Sözlük ya da Haygazian Pararan derlenmiş, Abbot Mekhitar tarafından çıkartılarak kullanılmıştır (http://www.artfortheworld.net/wwd/2007/kosuth/images).


Resim 13: Mario Merz, *"Spiral Masa (Spiral Table)",*1989 (http://fondazionemerz.org/en/mario-merz-in-fondazione/).
Resim 14: Mario Merz, "*8-5-3"*, 1985 (https://www.gagosian.com/exhibitions/february-09-2006--mario-merz/exhibition-images).

1925 doğumlu İtalyan sanatçı Mario Merz, kültür ile organik dünya arasındaki aracılık işlevini gösterebilmek amacıyla, doğal öğeler ile kentsel kültürü kaynaştırmıştır. Merz bir göçer gibi farklı yerlere giderek sınırları aşmış ve çalışmalarında yerli malzemelerden yararlanarak ulusal, kültürel ya da ideolojik sınırları aşındırmıştır. Sanatçı resim 13'te "Spiral Masa" isimli çalışmasında görüldüğü gibi doğadaki sürekli değişimi simgeleyebilmek için, her sayının önceki iki sayının toplamına eşit olduğu Fibonacci dizisi biçimindeki neon ışıklarından yararlanmıştır. Merkezden çembere doğru açılım sağlayan bu biçimin sonsuza değin açılımı ile sürekli bir dinamizmin simgesidir. Sanatçı "Iglu" adı verilen ikinci tür yapıtlarında üç boyutlu spirali kullanmıştır. Sanatçı bulabileceği rastlantısal olarak eline geçen her nesneyi spiral yapımında kullanmıştır. Merz çalışmalarında bütün simgelerin doğaya eşit olduğunu göstermeye çalışmıştır. Merz yapıtlarında ve yerleştirmelerinde harfleri ve rakamları kullanmıştır. Merz asıl olarak Fiobonacci sayı dizisi ve bundan türeyen sarmaldan yola çıkarak oluşturduğu yapıtları ile tanınmaktadır. Bazı canlıların gelişiminde buna benzer matematik orantılar görüntülenebilir olduğundan, doğanın üretimini ve sırlarını göstermek için Merz yapıtlarında, bir önceki sayı ile bir sonrakinin toplanmasından oluşan Fiobonacci sayı dizisini kullanmış, Fiobanacci'ye gönderme yapmıştır (http://fondazionemerz.org/en/mario-merz-in-fondazione/).

Merz, resim 14'te "8-5-3" isimli çalışmasında görüldüğü gibi insanı dış dünyadan koruyan bir efsanevi yapı olarak temel iglu biçimini, soyut göçer kavramı ile ilişkilendirmiştir. Sanatçı için ev, uzay ve zaman arasında bir ilişki vardır. Zaman uzayın yaratıcısı ve yok edicisidir. Uzay özerk ve statik değildir. Uzay zaman tarafından kontrol edilir. Merz yapıtlarında enerji simgesi olarak neon ışıkları, elektrik, taş ve toprakla kurguladığı yerleştirmelerinde insanın barınma gibi temel ihtiyaçlarına ve doğayla ilişkisine göndermede bulunmuştur. Eskimo evlerini andıran yerleştirmeleri ile tanınmıştır (Kavrakoğlu, 2015).

Ayşe Erkmen, heykel nosyonunun temel kuralları olan oran, boyut, maddesellik, nesnesizlik gibi kavramları sorgulayarak, mekânlar içinde, mekâna özgü ve özgül eserler üretmektedir. Minimal bir edimle sergilerini oluşturmayı tercih eden Erkmen için, bazı durumlarda, sergi mekânına dışarıdan bir nesne getirmeme lüksü önemli bir etmendir. Erkmen, şimdisi ve buradalığı ile varolan sanat eserleri vermiş, geçici ve anlık olmanın sanat eseri ile ilişkisini, daha da önemlisi sanat eserinin kendini üretmesindeki etkisini benimsemiştir. İzleyici eser ile buluştuğunda şimdi ve oradalığı ile bir deneyime maruz kalırken, o deneyimin düşünsel izleği Erkmen'in eserlerini yeniden üretime sokmaktadır. Erkmen'in işlerindeki bu deneyimsel/kavramsal boyut, sadece işleri ile karşılaşma ve onları anısallaştırma arasında değil, aynı zamanda edimsel olarak da kendini göstermektedir (Üstek, 2010).


Resim 15: Ayşe Erkmen, *"Wow"*, Manifesta 1 Avrupa Çağdaş Sanat Bienali, 1996, Rotterdam (http://www.basis-wien.at/db/object/62402;jsessionid=9CBE92F4C3521A991DDF685B849084AD).

Erkmen resim 15'te görüldüğü gibi "Wow" isimli çalışmasında Villa Museumpark 9'un dış duvarına Goldilocks masalından bir alıntı yerleştirmiştir. "Ah ne kadar boş bir ev! Acaba kim yaşıyor burada? İçeri girip görmeliyim!" Bu alıntı izleyicileri binaya davet ederken binanın villa ve sergi mekânı olarak belirsiz işlevine ironik bir yorum oluşturmuştur (Sanat Dünyamız, 2008, s. 119).

## YÖNTEM

Araştırma, öncelikle algı, mekân algısı, yazı, sanat eğitimi ve çalışmalardaki mekân kavramını göz önünde bulundurarak oluşturulması sebebiyle yazı ve mekânın bütünleştiği eserlerden görseller, metinler literatür taraması yapılarak incelenmiştir. Araştırmada alan yazına göre betimsel tarama modeli ile makaleler, dergiler, kitaplar, tezler vb. kaynaklar ve görseller ayrıntılı olarak incelenerek karşılaştırılmıştır. Araştırmada daha çok 20 yüzyılı içeren çağdaş sanat kitaplarından ve konu ile ilgili hazırlanan tezlerden faydalanılmıştır. Araştırmada incelenen yazı formu kullanılan eserler ile değerlendirilmiştir. Sanatçıların eserlerindeki benzerlikler ve farklılıklar irdelenerek sunulmuştur. Nitel araştırma tekniğine bağlı olarak sürdürülen çalışmada elde edilen

dokümanların analizi yapılarak verilere ulaşılmıştır. Araştırmayla ilgili yapılan çalışmalar ve elde edilen sonuçlarda dikkate alınarak, tartışma ve sonuç bölümü oluşturulmuştur.

## SONUÇ VE TARTIŞMA

Sanat eğitimi süreci göz önüne alındığında, birey için sanat eğitiminin yeri ve öneminin her geçen gün arttığı açıkça görülmektedir. Sanat eğitimi, eğitim programları çerçevesinde yaratıcılığın gelişmesine imkân tanıması bakımından önde gelen programlardan biri olarak karşımıza çıkmaktadır. Sanat eğitimi sadece eğitim programı dâhilinde uygulanması gereken bir program değil, bireyin tüm yaşantısında önem taşıyan bir uygulamadır.

Sanat eğitimi, sanatsal etkinlik ve etkileşim yoluyla, bireyin yaratma güdülerini doyurmaya, estetik gereksinimlerini karşılamaya, beğenilerini geliştirmeye, içerisinde bulundukları gerçekliğe duyarlı olmalarını ve bu gerçeklikle çokyönlü, kapsamlı, etkili ve verimli bir etkileşim içine girebilmelerini sağlamaya yöneliktir (Uçan, 2005, s. 174). Çokyönlü, kapsamlı, etkili ve verimli bir etkileşim için sanat eğitiminde günlük yaşantımızda neredeyse görsel her unsurda güçlü formu ile bireyin iç içe olduğu yazı önem taşımaktadır. Yazı birey açısından bilinen bir forma sahip olduğundan, yazının mekânla bütünleştiği yapıt örnekleri bireyin mekân algısına geliştirmede katkı sağlayacaktır. Sanatçıların kullandığı yazı formları bazen bir metin, bazen bir soru, bazen tek bir kelimedir ve bu yapıtların birey üzerindeki düşündürücü etkisi bireyin mekân konusunu araştırmaya ve yorumlamaya sevk etmede etkili olacaktır. Sanatçıların yapıtlarında sokaklar, binalar, alışveriş merkezleri, kamu alanları özellikle kentin en yoğun olduğu hemen hemen her yerde yazılar kullanmış olması bireyin ilgisini çekiceğinden mekân algısının gelişimine faydalı olacaktır. Bireyin sanatsal davranışlarında iç içe bulunduğu mekânlar ve yazı aracılığıyla amaçlı olarak sanatsal kazanımlar elde etmesine olanak sağlayacaktır. Araştırmada örnek olarak yer verilen eserlerde kullanılan yazı ve mekânın yöntem ve tekniği, araç ve gereci sanat eğitimi sürecinde bireyin esere dikkatini yoğunlaştırmasında etkili olacaktır. Bu yapıtların incelenmesi bireyin bulunduğu mekânı bir bütün olarak algılamasını, anlamlandırmasını, çözümlemesini ve değerlendirmesini sağlayacaktır. Ayrıca yazı, sanat eğitiminde bireye çok yönlü bakış açısı sağlaması açısından önem taşımaktadır.

Sanatçıların yapıtlarında yazı dili, mekân ile ilişkili olarak kullanıldığından birey için yeni sanatsal anlatım olanakları sunmaktadır. Ağgez (2009) araştırmasında yazının önemini şu şekilde belirtmiştir: yazının tarihsel gelişimi içinde yazılı anlatım aracından, sanatsal değeri olan bir plastik forma dönüşümü, grafik sanatlarda yazının eriştiği plastik form gücünün de bir kanıtıdır. Yazı ve formu, çeşitli aşamalardan geçerek grafik sanatlarda, anlam yaratmanın ve iletişim kurmanın etkin ve vazgeçilmez bir aracı olmuştur. Günümüz disiplinlerarası sanat ortamı ise, yazı ve formunun eriştiği bu gücü kullanarak yeni sanatsal anlatım olanakları vaat etmektedir. Süsoy Şimşek, (2006) araştırmasında ise konuya şöyle yaklaşmıştır: Kavramsal sanat eğitimi, sanat eğitimi kavramını, sosyolojik, felsefi, psikolojik alanlarda ve dil olgusu ile birlikte yaşamsal kılmaya çalışır. Bunlar Kavramsal Sanat Eğitiminin ayrılmaz bütünleyicileri özellikle kavramsal sanat, eğitim söz konusu olduğunda sanata dilin kendisini önermektedir. Dili, düşünceyi ve felsefeyi ön plana çıkarmak bunları ilişkilendirip dille nesnenin ideolojik ve toplumsal alımlanması üzerinde durmuştur. Dil düşünceyi, düşünce de dili mümkün kıldı. Bu açılımlar Kavramsal Sanat Eğitimi ile dil olgusunun önerilmesi sonucunu beraberinde getirmiştir.

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# SANATTA ÇAĞRIŞIM, LEKE, ŞANS VE İLKÖĞRETİM ÖĞRENCİLERİ İLE BİR UYGULAMA ÖRNEĞİ

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## ÖZET

Bir ağaç parçası, kemik, taş insanın elinde doğadaki anlamının dışında işlevsellik kazanmaya başladığı andan itibaren, insan için artık sadece sıradan bir ağaç parçası, kemik ya da taş değildi. Bu nesneler, doğadaki anlamlarının dışında başka çağrışımlar uyandırmaya başlamıştı. Elbette rastlantısallık neticesinde keşfedilmiş bu işlevselliği sanat olarak nitelendirmemiz pek mümkün değil. Ancak, doğadaki nesnelere farklı anlamlarla bakma durumu sonrasında sanatın içinde evirilerek bazı sanatlar için başlangıç noktası oluşturacaktır. Leonardo da sanatsal kazanımlar açısından genç sanatçılara doğaya ve doğadaki taşlara, lekeli duvar yüzeylerine bakmayı önerir ve bu yüzeylerde kişinin dağları, kayaları, ırmakları, düz, geniş vadileri, savaşı ya da savaşan figürleri, kostümleri ve daha birçok şeyi görebileceklerini ifade eder. Kısacası hayal etmeye yardımcı olacak ya da başlangıç noktasının oluşturulmasına katkı sağlayacak kelime ya da görüntülerin bu kaos içinde var olabileceğini vurgular. Ki onun bu fikirleri yüzyıllar sonra sistematik olarak uygulanmıştır. Sonrasında çağrışım ve leke, Sürrealistlerin otomatizm tekniğindeki ve bir nesnenin başka bir nesneyi çağrıştırdığı çalışmalarında, Soyut Dışavurumcuların yüzeydeki lekeyi takip ederek fırçayı ve boyayı rahatça kullandıkları çalışmalarda ve fırça yerine bedenlerini boya ile birleştirerek yüzey üzerinde iz bırakan sanatçıların çalışmalarında etkili olmuştur.
Bu araştırma; ilköğretim 2. kademeden toplam 70 öğrenci ile iki farklı yöntemle ve iki farklı öğrenci grubu ile gerçekleştirilmiştir. İlk gruba, manzara ressamı Alexander Cozens'in kağıt üzerine kasten bıraktığı mürekkep lekesi ile bir başlangıç noktası belirleme fikrinden yola çıkılarak uygulama çalışması yaptırılmıştır. İkinci grupla ise Leonardo da Vinci'nin doğadaki nesnelere farklı anlamlarla bakma önerisinden yola çıkılarak öğrenciler sınıf dışına çıkarılarak başka bir uygulama çalışması gerçekleştirilmiştir. Bu çalışma, öğrencilerin çizimlerinde bir başlangıç noktası oluşturmaları bakımından oldukça etkili olmuştur. Öğrenciler adeta bir oyun gibi gördükleri bu etkinlikte, leke ve doğadaki öğeleri başka nesnelere dönüştürürken keyifli, hayal güçlerini benzetimle birlikte kullanabildikleri resimler yapmışlardır. Ayrıca, bu çalışma resim yapmaktan kaçınan ya da korkan öğrencilerin, kendilerine güvenlerinin artması bakımından da oldukça etkili olmuştur.

**Anahtar Kelimeler:** Sanat, Çağrışım, Leke, Şans

# ASSOCATION, STAIN, CHANCE IN ART AND A PRACTICE WORK WITH ELEMENTARY SCHOOL STUDENTS

## ABSTRACT

Since a piece of wood, bone, stone started to gain functionally outside the meaning of nature in the hands of human, it has not been just an ordinary piece of wood, bone or stone for human. These objects began to awake other assocations outside their meaning in nature. Of course this functionality what discovered as a result of randomness is unlikely to art. However, looking at the objects in nature as different meanings will form the starting point for some of the arts. Leonardo da Vinci recommended looking at nature and stones, the stained wall surface and he expressed that the people could see wall the mountain, rocks, rivers, flat, wide valley, war or fighting figures and see more in this surfaces. In short, words or images that will help to imagine or contribute to start point could be stressed in this chaos there. His ideas has been applied systematically later centuries. Afterwords assocation and stain has been effective in the works of Surrealist's automation tecniques and on an object in the work that evokes another object; in the works of Abstract Expressionist folllwing the stains on the surface and using paint freely; and it has been effective in the works of artists who combining their bodies with paint instead of brush and leaving a trace.
This research was carried out by a total of 70 students from the elementary stage 2, in two different ways and two different groups of students. The first group has been done a practice work according to the idea of landscape painter Alexander Cozens determining a starting point with ink stains left by deliberate. With the second group were carried out another practice work according to the advise of Leonardo da Vinci looking the

objects in nature with different meanings. In this research has been fairly effective in terms of forming a starting point in their drawings. Students in this activity they see like a game, they have done paintings using their imagination with simulated and as enjoyable transforming items in nature to other objects. Furthermore, this research has been effective for students avoding painting or fearing in terms of increased their confidence.

**Key Words:** Art, Assocation, Stain, Chance

# GİRİŞ

İnsan, doğadaki nesnelere, işlevsellik yüklediği andan itibaren, onlar artık sadece bir kemik, taş ya da ağaç parçası değildi. Var olan bir nesneye anlamının dışında bakma durumu, o nesnenin kişide başka bir öğeyi çağrıştırma hali, işlevsel bakış açısından sanatsal bakış açısına evirildiği andan itibaren çağrışım farklı bir sürece girmeye başlar. Çağrışım ile iyi uyum sağlayan lekeye dair araştırmalar, araştırmanın ilk çıkış noktasını da belirleyen Leonardo da Vinci'nin (1452-1519) genç araştırmacılara eski duvarlara bakma önerisine uzanır:
"Görünüşte önemsiz ve neredeyse gülünç olsa da kuramsal bir buluşun yeni bir türünü tanıtacağım. Eski ve lekeli duvar yüzeylerine veya taştan ve çeşitli renklerdeki damarlı mermerlere dikkatle bakarsanız, onlarda çeşitli kompozisyonları, manzaraları, köleleri, savaşan figürleri, tuhaf pozları ve elbiseleri, diğer sonsuz çeşitlilikteki objeler ile birlikte hayal edebilirsiniz. Bu karışık, allak bullak görüntü ile yaratıcı deha yeni çabalar için heyecan duyar" (Da Vinci, 2014, s.84).
Sonraları Leonardo'nun öğütlerinden oldukça fazla etkilenen ve araştırmanın ikinci çıkış noktasını belirleyen Alexander Cozens (1717-1816), onun bu önerisini geliştirerek detaylı bir şekilde ele almıştır. Onun bugün en fazla bilinen teorisi bir lekeden başlayarak oluşturduğu manzara kompozisyonlarıdır. Bu metotu ilk kez 1759'da 'An Essay to Facilitate the Inventing of Landskips, Intended for Students in the Arts' (Manzara Buluşlarını Kolaylaştırması İçin Sanat Öğrencilerine Yönelik Bir Deneme) başlığı ile yayınlamıştır. Ardından daha fazla teorik bilgi ekleyerek 'A New Method of Assisting the Invention in Drawing Original Compositions of Landscape' (Orijinal Manzara Kompozisyonlarının Çiziminde Buluşa Yardımcı Olacak Yeni Bir Yöntem) başlığı ile 1785'te yayınlamıştır (Cramer, 1997, s.113).
Her iki sanatçının kompozisyon için çağrışım uyandıran lekeye bakış açılarını karşılaştırdığımızda; Leonardo'da buluş eski duvar, mermer gibi doğal yüzeyler üzerinden şekillenirken; Cozens'te ise buluşun, beyaz kağıt üzerine bırakılan mürekkep lekesi ile başladığı yargısına varmaktayız. Aslında her iki sanatçıda da bilinç, süreçte etkilidir. Leonardo'nun bakış açısında var olan bir görüntü vardır (ancak görüntünün ilk aşamasında doğal bir durum olduğu için kişi etkin değildir) ve kişi o görüntüye bakarak birçok farklı öğeyi bulabilir. Cozens'te ise Leonardo'nun bakış açısının aksine her ne kadar yüzey üzerinde rastlantısal bir leke bırakma durumu olsa da, lekeyi bırakırken kişinin tecrübeleri, düşünceleri yüzde yüz terkedilmediği için her iki süreçte de bilinç devrede olabilir.
Bu iki sanatçının lekeyi çıkış noktası alma hatta bunu icat olarak görme durumunun, öğrenciler için güzel bir deneyim olacağı düşüncesi ile araştırmanın uygulama boyutuna karar verilmiştir.

**Problem Durumu:**

Resim çok değişik uygulama teknik ve materyallere sahiptir. Görsel sanatlar öğretmenleri, eğitim kurumlarında beceremedikleri düşüncesinde olan ya da kaygı taşıyan öğrencileri sözlü olarak cesaretlendirerek resim yapmaya teşvik etmektedirler. Bu, öğrenciler için sözsel bir pekiştireç ve onları resim yapmaya iten bir dürtüdür. Ancak, öğrenci yüzeye dokunduğu andan itibaren, ya istediği şeyi çizemediği ya da zevk almadığı (ki bu çoğu zaman istediğini çizememenin neticesinde gerçekleşen bir eğilim de olabilir) için onun resim ile ilişkisi, soğuma, sevmeme duygusu ile sonuçlanabilir. İşte tam bu noktada, Alexander Cozens'in bir leke ile başlayıp, o lekenin uyandırdığı çağrışımla oluşturduğu eserler ve Leonardo Da Vinci'nin doğaya ve doğadaki bazı nesnelere bakarak biçimleri bulma önerisinden yola çıkarak; bir işaret ile başlayan, hem cesaretlendirici, hem teşvik edici, hem de oyuncul yaklaşımı ile gerçekleştirilecek böyle bir uygulama, resim yapma konusunda yeteneksiz olduklarını düşünen öğrenciler için bile zevkli bir süreç haline gelebilir.
Ancak öğrencilerin böyle bir yaklaşımla sürece nasıl başlayıp, nasıl sonlandırdıklarına ve onlara böyle bir uygulamanın nasıl bir katkı sağladığına dair örnek araştırmalar çok az sayıdadır. Bu sebeple, bu araştırma konusuna karar verilmiş ve öğrencilerle uygulama gerçekleştirilmiştir.

**Çalışmanın Amacı:**

Bu çalışmanın amacı: "Çağrışım, leke, şansın sanattaki yerini ve ilköğretim öğrencilerinin resimlerindeki etkilerini ve rolünü belirlemektir".

1. Çağrışım, leke ve şans sanatta nasıl bir seyir izlemektedir?
2. Alexander Cozens'in leke yöntemi öğrencilerin resimlerine nasıl yansımaktadır?
3. Leonardo da Vinci'nin leke önerisi öğrencilerin resimlerine nasıl yansımaktadır?
4. Öğrenci, öğretmen süreci nasıl etkilemektedir?
5. Bu tür uygulamalar esnasında öğrenciler ne öğrenirler?

**Yöntem:**

Bu çalışmada, nitel araştırma yöntemlerinden doküman inceleme ve görüşme veri toplama tekniği kullanılmıştır. Bir köy okulu olan ilköğretim ikinci kademeden (5.sınıf) iki farklı grupta toplam 70 öğrenci ile iki farklı uygulama yöntemi (Alexander Cozens yaklaşımı ve Leonardo da Vinci önerisi) ile süreç gerçekleştirilmiştir. Sürecin sonunda Leonardo da Vinci'nin bakış açısı 30 resim, Alexander Cozens'in yöntemi ile 15 resim (2 kişi 1 resim), toplamda 45 resim elde edilmiştir. Bunlardan 14 tanesi ve 12 öğrencinin görüşme sorusuna verdikleri yanıtlar değerlendirilmeye alınmıştır.

# ÇALIŞMA

Bu bölümde araştırmanın kavramsal boyutunu oluşturan leke, çağrışım ve şans kelimeleri açıklanacak, ardından lekeye yönelik yaklaşımlar detaylı bir biçimde ele alınacaktır.

**Leke:** Cozens manzaranın ilk göstergesi olarak gördüğü lekeyi "hızlı, düşündüren, anlık, geçici, kazara ve kaba" olarak tanımlar (Cramer, 1997, s.117). Yine Cozens'e göre leke bir çizim değildir. Bir çizim tarafından yapılmış kazara şekillerin birleşimidir. Bir ipucudur, bir resmin ilkel görünüşüdür, belirginleştirilmemiş, renklendirilmemiş, ışık-gölge kütleleri için fikir verendir (Cozens, 1987, s.65).

Gaston Bachelard ise lekeyi; "sınırsız rüyaların kabataslak hali" olarak nitelendirir. Rüyalar tamamlanmış formları üretirken, leke tamamlanmamış formdur (Maiorino, 1992, s.89). Bir anlamda leke ne tür bir ağaç çıkacağını bilmediğiniz bir tohumu toprağa serpmek gibidir.

**Çağrışım:** En basit anlamıyla çağrışım; "bir kelimenin, nesnenin, görüntünün yaşantısal tecrübeleri neticesinde kişide başka bir görüntüyü, davranışı, düşünceyi anımsatmasıdır". Çağrışıma leke boyutunda baktığımızda, ister doğal yüzeyde (bulut, ağaç, taş, duvar, vb.), ister yapay yüzeyde (kağıt, tuval, vb.) olsun kendi görüntüsünün dışında başka bir görüntüyü anımsatması durumudur ve leke ile birlikte nihai kompozisyonun başlangıç noktasını oluşturmaktadır.

**Şans:** Güncel Türkçe sözlüğünde şans: "Bir kimsenin bilgi ve emeğinden çok rastlantı sonucu elde ettiği elverişli durum" olarak tanımlanmaktadır (TDK). Leke boyutunda baktığımızda şans; doğal yüzeyde lekenin ardındaki görüntüyü görebilmek ile başlarken; yapay yüzeyde ise, rastlantısallık neticesinde bırakılan lekenin elverişli bir görüntüyü oluşturabilecek bir çağrışımı bizde uyandırabilmesiyle devreye girer. Her iki durumda da iyi bir kompozisyon yapmak için elverişlilik sağlanamazsa, uygulayıcı bir başkası ile değiştirme kolaylığına sahiptir.

**Lekeye Yönelik Yaklaşımlar**

Cozens, sanatı bir taklit olarak değil, icat durumu olarak görmeye başladığı andan itibaren, doğaya ve sanata çeşitli tecrübelerini uygulayabilmek adına başvurmuş ve kompozisyon icatlarını sanat için gerekliliklerin zirvesine taşımıştır. Rasyonel olmaya bir sürecin sonucu olan lekelere manzara olarak bakan Cozens, leke uygulamalarını bir metoda yerleştirir.

Bir gün öğrencisinin hayal gücünü harekete geçirecek şeyin nasıl olacağı ile ilgilenen ve bir manzara çiziminden etkilenen sanatçı olayı şöyle açıklar:

"Bir gün müthiş bir kapasiteye sahip bir öğrenci ile manzara kompozisyonu üzerine çalışıyoruz. Tasarım sanatı için bertaraf edilen ustaca bir aklın fikirlerini ortaya çıkarmak için yeterince kapsamlı bir metot isteğini dile getirdim. Ya da yokluğundan yakındım. Bu anda elimin altında kirli bir kağıt parçası var ve gözlerim, onun üzerinde hafifçe rol dağıtımına başlıyor. Üzerine bir kalemle manzara gibi bir şeyler çizdim, bir kural haline getirilebilecek bazı ipuçlarını yakalamak için. Lekeler son derece soluk olsa da, bilinçsizce bir manzaranın genel görünümünün ifade edilmesinde beni etkileyen bir geri dönüş oldu…Kağıtta işaret bırakmak için yeterince güçlü olan mürekkep ve su ile ton elde ettim ve aceleyle bazı kaba formlar yaptım. Niyetimi birkaç ipucu ile belli ettim". İşte sanatçının bıraktığı bu lekeyi öğrencisi onun beklentilerine cevap verecek şekilde geliştirmiştir. Uzun zaman açık tonda mürekkep ile kompozisyon için ipuçlarını yaptıktan sonra, metot onların siyah mürekkeple belirginleştirilmesiyle geliştirilmiş ve onların transfer kağıdına kopya edilmeleriyle taslaklar oluşturulmuştur (Cozens, 1987, s.64).

Cozens lekeleme tekniğini 5 kuralda özetlenmiştir:
1. Kuralda: Mürekkeple nasıl çizim yapılacağını tanımlar.
2. Kuralda: Nasıl transparan kağıt yapılacağını tanımlar.
3. Kuralda: Lekenin nasıl yapılacağının direktiflerini verir.
4. Kuralda: Bir manzara krokisi içerisine lekeyi nasıl öngöreceğimizi söyler.
5. Kuralda: Bu krokiyi nasıl bitireceğimizi belirtir.

Ayrıca 3.kural olan 'Lekenin nasıl yapılacağının direktiflerini' de üç adımda ifade eder. Birinci adımda: "Kişinin zihnini genel bir konu ile sahiplendirmesi" önerilirken; teknik bilginin verildiği ikinci adımda: "Uygun bir biçimde kullanılabilecek kadar büyük olan deve kılı bir fırça alınarak, onun çizim mürekkebi ve su karışımına batırılarak hızlı bir şekilde çizimler yapılması, kağıdın üzerine darbeler indirilmesi"; son adımda ise "Çok sayıda lekeninin kompozisyona dönüştürülmesi" önerilmektedir (Cramer, 1997,s.114).
Sanatçının Eton'da öğrencisi olan Henry Angelo, Cozens'in alışılmışın dışındaki metodunu Reminiscences'te şöyle tanımlar:
"Cozens, birçok kağıt parçası üzerine kaza lekelerini, siyah, kahverengi ve gri renkteki lekeleri bıraktı…Onun bereketli doğal egzersizleri ve belirli ölçüde ustaca ikna eden tavrı ile lekeleri romantik kayalara, ağaçlara, kulelere, kilise kulelerine, evlere, nehirlere, alanlara ve şelalelere dönüştürmüştür. Mavi ve gri lekeler, dağları, bulutları ve gökyüzünü oluşturdu" (Angelo, 1828, s.214).
Angelo'nun ifade ettiği gibi, leke onun manzara kompozisyonları için bir başlangıç noktası idi. Birçok sanatçı, manzara resmi yapmış, manzaralarında dağlara yer vermiştir. Ancak Cozens'in tavrı, dağların zirvelerinden ziyade onların genel fikrini tanımlamaya yöneliktir. Onun bu metodu sonrasında Joseph Wright of Derby'i etkilemiş ve o, birçok leke çalışmasını 1780'de Cozens'in metodunu kullanarak oluşturmuştur (Hargraves, 2007, s.15).
Leonardo ve Cozens'in dışında leke ile bağ kuranlardan biri de Alman şair Justinus Kerner (1786-1862)'dir. Mürekkep lekelerinin sanatsal değeri ve ona eşlik eden şiirlerle dikkatleri üzerine çeken Kerner, 'Klecksographie' (kağıtları katlayıp açarak mürekkep lekelerinin çoğaltılmasına dayanan) olarak adlandırılan bir çizim serisi yaratmıştır. O, mürekkep lekelerine hayranlığının 1851'den sonra körlüğünün sonucunda ortaya çıktığını ve mürekkep lekelerinin sayfaya kazara düştüğünü belirtir. Onun Die Klecksographien'in girişinde belirttiği gibi; "Benim kısmi körlüğümün kötüleşmesi, bu oyunu sürdürme nedenim oldu, çünkü mürekkep damlaları benim yazdığım gibi çok sık kağıt üzerine düşüyordu. Bazen ben onları fark edemedim ve kurumalarına izin vermeden kağıdı katladım. Onları tekrar ayırdığımda lekeleri gördüm, özellikle onlar kağıdın katlandığı yere yakınsa ve simetrik çizimler oluşturmuşsa, yani arabesk, hayvan ve insan şekilleri ve böylece bu aynı zamanda bu uygulamanın daha iyi seviyesi için bu olguyu geliştirme fikrini bana verdi". Bu uygulama aynı zamanda Kerner'in kendisi tarafından geliştirilen küçük bezemelerin eklenmesini de içerir (Kerner, 2014, s.xix). Kerner'in çizimleri onun ölüm, Hades, ruhlar, hayaletler gibi karamsar konular barındıran şiirlerine eşlik etmektedir.
Victor Hugo'nun (1802-1885) çizimlerinde ise bir yandan ortaçağ füzyonu ve kötü ruhların etkisi görülürken diğer yandan mürekkep lekelerinin değerleri ile şans faktörünün işin içine girdiği görülmektedir (Bronzwaer, 1967, s.262).
Tüm bu çalışmalar İsviçreli psikiyatrist Herman Rorschach'ın (1884-1922) hem yaratıcı ve oyuncul yöntemini hem de onun mürekkep lekelerini kullanarak deneklerin algılarını analiz eden testlerinin habercisi olmuştur.
Resimlerinde leke ve çizgiyi birlikte kullanan Joan Mirò (1893-1983) ise 'Dünyanın Doğuşu (The Birth of World)'adlı resmini yapmak için döker, fırçalar ve boyayı düzgün astarlanmayan tuvalin üzerine fırlatır, boya bazı alanlarda emdirilmiştir. Boyanın nispeten kontrolsüz uygulamasına daha önceden planladığı çizgiler ve

şekilleri ekler. Kuş veya uçurtma, yıldız, balon ve beyaz başı ile figür. Tüm şekiller tanıdık gelebilir, ancak onların ilişkileri mantık dışıdır. Mirò leke ile başlayan sürecini şöyle tanımlar: "boyamak için bir şeyleri belirlemekten ziyade, ben resme başladım ve kendisini öne çıkarmaya başlayan veya fırçamın altında kendini öneren resmi boyadım. İlk evre özgürdür, bilinçsizdir" (MOMA Learning)
Leonardo'nun doğal yüzeyler üzerinde farklı figürleri ve öğeleri görme önerisi, Cozens'in leke ile başlattığı süreci bir manzara kompozisyonu olarak sonlandırması, Kerner'in katlayarak çoğalttığı mürekkep lekeleri ve bu lekeleri şiirleri ile bütünleştirmesi, Hugo'nun kazara yaratılan görüntüleri, bulut şekilleri, Rimbaud'un şiirsel çağrışım için şans kelimeleri kullanımı, Dali'nin sürrealist yaklaşımları, Pollock'un soyut dışavurumcu resimleri ve bedenlerinin değişik uzuvlarını fırça gibi kullanan sanatçıların yüzeyler üzerinde bıraktıkları lekelere kadar hepsi arasında yakın bir ilişki söz konusudur. Bronzwaer (1967:262)'in de ifade ettiği gibi; "Bu kişiler doğa ve hayalde büyüyenin ayrılma göstergelerini sunarlar".

## BULGULAR

Araştırmanın amacı ve alt amaçları doğrultusunda cevap aranan sorular temel alınarak betimsel analiz yöntemi ile çözümlenmiş ve yorumlanmıştır. Çağrışım, leke, şansın sanattaki yerini ve ilköğretim öğrencilerinin resimlerindeki etkilerinin ve rolünün ne olduğunu belirleme amacında olan araştırmanın belirlenen alt amaçları doğrultusunda elde edilen bulgular şöyledir:

**1. Çağrışım, leke ve şans sanatta nasıl bir seyir izlemektedir?**

Çağrışım, leke ve şans çalışmanın kavramsal kısmında detaylı bir şekilde ele alınmıştır. Lekenin sanatın içindeki seyrini özetlemek gerekirse; Magalotti'nin yaptığı leke araştırmaları, Leonardo'nun hayal etmek, keşfetmek için leke üzerinden yaptığı öneriler, Mantegna'nın bulutlar içine gizlediği figürleri, Bellini'nin insan yüzlerini çağrıştıran kayaları, Leonardo'nun bu önerilerini geliştirerek farklı bir boyuta taşıyan Cozens'in metodu, Kerner'in, Hugo'nun lekesel çizimleri, Man Ray'ın fotoğrafları, Sürrealistlerin otomatizm tekniğindeki resimleri, soyut dışavurumcuların lekesel resimleri, Rorschach testinin etkisinde kalarak Warhol'un yaptığı Rorschach resimleri, Cornelia Parker'ın pornografik çizimleri, Yveis Klein gibi sanatçıların bedenin değişik uzuvlarını fırça yerine kullandıkları çalışmaları lekenin sanatın içinde geniş bir yere sahip olduğunu göstermektedir. Doğal yüzey ya da doğal nesne ile başlayan leke süreci, mürekkep, boya ve en sonunda bedenin kullanımı ile sanatın içinde dönüşüme uğramıştır.

**2. Alexander Cozens'in leke yöntemi öğrencilerin resimlerine nasıl yansımaktadır?**

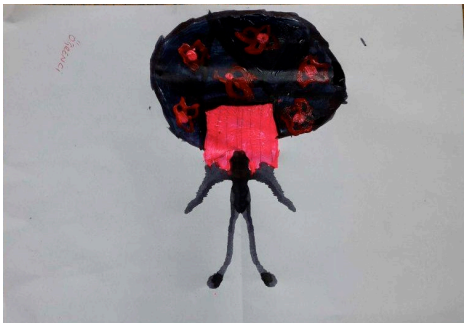
Resim 1a. Öğretmen tarafından bırakılmış leke (İlk aşama)

Resim 1b. 2 öğrenci tarafından bitirilmiş çalışma (Son aşama)

**Öğrencilerin leke ile deneyimine ilişkin ifadeleri:** Lekeyi ilk görünce yanardağa benzettik. Mor renkte ayaklar yaptık. Benekler koyduk böylece yengece benzedi. Boynuz yaptık ve yavruları olmasını istedik. Kenarlarına da yavrularını yaptık.

Resim 2a. Öğrenci tarafından bırakılmış leke (İlk aşama)



Resim 2b. 2 öğrenci tarafından bitirilmiş çalışma (Son aşama)

**Öğrencilerin leke ile deneyimine ilişkin ifadeleri:** İlk gördüğümüzde paraşütle atlayan bir adama benzettik. Ben iplerini çizince arkadaşım da paraşütü çizdi. Çiçeklerle süsledik.

Resim 3a. Öğrenci tarafından bırakılmış leke (İlk aşama)

Resim 3b. 2 öğrenci tarafından bitirilmiş çalışma (Son aşama)

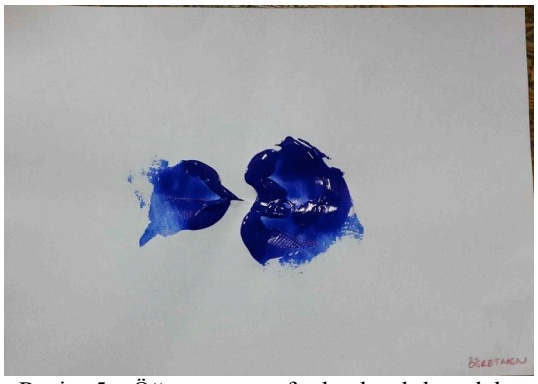
**Öğrencilerin leke ile deneyimine ilişkin ifadeleri:** Lekeyi ilk gördüğümde kurbağaya benzettim. Arkadaşım ise kuzuya benzetmiş. Kahverengi leke ile kulak yaptık ve yüz yaptık. Giderek canavara benzediğini fark ettik. Canavara kanat yaptık. Kuyruk ekledik.

Resim 4a. Öğretmen tarafından bırakılmış leke (İlk aşama)

Resim 4b. 2 öğrenci tarafından bitirilmiş çalışma (Son aşama)

**Öğrencilerin leke ile deneyimine ilişkin ifadeleri:** Lekeyi ilk gördüğümüzde göğüs kafesine benzettik. Sonra kanat yapmaya başladım ve meleğe benzettim. Hacivat ve Karagöz'e benzediğini görünce de şapka yaparak biçimi değiştirdim. En son gördüğümüz şey ise kayak yaparken kanat takan Hacivat ve Karagöz.



Resim 5a. Öğretmen tarafından bırakılmış leke (İlk aşama)

Resim 5b. 2 öğrenci tarafından bitirilmiş çalışma (Son aşama)

**Öğrencilerin leke ile deneyimine ilişkin ifadeleri:** Lekeyi ilk gördüğümde kuş kafasına benzettim. Arkadaşım ise kediye benzetti. Gözlerini koyduğumda yarası kafası gibi oldu. Vücudunu ve kanatlarını ekledik. Vücudunu ilk gördüğümüzde kalbe benziyordu.

Resim 6a. Öğretmen tarafından bırakılmış leke (İlk aşama)

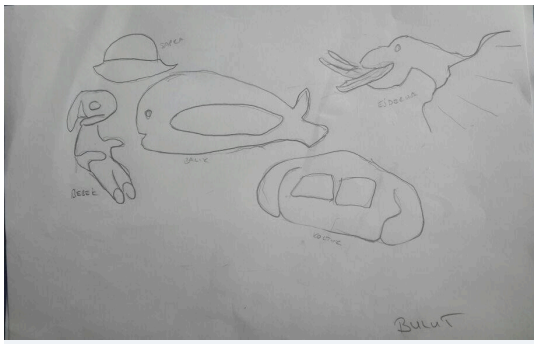
Resim 6b. 2 öğrenci tarafından bitirilmiş çalışma (Son aşama)

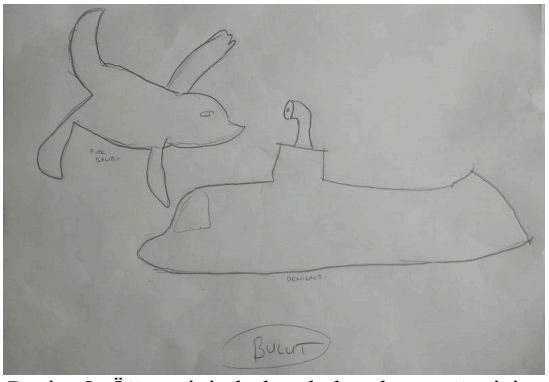
**Öğrencilerin leke ile deneyimine ilişkin ifadeleri:** Lekeyi gördüğümde denize benzettim ve lekeyi yaydım. Arkadaşım deniz yapınca ben de kenarlara kumlar yaptım. Denizyıldızı yapmak istedim olmadı. Ben de plaj havlusuna çevirdim.

Öğrencilerin bazıları leke ilk karşılaştıklarında onlarda ilk çağrışım uyandıran şeyin peşinden giderek lekeyi geliştirmişlerdir. Örneğin Resim 2.'de öğretmen tarafından kağıda bırakılmış leke; öğrencilerde paraşütle atlayan bir adam çağrışımı uyandırmış ve biri paraşütün iplerini çizdikten sonra diğeri paraşütün şişen kısmını çizmiştir. Ama sonuçta, başlangıçta onlarda uyandırdığı çağrışım paraşütle atlayan bir adamdır ve sonucunda da lekeyi paraşütle atlayan bir adama dönüştürmüşlerdir. Öğrencilerin bazıları ise lekenin uyandırdığı çağrışımı bir biçime dönüştürürken yanına ekledikleri leke, ya kendinde ya da arkadaşında farklı bir düşünce uyandırmış ve ilk çağrışım uyandıran biçim, süreç içinde başka bir biçime dönüşmüştür. Örneğin Resim 4'te öğretmen tarafından kağıda bırakılmış leke; öğrencilerde ilk önce göğüs kafesi çağrışımını uyandırmış, sonra öğrencilerden biri kanat yapmaya başlayınca, meleğe benzetmişler. Ardından yanına ekledikleri başka leke ile Hacivat ve Karagöz'e benzediğini düşünen öğrenci bu figürlere şapka ekleyerek biçimi değiştirmiştir. Onlarda ilk çağrışım uyandıran şey göğüs kafesi iken, lekenin nihai görüntüsü onlar için kayak yaparken kanat takan Hacivat ve Karagöz'dür. Aslında, bu süreçte lekenin yanına eklenenlerle lekenin ilk çağrışım uyandıran şey olarak var olmasının yanı sıra başka bir biçime dönüşmesi oldukça muhtemeldir. Bu Cozens'in yaklaşımına da uygun düşer. Onun lekeye dair yazılarından edinilen bilgiye göre sınırları belirli bir çizim küçük farklılıklar olmasına rağmen, birçok kişi için aynı şeyi çağrıştırabilirken leke; aynı kişi için bile farklı şeyleri çağrıştırabilir. Ki, iki kişi ile gerçekleştirilen bu etkinlikte lekenin farklı düşünceleri önermesi muhtemeldir.

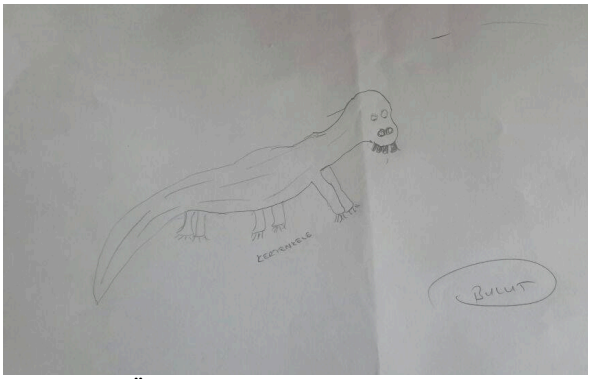
**3. Leonardo da Vinci'nin leke önerisi öğrencilerin resimlerine nasıl yansımaktadır?**



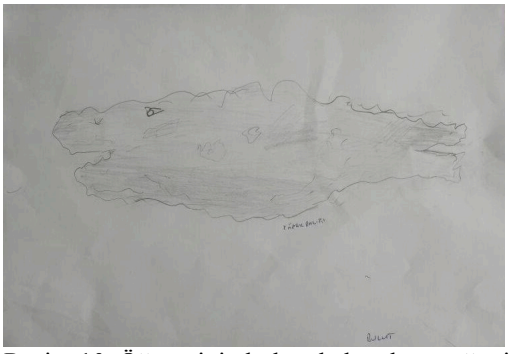
Resim 7. Öğrencinin buluta bakarak yaptığı çizim



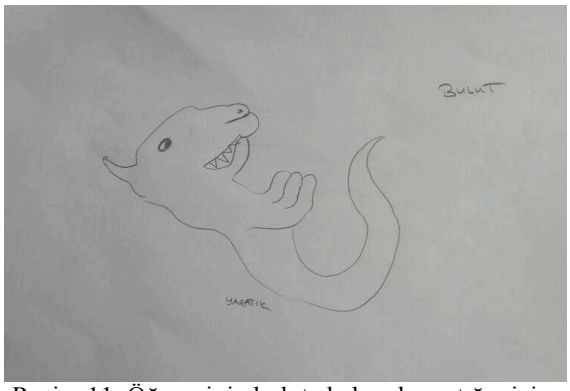
Resim 8. Öğrencinin buluta bakarak yaptığı çizim



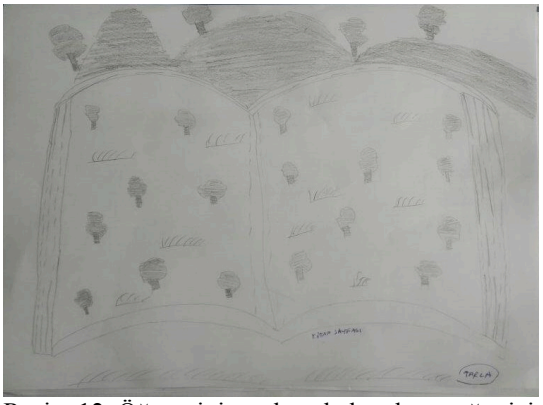
Resim 9. Öğrencinin buluta bakarak yaptığı çizim


Resim 10. Öğrencinin buluta bakarak yaptığı çizim

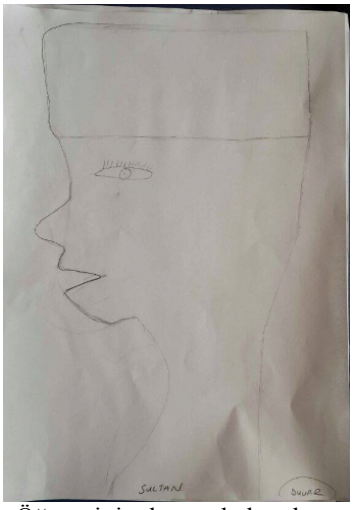
  



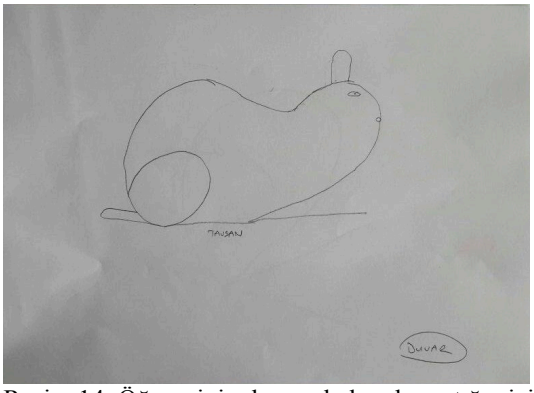
Resim 11. Öğrencinin buluta bakarak yaptığı çizim



Resim 12. Öğrencinin tarlaya bakarak yaptığı çizim



Resim 13. Öğrencinin duvara bakarak yaptığı çizim



Resim 14. Öğrencinin duvara bakarak yaptığı çizim

Resim 7'de öğrenci buluta bakarak, bebek, şapka, balık, ejderha; Resim 8'de buluta bakarak, fok balığı, denizaltı; Resim 9'da buluta bakarak kertenkele; Resim 10'da buluta bakarak köpekbalığı; Resim 11'de buluta bakarak yaratık; Resim 12'de tarlaya bakarak kitap sayfası; Resim 13'te duvara bakarak sultan; Resim 13'te yine duvara bakarak tavşan görmüş ve çizmiştir.

Öğrencilerin Leonardo'nun yaklaşımı doğrultusunda; buluta, duvara, tarlaya, güle, zemine, ağaca bakarak bu doğal öğeleri başka biçimlere dönüştürdükleri görülmektedir. Çizimlerine yer verilen 5 farklı öğrencinin buluta bakarak yaptığı 5 farklı çizim, Shakespeare'in Anthony ve Cleopatra'da 4.oyunun 14.sahnesinde yer verdiği:

"Bazen bir ejderha olan bulut görürüz,
Bazen bir ayı, bir aslan gibi buhar,
Kule gibi yüksek kale, asılı bir kaya,
Çatallı bir dağ…" sözlerini hatırlatmaktadır (Shakespeare, 1998, s.278)

**4. Öğrenci, öğretmen süreci nasıl etkilemektedir?**

Leke ile gerçekleştirilecek bu türden etkinliklerde öğrencilere kesinlikle önceden örnek çalışma gösterilmemesi gerekir. Bu dinamik bir süreçtir, bir icat durumudur. Cozens'in yöntemi doğrultusunda süreçte öğretmenin rolü ilk lekeyi -öğrencinin istediği doğrultusunda- kağıda bırakmak ve ardından da bir gözlemci olarak süreci izlemektir. Belki öğrencinin nihai görüntüye ulaştığının ayırdına varması için direktiflerde bulunabilir. Ancak, hem Leonardo'nun hem de Cozens'in yaklaşımı doğrultusunda yaptırılan çizimlerde, lekenin dönüştürülmesi

sürecinde öğretmen kesinlikle kendi benzetimlerini dile getirmemelidir. Bu, öğrencinin keşfetme sürecini duraksatabilir ve onda çağrışım uyandırmayan bir şeyi yapma gayretine giriştiğinde ve benzetemediğinde başarısızlık duygusu yaşamasına neden olabilir. Leonardo'nun yaklaşımı doğrultusunda süreç bireysel ilerlerken, Cozens'in yaklaşımında uygulama çalışmaları 2 öğrenci arasında gerçekleşmiştir. Bu uygulama da bireysel gerçekleştirilebilir. Ancak, öğrenciler arasında diyalogun oluşması, biçimi dönüştürme sürecini daha eğlenceli ve oyuncul hale getirmek için böyle bir işbirliğine karar verilmiştir. 2 ya da daha fazla kişi ile gerçekleştirilen bu türden uygulamalarda işbirliği hali gözetilmeli, birlikte bir resim yapacakları vurgusu öğretmen tarafından dile getirilmelidir.

**5. Bu tür uygulamalar esnasında öğrenciler ne öğrenirler?**

- Anlamsız gibi görünen şekillerin genel bir düzeni varmış gibi görünmelerini sağlamayı,
- Şekillerin belirsiz ve ham görüntüsünde olan lekeden farklı fikirler üretmeyi ve buluş güçlerini keşfetmeyi,
- Doğayı daha iyi gözlemlemeyi,
- Cozens'in yöntemi ile gerçekleştirdikleri uygulamada; dağınıklıktan düzen, parçadan bütün elde etmeyi,
- Leonardo'nun yöntemi ile gerçekleştirdikleri uygulamada; düzenli görünen yüzeyde önce karmaşayı, sonra bu karmaşadan yola çıkarak çeşitli objeleri hayal etmeyi, düzeni keşfetmeyi,
- Anlamsız bir form ile karşı karşıya kaldığında makul bir anlam bulabilmek için zihin stokunu yağlamayı, (Cramer, 1997, s.125)
- Gereksiz detaylardan kurtularak özü bulmayı öğrenir ve görme pratiği kazanır.

Ayrıca oyuncul bir yaklaşıma sahip olan bu süreçte haz alma duygusu, keşfetme ile birleştiğinde, başarı duygusu kazanmaya başlayan öğrencinin kendine güveni artar.

## SONUÇ

Sanatta çağrışım, leke ve şans farklı yöntem ve tekniklerle günümüze değin evirilerek gelmiştir. Leke üzerine söylemlerde ortak bir nokta vardır ki; o da leke ile başlayan sürecin zihnin hayal gücünü uyandırmasında önemli bir yere sahip olduğudur. Cozens'in leke yönteminden yola çıkılarak yaptırılan uygulama çalışmalarının, Leonardo'nun önerisinden yola çıkılarak yaptırılan uygulama çalışmalarına göre ilköğretim 5.sınıf öğrencileri için daha uygun olduğu kanaatine varılmıştır. Öğrenciler süreçte eğlenmenin yanı sıra, doğayı daha iyi gözlem yapma becerisi kazanmışlardır. Artık bulut, ağaç, taş, yer onlar için bildikleri anlamların dışında başka biçimleri de içinde gizleyen, keşfedilmeyi bekleyen unsurlara dönüşmüştür. Kaba, şekilsiz bir formu hayal güçlerini kullanarak başka bir biçime dönüştürmeyi başarmışlardır. Her iki yöntemle de yaptırılacak uygulama çalışmaları, öğrencilerin keşfetme duygusunu kazanmalarına, başarı duygusunu tatmalarına yardımcı olacak, benzerlikler ve farklılıkların ayırdına varmalarını sağlayacak, bütünü daha iyi görmelerine yardımcı olacaktır.

Sonuç olarak; leke üzerine iki sanatçının düşünceleri doğrultusunda gerçekleştirilen etkinliklerin öğrenciler için oldukça faydalı ve etkili olduğu görülmüştür.

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# SCHOOL EFFECTIVENESS AND COMPARISON OF THE EFFECTIVENESS OF TURKISH STATE SECONDARY SCHOOLS ACCORDING TO SOCIOECONOMIC STATUS

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**ABSTRACT**
Although the effectiveness of a school is mostly evaluated with the students' achievement in core lessons in national or international exams, "School Effectiveness" is a multifaceted term which includes the qualities of different parties., School Effectiveness refers to the level of goal attainment of a school and it is one of the major factors affecting students' success. High expectations from students, educational leadership, monitoring progress, parental involvement, staff professional development, positive classroom climate, and high level of school resources are the main factors creating effective schools. In this respect, this study initially aimed at designing a Likert type School Effectiveness Scale to define the qualities of effective schools, and secondly analyzing the result according to the socioeconomic status. The study was conducted in 9 state secondary schools, 5 located in low socioeconomic status neighborhoods and 4 in high socioeconomic status neighborhoods. 388 administrators and teachers participated in the study. The reliability analyses revealed that Cronbach's Alpha coefficient of the scale is 0.962, and the scale consists of 5 factors. These factors explain the school effectiveness phenomenon up to 69.60%. The discussion of these findings gives better insight about the factors which create effective schools.

## INTRODUCTION

School is basically defined as a place where learning occurs; however, it is a more complicated organization which has economic, political, cultural, and social dimensions. Schools, in general terms, aim at developing socially accepted behaviors on individuals, and with this function, they are the institutions which support nations to reach their wide-ranging goals. The major functions of schools are providing individuals with skill and knowledge acquisition, raising individuals to fulfill the social needs, categorizing these individuals by determining their skills, socializing them, and developing individual creativity and positive attitudes (Averch et.al., 1974). Due to the rapid changing conjuncture in the world and Turkey, schools have to keep up with the change and increase their effectiveness to continue their existence. Therefore, the foremost objective of schools is to improve their quality. Since schools differ greatly in achieving the aforementioned functions, their effectiveness should be determined, comparisons should be made, and data should be collected to plan their improvement. The initiations to ensure these practices have been the reason of school effectiveness research.

School effectiveness, in the most general sense, is defined as the rate of goal attainment of a school (Scheerens, 2013). Schools may be considered effective when they put the functions expected from them into practice and when different parties included feel satisfied with this action (Bollen, 1996). In addition, keeping the idea that 'every student can learn' in mind, the schools which provide students with better learning environments may be mentioned as effective schools. School effectiveness is defined equally with quality, productivity, and efficiency in the literature. Although the students' achievement rates in core lessons are thought of the major indicator of school effectiveness, factors such as the responsiveness of a school to societal needs and teacher satisfaction should also be cogitated (Scheerens, 2013).
School effectiveness research studies conducted before 2000 especially in the schools having high socioeconomic status in urban areas of western countries revealed several common characteristics of these schools (Purkey & Smith, 1983; Levine &Lezotte, 1990; Scheerens, 1992; Cotton, 1995; Sammons, Hillman & Mortimore, 1995):

- Strong educational leadership
- Emphasis on the attainment of basic skills
- Ordered and safe school climate
- High expectations from students

  

- Frequent and regular evaluation of student achievement

Recent school effectiveness research reached an agreement on the following criteria to show that a school is effective (Scheerens, 2000; Balcı, 2001; Şişman, 2002, Hopkins et. al., 2013; Muijs et. al., 2013; Reynolds et. al., 2013):

- Clear goals
- Effective educational leadership
- Positive school climate
- High expectations from students
- Observation of student improvement
- Support and contribution of parents and society
- Support for teachers' career development

These studies identified the criteria and subcategories creating them and underlined the necessity of analyzing these criteria in order to determine whether a school is effective or not.

***Effective School Criteria***

The qualities of an effective school were explained similarly in the articles of Arslan et. al., (2006); Balcı (2001), Scheerens (2013), Scott et. al., (2014), and Şişman (2002):

***1- Clear goals***

In an effective school, all the staff and teachers know in which direction and for what purpose they proceed and aim at focusing on a shared vision by being aware of their roles in this process. This vision is created based on common values and beliefs and becomes a consistent guide for all the shareholders. Goals and objectives are created after the discussions with administrators, teachers, and parents and they are shared in a written form.

***2- Effective Educational Leadership***

Effective educational leadership requires the implementation of change. Effective school leaders seek for help on the issues needed and they support learning and professional development by improving education program and school culture. These leaders have varied styles and roles. Their administrative roles and their participation in teaching are evaluated.

***3- Positive School Climate***

An effective school encourages safe, civilized, healthy, and intellectual learning atmosphere. Students feel they are cared and respected by their teachers and administrators. Teaching is individualized and class sizes are kept low, therefore a healthy interaction between students and teachers is assured. Records on teachers and students' attendance and discipline problems are kept and observations considering student-teacher relationships are held.

***4- High Expectations from Students***

In an effective school, teachers and administrators believe that all the students can learn and reach high standards. Some students may face several obstacles; however, these obstacles are not considered concrete barriers. Students are given courses which are eagerly and meticulously designed. These schools keep track of students' development and emphasize academic requirements and expectations frequently.

***5- Tracking Student Development***

In an effective school, students who need help are determined by using consistent assessment and evaluation methods. These students receive more support or teaching time during or after school time. Teaching is designed based on the frequent observations of student development and needs. Assessment and evaluation results are used to improve education program.

***6- Parental and Societal Involvement***

In effective schools, not only teachers and staff but also business world, universities and society take the responsibility to educate students. Regular meetings with these shareholders are organized and their involvement in educational activities are requested.

***7- Support for Teachers' Professional Development***

  

An effective school provides training opportunities for teachers especially on the most urgent areas. Feedback received from the evaluation of teaching and learning are used in order to design comprehensive and continuous professional training sessions. These training sessions are compatible with the goals of the school.

These effective school criteria are equally important and should be approached simultaneously to encourage school improvement.

## THE STUDY

The purpose of this study was twofold: First, it aimed at designing a scale to investigate teachers and administrators' attitudes towards school effectiveness. Secondly, it was aimed to find out whether the attitudes of the participants towards school effectiveness change or not considering socioeconomic status of the schools. In order to reach these aims the following research questions were planned:

1. What are the exploratory factor analysis results of School Effectiveness Scale?
2. What are the confirmatory factor analysis results of School Effectiveness Scale?
3. What are the reliability test results of School Effectiveness Scale?
4. Is there a significant difference in teachers and administrators' attitudes towards Administrative Effectiveness according to socioeconomic status of schools?
5. Is there a significant difference in teachers and administrators' attitudes towards Teacher Effectiveness according to socioeconomic status of schools?
6. Is there a significant difference in teachers and administrators' attitudes towards Student Effectiveness according to socioeconomic status of schools?
7. Is there a significant difference in teachers and administrators' attitudes towards Parent Effectiveness according to socioeconomic status of schools?
8. Is there a significant difference in teachers and administrators' attitudes towards School Atmosphere Effectiveness according to socioeconomic status of schools?

### *Research Design*

This study, which aimed at determining the attitudes of teachers and administrators working in state secondary schools during 2015-2016 education year and comparing these attitudes according to socioeconomic status of schools, is a relational descriptive study. Descriptive type of studies aim at portraying a situation in the past or present without making any interference. The phenomenon, individual, or object of the study is defined in its own context. In the relational descriptive studies, the relationships among the defined phenomenon, individuals, or objects are described without making any changes (Karasar, 2002).

### *Population and Sample*

The population of this study consists of teachers and administrators working in state secondary schools in Eskişehir, Turkey. The sample of the study consists of teachers and administrators chosen from high and low socioeconomic status schools in central Eskişehir by using stratified sampling technique.

### *Sampling*

When the private schools and schools functioning in the universities are eliminated, there are 49 state secondary schools in the two districts (Odunpazarı and Tepebaşı) of Eskişehir city. These schools were stratified based on the socioeconomic status of the neighborhoods they are located in as low (Low SES), average (Avarage SES), and high (High SES). In order to determine these strata, current values listed in the document prepared by Odunpazarı Municipality and printed in 2010, which was named as "Current Values of the Minimum Land Properties and Building Plots to be Used in 2010" was taken into consideration (Eskişehir Odunpazarı Belediyesi, 2010). Based on the values in the document, mean values of the neighborhoods were calculated by computing the current values of each street in Odunpazarı and Tepebaşı Districts. Instead of using arithmetic mean in this calculation, median was used because there were extreme values among the current values of streets in the neighborhoods. Also, these values were determined in 2010 and did not represent the current status. In order to update these values to 2016, calculations were done by using the basic indexes given by Turkish Statistical Institute (labor, cement, iron, fuel, wood, equipment and other costs) and Wholesale Price Index and Consumer Price Index coefficients. After these calculations graphics were created and it was seen that the neighborhoods having 300 ″or over current values are High SES, neighborhoods having 150-299 ″current values are Average SES, and neighborhoods having 150 ″or below current values are Low SES neighborhoods. In this respect, 4 high SES and 5 Low SES schools, and 388 teachers and administrators working in these schools were selected to represent the population. Average SES schools were not used in this study in order to see the difference more sharply.

  

***School Effectiveness Scale***

In this study, School Effectiveness Scale was designed in order to determine the factors creating school effectiveness based on the perceptions of teachers and administrators. As mentioned in the literature, scale development procedure has to follow several steps (Cohen & Swerdlik, 2013; Crocker & Algina, 1986; DeVellis, 2014; Şeker & Gençdoğan, 2014). In this study, following steps are implemented:

1. Defining the purpose and target population of the scale
2. Deciding the scope and content of the scale
3. Writing items based on the scope and the content
4. Reviewing the items and creating scale form
5. Determining the scoring method and analysis procedure
6. Piloting the scale
7. Scoring the items and analyzing
8. Creating the final version of the scale

Prior to the pilot study, scale items were written after a detailed review of the literature.127 items were drafted and they were examined by two professors and an associate professor working in Educational Sciences Institute considering the items' suitability to the context, grammar rules, and their potential to produce expected answers. Thus, the number of items were reduced to 43 and they were designed in the Likert type scale to be answered in 5 levels (1- never, 2-rarely, 3-sometimes, 4- mostly, 5- always). They were reviewed with the help of feedback and opinions of the experts and final version of the scale was created. Pilot study was conducted in one High SES and one Low SES state secondary schools on April 15$^{th}$ -22$^{nd}$, 2016. Date were collected from152 teachers and administrators participated in the pilot study. Data were computed by using IBM-SPSS 22 software and Cronbach Alpha's Test, Kaiser–Meyer–Olkin (KMO) test, Bartlett Sphericity test, varimax rotation and anti-image correlation analyses were conducted to identify the reliability and validity of the scale.

***Cronbach's Alpha Test***

When the School Effectiveness Scale was thought to consist of a single factor, Cronbach's Alpha coefficient was found as 0.966. However, item-total correlations of the items revealed that 9 items (item 6, 33, 35, 37, 38, 39, 40, 42, 43) had low item-total correlations (lower than 0.300). Literature suggests that each item should contribute to the phenomenon to be explained and should have at least 0,300 or over item-total correlation (Özdamar, 2013). Taking this warningn into consideration, these 9 items were eliminated from the scale. The analysis of the remaining items showed 0.962 Cronbach's Alpha coefficient. For scales, Cronbach's Alpha coefficient 0.70 or above represent high reliability (Özdamar, 2013). Cronbach's Alpha If Item Deleted section indicated that when any of the remaining 34 items was eliminated the coefficient value which was 0.962 decreased. Thus, it may be stated that the remaining 34 items highly contribute to the reliability of the scale (Büyüköztürk, 2013; Özdamar, 2013). Anti-image correlation values of the items confirmed this finding. Table 1 shows the factor loads and item total correlations of 34 item and Table 2 describes their Anti-image correlation values.

**Table 1:** Factor loads and item-total correlations of items

| Item | Initial Factor Loads | Item Total Correlations | Item | Initial Factor Loads | Item Total Correlations |
|---|---|---|---|---|---|
| **I 1** | .695 | .651 | **I 19** | .691 | .783 |
| **I 2** | .621 | .581 | **I 20** | .723 | .769 |
| **I 3** | .739 | .649 | **I 21** | .638 | .638 |
| **I 4** | .743 | .582 | **I 22** | .800 | .730 |
| **I 5** | .709 | .606 | **I 23** | .830 | .708 |
| **I 7** | .679 | .652 | **I 24** | .823 | .725 |
| **I 8** | .663 | .629 | **I 25** | .759 | .705 |
| **I 9** | .636 | .564 | **I 26** | .796 | .825 |
| **I 10** | .659 | .576 | **I 27** | .859 | .747 |
| **I 11** | .567 | .550 | **I 28** | .805 | .703 |
| **I 12** | .625 | .581 | **I 29** | .831 | .730 |
| **I 13** | .661 | .624 | **I 30** | .758 | .742 |

  

| | | | | | |
|---|---|---|---|---|---|
| **I 14** | .693 | .440 | **I 31** | .612 | .537 |
| **I 15** | .680 | .509 | **I 32** | .714 | .693 |
| **I 16** | .672 | .594 | **I 34** | .580 | .581 |
| **I 17** | .671 | .528 | **I 36** | .659 | .479 |
| **I 18** | .719 | .789 | **I 41** | .554 | .476 |

As seen in Table 1, the factor loads of the remaining items vary between 0.554 and 0.859. Item-total correlations vary between 0.440 and 0.825.

**Table 2:** Anti-image Correlation Values of the Items

| Item | Anti-image | Item | Anti-image |
|---|---|---|---|
| **I 1** | .955 | **I 19** | .954 |
| **I 2** | .930 | **I 20** | .965 |
| **I 3** | .952 | **I 21** | .969 |
| **I 4** | .928 | **I 22** | .974 |
| **I 5** | .924 | **I 23** | .915 |
| **I 7** | .937 | **I 24** | .919 |
| **I 8** | .949 | **I 25** | .953 |
| **I 9** | .934 | **I 26** | .975 |
| **I 10** | .920 | **I 27** | .913 |
| **I 11** | .958 | **I 28** | .954 |
| **I 12** | .910 | **I 29** | .920 |
| **I 13** | .937 | **I 30** | .959 |
| **I 14** | .910 | **I 31** | .924 |
| **I 15** | .907 | **I 32** | .961 |
| **I 16** | .934 | **I 34** | .958 |
| **I 17** | .917 | **I 36** | .924 |
| **I 18** | .938 | **I 41** | .928 |

Table 2 reveals that Anti-image correlation values of the items vary between 0.907 and 0.975. None of the items in the scale have a value lower than 0.50 and this shows that factor loads of the item highly contribute to the factor structure of the scale.
With the reliability analysis, reliability coefficient and additivity values of the scale were found and represented in Table 3.

**Table 3:** Cronbach's Alpha and Additivity Test results of the scale

| Cronbach's Alpha | Variance Root | Sum of Squares | Squares Mean | F | df | p |
|---|---|---|---|---|---|---|
| 0.962 | Nonadditivity | 172.349 | 172.349 | 0.975 | 1 | 0.324 |

Significance level is 0.05

Table 3 shows that School Effectiveness Scale is a highly reliable (Cronbach's Alpha 0.962) and collectible (Tukey Nonadditivity p>.05) Likert type scale.

***Construct Validity (Exploratory Factor Analysis)***

The data collected from the pilot group were analyzed to find out whether they are suitable for factor analysis or not (Büyüköztürk, 2013; Özdamar, 2013). The construct validity of School Effectiveness Scale was determined by using principal component analysis. In order to identify whether the data were appropriate for factor analysis, Kaiser–Meyer–Olkin (KMO) Test and Bartlett Sphericity Test were conducted in principal component analysis. Also, varimax rotation method was used to give a better picture of factors in this analysis. The details of these analyses are as follows:

1. KMO value was found 0,940. The KMO value at least above 0.50 shows that the data are appropriate for factor analysis.

  

2. The Bartlett Test result was [ $\chi^2$ = 6900.964; df=561, p<0.01]. The significance value was found lower than 0.05, which means factor analysis can be conducted.

In order to determine the subcategories and the items creating these subcategories varimax rotation method was applied to the data set (Büyüköztürk, 2013; Özdamar, 2013). The analysis revealed that the scale consists of 5 factors.

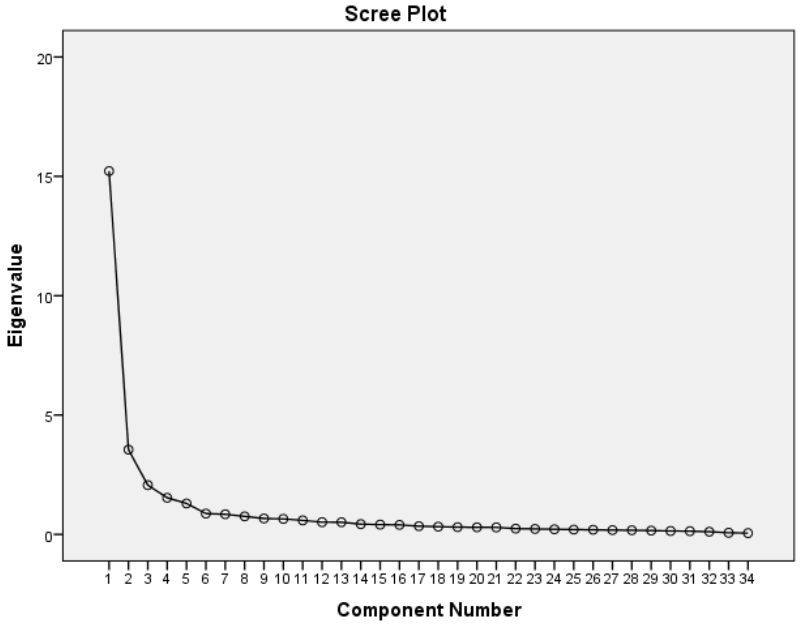


**Figure 1.** Scree Plot Graph showing the factors of the School Effectiveness Scale

Scree Plot graph also confirms this result visually. The results of Varimax rotation method are given in Table 4.

**Table 4:** Factors and items after varimax rotation

| | Factors | | | | |
|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** |
| **I 23** | .875 | | | | |
| **I 24** | .853 | | | | |
| **I 22** | .840 | | | | |
| **I 25** | .810 | | | | |
| **I 21** | .747 | | | | |
| **I 20** | .729 | | | | |
| **I 26** | .722 | | | | |
| **I 18** | .689 | | | | |
| **I 19** | .654 | | | | |
| **I 15** | | .730 | | | |
| **I 13** | | .724 | | | |
| **I 12** | | .712 | | | |
| **I 10** | | .708 | | | |
| **I 17** | | .683 | | | |
| **I 9** | | .678 | | | |
| **I 16** | | .673 | | | |
| **I 14** | | .639 | | | |

  

| | | | | | |
|---|---|---|---|---|---|
| **I 11** | .579 | | | | |
| **I 4** | | .808 | | | |
| **I 5** | | .767 | | | |
| **I 3** | | .726 | | | |
| **I 8** | | .719 | | | |
| **I 1** | | .707 | | | |
| **I 7** | | .707 | | | |
| **I 2** | | .594 | | | |
| **I 29** | | | .725 | | |
| **I 27** | | | .700 | | |
| **I 32** | | | .676 | | |
| **I 28** | | | .672 | | |
| **I 30** | | | .621 | | |
| **I 31** | | | .584 | | |
| **I 36** | | | | .740 | |
| **I 41** | | | | .661 | |
| **I 34** | | | | .585 | |
| **Variance five factors explain**=69.608 % | | | | | |

As seen in Table 4, 34 items are categorized under 5 factors after varimax rotation method. These five factors explain the school effectiveness phenomenon up to 69.608 % and this percentage is considered acceptable in social science studies (Büyüköztürk, 2013).

Table 4 reveals that

- items 1,2,3,4,5,7,8 create a subcategory (first factor). It was found out that these items are related with the evaluation of administrators' effectiveness in schools. This factor was called "Administrator Effectiveness" (ADMIN). Cronbach's Alpha coefficient of this factor is 0.918 and Tukey's Test for Nonadditivity result is 0.082. Thus, this factor is a collectible and reliable scale and the total score of it is 35.

- items 9,10,11,12,13,14,15,16,17 create another subcategory (second factor). Items in this factor are related with the evaluation of teacher effectiveness in the schools. This factor was called "Teacher Effectiveness" (TEACHER). Cronbach's Alpha coefficient of this factor is 0.897 and Tukey's Test for Nonadditivity result is 0.054. Thus, this factor is a collectible and reliable scale and its total score is 45.

- items 18,19,20,21,22,23,24,25,26 create the third factor. The examination of these items showed that they are related with the evaluation of student effectiveness in the schools. This factor was called "Student Effectiveness" (STUDENT). Cronbach's Alpha coefficient of this factor is 0.955 and Tukey's Test for Nonadditivity result is 0.422. Thus, this factor is a collectible and reliable scale and its total score is 45.

- items 27,28,29,30,31,32 create another subcategory (fourth factor). It was found out that these items are related with the evaluation of parent effectiveness in schools. This factor was called "Parent Effectiveness" (PARENT). Cronbach's Alpha coefficient of this factor is 0.925 and Tukey's Test for Nonadditivity result is 0.216. Thus, this factor is a collectible and reliable scale and the total score of it is 30.

- items 34,36,41 create the last factor ($5^{th}$). Literature suggests that each factor should consist of at least three items, every item should contribute to the phenomenon to be explained, and they should have high factor loads (Özdamar, 2013). The examination of these items showed that they are related with the evaluation of school atmospehere. This factor was called "School Atmospere Effectiveness" (SCHOOL). Cronbach's Alpha coefficient of this factor is 0.759 and Tukey's Test for Nonadditivity result is 0.052. Thus, this factor is a collectible and reliable scale and its total score is 15.

  

***Confirmatory Factor Analysis (CFA)***

Exploratory Factor Analyses showed that School Effectiveness Scale consists of 5 factors. The purpose of Confirmatory Factor Analysis (CFA) is to identify whether a predetermined model and the data set are compatible (Sümbüloğlu & Akdağ, 2009).

CFA of School Effectiveness Scale was conducted with Lisrel 9.1 software and it was seen that Chi Square value is değeri $\chi^2$ = 1550.51, degree of freedom is df=522 and $\chi^2$ / df ratio is 2.9703. When this ratio is lower than 3 it can be implied that there is a perfect match between the data set and the model (Jöreskog & Sörbom, 1993; Sümer, 2000; Kline, 2005). Thus, we may assume that there is a perfect match between the model created with CFA and pilot study data set in this research.

One of the most commonly preferred goodness of fit indices in CFA is RMSEA (rootmeansquareerror of approximation). 0.05 or a lower value of RMSEA in CFA is the indicator of the match between the data set and the model; however, it is mentioned that this value is acceptable between 0.05-0.09 (Browne & Cudeck, 1993; Hu & Bentler, 1999; Şimşek, 2007; Vieira, 2011). The RMSEA value in this study was 0.09, which implies that the match between the data set and the model is acceptable.

The AGFI (Adjusted Goodness of fit index) value higher than 0.80 and the RMR (Root- mean-squareresidual) lower than 0.10 are acceptable values that indicate the match between real data set and the model (Anderson & Gerbing, 1984; Marsh, Balla & McDonald, 1988). In this study, AGFI=0.852 and RMR=0.063 were found. According to these results, it may be implied that the match between the 5-factor-model and the data set is in acceptable level.

0.95 or higher CFI (Comparative Fit Index) value in CFA suggests a "perfect match" between the data set and the model (Bentler, 1990; Hu & Bentler, 1999; Sümer, 2000; Şimşek, 2007; Çokluk, Güçlü & Büyüköztürk, 2008). The analysis in this study revealed that the CFI value was 0.960. According to these results, it may be inferred that the match between the data set and the model provided was almost perfect. The goodness of fit values gained in CFA were summarized in Table 5.

**Table 5:** Goodness of Fit Values gained in CFA

| $\chi^2$ | $D_f$ | $\chi^2/D_f$ | RMSEA | AGFI | RMR | CFI |
|---|---|---|---|---|---|---|
| 1550.51 | 522 | 2.9703 | 0.09 | 0.852 | 0.063 | 0.960 |

Confirmatory Factor Analysis created the values given in Table 8 and these values confirmed the 5-factor-model of School Effectiveness Scale. The Path Diagram of the model can be seen in the Appendix.

***Analyses of School Effectiveness Scale Based on Socioeconomic Status of Schools***

The second purpose of this study was to compare the effectiveness of schools based on their socioeconomic status. The items of the scale were renumbered after the pilot study and final version of the scale was created. Then, it was conducted in 4 Low SES and 3 High SES schools with 236 teachers and administrators. However, it was noticed that the scores in five factors did not show a normal distribution and this was proven in both Kolmogorov-Simirnov and Shapiro-Wilk tests ($p<.05$). Thus, instead of t-test and ANOVA, which were parametric tests, nonparametric tests (Mann Whitney U) was employed (Büyüköztürk, 2013; Doğan & Doğan, 2014; Green & Salkind, 2008; Özdamar, 2013; Siegel, 1977). The details of the analyses are explained in the findings.

**FINDINGS**

1- In order to test whether there is a significant difference among Administrator Effectiveness scores based on the socioeconomic status variable (high or low) or not, Mann- Whitney U test was conducted.

**Table 6:** Difference of Administrator Effectiveness factor based on SES

| Factor | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| ADMIN | Low | 112 | 108.59 | 8054.000 | 0.033 |
| | High | 124 | 127.45 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

  

Mann Whitney U test, which was conducted to determine the difference in Administrator Effectiveness factor according to the socioeconomic status variable, revealed that there is a statistically significant difference between groups in support of High SES schools in $p<0.05$ level.

When the items in this factor were analyzed, especially items 1,2,3, and 8 created significant differences ($p<0.05$).

**Table 7:** Difference of items in ADMIN factor according to SES

| Item | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| I 1 | Low | 112 | 107,04 | 8227.500 | 0.007* |
| | High | 124 | 128,85 | | |
| I 2 | Low | 112 | 107,76 | 8146.500 | 0.010* |
| | High | 124 | 128,20 | | |
| I 3 | Low | 112 | 103,50 | 8623.500 | 0.001* |
| | High | 124 | 132,04 | | |
| I 4 | Low | 112 | 114,85 | 7352.500 | 0.414 |
| | High | 124 | 121,79 | | |
| I 5 | Low | 112 | 116,29 | 7192.000 | 0.611 |
| | High | 124 | 120,50 | | |
| I 7 | Low | 112 | 111,50 | 7728.000 | 0.105 |
| | High | 124 | 124,82 | | |
| I 8 | Low | 112 | 108,52 | 8062.000 | 0.021* |
| | High | 124 | 127,52 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

As seen in Table 7, in the ADMIN factor of the scale, administrators in High SES schools emphasize the goals of the school more clearly that the ones in Low SES schools (Item 1). Also, the frequency of the meetings done by the administrators in High SES schools to provide knowledge and coordination is higher than the ones in Low SES schools (Item 2). Next, the participants stated that the managers in High SES schools support teachers' professional development more than the ones in Low SES schools (Item 3). Finally, it was seen that the administrators in High SES schools pay more attention to opinions and complaints than the administrators in Low SES schools. These findings were statistically significant ($p<0.05$). Therefore, it may be implied that administrators in High SES schools are more effective than the Low SES schools in terms of emphasizing goals clearly, providing knowledge and coordination, supporting teachers' professional development, and taking the opinions and complaints into consideration.

2- In order to test whether there is a significant difference among Teacher Effectiveness scores based on the socioeconomic status variable (high or low) or not, Mann- Whitney U test was conducted. No significant difference was found between the two groups ($p>0.05$).

**Table 8:** Difference of Teacher Effectiveness Factor Based on SES

| Factor | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| TEACHER | Low | 112 | 110.91 | 7794.000 | 0.103 |
| | High | 124 | 125.35 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

3- In order to test whether there is a significant difference among Student Effectiveness scores based on the socioeconomic status variable (high or low) or not, Mann- Whitney U test was conducted.

**Table 9:** Difference of Student Effectiveness Factor Based on SES

| Factor | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| STUDENT | Low | 112 | 71.80 | 12174.000 | 0.000 |
| | High | 124 | 160.68 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

  

Mann Whitney U test, which was conducted to determine the difference in Student Effectiveness factor according to the socioeconomic status variable, revealed that there is a highly significant difference between groups in support of High SES schools in p<0.001 level.

When the items in this factor were analyzed, all the items created significant differences (p<0.001).

**Table 10:** Difference of items in STUDENT factor according to SES

| Item | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| I 18 | Low | 112 | 82.55 | 10970.000 | 0.000* |
| | High | 124 | 150.97 | | |
| I 19 | Low | 112 | 86.45 | 10534.000 | 0.000* |
| | High | 124 | 147.45 | | |
| I 20 | Low | 112 | 84.66 | 10734.000 | 0.000* |
| | High | 124 | 149.06 | | |
| I 21 | Low | 112 | 87.06 | 10465.000 | 0.000* |
| | High | 124 | 146.90 | | |
| I 22 | Low | 112 | 80.81 | 11165.500 | 0.000* |
| | High | 124 | 152.54 | | |
| I 23 | Low | 112 | 73.86 | 11943.500 | 0.000* |
| | High | 124 | 158.82 | | |
| I 24 | Low | 112 | 74.87 | 11831.000 | 0.000* |
| | High | 124 | 157.91 | | |
| I 25 | Low | 112 | 75.80 | 11726.000 | 0.000* |
| | High | 124 | 157.06 | | |
| I 26 | Low | 112 | 79.17 | 11349.000 | 0.000* |
| | High | 124 | 154.02 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

According to the scores given by the participants to the items in the STUDENT factor, the students in High SES schools have a higher level of motivation than their friends in Low SES schools (Item 18), they feel that they belong more to the school (Item 19), and they feel more proud of their schools (Item 26). Also, the relationship among High SES school students is more positive( Item 20) and the rate of disciplinary problems is lower than the rate in Low SES schools (Item 21). Moreover, the possibility of High SES school students to finish high school successfully (Item 22), pass the university entrance exam (Item 23), and finish a university program (Item 24) is higher than the Low SES school students. Finally, High SES school students are more aware of the success level expected from them than the Low SES school students (Item 25).

4- In order to test whether there is a significant difference among Parent Effectiveness scores based on the socioeconomic status variable (high or low) or not, Mann- Whitney U test was conducted.

**Table 11:** Difference of Parent Effectiveness factor based on SES

| Factor | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| PARENT | Low | 112 | 80.02 | 11253.500 | 0.000 |
| | High | 124 | 153.25 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

Mann Whitney U test, which was conducted to determine the difference in Parent Effectiveness factor according to the socioeconomic status variable, revealed that there is a highly significant difference between groups in support of High SES schools in p<0.001 level.

When the items in this factor were analyzed, all the items created significant differences in favor of High SES schools (p<0.001).

**Table 12:** Difference of items in Parent Effectiveness factor according to SES

  

| Item | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| I 27 | Low | 112 | 82.61 | 10964.000 | 0.000* |
| | High | 124 | 150.92 | | |
| I 28 | Low | 112 | 78.74 | 11397.000 | 0.000* |
| | High | 124 | 154.41 | | |
| I 29 | Low | 112 | 87.73 | 10390.000 | 0.000* |
| | High | 124 | 146.29 | | |
| I 30 | Low | 112 | 85.88 | 10598.000 | 0.000* |
| | High | 124 | 147.97 | | |
| I 31 | Low | 112 | 104.50 | 8512.000 | 0.000* |
| | High | 124 | 131.15 | | |
| I 32 | Low | 112 | 91.41 | 9978.000 | 0.000* |
| | High | 124 | 142.97 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

The answers of the participants revealed that parents of the students in High SES schools take more part in curricular activities (Item 27), extra-curricular activities (Item 28), and guidance services (Item 29) than the parents in Low SES schools. In addition, parents in High SES schools are more aware of the expectations of school from them than the parents in Low SES schools (Item 30). Also, parents in High SES schools discuss their children's status with teachers more without hesitation (Item 31), and visit the school and the teachers more frequently (Item 32).

5- In order to test whether there is a significant difference among School Atmosphere Effectiveness scores based on the socioeconomic status variable (high or low) or not, Mann-Whitney U test was conducted.

**Table 13:** Difference of School Atmosphere Effectiveness Factor Based on SES

| Factor | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| SCHOOL | Low | 112 | 92.40 | 9867.500 | 0.000 |
| | High | 124 | 142.08 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

The nonparametric Mann-Whitney U test, which was conducted to determine the difference in School Atmosphere Effectiveness factor according to the socioeconomic status variable, revealed that there is a highly significant difference between groups in support of High SES schools in $p<0.001$ level.

When the items in this factor were analyzed, two of the items (Items 34 and 41) created significant differences in favor of High SES schools ($p<0.001$).

**Table 14:** Difference of items in School Atmosphere Effectiveness factor according to SES

| Item | SES | N | Rank Mean | U | p |
|---|---|---|---|---|---|
| I 34 | Low | 112 | 104.43 | 8520.000 | 0.001* |
| | High | 124 | 131.21 | | |
| I 36 | Low | 112 | 117.13 | 7098.000 | 0.736 |
| | High | 124 | 119.74 | | |
| I 41 | Low | 112 | 97.03 | 9348.000 | 0.000* |
| | High | 124 | 137.89 | | |

*Asymptotic Sig (2-sided test) significance level is 0.05*

The results of the analysis indicated that more frequent discussions of student success were held in teacher groups in High SES schools (Item 34). In addition, the school building and its surrounding are kept cleaner and better ordered in High SES schools than the Low SES schools (Item 41).

**CONCLUSIONS**

  

School effectiveness is defined as the level of goal attainment of a school (Scheerens, 2013). Schools are considered effective when they put the functions expected from them into practice and when different parties included feel satisfied with this action (Bollen, 1996). In this study, School Effectiveness Scale was developed to determine the effectiveness of state secondary schools in Eskişehir, Turkey, and to discover the influence of socioeconomic status of schools on school effectiveness. The pilot study conducted in one Low SES and one High SES state secondary schools with 152 teachers and administrators revelaed that School Effectiveness Scale consisting of 34 items in this study is a valid and reliable scale. It was proven by the results of the exploratory and confirmatory factor analyses that the scale consists of 5 factors and they explain the school effectiveness phenomenon up to 69.60%. These factors were named as Administrator Effectiveness, Teacher Effectiveness, Student Effectiveness, Parent Effectiveness, and School Atmosphere Effectiveness.

In the second step of the research, School Effectiveness Scale was conducted in 4 Low SES and 3 High SES state secondary schools with 236 teachers and administrators to identify the influence of socioeconomic status on the attitudes of teachers and administrators about school effectiveness.

The results of the analyses indicated that there are significant differences in Administrator Effectiveness, Student Effectiveness, Parent Effectiveness, and School Atmosphere Effectiveness factors in favor of High SES schools. However, no significant difference was determined in the Teacher Effectiveness factor. The reason of this situation may be the decision of appointment by the Ministry of Education to recruit teachers in specific schools. Also, teachers' self-motivation and the idea of giving more importance to the profession than the school they work may be the cause of this result.

The results also revealed that in general High SES schools are more effective than the Low SES schools, which was not an unexpected outcome. When we break this result into fragments, it was seen that administrators in High SES schools are more effective than the ones in Low SES schools with regard to emphasizing the goals clearly, organizing frequent meetings, supporting teachers' professional development, and taking the opinions and complaints into consideration. These results confirm the characteristics mentioned in the literature. In an effective school, goals and objectives are clearly defined and the vision created by using these goals are shared with all the parties involved (Şişman, 2002). In addition, educational leadership is an important issue in effective schools. Leaders working in these schools seek help in required areas, develop school culture, and support teachers' professional development (Balcı, 2001; Scheerens, 2013).

The results indicated that the students in High SES schools are more effective than Low SES schools. According to the literature, in effective schools it is believed that all the students can learn, and they are cared and respected (Scott et. al.., 2014). Similarly, this study showed that students in High SES schools have higher motivation level, more positive relationships among them, lower rate of disciplinary problems, more potential to be successful academically, and are more aware of the high expectations.

As mentioned in the literature, participation of parents and society in educational activities and their cooperation with schools are the characteristics of effective schools (Balcı, 2001; Scheerens, 2013; Şişman, 2002). This study confirmed that parents of the students in High SES schools, which were found more effective, participate in educational activities, extracurricular activities, and guidance services more. They are also more aware of the expectations of school from them and visit teachers more frequently to discuss about the condition of their children. In sum, parents in effective schools cooperate more with the school than the parents in less effective schools.

Additionally, effective schools provide a safe, healthy and intellectual learning environment to the students. Student attendance, disciplinary problems, and their achievements are recorded and observed. (Balcı, 2001; Scheerens, 2013; Scott et. al.., 2014; Şişman, 2002). In this respect, in High SES schools, which were found more effective, students' academic achievements are discussed regularly in teacher groups, and the buildings and their surrounding are cleaner. Briefly, it may be stated that student academic achievement is brought forward based on the records which are kept regularly and initiations for improvement are made considering these records. Also, it may be concluded that effective schools take more meticulous measures to provide a healthy and hygienic atmosphere.

No difference was observed between High and Low SES schools in teachers and administrators' attitudes considering school effectiveness according to the physical conditions and technological facilities of the schools. It is thought that the reason of this situation is the selection of state schools functioning under Ministry of Education in

  

this study. There would be sharper results if private schools had also been chosen for the study. It may be stated that state schools mostly share similar physical and technological conditions as provided by Ministry of Education. Also, administrators' or teachers' personal initiations may be considered as the reason of this situation.

This study, on the other hand, has some limitations. The participants were only the teachers and administrators working in 9 state schools in central Eskişehir, and the number of administrators were quite low. The School Effectiveness Scale could be administered in a larger geographical area with more participants. In addition to the schools in the city center, schools in towns and villages could also be chosen for the study. Moreover, the scale was only used to evaluate school effectiveness from the eyes of teachers and administrators. In order to draw a full picture of school effectiveness phenomenon, the same scale could be conducted with parents and students. This implementation could create more positive results in terms of the reliability and validity of the scale.

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**Appendix**

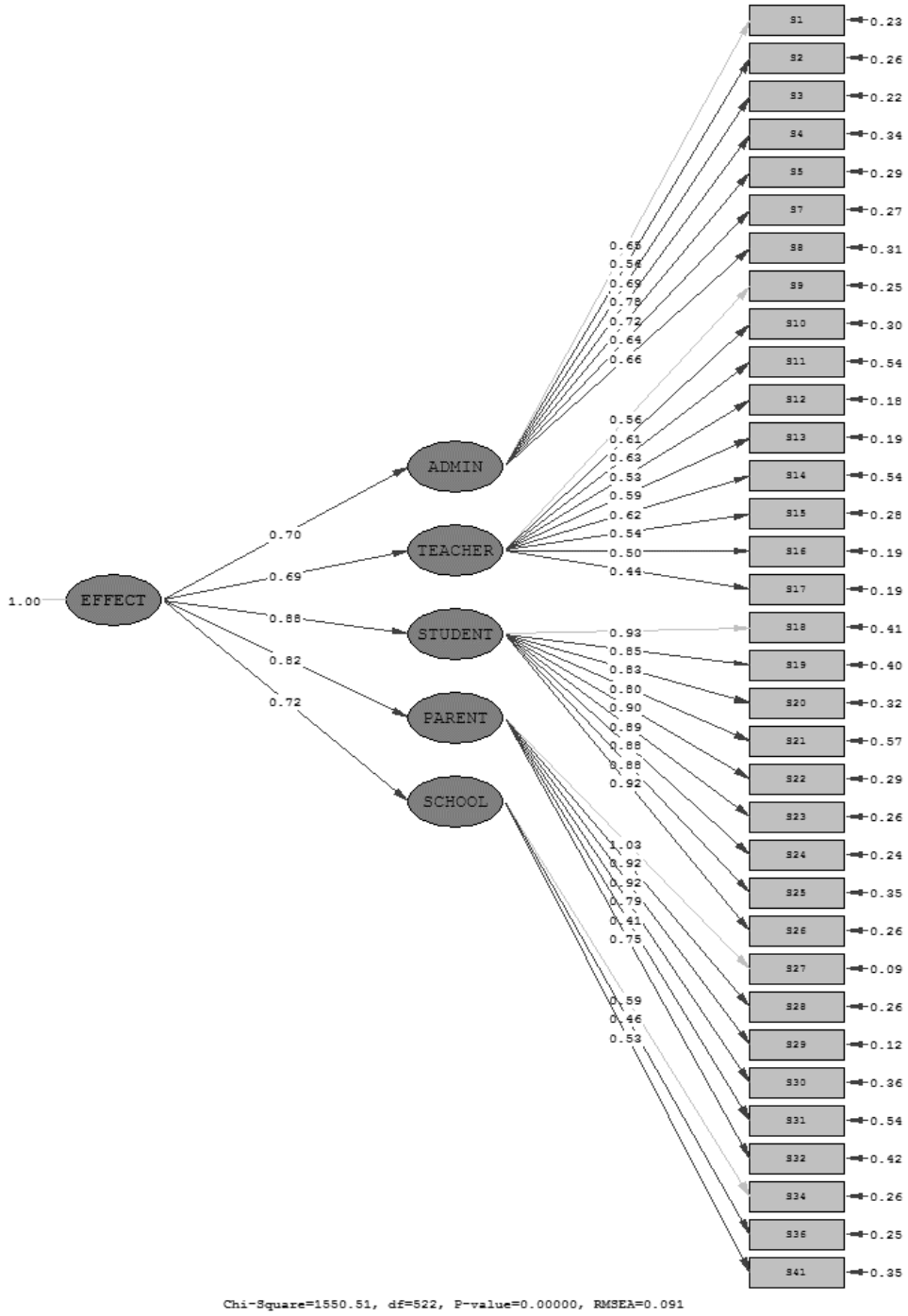


*Figure 2. School Effectiveness Scale Confirmatory Factor Analysis Model*

  

# SCIENCE TEACHING EFFICACY BELIEVES AND ATTITUDES OF PRE-SERVICE TEACHERS OF GIFTED STUDENTS

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**ABSTRACT**
The purpose of this study is to explore the self efficacy levels of pre-service gifted education teachers and attitudes toward science teaching based on different variables (gender, grade level, etc.) and to assert the relationship between self-efficacy and attitudes towards science teaching. It is a correlational descriptive study that the group is 90 students attending Gifted Education undergraduate level. Data is gathered by Science Teaching Efficacy Belief Scale and Science Teaching Attitude Scale. Data is analyzed by independent samples t test, ANOVA and correlation statistical methods. As conclusion, there is no meaningful significant difference due to gender; there is a significant difference due to grade level between 1st and 4th grades and there is a high correlation between teaching self-efficacy and teaching science attitude. In this context it is recommended that learning environment which has positive effects on science teaching efficacy and science teaching attitude should be organized for pre-service teachers in learning environments.

**INTRODUCTION**
Gifted education has recently got more attention on it and studies about issues of giftedness have increased recently. Especially, identification of gifteds, educational differentiation and training the qualified teachers who can discover the potentials and meet the needs of gifted students are very important, so these topics need to be studied on. Gifted and intelligence endowed students have inborn interest in science because it triggers their native curiosity and imagination (Smutny & Von Fremd, 2004). On the other hand, Van Tassel-Baska and Stambaugh (2006) state that none of the other domains can positively challenge their interests and minds as much as science does. These students need to develop their skills under the circumstance of science and scientific processes. Thus, at this point, teachers are expected to lead those gifted students efficiently and qualitatively. Renzulli (1968) and Sisk (1989) indicate that teachers who are specifically educated on the diagnosis of gifted learners and instructional uniqueness play vital roles on the formation of sufficient learning environments that provide support to their special needs. Under these conditions, it can be said that teachers require to have some special properties to form those sufficient learning environments. According to Van Tassel-Baska (1991), the person who will teach those over-talented students must have a proper background and specified skills to support those learners at the time of their accelerating progresses, make differences in the course syllabus where needed, having the sufficient proficiency on expertise and educational issues, organize and prepare class activities. Feeling efficient to teach science and having positive attitudes for teaching science are only the two properties for teachers to teache science effectively. Because due to most studies, teachers' self-efficacy and attitudes toward science teaching effect not only their performance but also students' achievement, self-efficacy and attitudes toward science (Altınok, 2004; Morell & Lederman, 1998; Palmer, 2001; She & Fisher, 2002; Sönmez, 2007; Washton, 1971).

Attitude is defined by Demirel (1993) as a *learned* tendency forcing to show certain behaviours against humans, objects and situations. Bandura (1977) defines self-efficacy as the beliefs and judgments of individuals to how successfully they can overcome problems individually. He asserts that people who have a high level of self-efficacy are more determined, confront difficulties, and feel less anxiety while performing a task. A significant interaction exists among attitudes, beliefs and behavior. Koballa and Crawley (1985) clarify this interaction using the following example; "Elementary school teachers judged their ability to teach science to be low (belief), resulting in a dislike for science teaching (attitude) that ultimately translated into teachers who avoided teaching science (behavior)". In their research, Enochs and Riggs (1990) put forward the idea that pre-service teachers who think they are not qualified enough to do efficient science education spend less time on it. Studies in teachers' self-efficacy beliefs show that there are some differences between teachers who have high versus low self-efficacy beliefs. Especially in terms of managing classrooms, using new methods in teaching, giving feedback to students who have learning difficulties, being open to new ideas, and developing attitudes towards students differ self-efficacy beliefs and in these circumstances, these beliefs directly affect students' success and attitudes (Gibson & Dembo, 1984; Tschannen-Moran & Woolfolk, 1998). With respect to this point, it can be said that the classes, in which the educators develop positive attitude towards science and science education, are more efficient and yet, students produce positive attitude towards the course and the teacher and their desire about continuing studies in science and their success increase (Mattern & Schau, 2002). Thus, the knowledge about the attitude of teachers towards science and science teaching and the attempt to change it is very critical.

  

When all these key aspects are considered, the importance of determining and resolving the negative attitudes of teachers who are educating natively curious, gifted and over talented science students is arising.

On the other hand, especially gifted teachers' academic, formation and characteristic proficiencies about teaching have been questioned latterly. Accordingly, teacher education programs are questioning for the effectiveness of current teacher training programs. For this reason teachers' characteristics, the strategies, methods, and techniques they use, and their judgments about content knowledge for differentiation give important feedback about the effectiveness of current teacher training programs and provide ideas to reconstruct them. In literature, there are some studies with pre-service elementary, science and mathematics teachers and in general it is investigated that there is a significant difference depending on grade levels (Aslan & Uluçınar-Sağır, 2008); there are'nt significant difference due to program type (Kahyaoğlu & Yangın, 20007).

Moreover, examining the self–efficacy beliefs on science teaching and its relation with other variables is crucial. Especially, when it comes to the education of gifted and over-talented people, there are almost no investigations done, studying the self-efficacy and attitude of qualified and convenient candidate teachers and with its results that can throw light on the education of teachers of gifted people. At this point, new researches are necessarily needed, in which the self-efficacy perceptions and attitudes towards science teaching of pre-service teachers of gifted people are investigated together and separately, and some predictions on the relations between the variables are made. So the purpose of this study is to explore the pre-service gifted education teachers' self-efficacy and attitudes towards science teaching based on different variables (gender, grade level, etc.) and to assert the corelation between self-efficacy and attitudes towards science teaching.

## THE STUDY

This study is structured in a relational survey method. A relational survey method is used to determine whether there is a differentiation between at least two variables, but a correlation model investigates whether these variables are changed together. If there is a change between variables, this model determines how this change occurs. The study group of this research consists of 90 volunteer pre-service teachers who are in 1$^{st}$, 3$^{rd}$ and 4$^{th}$ years of a state university's Faculty of Education, Department of Special Education, Teacher Education Program for Gifted Students in Istanbul-Turkey. This teacher education program is the unique govermental program in Turkey and also unique department which keeps all grades in it. Because of the limitation of the participant count, participants are determined by easily accessible sampling method, which is one of the nonrandom sampling methods. Also easily accessible case sampling method provides speed and practicality for the researcher (Yıldırım & Şimşek, 2008).

*Self-efficacy Beliefs in Science Teaching (SBST) Scale*, was developed by Enochs and Riggs (1990), was used in order to determine the levels of students' self-efficacy beliefs. Özkan, Tekkaya and Çakıroğlu (2002) translated and adapted this scale into Turkish. The Self-efficacy Beliefs in Science Teaching (SBST) Scale had two sub-dimensions: (a) personal self-efficacy beliefs in teaching science (PSBTS) and (b) outcomes expectancy in teaching science (OETS). Cronbach's α of the original scale for personal self-efficacy beliefs in teaching science and outcomes expectancy in teaching science are reported as .90 and .76, respectively. For the Turkish version, the α scores are .79 and .86 (Özkan, Tekkaya, & Çakıroğlu, 2002) and finally, for this particular study, α= .82 and .68. *Science Teaching Attitude Scale (STAS) ,* which was developed by Thompson and Shringley (1986) and was translated and modified into Turkish by Özkan, Tekkaya and Çakıroğlu (2002) was used for identifying the attitudes of pre-service teachers towards science teaching. The scale is consisted of 19 items in five-level Likert-type and the degrees of agreement of the participants are classified as; "Strongly Agree", "Agree", "Undecided", "Disagree" and "Strongly Disagree". In the scale, 11 of the items are determined as positive and 8 of them are negative. These negative statements are scored inversely. Marks that can be got from the Attitudes towards Science Teaching Scale change from 19 to 95. The Cronbach alpha reliability coefficient of the scale is found as .83 and for this research, this value is determined as .86. In this study, gender, grade level, and other demographic variables were collected on a student information form. Science teaching attitudes, self-efficacy beliefs in teaching science and the information in the student information form were analyzed by using t-test, a one way ANOVA and correlation.

## FINDINGS

Descriptive findings about the SBST scores that students get according to their genders and STAS scores are given in Table 1.

  

**Table 1:** Descriptive Values of SBST and STAS Scores according to Gender

| Gender | | N | X | SD |
|---|---|---|---|---|
| Girl | SBST | 55 | 78.69 | 7.824 |
| | STAS | 55 | 66.77 | 9.802 |
| Boy | SBST | 35 | 76.43 | 9.208 |
| | STAS | 35 | 63.77 | 9.798 |

Descriptive findings about the Self-efficacy Beliefs in Science Teaching scores that students get according to their grade levels and Science Teaching Attitude scores are given in Table 2.

**Table 2:** Descriptive Values of SBST and STAS Scores according to Grade Level

| Grade | | N | X | SD |
|---|---|---|---|---|
| 1 | SBST | 35 | 75.14 | 8.752 |
| | STAS | 33 | 62.94 | 8.514 |
| 3 | SBST | 35 | 77.36 | 10.041 |
| | STAS | 33 | 65.92 | 6.324 |
| 4 | SBST | 35 | 81.30 | 8.171 |
| | STAS | 33 | 68.20 | 10.032 |

Results of the independent samples t-test which is utilized in order to distinguish the significant differences based on gender factor between the SBST and STAS score averages of pre-service teachers of gifted students is given in Table 3.

**Table 3:** Findings of SBST and STAS Scores according to the Gender

| | Gender | N | X | S.s. | Sd | t | p |
|---|---|---|---|---|---|---|---|
| SBST | Girl | 55 | 78.69 | 9.217 | 88 | 1.136 | .259 |
| | Boy | 35 | 76.43 | 9.208 | | | |
| STAS | Girl | 53 | 66.77 | 7.824 | 86 | 1.592 | .115 |
| | Boy | 35 | 63.77 | 9.798 | | | |

As seen in Table 3, statistically, there aren't any significant differences between the SAI and ASTS score averages of male and female students in the samples depending on the gender factor ($t_{SBST}$=1.136, p>.05; $t_{STAS}$=1.592, p>.05).

Results of the ANOVA Test which is used in order to reveal the significant differences based on grade levels between the SBST and STAS score averages of students is given in Table 4.

**Table 4:** Findings of SBST and STAS Scores according to Grade Levels

| | | Sum of Squares | sd | Mean Square | F | p | Meaningful Difference |
|---|---|---|---|---|---|---|---|
| SBST | Between Groups | 438.924 | 2 | 219.462 | 3.009 | .055 | |
| | Within Groups | 6198.519 | 85 | 72.924 | | | |
| | Total | 6637.443 | 87 | | | | |
| STAS | Between Groups | 619.443 | 2 | 309.722 | 3.871 | .025 | 1-4 |
| | Within Groups | 6960.346 | 87 | 80.004 | | | |
| | Total | 7579.789 | 89 | | | | |

According to the ANOVA Test results shown in Table 5, statistically significant difference is determined between the STAS score averages of students (F=3.871, p<.05). On the other hand, as stated in the Scheffe Test that is used to distinguish in which groups this difference occurs, it is designated that the STAS score averages of 4$^{th}$ year students (X=81.30) are higher than 1$^{st}$ year students' mean scores (X=75.14). At this point, it can be said that the attitude of 4$^{th}$ year students is more positive than the attitude of 1$^{st}$ year students on science teaching. Statistically, there isn't any significant difference between the SBST score averages of students depending on their grade levels (F=3.009, p>.05).

Results of the correlation analysis which is utilized in order to identify whether there is a relation between the SBST and STAS score averages of pre-service teachers of gifted students is given in Table 5.

  

**Table 5:** Correlational Findings of SBST and STAS Scores

| Variables | 1 | 2 |
|---|---|---|
| SBST | 1.00 | 0.622* |
| STAS | 0.622* | 1.00 |

* p<.01

In Table 6, according to correlational findings, there was significant and moderate correlation between the total of SBST and STAS value (r=.622) at .01 p value.

## CONCLUSIONS

Findings of teacher candidates' self-efficacy beliefs in teaching science showed that self-efficacy beliefs in teaching science were not differed based on gender, but self-efficacy increased in the upper grades. Also attitudes of 4th year students are higher than 1st year students related to the grade levels. The reason for this situation may be that the students take General Physics, Chemistry, Biology, Scientific Research Methods, Science and Technology Teaching I & II and Science Laboratory Practice I&II courses till the 4th year and as a result of the knowledge and emotional improvements gained during these courses, their beliefs and attitudes are affected positively. As this result is expected, it creates a limitation for the research. Also it is expected, these courses shold cover practices as more as theoretical knowledge because lots of studies mention that more experienced teachers who use hands-on activities during their training in science related courses (Enochs, Scharmann, & Riggs, 1995; Palmer, 2001; Soprano & Yang, 2013). Also Enochs and Riggs (1990) assert that teacher trainers should be aware of self-efficacy, and provide practices that positively affect result and self-efficacy expectancies. These practises should give opportunities to candidate teachers for solving daily problem situations using higher level thinkign skills such as problem finding, critical thinking, creative thinking, decision making and problem solving etc. According to Tobias (1992), students' negative beliefs and opinions in science courses arise from lack of interest in science, motivation and being passive.

When it is considered that the sciself-efficacy beliefs and attitude toward science teaching of teachers affect the performance, success and attitude toward science classes (She & Fisher, 2002; Sönmez, 2007; Washton, 1971), it can be said that the classes with teachers who develop positive self-efficacy beliefs and science teaching attitudes are more efficient; thus, students develop positive attitude towards science and the educator and their success and wish to continue studying science increases (Mattern & Schau, 2002). In this context, if the inborn interest in science and motivation of gifted and over-talented students are supported with teachers whose scientific attitudes and interests are high, these students may be more curious in science and be better science literates. Yet, it is very important that the scientific attitude of pre-service teachers of gifted people is higher and improved in more positive manners.

According to the abovementioned results and interpretations, science related courses in the faculty of education should focus on teaching practice in terms of content and instruction and attach importance to link classroom experience to daily life, fulfill individual needs, provide effective solutions for problems and promote collaborative learning. Teacher training should focus on effective teaching methods, techniques and practices that can be used for teaching science to gifted students. In addition to the methods and techniques, teachers should learn necessary interventions for managing how to encourage a deep desire in students to learn science. Furthermore, some emotional programs can be designed to support the emotional caracteristics of pre-service teachers at undergraduate level (Appleton 2008; Blanco et al. 2010; Koballa et al. 2008; Shoffner 2009), and new educational strategies can be developed to develop self-efficacy beliefs (Hoy & Spero 2005).

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# SCIENTIFIC LITERACY IN THE CURRICULUM OF THE CZECH REPUBLIC AND ITS DEVELOPMENT IN CHEMISTRY CLASSES

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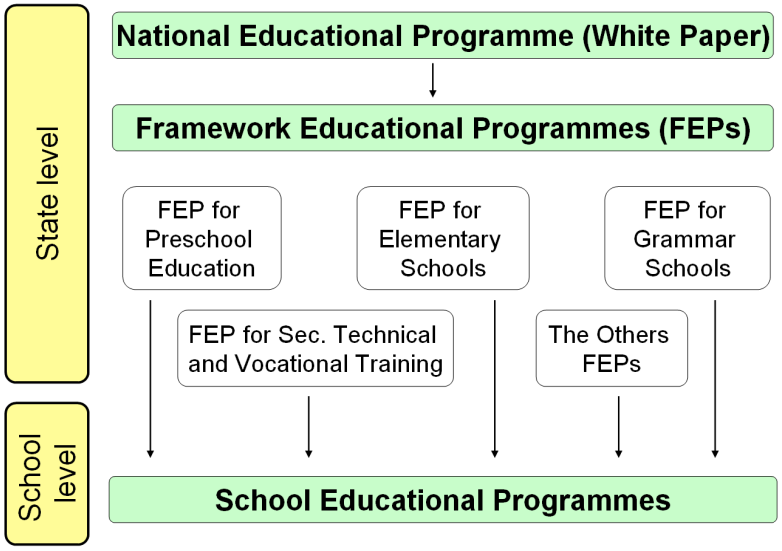
**ABSTRACT**
The first part of the contribution deals with a theme of the Czech curriculum and scientific literacy. The Czech curricular system is described, following by the relationship between the Czech curricular documents and a definition of a scientific literacy, and the PISA results of the Czech pupils between 2006–2012. Moreover, there is an idea of a development of the scientific literacy by using teaching tasks in Chemistry. Almost one hundred teachers' answers were evaluated, giving a basic feedback on a support regarding the most problematic issues of the development of the scientific literacy in Chemistry.

## INTRODUCTION

### Czech Curricular System

In accordance with the new principles of curricular politics, formulated in the National Programme for the Development of Education in the Czech Republic (the so-called White Paper), a new system of curricular documents for the education of students between 3 and 19 years of age is being introduced into the educational system. Czech Curricular documents are developed on two levels – state and school. In the system of curricular documents, the state level is represented by the National Education Programme (NEP) and Framework Education Programmes (FEPs). (Národní program rozvoje vzdělávání v České republice, 2001) Whereas the NEP formulates the requirements for the education which are applicable in initial education as a whole, the FEPs define the binding scope of education for its individual stages (for preschool, elementary and secondary education). The school level is represented by School Education Programmes (SEPs), on the basis of which education is implemented in individual schools. The School Education Programme is created by each school according to the principles prescribed in the respective FEP (FEP, 2007). The scheme of the Czech educational system is shown in Figure 1.

Figure 1: Scheme of the Czech curricular system




### PISA Assessment and Scientific Literacy

The international PISA testing (Programme for International Student Assessment) is considered the largest and the most important international inquiry into a measurement of learning outcomes, which is currently taking

place all around the world. This research is one of the activities of the Organization for Economic Cooperation and Development (OECD). The inquiry is aimed at determining the level of various literacies of fifteen-year old students and is designed so as to provide policy makers with information about the operation of their school systems (Česká školní inspekce, 2016). The results of individual countries can be compared and other school systems can find an inspiration among OECD member countries. PISA determines the level of reading, mathematical and scientific literacy in three-year cycles.

The main literacies that are tested by PISA are reading, mathematical and scientific ones. The last one will be described in deeper details. Scientific literacy is defined as a knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity. Moreover, scientific literacy implies that a person has the ability to describe, explain, and predict natural phenomena (mainly connected with chemistry, biology, physics, and geography). A literate citizen should be able to evaluate the quality of scientific information on the basis of its source and the methods used to generate it. (Maršák, 2011)

**Intersection Between Czech Curricular Documents and Scientific Literacy**

The international project PISA is the primary reason why the Czech public and academics speak about the literacy. Science educational area is listed in the FEP's educational area called "Man and Nature". It consists of its characteristics, the target expected outcomes, and its content. The term "scientific literacy" does not occur explicitly in the FEP for Basic Education (FEP, 2007). However, intersection between the definition of scientific literacy and the general description of the educational area "Man and Nature" can be found. It can be stated that the FEP does not impede the development of scientific literacy, but it does not support the development explicitly.

The Czech education system turns attention to the development of various literacies in the recent years. The importance of developing literacies is already highlighted in the White Paper of 2001 (Národní program rozvoje vzdělávání v České republice, 2001). In the area of primary education there is said that "learning basic literacy is necessary as a tool for further successful education", but it can be very well transposed to lower secondary education (ISCED 2). In addition, the White Paper mentions the importance of the participation of the Czech Republic to the OECD projects, as PISA, which indirectly implies a commitment to the development of scientific literacy. To support it, the State Office for Education published a special publication Literacy in Education: A Handbook for Teachers (Altmanová, 2011). It was founded as the National Strategy to promote fundamental literacy in basic education (Národní strategie podpory základních gramotností v základním vzděláváním, 2007), which was aimed at increasing the level of basic literacy of students in the Czech Republic. It focused only at reading and mathematical literacy, which raised a wave of indignation especially among academics (Rusek, 2014).

**Results of the Czech Pupils in PISA**

The first testing of Czech students in scientific literacy was held in 2006. The Czech pupils were at the 15th position among 20 other countries with above-average result (Palečková, 2007). The following survey in 2009 was focused on reading literacy, the mathematical and scientific literacy was tested marginally. Compared to 2006, score of the Czech students dropped by 13 points and Czech students took an average position among the tested countries. Greater decline in the students results were observed only in Austria (17 points). Similar results as the Czech Republic had for example Hungary, USA, Norway, Denmark, and France (Palečková, 2010).

The 2012 PISA testing was focused on mathematics, the reading and scientific literacy was tested as a secondary area. The results were again compared among 65 countries. Within this testing, the Czech Republic ranked in the category of above-average results with the number 508 points as the last country in an above-average category. A similar result (statistically insignificantly different) reached for example Switzerland, Slovenia, United Kingdom, Austria, Belgium, and Lithuania. Top of European countries were Finland and Estonia with a score 545 and 541 points ranked fifth, respectively sixth place. The results of Czech students were compared to Czech neighbours. Poland (9th place) and Germany (12th place) had the better results; Austria was ranked one place behind the Czech Republic and the Slovak Republic at 40th place. In 2012, the decline in score has stopped, but still loses 5 points compared to 2006 (OECD, 2012; Palečková, 2013). Results in scientific literacy are presented in Table 1. The OECD average is influenced by the admission of new member states.

Table 1: Results of Czech Pupils in the PISA Assessment

| Year | Score | OECD Average | Category |
|---|---|---|---|
| 2006 | 513 | 500 | Above average |
| 2009 | 500 | 501 | Average |
| 2012 | 508 | 501 | Above average |

As it follows from the investigations carried out in the area of scientific literacy, Czech students have strong theoretical knowledge (content knowledge), but in comparison with other states, they have trouble linking individual themes and search interrelationship (Přírodovědné vzdělávání v Evropě, 2012). The issue and its impact on the economic performance of the country is engaged in a report McKinsey & Company (McKinsey, 2010), which highlights the declining results of Czech pupils in primary and secondary schools in international assessments and the need to enhance the level of these pupils.

**McKinsey's Report**

As stated by McKinsey in his report (McKinsey, 2010), Czech education has declining results. Information about the results of Czech pupils is limited, but Czech students achieved average results according to international assessments compared with students in other OECD countries. Since 1995, when the Czech Republic was in international testing between 6-–7 best countries, the results of Czech pupils worsened considerably. In the same time, countries such as Latvia, Lithuania or Slovenia improved the level of their education. If this trend continues, it is expected that the Czech Republic reaches over ten years to the level of countries with a lower quality of education, such as Romania or Georgia. As further stated in the report, according to scientific tests PISA 2006 Czech students are able to gain much more scientific knowledge than identify scientific issues or using evidence. This suggests a lower level of skills in problem solving, in other words, the lack of development of scientific literacy on the part of teachers.

**THE STUDY**

There is an idea about development of a scientific literacy by using released PISA teaching tasks in Chemistry classes. Therefore, a research about scientific literacy and PISA teaching tasks was done. Other ideas and strategies for scientific literacy development can be found in the literature (Trowbridge, 1996). Moreover, Shwartz et al. investigated the perception of how the Israeli teachers understand the chemistry literacy and compared their viewing of it with scientists (Shwartz, 2006).

**Profiles of Teachers**

The first observed characteristic of teachers was the length of their praxis. 7 % of teachers had less than 5 years, 15 % 6–10 years, 46 % 11–20, and 32 % of teachers taught more than 21 years. The second characteristic was a school size. 7 % of teachers taught at a school with less than 150 students, 32 % chose the answer 151–300 students, 41 % of teachers chose 300-500 students and the remaining 20 % had more than 500 students at their school. The last characteristic was the type of the school. Most teachers (63 %) were from primary schools, followed by grammar school teachers (27 %) and vocational school teachers (10 %). All teachers taught Chemistry and the research was done in 2015 within a work on the author's dissertation.

**Teachers' Answers**

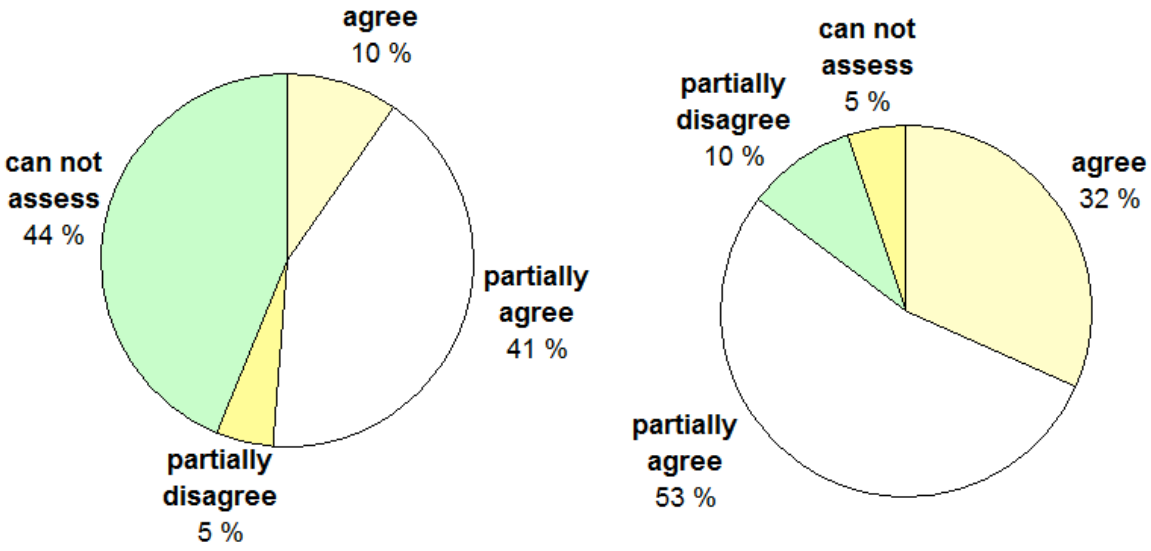
The teachers answered various questions concerning scientific literacy and its development. To make a general overview, the first part of the questions was connected with the term "scientific literacy". 41 % of teacher did not hear this term scientific literacy before the pool. Approximately half of them knew about the released PISA teaching task, but only 15 % of them used these released PISA teaching tasks in their classes.

These tasks are more complex compared to classical workbooks. Moreover, they connect different topics

(themes) and students have to use their wider knowledge to solve the PISA teaching tasks successfully. Therefore, teachers answered questions if the released PISA teaching tasks are suitable for using in classes and if teachers aim at regular development of scientific literacy in their classes. Their answers are shown in Figure 2. It was difficult for teacher to decide if the released tasks are suitable for using in the class, approximately one half agreed or partially agreed, but 44 % were not able to assess it. On the other hand, 85 % of teachers said that they tried to develop scientific literacy during their classes.

Figure 2: Teachers answers concerning suitability of released PISA teaching task in chemistry lessons (left) and the purposeful development of scientific literacy in Chemistry (right).




Moreover, teachers evaluated the difficult parts of scientific literacy development by using teaching tasks. The four most difficult parts were the following: i) Estimation of how much time will students need to solve a teaching task; ii) absence of a methodical manual; iii) evaluation of the tasks; and iv) matching of multicomponent teaching tasks to the curricular outcomes. To overcome these limitations, a useful support for teachers would be special workshops and/or selected prepared teaching tasks with a methodical manual describing how to develop scientific literacy in chemistry classes.

## CONCLUSIONS

An importance of a participation of the Czech Republic on OECD projects such as the PISA testing is emphasized in the White Paper (2001). Therefore; Czech involvement in OECD projects results in an indirect obligation for the scientific literacy development. Despite it, the Czech curricular documents (White Paper or FEPs) do not use a term "scientific literacy" at all. On the other hand, there can be found an intersection between the "Man and Nature" educational area (its characteristics, objectives, and educational content) and the definition of scientific literacy. 40 % of Czech teachers have not met the term "scientific literacy".There is an idea about development of a scientific literacy by using released PISA teaching tasks. Nowadays, only 15 % of of teachers use PISA items in classes. A useful support for teachers for scientific literacy development would be special workshops and/or selected prepared teaching tasks with a methodical manual.

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# SECONDARY SCHOOL AND HIGH SCHOOL STUDENTS' ATTITUDES COMPARISON OF PHYSICAL EDUCATION COURSE

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**ABSTRACT**
The aim of this study was the attitude toward physical education in primary and secondary school students to examine the levels of some variables. Who exercise regularly and do not make the study of 150 middle school and 150 high school students participated in a total of 300 students. elementary and high school students surveyed in Antalya city center was determined by random selection. Participants' attitudes toward physical education ‘’Physical Education Attitude Scale" used to determine. Obtained from the analysis of survey data using SPSS 22.0 for Windows program. Research based on these findings obtained at the end of junior high school and high school students, some of the variables that affect the level of attitude towards physical education, said that some of the variables that affect the level of the students' attitude.

## INTRODUCTION

Attitude was first used as a reference by Herbert Spencer in 1862. Spencer used attitude to imply mental status of individuals. Then, in 1888, Lange used and investigated attitude in laboratory studies as a concept. Although there are significant differences among contemporary descriptions of attitude concept, Lange made a description similar to these descriptions. Then, attitude concept has been a popular concept researched and discussed psychologists and sociologists. Even it was claimed that these researches and discussions have resulted in emergence of social psychology major (Güllü and Güçlü, 2009). Students usually create positive point of views regarding their subjects, teachers and classmates along their school lives. They obey the rules; work coherently with others; respect them; and use their leisure time for beneficent activities. In expression of mentioned behaviors, attitude could mostly play effective role (Yıldırım, 2006).

Physical education has significant position in education concept. While physical education courses allow physical development of individuals through movements within the scope of general education, it also ensures development and changes in cognitive, social and sensual areas. Therefore, when personal development is considered in terms of physical education course targets, development will not only bodily or physical, but also it should be taken into consideration as whole in cognitive, sensual and social aspects (Hünük, 2006).

  

In our contemporary time, benefits of participation into sport activities on personal health are commonly known. Within intensive course program, it is rather difficult for students to turn to sport activities and to make regular physical activities. Hence, the environment in which children could fulfill their physical activity needs in educational environment is physical education courses. Of course, children are first required to develop positive attitude towards the physical education course to take advantage of this course in the best possible way. Thus, their interest to the course could be higher. In the studies conducted in this field, students' attitude towards physical education course was evaluated; and reasons for students' positive or negative attitude towards the physical education course were tried to be determined. As a result of these studies, suggestions for students taking physical education course to develop attitude toward this course were made. In the study conducted in this framework, it was aimed to investigate attitudes of secondary and high school students towards physical education course in terms of some variables.

## METHOD

In this section, information on interpretation of collected study data through analysis was presented.

*Participants*

The study universe is consisted of secondary and high school students from the central county of Antalya City, who either participate or do not participate in regular sport activities. Who exercise regularly and do not make the study of 150 secondary and 150 high school students participated in a total of 300 students.

*Measuring Instruments*

*Attitude Scale of Physical Education Lesson*

As a data collection material in the study, the Physical Education Course Attitude Scale developed by Güllü and Güçlü (2009) was harnessed in the study. The scale was structured with 5-point Likert type scale; and it was consisted of 35 questions. The lowest and the highest scores that could be obtained from the scale were 35 and 175, respectively. The scale was conducted in 5 secondary and 5 high schools in Antalya City.

*Data Analysis*

In the analysis of collected data, the SPSS 15.0 for Windows software was utilized for independent t-test, One Way ANOVA and frequency analyses. While the independent t-test was utilized to make comparisons with respect to the school type and gender, the One Way ANOVA analysis was utilized to make comparisons with respect to the age groups. Frequency analysis was utilized to determine percentage distributions.

## FINDINGS

**Table 1.** Descriptive Statistics of Respondents

| **Variables** | **Sub variables** | secondary school | | high school | | **Total** | |
|---|---|---|---|---|---|---|---|
| | | **F** | **%** | **f** | **%** | **f** | **%** |
| Gender | Men | 66 | 44,0 | 63 | 42,0 | 129 | 43,0 |
| | Women | 84 | 56,0 | 87 | 58,0 | 171 | 57,0 |
| Sport participation | Athletes | 92 | 61,3 | 84 | 56,0 | 176 | 58,7 |
| | Not Athletes | 58 | 38,7 | 66 | 44,0 | 124 | 41,3 |
| Age groups | 12 age | 22 | 14,7 | - | - | 22 | 7,3 |
| | 13 age | 56 | 37,3 | - | - | 56 | 18,7 |
| | 14 age | 56 | 37,3 | - | - | 56 | 18,7 |
| | 15 age | 16 | 10,7 | 22 | 14,7 | 38 | 12,7 |
| | 16 age | - | - | 37 | 24,7 | 37 | 12,3 |
| | 17 age | - | - | 58 | 38,7 | 58 | 19,3 |
| | 18 age | - | - | 33 | 22,0 | 33 | 11,0 |

In terms of gender distribution, male and female respondent percentages were 43% and 57%, respectively. Whereas 58.7% of respondents were regularly participating into sport activities, 41.3% were not. Participants were from the age group of 12-18.

  

**Table 2.** Comparison of attitudes of secondary and high school students in terms of their attitude towards physical education course

| **Schools** | **N** | **X** | **Ss** | **t** | **p** |
|---|---|---|---|---|---|
| Secondary school | 150 | 115,79 | 19,688 | ,553 | ,581 |
| High school | 150 | 114,65 | 15,564 | | |

Whereas mean score of respondents who were attending to the secondary school was estimated as 115.79±19.68; the respective value was estimated for respondents attending to high school as 114.65±15.56. No any statistically significant difference was determined between attitudes of students from secondary and high school towards physical education course ($p>0.05$).

**Table 3.** Comparison of attitudes of respondent students attending to secondary and high school towards physical education course in terms of their genders

| **Schools** | **Gender** | **N** | **X** | **Ss** | **t** | **p** |
|---|---|---|---|---|---|---|
| Secondary school | Men | 66 | 118,41 | 19,514 | 1,451 | ,149 |
| | Women | 84 | 113,73 | 19,694 | | |
| High school | Men | 63 | 117,81 | 17,226 | 2,139 | ,034 |
| | Women | 87 | 112,37 | 13,899 | | |

According to Table 3, it was determined that attitudes of male respondents attending to secondary school towards physical education course were greater than female respondents. Similar finding exists for the students from high school. Whereas no any statistically significant difference was determined between attitudes of respondents from secondary school to physical education in terms of their gender ($p>0.05$), a statistically significant difference was determined between attitudes of female and male respondents attending to high school towards physical education ($p<0.05$).

**Table 4.** Comparison of attitudes of secondary and high school students towards physical education course in terms of participating into regular sport activities

| **Schools** | Sport participation | **N** | **X** | **Ss** | **t** | **p** |
|---|---|---|---|---|---|---|
| Secondary school | Athletes | 92 | 121,79 | 16,467 | 5,083 | ,000 |
| | Not Athletes | 58 | 106,26 | 20,728 | | |
| High school | Athletes | 84 | 117,65 | 15,782 | 2,721 | ,007 |
| | Not Athletes | 66 | 110,83 | 14,519 | | |

According to Table 4, mean attitude scores of students from secondary school who participate in regular sport activities and who do not were determined as 121.79±16.46 and 106.26±20.72, respectively. Mean attitude scores of students from high school who participate in regular sport activities and who do not were determined as 1177.65±15.78 and 110.83±14.51, respectively. It was observed that both secondary and high school students who participate in regular sport activities had greater attitude scores towards physical education course. A statistically significant difference was determined with the attitude of students attending to secondary school towards their participation into regular sport activities ($p<0.05$). On the other hand, a statistically significant

  

difference was determined between attitudes scores of high school students towards physical education in terms of participation into regular sport activities ($p<0.05$).

**Table 5.** Comparison of attitudes of secondary and high school students towards physical education course in terms of their age groups

| **Schools** | Age | **N** | **X** | **Ss** | **t** | **p** |
|---|---|---|---|---|---|---|
| Secondary school | 12 age | 22 | 116,91 | 15,684 | 2,522 | ,060 |
| | 13 age | 56 | 120,71 | 16,135 | | |
| | 14 age | 56 | 110,71 | 23,781 | | |
| | 15 age | 16 | 114,75 | 16,969 | | |
| High school | 15 age | 22 | 119,27 | 18,555 | 4,257 | ,006 |
| | 16 age | 37 | 112,24 | 17,929 | | |
| | 17 age | 58 | 110,79 | 12,019 | | |
| | 18 age | 33 | 121,06 | 13,868 | | |

According to Table 5, it was observed that students aged 12 and 15 attending to secondary school had the lowest attitude score. On the other hand, among the students attending to high school, the lowest attitude score was displayed by the ones aged 16-17. Whereas no any statistically significant difference was determined between the attitude scores of students attending to secondary school towards physical education in terms of age groups ($p>0.05$), there is a statistically significant between attitude scores of students attending to high school towards physical education course in terms of their age groups ($p<0.05$).

**CONCLUSIONS**

In the present study, it was determined that attitudes of secondary and high school students towards physical education course were not exhibiting statistically significant difference. Additionally, attitude of secondary students towards physical education course was not exhibiting significant difference; on the other hand, attitudes of high school students towards physical education course were differentiating statistically significant in terms of their gender. Based on these findings, it is possible to conclude that gender among secondary students was not effective on attitude level towards physical education course; and that, gender was significantly effective on attitudes of high school students towards physical education course.

Since gender plays significant mediator role in attitudes towards physical education, numerous studies have compared attitudes of females and males. In these studies, it is reported that whereas males display more positive attitudes towards the physical activities which require competition and which bear higher risk factor; females display more positive attitudes towards physical activities which emphasize aestheticism and develop social talent (Hünük, 2006). In a similar study which investigates opinions of second grade students at the primary education regarding physical education course, it is reported that attitudes of students towards physical education course are positive in general (Gürbüz, 2011). In another study in which attitudes of students from private primary schools towards physical education course in terms of various variables, it is reported that physical education and sport courses are important for students and their attitude and opinions towards this course are positive (Erkmen et al., 2006).

In a similar study conducted on the secondary school students, it was determined that there was no statistically significant difference was determined between genders of students and their attitudes towards physical education course, which supports our research findings (Gürbüz and Özkan 2012). In another similar study, in which attitudes of second grade students in primary schools in the central county of Ankara City towards physical education course were investigated, it was found that their attitudes towards physical education course displayed difference with respect to their genders. In this study, it was observed that female and male students displayed positive attitude; and mean attitude score of male students was greater than the female student in all grade level (Hünük, 2006). Since gender play significant mediatory role in attitudes towards physical education, attitudes of female and male individuals have been compared in number of studies. In these studies, although males display

  

more positive attitude towards physical activities which requires competition and bear risk factor, females display more positive attitude towards physical activities which emphasize aestheticism and which develop social skills (Gürbüz and Özkan, 2012). In a similar study conducted in three different cities, attitudes of secondary school students towards physical education course were investigated; and positive attitude levels of male students towards physical education course was determined as 72.9%, while it was 60.7% for female students. In the very same study, motivation levels of students towards physical education course with respect to their genders were investigated and accordingly, while motivation of male students towards the physical education course was determined as high as 80.9%, it remained with 65.1% among females. As a result of the study, it was considered that low attitude levels of female students towards physical education course with respect to the male students was result of the discomfort felt by female students due to physical changes in adolescence and relevant other environmental factors (Aybek, 2007).

In a similar study conducted in the central county of Ankara City, which investigated attitudes of primary school students towards physical education and sport course, significant differences were found between mean attitude scores of students with respect to gender (Altay and Özdemir, 2006). In another similar study conducted in Sivas City on the eighth grade primary school students and on the freshman high school students, it was found that student genders were not effective on their attitudes towards physical education course. In the same study, it was reported that mean attitude scores of male were greater than female students in the primary and secondary education toward physical education and sport even though this difference was not statistically significant. Additionally, it was reported in this study that attitude scores of high school students towards physical education course were greater than the secondary students. As a basic reason for this finding, it was considered that freshman high school students needed to fulfill their need to prove themselves since they just entered in the adolescence period; they viewed the sport as a perfect environment to prove themselves (Yıldırım, 2006).

Luke and Sinclair (1991) explained rationales of negative attitudes of female high school students towards physical education as physical education teachers. The researchers explained that the most important determinants of both positive and negative attitudes of female and male high school students were similar to each other. Additionally, when only gender factor is taken into consideration, it was observed that mean attitude scores of male were greater than the means attitude scores of females. When grade levels were taken into consideration, it was determined that mean attitude scores of male freshman high school students were greater than mean attitude scores of female freshman high school students. When obtained results are taken into consideration, it is possible to conclude that freshman male high school students elevate mean score (Reported; Yıldırım, 2006).

In the present study, it was determined that sport habits of both secondary and high school students were effective on their attitude level towards physical education course. Accordingly, it was determined that attitude levels of secondary and high school students who participate in regular sport activities towards physical education course were greater than the ones who do not participate in sport activities. The essential reason of this could be the fact that individuals who participate in regular sport activities like physical education course more than others.

In another study conducted on secondary school students, it was determined that grade levels of students and their attitude towards physical education course were not significantly differing (Gürbüz and Özkan 2012). In other study conducted on freshman primary school students, it was reported that attitudes of students towards physical education course were exhibiting significant difference with respect to their grade levels (Altay and Özdemir, 2006). In a study conducted on secondary educational institutors in three different cities, it was determined that students were displaying positive attitude towards physical education course (Aybek, 2007). In a similar study, attitudes of secondary school students towards physical education course with respect to their sport activity statuses were evaluated; and it was determined that attitude levels of children who perform professional licensed sport activity towards physical education course were greater than the ones who do not. This result supports our research findings.

In a study which investigated the effect of sport participation on attitude level towards physical education course, totally 867 high school students were included in the study; whereas 440 were athlete, 427 were not. As a result of the study, it was determined that attitude scores of athlete students were greater than the non-athlete ones (Koca and Demirhan, 2004). In another study conducted on high school students, it was determined that whether performing active sport or not was not effective on attitude level towards physical education course (İmamoğlu, 2011).

In this study, attitude levels of respondents towards physical education course were investigated with respect to their age groups; and it was determined that attitudes of secondary school students towards physical education

course were not differing with respect to their age groups; and attitude levels of high school students towards physical education course were differing significantly with respect to their age groups.

Studies conducted so far suggested that grade level and age differences among students were effective on their attitude towards physical education course (İmamoğlu, 2011). In a study, it was found that attitude and opinions of 10th grade students regarding physical education course were higher with respect to the students from other grades. Accordingly, attitudes and opinions of students attending secondary education institution regarding physical education course were greater and positive in comparison with the ones attending to primary school students (Taşgın and Tekin, 2009). In the studies conducted on primary and secondary school students, it was emphasized that age factor plays significant role on attitude levels of students towards physical education course. According to Gürbüz and Özkan (2012), it is possible to consider that since students in different education grades are in different adolescence development periods, their expectations, desire and inclinations could differ as well. Therefore, it is possible to observe differences between attitudes of primary and secondary school students towards physical education and sport (Gürbüz and Özkan, 2012).

In a similar study, as result of comparison of students' score from the attitude scale towards physical education course with respect to their age, no any significant difference was determined among groups. As a result of this, it was reported that age levels of students was not a determinant factor on their attitudes towards physical education and sport (Gürbüz, 2011). In some studies, it was determined that attitude scores of early-age children towards physical education course were greater than adolescent group (Subramaniam and Silverman, 2000).

Conclusively, it was determined that attitude levels of respondent secondary and high school students towards physical education course were differentiated with respect to some variables; on the other hand, some characteristics did not affect the attitude level of students towards physical education course. In the light of information from the relevant literature, it was observed that whereas some of our findings were conforming to the findings reported in the literature, some were not. The most essential reasons of this could be considered as different instructing ways of courses, teachers' different behaviors during courses or different demographic and personal characteristics. Parallel to the researches in the relevant literature, it was reported that teachers' attitude and behaviors were significantly effective on students' attitude and behaviors towards course either positively or negatively (Figley, 1985; Luke & Sinclair, 1991; Carlson, 1995).

As it was reported by Gürbüz and Özkan (2012), researches on attitude in physical education field could contribute in studies on developing positive attitude towards physical education course among children; and could be helpful in reaching desired educational targets. Spending effort to explore children's attitude towards physical education course will guide educators and program developers in terms of reviewing physical education course programs and in evaluation of utilized methods. These studies could be conducted on different age groups as well. Attitude scale employed in the present study could be applied in different cities for comparison purposes. By considering results of the study, factors causing students to develop negative attitude towards physical education course could be determined so that necessary precautions could be taken.

**Authors' Disclosures of Potential Conflicts of Interest**
The authors indicated no potential conflicts of interest.

**Footnotes**
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# SELF-EFFICACY PERCEPTIONS OF TEACHERS AS EDUCATION LEADERS ON THE CREATIVE DRAMA

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**ABSTRACT**
It is assumed that creative drama has a significant contribution for generally socialization of an individual by taking part and role in drama which is a group work . As it is known , in order to be socialized ,social skills have a very important role . Social skills which are generally defined as the ability of acting in accordance with the social environment has a fundamental role in individual's expressing positive or negative feelings properly ,defending personal rights ,asking for help when necessary and rejecting improper requests. Current Educational System of TRNC aims at bringing up creative ,positive ,innovative individuals who have ability to critical thinking and to analyze and synthesize and who can express themselves independently. With the efficient application of creative drama at primary schools which enforce creativity, critical thinking, group work ,communication skills ,awareness of all kind , foreseeing a problem and solving it , children are expected to learn well and efficiently .With this study it is aimed to find out the variation of the self-efficacy perception of teachers at the primary schools of TRNC in the application of drama and determine the differences between the teachers with and without drama training and due to the length of their teaching.

**KEY WORDS**: Educational Leadership, Creative Drama, Self-efficacy in drama, drama in education, creative drama method, drama in primary education.

## INTRODUCTION

Particularly the fast developments in technology from the last quarter of twenty first-century have affected the changes in the systems. Such developments explain the impact of change on the education systems and that people should be better educated (Çağlar and Reis, 2007).

The knowledge and technology are considered to be elements that are important in the information society. The development and change required by our era will have an impact on the development of individual as well as society and help them to keep up with the change. School is considered to be the most appropriate space for the provision and realization of such situation. Schools should adapt themselves to change during such formations, have the features to fulfil the requirements of information society and reorganize the roles of stakeholders within the education process (Gerçel, 2015). For instance, the words "leader", coach, facilitator, mentor, enabler, sponsor are used instead of the administrator (Koçel, 2001).

During this process, the administrator roles will increase and be organised in the way to follow the change. The administrator should follow the change and adopt the leadership role named as visionary leadership shaping the duty and perspective of school, and foreseeing the future (Çelik, 2002). The modern administrators have advances leadership skills, knowledge on people, impressive communication ability, ability of self-expression, a grasp of languages, philosophy, drama, maths, civilizations history and communication technologies, give importance to information and use information accordingly, is mentally and physically healthy and give importance to education (Açıkalın, 1998).

Therefore, this study aims to identify the creative drama practices, which is an effective training method to raise creative individuals that think in accordance with the information society, in the primary schools of TRNC and the self-efficacy levels of teachers. Today, the increase in the skill levels in education, self-development, improvement of individual and use the individual skills up to the top have stood out. In this new period in our lives, the individuals are expected to have the skills like learning information-centred life, analytical thinking,

  

synthesis, problem solving and effective communication abilities. Considering the information that grows and are shared fast, the individuals who know where and how to get the correct information, are selective namely are learning to learn rather than know everything, will be required (Numanoğlu, 1999). Therefore, the individuals will be raised in the way that they are not satisfied with the information provided, research and question for more, think critically, not been provided with the ready to use information and that know how to have access to information and reach to the information that they need. With the affect of studies conducted in educational studies, psychology, sociology, social anthropology and human sciences in general, the constructive approach considering that each individual can construct his/her knowledge and meaning within the subjective mental process and with the contribution of past experiences and attainment has been used instead of behavioural approach. In 2004, due to the constructive impact of scientific developments regarding this approach in the world and northern part of Cyprus, an education philosophy that takes the student centred concept and constructivist concept as principal in the Cyprus Turkish education system upon the initiative of Ministry of National Education. According to the constructivist approach, the learning is formed in the minds of students. An individual is not the passive receiver of external stimulant but forms the attainments as an active analyst of such stimulants. Pursuant to the constructivist approach, a human mind is not a container to fill in but the information is not stored as they are in the mind. With such justifications, with regard to the constructivist approach, each individual shall become active in the learning process and be responsible for his/her own learning (Saban, 2002, quot.; Kolukısa et.al, 2005). The most important aspect is that each country should allow constructive changes in the education systems known as raising people in the training of future generations and ensure opportunities in order to raise individuals that can tackle with many potential problems. Thus, together with the contribution of education system, the sustainability of society and carrying the social existence a step forward is possible by bringing up individuals, who are creative, confident; take initiative; are responsible; have high self-control; can predict problems and have high problem solving potential. According to Önder (2002), in order to bring such characteristic into children and youth, the techniques of "education by living in the social and physical natural environment", as one of which is creative drama, should be used in the knowledge acquisition process, rather than using traditional methods like explaining the information and dictating.

The drama, which enable the individual in becoming active in the learning process, allow learning by doing and experiencing and contribute to self-development and being creative, productive individual, establish positive and social relationships, in brief contribute on the complete development, has been started to be used (Kaf, 1999:2). The aim of drama as an education method is to develop the inborn creativity of child. Drama is considered as an effective method in the way that a child can express himself/herself freely, develop a tolerant personality, cooperate and know his/her own self. (Adıgüzel, 2006; San, 2002; Akt: Ömeroğlu, 2003:22). In drama – an inevitable part of student-centred education system, the students are active in the classroom environment. The learning becomes effective due to the drama method. The students compare what they learn and experience and correlate.

The creative drama ensures that the self-confidence, cognitive language of an individual develops and improve the motor skills and social aspect; the individual can express himself/herself; the creative drama ensures the subsistence of things learned, knowing the different lives, that the individual is active in education and training, is relaxed, improves the responsibility feeling, knows himself/herself and body, learns where and how to use, is creative, perceives the life in a multi-dimensional way and learn the criticism and discussion (Gönen and Uyar, 2003). The functions of creative drama are crucial and create positive impacts on the individuals. Therefore, the drama should be included from the pre-school up to higher education. The main features of drama method comprise of supporting creativity and aesthetics development, attaining the ability of critical thinking and to work in cooperation, developing communication skills, being aware of moral values and ensuring learning in groups (McCaslin, 1980). The creative drama activities facilitate the students in gaining strong thinking nature and better use of language (Saccardi 1996, Biegler 1998). The main aim of drama activities, which allows the children to travel between the real and fictional world, is to raise individuals that are creative in every way, self-efficient, know his/her own self, communicate with the surrounding and can improve this characteristic and have enhanced power and ways to express himself/herself. Drama supports the development and creativity of a child through these characteristics and brings in significant contributions (Brewer, 2007). In consideration of saying we learn and remember 10% of what we hear, 15% what we see, 20% what we see and hear, 40% what we discuss, 80% what we participate and 90% what we teach, the learning becomes permanent by living and doing in creative drama (Gürol, 2002).

Since drama and creative drama is a student centred constructivist education method rather than a teacher centred education method, teachers have difficulties to pursue such education. The teachers, who generally get an education to perform a behavioural education and are under the influence of traditional education culture, have difficulties in using the creative drama method that lead students to be active and effective in education processes as well as in preparing the activities that comprise of learning by doing and experiencing, and they do

  

not feel qualified enough to create different environments to children so that they can perform things by themselves and become creative individuals. Particularly, a different type of teacher training system than the traditional system is required in order to allow children at the age of pre-school and primary education to learn with games and creative drama. Consequently, the support of school administrations and school-family relations that can create such change is highly required.

Following the 1998-1999 academic year in the university located in Turkey, the curriculum of education faculties in the universities have been reorganised in the way to meet the changing teacher needs and the drama in pre-school education for pre-school teaching and drama in the primary education for primary school teaching were added to the curriculum that contributed on the creative drama education (Gürol, 2002). Such change has been performed in the TRNC universities by the year of 2000. Since the teachers graduated before 2004 that such inclusion of creative drama into the curriculum was not available did not have sufficient creative drama competencies, the creative drama activities in the schools are not at the expected levels.

The changes mentioned in this chapter, new approaches towards the education and training indicates that there is a significant need for studies regarding the application levels of teachers, who are expected to create environments and opportunities to have an education system in accordance with such developments and justifications, for the creative drama and determination of their competence levels.

Today in TRNC, the education system aims to raise free individuals who are constructive, creative, open to change, think critically, analyse and synthesize, express himself/herself freely. Through the effective use of creative drama method that contributes the development of creativity, critical thinking, work in groups, problem estimation, problem solving, communication skills, strong social skills and awareness aspects among children, the children are expected to learn effective and efficiently.

Since this study aims to identify the change in the self-efficacy perceptions of teachers as the education leaders in the primary schools of TRNC, towards the use of creative drama method on the basis of their years of service, and the difference between the teachers with and without drama education, it has the screening feature.

## METHOD

### RESEARCH MODEL

Since this study aims to identify the change in the self-efficacy perceptions of second level primary school teachers working in the primary schools of Turkish Republic of Northern Cyprus (TRNC) Ministry of National Education (MEB), concerning the creative drama method on the basis of their years of service, and the difference between the teachers with and without drama education, it has the screening feature.

The screening models are the research approaches aiming to describe a past or existing situation as it is the individual or object that is subject to the research is aimed to be defined within its own conditions without any change. There is no influence effort to make any change. The most important aspect is to describe the subject individual or object as it is (Karasar, 2005:77).

### POPULATION AND SAMPLE

The population of research is the 2nd level primary school teachers working in 79 official schools under TRNC-MEB for 2014-2015 academic year. The total number of students in the population is 360. The total 240 teachers that represent 67% of population randomly-chosen among the 3rd, 4th and 5th grades of 2nd level primary school teachers in consideration with the geographical region differences, were given scales. Since nine scales were marked incomplete while 87 were not returned. Consequently, the data analysis was performed on the items answered by the 144 teachers in total. 11 teachers in the sample constitute 40% of 360 teachers in the population.

### DATA COLLECTION TOOL

For this research, quantitative research method is used for the collection of data. In order to identify the self-efficacy perceptions of 2nd level primary school teachers, "Self-Efficacy Scale on the Use of Creative Drama Method" developed by Can and Cantürk-Günhan was applied following taking the consent and adaptation.

The reliability coefficient of original scale developed by Can and Cantürk-Günhan is found as .96. The 5-point likert scale that has 50 items in the original scale was applied to 50 teachers after its adaptation and redaction and following a pre-study. After the item analysis, the scale to be used in the research was reduced to 47 items. The reliability of scale was found as .92 following a pre-study.

  

The principle of designing the likert type scale and score as five (5) points to "the most positive answer/reaction to the positive propositions" and "the most negative answer/reaction to the negative propositions", one (1) point to "the most negative answer/reaction to the positive propositions" and "the most positive answer/reaction to the negative propositions" was followed and acted accordingly (Tezbaşaran, 1997).

## DATA COLLECTION PROCESS

The data collection tool prepared in the research was applied to 2nd level primary school teachers working in all schools under the TRNC General Primary Education Department. In order to perform the application, the required permission was taken from the TRNC-MEB General Primary Education Department, the school administrations were contacted and the specific dates for all the school in each region were determined. On the days determined for the application, the relevant schools were visited and the data collection tools were delivered to 240 randomly selected teachers among the 360 teachers comprising the population. However, 87 teachers in total had either not filled the questionnaire or not accepted to fill or not returned or not received the questionnaire for some reason. The total number of 153 teachers between the 2nd level teachers in the island retuned their questionnaires but 9 of the questionnaires were incomplete, yet they were dismissed from the analysis process. Consequently 144 questionnaires were included to the analysis process of the research. The data collection tools used in teachers are given in the annexes.

## DATA ANALYSIS AND INTERPRETATION

The data generated from the research were analysed by using statistical techniques in accordance with the statistics experts. Additionally, the analysed data were put into tables and interpreted accordingly. The scale on the self-efficacy perceptions of 2nd level primary school teachers on the use of creative drama method was analysed with SPSS.

## FINDINGS

This part is comprised of the findings reached through the analysis of data generated with the data collection tools and the associated comments. The comment associated to the each finding is given after the finding.

## FINDINGS ON THE FIRST SUB-PROBLEM AND COMMENT

The first sub-problem of the research was given as "*What is the general level of self-efficacy perceptions among teachers towards the creative drama?*"

**Table 1: Items Values Regarding the Self-Efficacy Perception Levels of Teachers Towards the Creative Drama**

| | N | Average | St. Deviation |
|---|---|---|---|
| 1.I can make lessons fun with the creative drama method. | 144 | 3,9514 | ,84729 |
| 2.I can ensure the students to learn by doing and experiencing with the creative drama method. | 144 | 4,0972 | ,74157 |
| 3.I can solve the problems of students with the creative drama method. | 144 | 3,8958 | ,83389 |
| 4.I can improve the communication skills of students with the creative drama method. | 144 | 4,0764 | ,72978 |
| 5.I can positively improve the attitudes of students towards the lesson with the creative drama method. | 144 | 4,0069 | ,76182 |
| 6.I can increase the success of students with the creative drama method. | 144 | 3,9028 | ,70284 |
| 7.I cannot stop students from memorising with the creative drama method. | 144 | 2,2500 | 1,11255 |
| 8.I can improve the empathy skills of students with the creative drama method. | 144 | 4,0903 | ,73773 |

  

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|---|---|---|---|
| 9.I can relate the lesson with the daily life with the creative drama method. | 144 | 4,0417 | ,80100 |
| 10.I can bring my students into creative thinking with the creative drama method. | 144 | 4,1667 | ,75725 |
| 11.I cannot easily evaluate the student with the creative drama method. | 144 | 2,2222 | 1,09955 |
| 12. I can ensure that students correlate between their preliminary knowledge and new knowledge with the creative drama method. | 144 | 4,0069 | ,83202 |
| 13.I can ensure that the students know themselves with the creative drama method. | 144 | 4,1042 | ,77296 |
| 14.I can ensure that students are at peace with themselves with the creative drama method. | 144 | 4,0069 | ,77996 |
| 15.I cannot make the students be active throughout the lesson with the creative drama method. | 144 | 2,1319 | 1,07252 |
| 16.I can make students be brave with the creative drama method. | 144 | 4,0208 | ,75233 |
| 17.I can ensure that students can make an inference with the creative drama method. | 144 | 3,8958 | ,76386 |
| 18.I can make students like the lesson with the creative drama method. | 144 | 4,0417 | ,74679 |
| 19.I cannot increase the motivation of students with the creative drama method. | 144 | 2,5347 | 1,40883 |
| 20.I can enhance the self-confidence of students with the creative drama method. | 144 | 4,1458 | ,78419 |
| 21.I can correlate the lesson with other disciplines through the creative drama method. | 144 | 4,1042 | ,72632 |
| 22.I can make students be hopeful for the future with the creative drama method. | 144 | 3,7083 | ,89188 |
| 23. I cannot bring the students into research with the creative drama method. | 144 | 1,9097 | ,93803 |
| 24.I can make students have the tendency for group work with the creative drama method. | 144 | 4,0556 | ,82596 |
| 25.I can improve the imagination of students with the creative drama method. | 144 | 4,1875 | ,71906 |
| 26.I can make students be outgoing with the creative drama method. | 144 | 4,0556 | ,75519 |
| 27.I can ensure that students reach to information themselves with the creative drama method. | 144 | 3,9722 | ,84410 |
| 28.I can make students think critically with the creative drama method. | 144 | 3,9097 | ,77472 |
| 29.I cannot bring the feeling of curiosity into the students | 144 | 1,8819 | 1,01387 |

  

| | | | |
|---|---|---|---|
| with the creative drama method. | | | |
| 30.I cannot make the knowledge of students be permanent with the creative drama method. | 144 | 1,9861 | 1,22324 |
| | 144 | 4,0764 | ,83691 |
| 31.I can show different perspectives with the creative drama method. | | | |
| 32.I can use the creative drama method as a tool in the education. | 144 | 4,0069 | ,81504 |
| 33.I can effectively use the creative drama method. | 144 | 3,7500 | ,82360 |
| 34.I cannot improve my evaluation skills with the creative drama method. | 144 | 1,9236 | ,93927 |
| 35.Creative drama ensures the communication with students. | 144 | 4,1875 | ,78419 |
| 36.I can easily solve my problems with the creative drama method. | 144 | 3,8056 | ,89504 |
| 37.I can improve my empathy skills with the creative drama method. | 144 | 4,1528 | ,75094 |
| 38.I think that I will have difficulties in the use of creative drama method. | 144 | 2,2986 | ,93927 |
| 39.I can improve my relationship with my friends from other fields with the creative drama method. | 144 | 3,8125 | ,88475 |
| 40.I can improve my creativity with the creative drama method. | 144 | 4,1736 | ,68275 |
| 41.I can improve my questioning ability with the creative drama method. | 144 | 4,0000 | ,71936 |
| 42.I can know myself better with the creative drama. | 144 | 3,9444 | ,79137 |
| 43.I can have different perspectives with the creative drama. | 144 | 4,0278 | ,73802 |
| 44.I cannot effectively use the creative drama method. | 144 | 2,0764 | ,93927 |
| 45.I don't know what to do when I encounter with a problem during the use of creative drama method. | 144 | 2,2153 | ,94731 |
| 46.I can improve my self-confidence with the creative drama method. | 144 | 3,9931 | ,82357 |
| 47.I can improve my critical thinking skills with the creative drama. | 144 | 3,7014 | 1,15316 |
| Total | 144 | 3,5640 | ,31983 |
| Valid N (All list) | 144 | | |

In general consideration of total 47 items given in Table 1 regardless the sub-dimensions, the self-efficacy perceptions of 2nd level primary school teachers towards the use of creative drama method in the lessons were

  

found as agree (x =3,55); this level is between the range of 3.40-4.19 under the likert type positive and negative proposition ranges, and can be considered as sufficient (high) level.

**FINDINGS ON THE SECOND SUB-PROBLEM AND COMMENT**

The second sub-problem of the research is defined, as "*Is there any variance in the self-efficacy perceptions of teachers based on their years of service?*"

Prior to analysing the variance given in the research problem, the self-efficacy perceptions of teachers based on their years of service were identified. The findings on the self-efficacy perception among teachers were given in the Table 2.

**Table 2: Self-Efficacy Levels of Teachers Based on Their Years of Service**

| | N | Average | Std. Deviation | Std. Error | Minimum | Maximum |
|---|---|---|---|---|---|---|
| Less than 1 Year | 8 | 3,6197 | ,22530 | ,07965 | 3,40 | 4,06 |
| 1-5 Years | 17 | 3,5932 | ,31816 | ,07717 | 3,00 | 4,23 |
| 6-10 Years | 28 | 3,5456 | ,18423 | ,03482 | 3,23 | 3,96 |
| 11-15 Years | 30 | 3,6057 | ,33154 | ,06053 | 2,87 | 4,30 |
| 16-20 Years | 28 | 3,4293 | ,38759 | ,07325 | 2,26 | 4,06 |
| 21 Years and more | 33 | 3,6273 | ,34238 | ,05960 | 2,81 | 4,66 |
| **Total** | **144** | **3,5640** | **,31983** | **,02665** | **2,26** | **4,66** |

As can be seen from the Table 2, the teachers that may be considered to have the lowest self-efficacy levels towards the creative drama have 16-20 years of services. The arithmetic mean of related teachers is x=3,4293=3,43. The teachers with the highest self-efficacy level have 21 years and more years of services with the arithmetic mean x=3,6273=3,63'tür.

**Table 3: ANOVA Results Between the Groups on the Years of Services:**

| | Sum of Squares | df<br>degree of freedom | Variance | F | Sig.<br>Significance |
|---|---|---|---|---|---|
| Inter-Groups | ,741 | 5 | ,148 | 1,473 | ,203 |
| Intra-Groups | 13,886 | 138 | ,101 | | |
| **Total** | **14,627** | **143** | | | |

Regarding whether there is any significant difference between the categories on the years of service, there is no significant variance as given in Table 3 by 0.05<0.203.

**FINDINGS ON THE SECOND SUB-PROBLEM AND COMMENT**

The third sub-problem of research is defined; "*Is there any variance concerning the self-efficacy perception levels of teachers with and without drama education?"*

  

**Table 4: Percentages of Teachers With and Without Drama Education**

| Frequency | Percentage | Cumulative Percentage |
|---|---|---|
| Yes | 73 | 50,7 |
| No | 71 | 49,3 |
| **Total** | **144** | **100,0** |

While answering the question on the third sub-problem, the frequency of drama education among teachers was looked through. As can be seen from the Table 4, the half of the participant teachers had drama education (50,7%), while the other half did not. Table 5 indicates whether there is any significant variance on the self-efficacy perception levels of teachers with and without drama education through t-test as used in statistical analysis.

**Table 5: Test of Levene for Variance Equation**

| | F | Sig. | df | t | Sig. (2-Tailed) |
|---|---|---|---|---|---|
| Default equal variances | 5,258 | ,023 | -,586 | 142 | ,559 |
| Non-default Equal Variances | | | -,584 | 129,575 | ,560 |

There is no significant variance in the self-efficacy perceptions of teachers with and without drama training 0,05<0,559.

**CONCLUSION AND RECOMMENDATIONS**

The findings of research were examined and interpreted within the framework of three sub-problems. The outcomes regarding such sub-problems and recommendations are given below respectively:

In consideration with the average values generated from the scale and score ranges, the self-efficacy perceptions of 2nd level primary school teachers towards using the creative drama method in the lesson were generally found as ‘ I agree’. This can be considered as sufficient according to the range values of likert type positive and negative propositions. The self-efficacy perception is one of the significant characteristics (Aşkar and Işınsal, 2003) because one of the factors affecting the individuals to successfully express some behaviour is their perception of self-efficacy regarding that behaviour (Ekici, 2008). According to the study of MEB, the Republic of Turkey (2000) on the teacher efficacy, the concept of efficacy is defined as the ability to perform a task or duty. Therefore, the efficacy should be measurable, observable and become a service, product, characteristics or compliance following a process. The relevant study considered the teacher efficacy as general knowledge, special training and competence for education and training (Okvuran, 2003).

In terms of self-efficacy from the teachers aspect, it is underlined as the knowledge, skills and attitudes required to fulfil the duty and responsibilities of teaching (Üstüner et.al., 2009). The teachers have crucial role to accomplish the desired targets in the education system. Therefore, the educators may invite the parents into the classroom and include them to the creative drama activities together with their children in order to ensure their support on the social-emotional development of their children. Additionally, some activities such as conferences can be organised so that the parents become aware of creative drama. Particularly, it is important to train youngparents with less experience on the child development through using various methods and techniques.

The teachers that may be considered to have the lowest self-efficacy levels towards the creative drama have 16-20 years of services while the teachers with the highest self-efficacy level have 21 years and more years of services. In terms of the significant variance among the years of service categories, there is no such statistically significant variance. Consequently, it is considered that the teachers do not have the sufficient training on the creative drama and there are shortcomings in the education programs. However, the profession of teaching required constant self-development since there are increasingly fast and radical changes in the world. The teachers not only should keep up with the changes but also raise students for a society that is open for change. (Kahyaoğlu and Yangın, 2007).

In parallel with the development of 1st, 2nd and 3rd grade primary school students, the children at such ages should interact with the concrete activities and they should be provided with such circumstances and

  

environments that they can encounter with more real life situations through the information they are given in compliance with their growth, and that allow them to use their energy.

The traditional education used in our country for long years, was a learning process where teachers are more active and students are like audience. The information learnt was not permanent and since the information was memorized, they would not become behaviours. In order to ensure the self-development among teachers, the significance and need for creative drama activities in the primary school curriculum towards various development domains should be underlined; the in-service trainings should be organized; the teachers should also incorporate the parents into the activities and concrete studies should be conducted on this matter. Additionally, MEB may carry out "creative drama projects" with the support of universities and volunteer institutions.
There is no statistically significant difference between the teachers with and without creative drama education, which indicates that the teachers with the creative drama education do not have the sufficient training, thus the relevant curriculum should be reorganized. The teachers without creative drama education should become more aware of the importance and requirement of this matter. The in-service trainings should be provided and creative drama activities targeting different development domains should be included in the primary education curriculum accordingly. It is also important for MEB to consider making the creative drama a compulsory education and evaluate the primary school teachers on certain times to measure their creative drama and content knowledge.

Moreover, creative drama education programs should be organised for the children at every age group. For instance, the only way to teach is not only pre-school and first years of primary school education. Children may learn through more structured activities executed by adults. The teachers should comprehend this and establish the balance accordingly. Games as can make complex abstract learning in science and mathematics more tangible and interesting (Gönen and Dalkılıç, 1998). Various activities like seminars and conferences on the social emotional development can be organized for the parents to raise their awareness. Particularly, it is important to train young parents with less experience on the child development through using various methods and techniques. The teacher should explain the research and assessment tools and structures for the main concept to be taught. For such qualifications, the teachers gain the competences to teach main concepts, different opinions, theories and research means concerning the field; produce information through research, know the problems related with the domain and encourage working in an interdisciplinary way. (Okvuran, 2003).

In our country, the most common method used in education is the traditional method where the teacher explains and learner listens. Although this work works for many things, it is insufficient in many issues. Especially, creating motivation in terms of communication, social relations, expression of feelings and thoughts, empathy, development of imagination as all are subjects of creative drama as well as create a desired change in behaviours are almost impossible. Majority of knowledge on the social life and social environment are learnt by experiences. Due to the technologic developments, the influence of family, neighbours and other relatives on the socialisation process of individual has diminished. Thus, in order to provide the individual with the knowledge gained through the relations with relatives and neighbours, the application of creative drama as creating positive changes on the individuals through experiences has become mandatory. The approach that started with J. Jack Rousseau and then John Dewey, Johann Heinrich Pestalozzi and Friedrich Froebel, expanded to firstly Europe and then America with Maria Montessori and continued its influenced in other countries underlying the importance of internal potential of a child and that potential can improve with active lives of children under free and loving environmental conditions, is considered as one of the concepts at the core of drama technique in education.

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# SELF-EVALUATION OF PROFESSIONAL DEVELOPMENT DURING PRACTICAL PEDAGOGICAL TRAINING BY PRE-SERVICE CHEMISTRY TEACHERS IN SLOVENIA

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**ABSTRACT**
This research paper deals with the self-evaluation of pre-service chemistry teachers' progress during their practical pedagogical training (PPT) in primary schools in the 2014/2015 school year.
The sample consisted of 32 students from the 3rd year of the "Chemistry and Biology" or "Chemistry and Physics" undergraduate programmes at the Faculty of Education, University of Ljubljana. For the purpose of this investigation, the students as well as their mentors completed questionnaires after each day of their practical pedagogical training to follow pre-service teachers' development during their first experience with teaching during their PPT.
Analysis of the results reveals that the students believe that practical pedagogical training makes a crucial contribution to their education in the light of their future profession. The students also reported on their progress concerning the various skills that were developed.

Key Words: chemistry teacher education, practical pedagogical training, pre-service chemistry teachers, teacher training, teacher efficacy

## INTRODUCTION

It has been well known that students' learning and motivation depend on the quality of learning opportunity, which is fundamentally created by teachers (Hattie, 2009; McCaffrey et al., 2004). More precisely, students' learning is strongly connected with teachers' knowledge of the subject matter: their content knowledge (CK) and pedagogical content knowledge (PCK). Both types of knowledge have been shown to affect teachers instructional practice, as well as student's learning, (Baumert et al., 2010; Hill et al., 2005).
One of the main challenges for research on teacher education, therefore, lies in the assessment of teachers' knowledge. We can explain this according to Shulman (1986), that a teacher need not only understand that something is so, but the teacher must also further understand why it is so. That means that teachers have to emphasize on a thorough understanding of the subject matter taught at school. Consequently, teachers' content knowledge (CK) differs from the academic research knowledge generated at institutes of higher education as well as from everyday knowledge that adults retain after leaving school (Krauss et al., 2008). Teachers' pedagogical content knowledge (PCK), in contrast, is the knowledge needed to make subject matter accessible to students (Shulman, 1986). The literature on PCK identified two core facets of that knowledge: knowledge of students' subject-specific conceptions and misconceptions as well as knowledge of subject-specific teaching strategies and representations (Ball et al., 2008; Borko & Putnam, 1996).
Teacher knowledge develops through pre- and in-service teachers' engagement with a variety of explicit and implicit learning opportunities (Munby et al., 2001; Schon, 1987; Sternberg & Grigorenko, 2003). Accordingly, to Grossman, (1990), teachers can obtain their knowledge for teaching from various sources, the same can be expected to apply to teacher knowledge of subject matter. In these terms, it is possible to distinguish between three potential sources of subject-matter knowledge: (1) teachers' own learning experiences, (2) teacher education and professional development programs, and (3) teaching experiences.
Clearly, the three types of learning opportunities described by Grossman differ in their levels of formalization and intentional construction (Tynjala, 2008). Formal learning opportunities are organized and structured by institutions on the basis of learning objectives; they generally lead to qualifications. Formal learning is mainly intentional, meaning that the learner has the explicit objective of acquiring knowledge and skills. Informal learning, in contrast, is not intentionally organized and takes place incidentally, as a side effect" (Tynjala, 2008). It has no set objective in terms of learning outcomes and is usually highly contextualized. It is often referred to as *learning by experience* or just *experience* (Tynjala, 2008; Werquin, 2010).
Informal, but deliberative, learning situations (e.g., mentoring, learning in peer groups, and intentional practicing of particular skills or tools) have been described as informal learning (Werquin, 2010). In contrast to formal learning, informal learning takes place outside educational institutions and does not generally lead to qualifications (Werquin, 2010). Reconsidering Grossman's three sources of teachers' professional knowledge in the terms of this

classification of learning opportunities, we can conclude not only that the school curriculum offers formal learning opportunities for acquiring CK in the pre-training phase but also that learning situations prior to teacher education facilitate the informal construction of PCK (e.g., through observation of one's own teachers). Second, teacher education and professional development programs provide opportunities to acquire CK and PCK by attending workshops and lectures (formal learning opportunities), collaborating with peers, and in teaching practice (informal and informal learning opportunities). Third, teaching experience is a prototypical form of informal learning, which takes place outside the curricula provided by formal and informal educational institutions and programs. In the concept of 'informal learning' it is important to note that we are deliberately using the word 'learning' and not 'education', because in the processes of informal learning there are not educational institutions, institutionally authorized instructors or prescribed curricula (Livingstone, 1999).

In these terms, based on the previous results obtained and published (Wissiak Grm & Ferk Savec, 2014, Ferk Savec & Wissiak Grm, 2014) we have consequently decided to contribute to these findings and therefore we aimed our research at investigating the self-evaluation of the professional development during practical pedagogical training by pre-service chemistry teachers in Slovenia.
In this paper, we highlight the results obtained regarding pre-service chemistry teachers' self-evaluation during practical pedagogical training which is, according in the students' opinion, a crucial contribution to their practical pedagogical education in the light of their future profession.

## CONTEXT AND SCOPE OF THE STUDY

At the Faculty of Education of the University of Ljubljana, Slovenia, the practical pedagogical training (PPT) of pre-service chemistry teachers (students) commences in the 3rd year of tertiary education and continues in the 4th year. PPT is organized in collaboration between university teachers and selected primary school teacher-mentors. It is conducted in primary schools in Slovenia. Within the framework of PPT, students prepare lesson plans and teach chemistry in the 8th and 9th years of Slovenian primary schools (the pupils are 14–15 years old). At selected primary schools, pre-service teachers have a teacher-mentor (in-service chemistry teacher in an individual school). The role of the teacher-mentor is to give directions prior to the commencement of PPT for successful inclusion in the current teaching plan, within the framework of which the students conduct and attend lessons during the time of PPT. The teacher-mentor is also present during all of the lessons that the student conducts and, directly after each lesson, provides the student with feedback on the positive aspects of the individual appearance, as well as on necessary improvements.
In order to improve pre-service teachers' learning possibilities during PPT, we attempted to adjust PPT to pre-service teachers' suggestions based on the research results obtained in previous research (Wissiak Grm & Ferk Savec, 2014) and in the present investigation, we evaluated pre-service teachers' perception (3rd year students) of their first experience with teaching chemistry during the PPT after the changes had been introduced. Thereby, we have considered the following main proposals given by the pre-service chemistry teachers: (1) longer PPT, (2) independent choice of location and school for PPT, and (3) the possibility of doing PPT in several schools in cooperation with a number of different teacher-mentors. The changes that have been introduced in PPT with regard to pre-service teachers' suggestions are presented in Table 1.

**Table 1**: Changes that have been introduced in PPT with regard to students' suggestions

| Students' suggestions for optimization of PPT based on the evaluation of PPT (Wissiak Grm & Ferk Savec, 2014) | State of PPT in the 2008/09 academic year; (Wissiak Grm & Ferk Savec, 2014) | State of PPT in the 2014/15 academic year (evaluation presented in this article) |
|---|---|---|
| (1) Students' suggestion for a longer PPT | • Five school days per year | • Ten school days per year |
| (2) Students' suggestion for an independent choice of location and school for PPT | • Seven primary schools<br>• Within the Ljubljana Urban Municipality, Slovenia;<br>• Schools chosen by the University;<br>• 2–3 students conducted | • thirty-two primary schools;<br>• All Slovenian regions;<br>• Schools chosen independently by each of the pre-service teachers;<br>• 1 student conducted PPT |

| | | |
|---|---|---|
| | PPT simultaneously at the same school at the time; | at each of the schools |
| (3) Students' suggestion for the possibility of doing PPT in several schools in cooperation with a number of different teacher-mentors | • Each of the students had the possibility to collaborate with one teacher-mentor in the same academic year in the framework of PPT | • Each of the students had the possibility to collaborate with several teacher-mentors in the same academic year in the framework of PPT |

The present study deals with pre-service chemistry teachers' (3rd-year students) development during their first experience with teaching during their PPT from their own perspective (self-evaluation) as well as from their teacher-mentors (in-service teacher) perspective. The article focuses on monitoring of pre-service chemistry teachers' first and the last lecture during their practical pedagogical training (PPT) based on their own and their mentors' perceptions of eight characteristics of pre-service teachers' development measured by Questionnaire for monitoring students' progress (Wissiak Grm and Ferk Savec, 2014). The study addresses the following research question:

> How do pre-service chemistry teachers evaluate their development in comparison with their mentors (in-service chemistry teachers) at the occasion of their first experience with teaching during their PPT?

## METHODS

### Instruments

For the purpose of the investigation, this *Questionnaire for monitoring students' progress* (Wissiak Grm & Ferk Savec, 2014) was applied. The questionnaire showed satisfactory internal consistency (Cronbach $\alpha = 0.89$; Wissiak Grm & Ferk Savec, 2014), which is within range of similar questionnaires (e.g. Reardon et al., Adams et al.).[15, 16]
The questionnaire enables pre-service teachers' to reflect on their own development during PPT, in particular from the following perspectives: (1) the pre-service teacher's self–esteem while conducting the lessons, (2) the pre-service teacher's ability to establish discipline in class, (3) the suitability of the pre-service teacher's explanation of the topic taught, (4) the ability of the pre-service teacher to anticipate the appropriate amount of matter to present during the lesson, (5) the pre-service teacher's experimental skills, (6) the pre-service teacher's expertise in providing an appropriate response to the students, (7) the pre-service teacher's ability to involve students actively, and (8) the pre-service teacher's self-dependence in preparing for the lesson. At the end of each day, the students evaluated each of the above-listed specific characteristics with a mark in the range 1–5, in which "1" represents the least progress and "5" the most progress.

### Sample

The sample consisted of a complete generation of 3rd-year students (N=32) enrolled in the 2014/15 academic year of the undergraduate programmes of "Chemistry and Biology", "Chemistry and Physics" or "Chemistry and Home Economics" at the Faculty of Education, University of Ljubljana. The students involved were predominantly female (30), and only a few were male (2) their average age was 23.7 years. Due to their future profession, the students are also referred to as pre-service teachers in this paper.
Beside pre-service teachers in the present study also in-service chemistry teachers (N=32), from thirty-two primary schools where PPT took place, were involved; in this paper referred to as teacher-mentors. All participating in-service chemistry teachers were female, and their average age was 45, seven years. On average, they had 21.6 years of experience in teaching of the subject chemistry in primary schools.
In this article, the development of five pre-service chemistry teachers, which were chosen from the sample via random selection, is presented in detail from their own perspective as well as from their teacher-mentors' perspective. The pre-service teachers' names presented in the results of the article are pseudonyms.

### Data Collection

The students' practical pedagogical training (PPT) was conducted in April 2015 at thirty-two primary schools throughout Slovenia. Every student from the 3rd year spent two weeks (10 days) at an independently selected primary school to which they had been previously introduced, which was their first experience of teaching chemistry. Each student of the 3rd year monitored their own progress during PPT with the aid of the *Questionnaire for monitoring*

*students' progress*. For the purpose of the present investigation, we specifically looked into monitoring their own progress during PPT when performing in the class, specifically at the first and the last presentation during their PPT. The questionnaire was also administered to the teacher- mentors, who completed i.e. at the occasion of monitoring the first and the last presentation of the 3rd year student, a pre-service chemistry teacher.

**Data Analysis**

The numeric results collected from pre-service chemistry teachers (students of the 3rd year at the Faculty of Education) and their mentors (in-service chemistry teachers in primary schools) in the *Questionnaire for monitoring students' progress* were entered into MS Excel, with which appropriate calculations and figures were prepared.

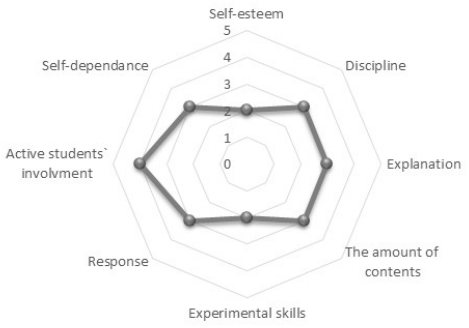
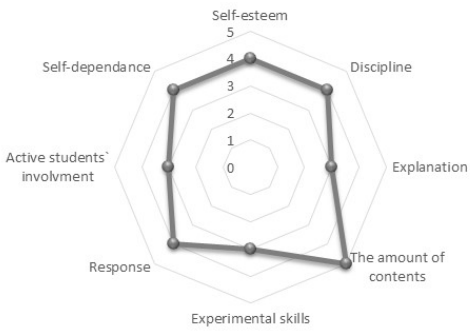
**RESULTS AND DISCUSSION**

The results present development of five pre-service chemistry teachers' (3rd-year students) during their first experience with teaching during their PPT from their own perspective (self-evaluation) as well as from their teacher-mentors (in-service teachers) perspective.

The article focuses in particular on monitoring of pre-service chemistry teachers' first and the last lecture presented during their practical pedagogical training (PPT) based on their own and their mentors' perception of eight characteristics of pre-service teachers' development measured with the *Questionnaire for monitoring students' progress* (Wissiak Grm & Ferk Savec, 2014).

**Example 1: 3rd-year student Meta**

**Table 2**: Meta's self-evaluation of her skills and knowledge in specific fields at the occasion of her *first presentation* during their PPT in comparison with the evaluation of her teacher-mentor

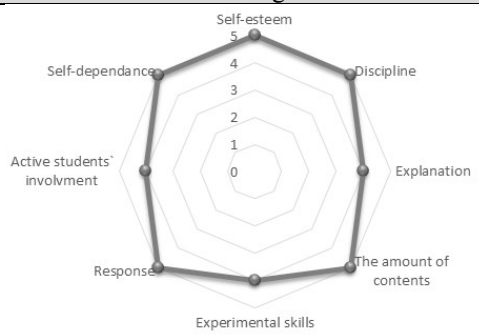
| Meta's self-evaluation of her skills and knowledge | Teacher's evaluation of Meta's skills and knowledge |
|---|---|
|  |  |
| Meta explained:<br>"The first activity that changed my opinion; it was my debut. Students have participated well, solving tasks as they were instructed. I carried out the demonstration experiment well; therefore, the main goal of my teaching lesson was fulfilled. Students were solving the tasks surprisingly quickly. They were not chatting; therefore, I felt good; my self-confidence consequently rose." | Meta's teacher-mentor explained:<br>"I was very surprised by Meta's self-confidence at the first lecture. During the lesson, some problems appeared regarding the chemistry demonstration and explanation of the chemical experiment presented. She went through the content too quickly; it would be better to slow down when explaining the new topic to the pupils. She should intensively involve children in the lesson." |

It is clear from Table 2 that at her first presentation the student Meta had very little confidence in herself and her experimental skills, but she was quite sure about her ability to actively involve the pupils in the lessons. Quite the opposite was the teacher's mentor's observation regarding Meta's first presentation. She had seen Meta as extremely self-confident, but facing some problems regarding the chemistry experiment demonstration and explanation of the topic presented. She also did not share Meta's opinion about her successful involvement of pupils in the lesson since she thought that Meta should intensively involve children in the lesson. Nevertheless, she saw Meta as being quite

self-confidence comparing to Meta's self-evaluation of this characteristic as well as regarding the ability to anticipate the appropriate amount of matter to present during the lesson.

**Table 3**: Meta's self-evaluation of her skills and knowledge in specific fields at her last presentation during their PPT in comparison with the evaluation of her teacher-mentor

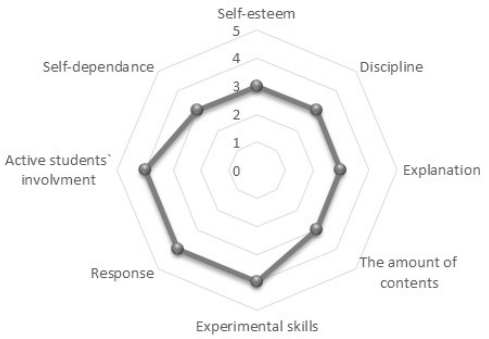
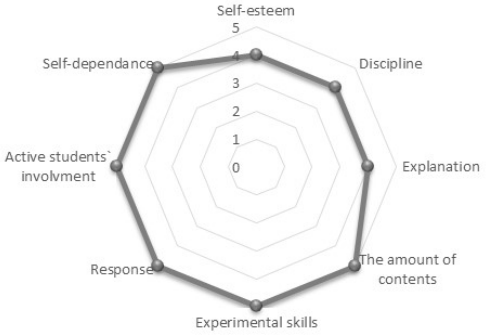
| Meta's self-evaluation of her skills and knowledge | Teacher's evaluation of Meta's skills and knowledge |
|---|---|
|   |   |
| Meta explained:<br>"On the last day of my practical pedagogical training, I concluded with a teaching lesson. I encountered some troubles even before starting the lesson since I had forgotten my USB key at home and I had to start the lesson without the PowerPoint presentation. Consequently, I started the lesson quite confused since I had to work it without it, but after some time I got the USB key, and then I continued to carry out the lesson by explaining the new topic. Nevertheless, my opinion about the final presentation is that I carried out the lesson well, considering the situation described." | Meta's teacher-mentor explained:<br>"When starting the lesson, Meta was quite stressed because she forgot her USB key at home. Nevertheless, she was able to overcome this, and the lesson was carried out appropriately. Nice progress that she had made during the PPT can be seen." |

It is evident from Table 3 that at her last presentation Meta evaluated her performance more strictly than her teacher-mentor did. Specifically, she gave herself lower marks in the areas of establishing discipline, ability to explain the teaching matter adequately and the ability to anticipate the appropriate amount of matter to present during the lesson than her teacher-mentor gave Meta.

**Example 2: 3rd-year student Lina**

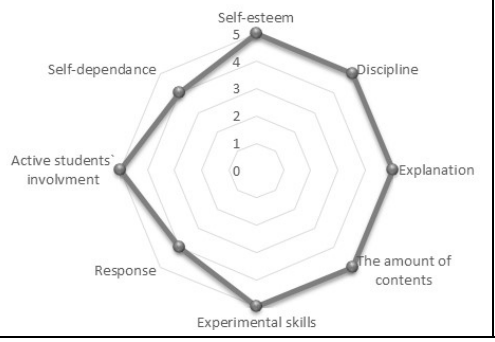
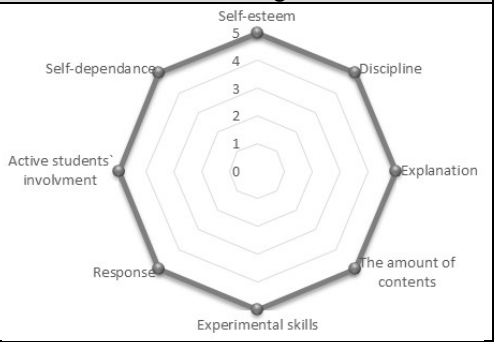
**Table 4**: Lina's self-evaluation of her skills and knowledge in specific fields at the occasion of her first presentation during her PPT in comparison with the evaluation of her teacher-mentor

| Lina's self-evaluation of her skills and knowledge | Teacher's evaluation of Lina's skills and knowledge |
|---|---|
|  |  |
| Lina explained:<br>"First day of my practical pedagogical training in the school. I do not know the students: neither their behavior nor their pre-knowledge." | Lina's teacher-mentor explained:<br>"She was following the steps in her teacher preparation plan. She was quite reserved since this was her first contact with the real teaching situation. She made pupils active when performing experimental work in the classroom. " |



On the occasion of her first presentation, it is evident from Table 4 that Lina had viewed all of her influential characteristics through self-assessment more strictly than her teacher-mentor did.

**Table 5**: Lina's self-evaluation of her skills and knowledge in specific fields at the occasion of her last presentation during their PPT in comparison with the evaluation of her teacher-mentor

| Lina's self-evaluation of her skills and knowledge | Teacher's evaluation of Lina's skills and knowledge |
|---|---|
|  |  |



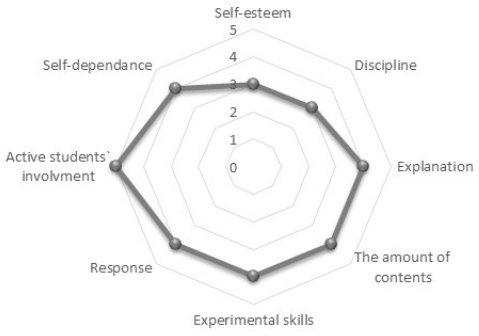
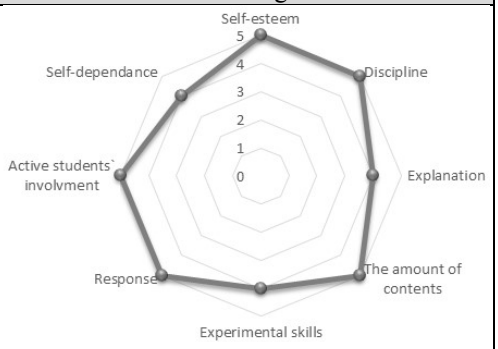
  

| | |
|---|---|
| Lina explained:<br>"My last day of practical pedagogical training and I had prepared a good teaching lesson plan. My idea is to carry out a dynamic lesson; therefore, I decided to encourage the students to participate in the lesson from the start, and I do expect from them more cooperation than the last time. I need them to actively cooperate in all common discussions while solving problems, etc. In other words, I am not planning to carry out the lesson *ex cathedra*.<br>" | Lina's teacher-mentor explained:<br>"She was following the steps in her teacher preparation correctly, also according to the timetable plan. The analysis of the experimental work was performed adequately." |

The situation had changed at Lina's final presentation: the opinions of Lina and the teacher were all quite consistent, except regarding Lina's self-dependence and Lina's expertise in providing appropriate responses to the students, as can be observed from Table 5

**Example 3: 3rd-year student Irena**

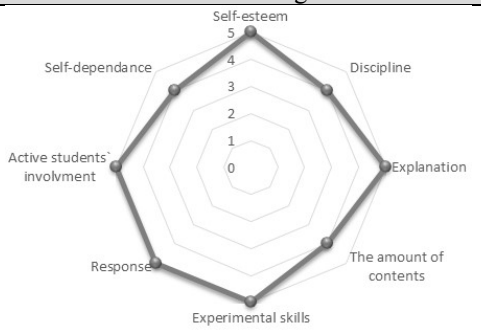
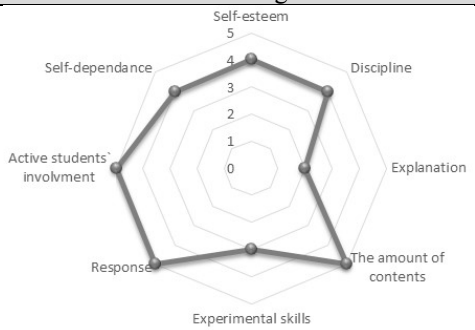
**Table 6**: Irena's self-evaluation of her skills and knowledge in specific fields at her first presentation during their PPT in comparison with the evaluation of her teacher-mentor

| Irena's self-evaluation of her skills and knowledge | Teacher's evaluation of Irena's skills and knowledge |
|---|---|
|  |  |
| Irena explained:<br>"First day of my practical pedagogical training, and first presentation in the class, to see how the students get on with me and vice versa." | Irena's teacher-mentor explained:<br>"She acted very dynamically and was able to create a positive atmosphere in the classroom. She has huge problems using her mother tongue when performing in the classroom. She was not able to prepare the instructions for pupils' experimental work satisfactorily." |

It is evident from Table 6 that on the occasion of her first presentation Irena had seen all of her influential characteristics through self-assessment quite similarly as her teacher-mentor did, except regarding her self-esteem and the ability to establish discipline while conducting lessons. Irena was stricter in her self-evaluation of the influential characteristics mentioned than her teacher-mentor was.

**Table 7**: Irena's self-evaluation of her skills and knowledge in specific fields on her last presentation during their PPT in comparison with the evaluation of her teacher-mentor

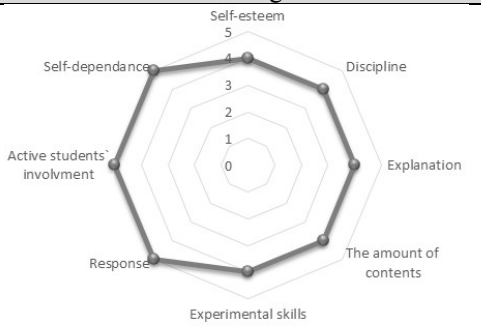
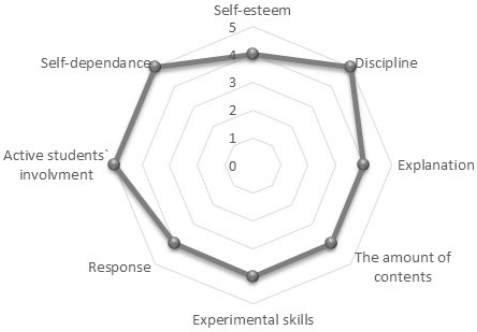
| Irena's self-evaluation of her skills and knowledge | Teacher's evaluation of Irena's skills and knowledge |
|---|---|
|  |  |
| Irena explained:<br>"The last two lesson presentations were successfully completed. I got a positive impression; also, the students and teacher-mentor rewarded me with positive comments." | Irena's teacher-mentor explained:<br>"She did not prepare herself for the lesson appropriately; consequently, some troubles appeared during the lesson when new chemistry content was presented. Still huge troubles regarding the appropriate use of her mother tongue during her chemistry lesson presentation." |



It is also evident from Table 7 that the situation changed on the occasion of Irena's last presentation, since her teacher-mentor evaluates her performance much more strictly, giving her lower marks. She thought that Irena had not prepared herself for the lesson appropriately, and therefore some troubles appeared. She also was very aware of Irena's poor use of her mother tongue during her chemistry lesson presentation.

**Example 4: 3rd-year student Trudy**.

**Table 8**: Trudy's self-evaluation of her skills and knowledge in specific fields on her first presentation during their PPT in comparison with the evaluation of her teacher-mentor

| Trudy's self-evaluation of her skills and knowledge | Teacher's evaluation of Trudy's skills and knowledge |
|---|---|
|  |  |

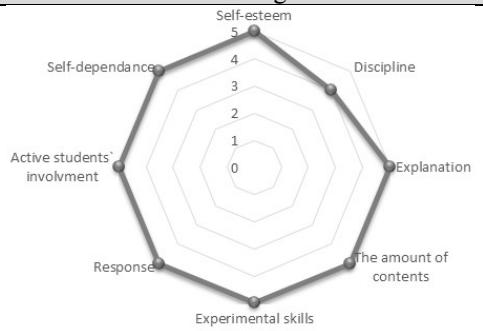
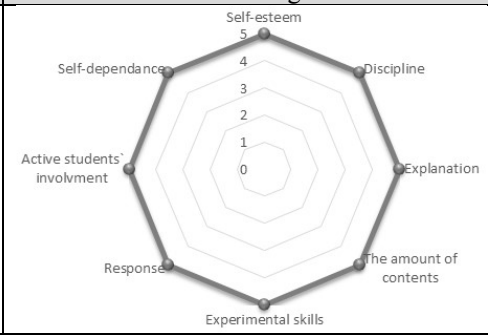


| | |
|---|---|
| Trudy explained:<br>"I already have positive experience regarding students' cooperation during the lesson. Last time, the students obeyed well, and they have done all the things I wanted. So, I have the impression that I am able to establish the discipline in the class, and I am going to have discipline in the class even this time. Consequently, I feel that my explanation is going to be clear and that I am also well aware of the students' problematic topics. In these terms, at some points, my explanation will have to be clearer, since it seems that last time I was not clear enough in some parts. Nevertheless, I also felt during the previous lesson that the active work was well accepted, and I also believe this time it is going to be the same." | Trudy's teacher-mentor explained:<br>"She acted very autonomously when preparing for the lesson. Before starting the new topic, she checked pupils' pre-knowledge, during the lesson she used several teaching methods. She included practical experimental work, work with the textbook, etc. She was also good at making conclusion and was able to present the content of the topic appropriately. The only thing where she should improve in the pre-service is constructing the questions, and asking the pupils more appropriate ones." |

It is evident from Table 8 that Trudy considered herself to be quite successful in almost all of her influential characteristics through the self-assessment, which was very similar to her teacher-mentor's opinion on her first presentation in the class. They differ only slightly in two influential characteristics, which are the ability to establish discipline in the class and Trudy's expertise in providing an appropriate response to the students.

**Table 9**: Trudy's self-evaluation of her skills and knowledge in specific fields on her last presentation during their PPT in comparison with the evaluation of her teacher-mentor

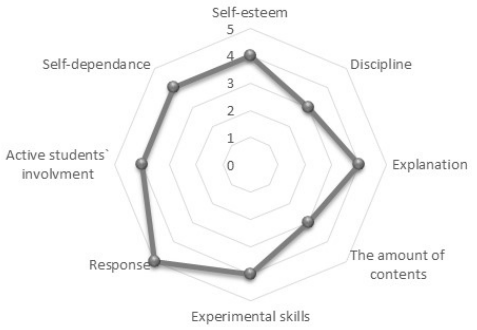
| Trudy's self-evaluation of her skills and knowledge | Teacher's evaluation of Trudy's skills and knowledge |
|---|---|
|  |  |
| Trudy explained:<br>"Due to the previous presentations I successfully carried out, my self-esteem rose.<br>I also feel that I got the right feeling for timing the lesson as well as for detecting the class climate, students' needs, and their wishes. Consequently, I got a more precise idea about the students' activities during the lesson and different ways of involving students in the learning process." | Trudy's teacher-mentor explained:<br>"She was able to construct a good relationship with the pupils in the classroom due to her correct and kind attitude toward them. She presented the new chemistry topics clearly, systematically and correctly. She was trying to make pupils think by asking them several questions. The questions were more or less well-chosen; if not, she corrected herself immediately and in the end she succeeded very well." |

In the case of the Trudy's last presentation in the class, the opinions were even more consistent, since Trudy' self-assessment varied from her teacher's mentor only slightly; that was in case of the ability to establish discipline in the class (Table 9)

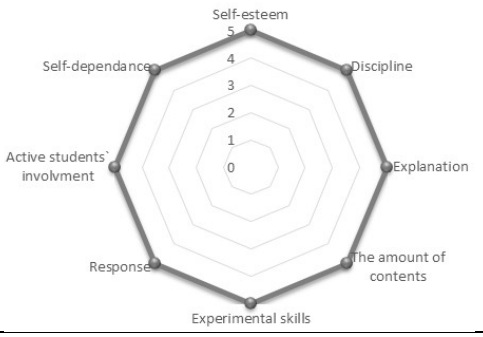
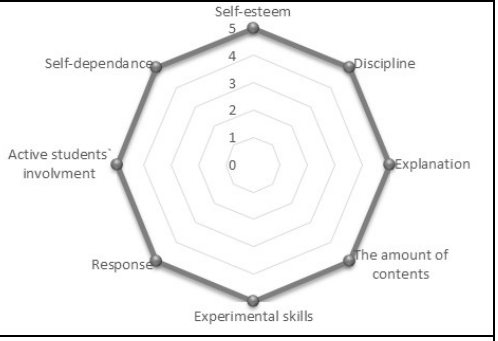
**Example 5: 3rd-year student Tia**

**Table 10**: Tia's self-evaluation of her skills and knowledge in specific fields on her first presentation during their PPT in comparison with the evaluation of her teacher-mentor

| Tia's self-evaluation of her skills and knowledge | Teacher's evaluation of Tia's skills and knowledge |
|---|---|
|   |   |
| Tia explained:<br>"First lesson carried out completely on my own; some instructions are given by teacher-mentor." | Tia's teacher-mentor explained:<br>"Tia is very self-confident. She was able to establish good contact with the pupils in the classroom very quickly. However, the lessons were carried out too quickly, the topic she presented was explained only *ex cathedra*. Pupils were not adequately involved in the teaching process." |

It is clear from Table 10 that Tia had seen herself to be quite self-confident, as did her teacher-mentor. Slightly lower were given by her teacher-mentor because Tia carried out the teaching lessons too quickly, and she also presented the topic only *ex cathedra*.

**Table 11**: Tia's self-evaluation of her skills and knowledge in specific fields at the occasion of her last presentation during their PPT in comparison with the evaluation of her teacher-mentor

| Tia's self-evaluation of her skills and knowledge | Teacher's evaluation of Tia's skills and knowledge |
|---|---|
|   |   |
| Tia explained:<br>"I have considered the teacher- mentor's instructions, my self-esteemed rose, I am less frightened since I have had several classes and students, and I felt very good in the class." | Tia's teacher-mentor explained:<br>"Tia considered all the recommendations I suggested during her PPT and was very good at her final presentation.<br>Since she motivated the pupils correctly, they were very active during the lesson." |

It can be seen from Table 11 that at Tia's final presentation, their opinions were completely consistent, and Tia's marks in all the influential characteristics reached the highest level.

## CONCLUSION

Based on our previous research findings, our present study was intended to deal with the selected and (in our opinion) the most important open questions we have detected during the last seven academic years of monitoring the pre-service chemistry teachers' progress during their practical pedagogical training (PPT) in primary schools. Therefore, in order to improve pre-service teachers' learning possibilities during PPT, we attempted to adjust it to pre-service teachers' suggestions based on the results obtained in previous research (Wissiak Grm & Ferk Savec, 2014). However, we retained the good practice of collaboration of students with a teacher-mentors who are experienced, innovative, effective, and professionally proficient: a teacher-mentor who includes a large amount of experimental work in lessons, uses up-to-date teaching methods, knows how to present teaching matters in an interesting way, and is communicative. Consequently, as noted above, we have considered the following student proposals: (1) longer PPT, (2) independent choice of location and school for PPT, and (3) the possibility of doing PPT in several schools in cooperation with a number of different teacher-mentors.

Based on the evaluation and findings obtained in the present study, we can summarize that we have successfully implemented the students' proposal regarding the longer PPT. Specifically, students were attending 10 days of their practical pedagogical training (PPT) in primary schools in the 2014/15 academic year instead of only five days per year, as it was in the 2008/09 academic year.

With these terms, we have fulfilled the expectations of the majority of our students from the 2008/09 academic year; since they had stated that PPT is the only proper way to truly bring them close to their life profession. The research statements in several studies (Schechtman et al., 2005) suggest that methods such as guided practice in a group format and an opportunity to observe an experienced, proficient teacher, as well as school-university collaboration in teacher training programmes, increase teachers' level of self-efficacy. All the above student statements that there is decidedly too little practical pedagogical training, and that they, therefore, wish to devote more hours to this kind of training were in the academic year the 2014/15 were successfully observed. Our students believe that practice is not only an excellent experience but also a necessary contribution to pedagogical training for their future profession. This standpoint is in accordance with the study of Timoštšuk et al. (2010) of the considerable importance of developing the more social aspects of learning to teach. In line with these terms, we have support, and (in the 2014/15 academic year) we were also able to fulfill our students' suggestion for an independent choice of location and school for obtaining practical pedagogical training. Accordingly, instead of seven primary schools chosen by the university, students had the opportunity to perform the PPT at the primary schools chosen independently, by each of the pre-service teachers. Since the primary schools were in all Slovenian regions, the monitoring process for the university mentors was therefore far more complex. However, this was beneficial for the pre-service teachers, since each of the students had the possibility to collaborate with one teacher-mentor at the time, instead of two to three students who conducted PPT simultaneously, as had been done in the 2008/09 academic year.

Based on the evaluation and findings presented in this article, we can also make a conclusion about the student proposals regarding the possibility of doing PPT in several schools in cooperation with a number of different teacher-mentors. At this point, we can conclude that although every student had the possibility to collaborate with several teacher-mentors in the framework of PPT, none decided to take the advantage of that opportunity in the 2014/15 academic year, unfortunately.

Our future work should, therefore, be oriented towards retaining all of the features of practical pedagogical training, which has proved to be promising. Furthermore, our sustained efforts will also be focused on fruitful school-university collaboration, which can undoubtedly considerably contribute to pre-service teachers' knowledge base and their conceptual understanding of science. Accordingly, pre-service teachers' will be able to get better perception to teach science concepts in a meaningful way, also due to the in-depth contacts with the professional community, created during their practical pedagogical training in primary schools in Slovenia.

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# SİİRT ÜNİVERSİTESİNDE GÖREV YAPAN PERSONELİN ÖRGÜTSEL İMAJ ALGILARI

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**ÖZET**
Bilindiği üzere Üniversiteler bir toplum için öncülük eden, o toplumun gelişiminde önemli bir rol oynayan temel kurumlar arasında yer alır. Bu denli toplum için önemli olan kurumların kaliteli ve prestijli olmaları bu nedenle oldukça önem arz etmektedir. Günümüzde bir örgütün kalitesini ve etkililiğini belirleyen bir çok unsur vardır. Ancak bu unsurlardan en temel olanı şüphesiz bir kurumun işgörenleridir. Örgüt içerisinde işgörenlerin performansı üzerinde etkili olan örgütsel adalet, örgütsel iklim, örgüt kültürü, psikolojik yıldırma (mobbing) gibi bir çok değişkenin etkili olduğu yapılan bir çok araştırma sonucunda ortaya konmaktadır. Bu etkili değişkenlerden biride örgütsel imaj kavramıdır. Örgütsel imaj bir kurumun genel olarak kamuoyunda ve işgörenleri üzerinde canlandırdığı kanaat olarak kısaca tanımlanmaktadır. Bu kanaat bir örgütün en üst yöneticisinin aldığı karar ya da kararlardan, en alt kademesindeki işgöreninin davranışına kadar bir çok unsurun bileşkesidir. Örgütlerin imajları ne kadar kuvvetli olursa işgörenlerinin de aidiyet duygularının o kadar güçlendiği bilinmektedir. Bu nedenle araştırmanın temel amacı Siirt Üniversitesi bünyesinde yer alan personelin, kurumu hakkındaki örgütsel imaj düzeylerini belirlemek ve bunu cinsiyet, memleket, görev, hizmet süresi gibi bağımsız değişkenlerle dayalı sonuçlarla ortaya koymaktır. Araştırmada nicel bir yol izlenilerek betimsel tarama modeli kullanılmıştır. Araştırmanın evrenini Siirt Üniversitesi Kezer yerleşkesinde yer alan akademik ve idari personeller oluşturmaktadır. Araştırma evreni ulaşılabilir bir yapıda olduğundan herhangi bir örneklem alma yoluna gidilmemiştir. Araştırma sonucunda elde edilen bulgulara göre Siirt Üniversitesinde görev yapmakta olan personelin örgütsel imaj algılarının en düşük algılanana alt boyutunun "yönetim kalitesi", en yüksek algılanan alt boyutunun ise "Kurumsal etik" olduğu görülmüştür. Ayrıca araştırmada ele alınan cinsiyet, memleket, görev ve hizmet süresi bağımsız değişkenlerine göre örgütsel imajın genelinde ve bazı alt boyutlarında anlamlı farkların olduğu görülmüştür.
**ANAHTAR KELİMELER:** Örgüt, Örgütsel imaj, Kalite, İşgören

  

# SINIF ÖĞRETMENLİĞİ ANABİLİM DALI DÖRDÜNCÜ SINIF ÖĞRETMEN ADAYLARININ MERAK VE KEŞFETME ALGILARI

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**ÖZET**

Yaşamı boyunca devamlı öğrenme ihtiyacı duyan ve bu doğrultuda çabalayan öğrenen birey kavramı, günümüz dünyasında oldukça önemli bir kavram haline gelmiştir. Öğrenme sürecinin en önemli yapıtaşlarından biri olan merak, 21. yüzyıl dünyasında öğrenen bireylerin sahip olması gereken temel özelliklerden biridir. Doğuştan gelen öğrenme isteği; kendini, çevresindeki nesne, olay, olguları bilme ve anlama amacı ile araştırma yapma ve keşfetme açlığı olarak tanımlanabilecek merak, bireyi öğrenmeye yönlendirecek temel itici güçtür. Çünkü merak duygusu bireyde bir öğrenme ihtiyacı oluşturmakta ve bu ihtiyaç da bireyde merak ettiği duruma karşı ilgi duymasını sağlayarak, bu ilgi doğrultusunda öğrenme motivasyonu yoluyla bireyde araştırma ve keşif süreçleri başlamaktadır. Sapkın merak, epistemik merak, sosyal merak, empatik merak ve algısal merak gibi çeşitlendirilebilecek merak türleri, bireylerde doğuştan var olmasından dolayı eğitimin belki de nihai amaçlarından biri de merak özelliğini bozmamak olmalıdır. Bu bağlamda, merakın geliştirilmesinden ziyade merakın köreltilmemesine dikkat etmek gerekmektedir. Çünkü merak merakı, meraksızlık da meraksızlığı doğurur. Hem merak hem de meraksızlık oldukça birbirini tetikleyen durumlardır. Bu bağlamda, geleceğin öğretmeni olacak sınıf öğretmeni adaylarının meraklılık durumlarının araştırılması önemlidir. Ayrıca öğretmen adaylarının merak ve keşfetme durumlarını inceleyen çalışmalara (Demirel ve Coşkun, 2009; Deringöl, Yaman, Özsarı ve Gülten, 2010) bu çalışmaların dışında yurtiçi alanyazında rastlanmamıştır. Yurtdışı alanyazında ise, bireylerin merak ve keşfetme durumlarının genellikle öğretmen adayları dışında örneklemler üzerinde yapılması bağlamında bu çalışmanın sonuçları önemlidir. Araştırmadan elde edilen sonuçların, eğitime yönelik politikaların oluşturulmasında ve program geliştirme çalışmalarına kaynak teşkil etmede önemli katkılar sağlayacağı düşünülmektedir. Bu araştırmanın amacı; sınıf öğretmenliği anabilim dalı dördüncü sınıf öğretmen adaylarının merak ve keşfetme algılarını saptamaktır. Araştırmanın çalışma grubunu, 2015-2016 akademik yılında, Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Sınıf Öğretmenliği Anabilim Dalında öğrenim gören toplam 124 dördüncü sınıf öğrencisi oluşturmaktadır. Öğrencilerin %71'i kız ve % 29'u erkektir. Araştırma verileri, ölçekle toplanmıştır. Araştırmanın verileri Akın (2012) tarafından Türkçe sürümünün geçerlilik ve güvenirliği yapılan "Merak ve Keşfetme Ölçeği" ile toplanmıştır. 10 maddeden oluşan Merak ve Keşfetme Ölçeği "Genişleme" ve "Kabullenme" alt boyutlarından oluşmakta ve 5'li likert tipinde olan ölçek " Bana hiç uygun değil (2) Bana uygun değil (3) Kararsızım (4) Bana oldukça uygun ve (5) Bana tamamen uygun" ifadelerinden oluşmaktadır. Ölçekte ters puanlanan madde bulunmamaktadır. Betimsel nitelikte olan bu araştırmada tarama modellerinden nedensel karşılaştırma yöntemi kullanılmıştır. Bu araştırmada "Merak ve Keşfetme Ölçeği" Cronbach Alpha iç tutarlılık kat sayıları ölçeğin bütünü için 0,78, genişleme alt boyutu için 0,70 ve kabullenme alt boyutu için ise 0,66 olarak bulunmuştur. Araştırmada kullanılan ölçeğe ilişkin düzeylere ait betimsel istatistiklerden (ortalama, standart sapma, frekans vb.) yararlanılmıştır. Verilerin analizinde $p<.05$ güvenirlik düzeyi kabul edilmiştir. Öğretmen adaylarının merak ve keşfetme düzeylerine yönelik görüşleri normal dağılım göstermediğinden bu çalışmada nonparametrik testler kullanılmıştır. Merak ve keşfetme düzeyleri arasındaki farklılığın cinsiyete ve yaş değişkenine göre analiz edilmesi amacı ile Mann Whitney U

  

Testi yapılmıştır. Öğretmen adaylarının merak ve keşfetme algıları, hem genişleme hem de kabullenme alt boyutları açısından orta düzeyde yani merak düzeyleri konusunda kararsız oldukları sonucuna ulaşılmıştır. Ölçeğin genişleme boyutuna ilişkin puan ortalamaları, kabullenme boyutuna ilişkin puan ortalamasından anlamlı olmasa da daha yüksek bulunmuştur. Belirsizlikleri kabullenme konusunda öğrencilerin; günlük yaşamın belirsizliklerinden, tahmin edilemeyen, kontrolünde olmayan yenilik ve değişiklikleri tolere edebilmede zorlandıkları söylenebilir. Öğretmen adaylarının hayatlarında yenilik ve yeni deneyimler arama davranışına karşı kararsızlık duygusu içinde olsalar da belirsizlikleri kabullenmeye göre daha olumlu yönde görüş bildirdikleri tespit edilmiştir. Bu duruma Türk toplum yapısı ve kültürünün de yol açtığı düşünülebilir. Öğretmen adaylarının cinsiyeti ile merak ve keşfetme algılarının genişleme [U=1490,5, z=-0,518 p>0,05] ve kabullenme [U=1538,5, z=-0,252 p>0,05] alt boyutları arasında anlamlı bir fark bulunamamıştır. Kız ve erkek öğrencilerin ortalama puanlarının anlamlı biçimde farklılaşmadığı fakat erkek öğrencilerin genişleme boyutunda daha yüksek ortalamalara sahip oldukları görülmektedir. Erkek öğretmen adaylarının genel merak düzeylerinin, kız öğretmen adaylarından daha yüksek olması bağlamında meraklılık özelliğinin kültür, çevre ve diğer etkenlere göre şekillenmiş olabileceği söylenebilir. Yapılan analizler sonucunda öğretmen adaylarının yaşları ile merak ve keşfetme algılarının genişleme [U=1707, z=-0,453 p>0,05] ve kabullenme [U=1693,5, z=-0,522 p>0,05] alt boyutları arasında anlamlı bir fark bulunamamıştır. Bu araştırma sonucuna ilişkin şu öneriler geliştirilmiştir: Eğitim programları geliştirilirken hedef ögesinden değerlendirme aşamasına kadar her program ögesinde, kritik düşünme ve soru sorma becerileri, değişen şartlara uyum sağlayabilme, olaylar karşısında risk almayı bilme, bilimsel düşünme ve araştırma becerilerinin geliştirilmesini sağlamaya yönelik düzenlemelere gidilmesi gerekmektedir. Öğretmen adaylarına, çocuklarda merak ve keşfetme durumlarının nasıl geliştirilebileceği konusunda eğitimler verilmesi; eğitim durumları sürecinde eğitimcilerin cinsiyetçi olmayan örtük ya da açık yaklaşımlar sergilemeleri; içeriğin geliştirilmesinde korelasyonel yaklaşımla farklı dersler arası ilişkiler bağlamında ilgilerin oluşturulması ve ilgi seviyesinin yükseltilmesi sağlanabilir; merakın farklı değişkenlerle (kaygı, öğrenme yaklaşımları, epistemolojik) ilişkisi analiz edilebilir; karma yöntem araştırmaları ile konu daha derinlemesine çalışılabilir; merak düzeyi daha farklı ve geniş örneklemler üzerinde çalışılabilir; merakı geliştireceği düşünülen yöntem ve teknikleri içeren deneysel çalışmalar düzenlenebilir ve boylamsal çalışmalarla bireylerde merak gelişimi ve merak konuları araştırılabilir.

**Anahtar kelimeler**: Merak, Keşfetme, Genişleme, Kabullenme, Öğretmen Adayları

  

# SMART BOARD USAGE IN MATHEMATICS INSTRUCTION OF HEARING IMPAIRED YOUTHS

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**ABSTRTACT**
Today, mathematics has unquestionable importance of almost everyone's private and professional life. However mathematics is one of the most challenging courses for students. One of the most important reason for that mathematics is a system of abstract concepts and relationships between these concepts. Due to students are be difficult to concretize abstract concepts and relationships in terms of teachers and students to help create the schema for the subjects taught and will be easy to keep in mind, they need the technology to develop a positive attitude toward mathematics. This case is also important for hearing impaired individuals who follow-up the same learning processes but late according to their hearing peers. In nowadays, one of the options that provides for the elimination of these educational needs are also smart board. Appropriate and effective usage of materials with smart boards in the process of mathematics instruction of the hearing impaired individuals is an advantage in overcoming the mentioned difficulties. In the School for the Handicapped, the only school in Turkey that gives vocational higher education to hearing impaired youths, there are compulsory and elective mathematics courses that help to solve encountered mathematics problems and contribute to the professional development of hearing impaired youths. In this school, courses are analyzed systematically. One of the studies for this purpose is examining the process of effective usage of smart board in the courses of Fundamental Mathematics and Individual Support Mathematics in the Computer Operator 2nd Class Program at 2015-2016 academic year. In this study, the mathematics instruction process with smart board of hearing impaired college students are explained along with examples of classroom practices.

**Key words:** *hearing impaired youth, mathematics education, the School for the Handicapped, usage of smart board*

## INTRODUCTION

Today, mathematics has unquestionable importance of almost everyone's private and professional life. However mathematics is one of the most challenging courses for students. One of the most important reason for that mathematics is a system of abstract concepts and relationships between these concepts (Alakoç 2003; Swanwick et al, 2005). Due to students are be difficult to concretize abstract concepts and relationships in terms of teachers and students to help create the schema for the subjects taught and will be easy to keep in mind, they need the technology to develop a positive attitude toward mathematics.

In nowadays, one of the options that provides for the elimination of these educational needs are also smart board (MEB, 2010; Oğuz et al, 2004). Smart board usage in math classes offers different learning opportunities (sound, pictures, graphics, video ...) (Smith et al, 2005). Smart board usage in math classes gives the opportunity to practice, directs creative thinking when presenting, gives the opportunity to reach more information, saves time, increases the motivation of the students, develops a positive attitude towards mathematics, and also gives students the opportunity to reach recorded lecture of students later (Cooper & Brna, 2002; Glover & Miller, 2001; Hall & Higgins, 2005; Yıldızhan, 2013).

Hearing-impaired children, who are affected from various deficiencies such as linguistic, conceptual, past experience, also have to learn mathematics in order to become successful, effective and independent individuals in the society (Stewart & Kluwin, 2001). Research indicates that hearing impaired individuals can learn mathematics when the appropriate educational environment for them is provided (Kluwin & Moores, 1985; Nunes, 2004; Nunes & Moreno, 2002; Pagliaro, 2006; Swanwick et al, 2005). In the mathematics teaching

process for the hearing impaired, smart boards' usage with appropriate and effective materials is an advantage to overcome mentioned difficulties.

In the School for the Handicapped (SfH) , as can be seen in Picture 1, the only school in Turkey that gives vocational higher education to hearing impaired youths, there are core and elective mathematics courses that help to solve encountered mathematics problems and contribute to the professional development of hearing impaired youths. It is important that the courses are examined, reviewed and organized systematically in the framework of the curriculum.

**Picture 1.** The School for the Handicapped

**STUDY**

The purpose of this study is to examine the process of effective usage of smart board in the courses of Fundamental Mathematics and Individual Support Mathematics in the Computer Operator Training Program 2nd year students at 2015-2016 academic year. For this purpose, the following questions asked:

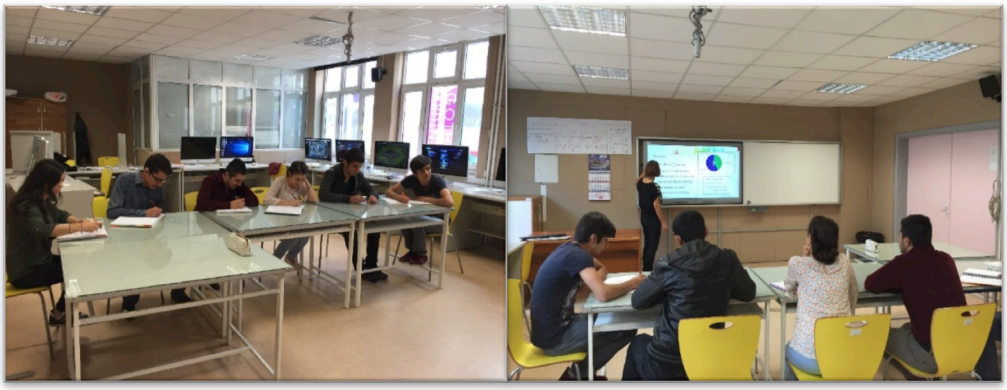
1. How smart board was used in the courses of Fundamental Mathematics and Individual Support Mathematics in the Computer Operator Training Program 2nd year students at 2015-2016 academic year?
2. What were the opinions of the participants about the smart board usage?
    a) students
    b) instructor

As mentioned before SfH is the first and only higher education institute for hearing impaired students in Turkey. It provides education since 1993. Educational programs at the SfH are Graphic Arts Bachelor's Degree Program, Ceramic Arts Bachelor's Degree Program in the Department of Applied Fine Arts; Computer Operator Training Associate Degree Program in the Department of Administrative Vocations; and Architectural Drafting Associate Degree Program in the Department of Architecture. This study was conducted in the courses of Fundamental Mathematics and Individual Support Mathematics in the Computer Operator Training Program 2nd year students

Fundamental Mathematics and Individual Support Mathematics courses are vocational elective courses of 2nd year Computer Operator Training Program. The aim of these courses are help to solve encountered mathematics problems and contribute to the professional development of hearing impaired youths.

This courses was conducted at 2nd class Computer Operator Training Computer Lab (Picture 2). There was a computer for each student and each computer have internet connection. There was a smart board. There are study desks and chairs for each student.



**Picture 2.** Classroom Environment

Second year computer operator training students in the academic year of 2015–2016 spring semester. Of the seven students, five of them were male, and two of them were female. All of the students had bilateral, sensorineural hearing loss. All of them are severe and profound. One of the students use cochlear implant, and the others have ear level hearing aids. The age range of the students was between 22 and 25, with a mean of 23,5. All of them except one is able to verbally communicate, one of them communicating with writing. Mostly verbal communication is used in the course, also sign and writing are used as needed.

The process of the study will be presented by answering the research questions in the findings section.

**FINDINGS**

1. **How smart board was used in the courses of Fundamental Mathematics and Individual Support Mathematics in the Computer Operator Training Program 2nd year students at 2015-2016 academic year?**

Smart board usage in mathematics classes consists of three hierarchic and cyclical stages, and can be seen in Figure 1.

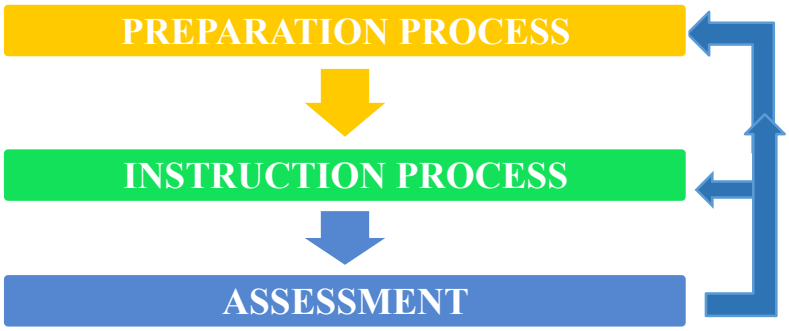



**Figure 1.** The Stage of Smart Board Usage in Mathematics Classes

***Preparation process:***
Each lesson's objectives were identified. Activities and examples were determined accordingly with the purposes of the lesson. PowerPoint presentation was prepared. PowerPoint presentations had the following:

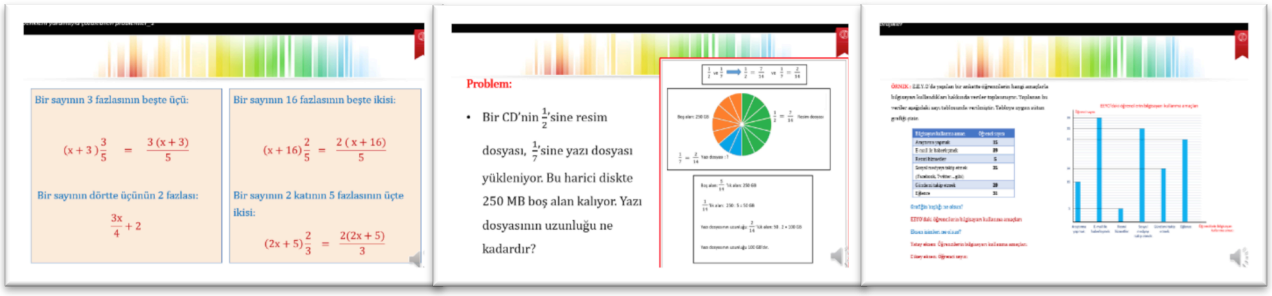
- Samples were written
- Mathematical meaning of the support were supplemented with figure, chart or table
- Each sample solution were written
- Animation and sound were added in the presentation
- Each sample solution was explained

As the following activities Word Document related to the lesson subject were prepared.

I also pay attention to the following for the hearing impaired students:

- Clear and understandable language was used
- Examples were easy, simple, understandable and appropriate for the course objectives
- Examples were selected to help students creating a schema for the subject matter
- Examples were visual and readable.
- Examples had features attract the student's interest and motivation to learn.
- Examples ensured the student participation
- Examples had some clues to think about for the students




**Picture 3.** Examples of Presentations

***Instruction process:***

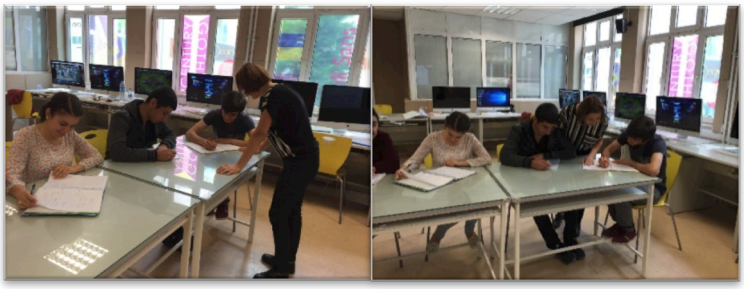
During the course use blackboards and PowerPoint presentations that prepared before by me. I showed and read the each example for each slide. I wanted the students to draw their notebooks what they understood. I drew picture, graph or table of the example at the blackboard step by step with students. Then, I showed the table or graphic in the presentation to students (Colorful and smooth-drawn form). I waited for students to solve and checked their notebooks. When needed, I solved step by step exercises on the board with students. Sometimes I used the laser pointer on the presentation. We chose the color we wanted. When students did not understand or wanted me to repeat the solution I removed the laser pointer and solved it again. Once I completed the solution and ensured that students understood it, I showed them the solution I prepared on the presentation an read it. Students checked if the answer is correct. At the end of the course, I copied a PowerPoint presentation on the smart board for students to be able to save it. I gave a worksheet to the students. In the worksheet, there were similar exercises with the ones they solved in class.

**Picture 4.** Snapshots from Instruction Process

The math book that students use at home was loaded to the smart board at the same time, in pdf format. Students studied examples in this book outside the class. Questions students could not solve were explained on the board. Adobe Reader program was used for this. On the screen, below the question, solutions were written by me. On the screen, below the problems were solved by sometimes using marker pens.

***Evaluation:***
I gave the students study papers, I checked them out the next course or individual mathematics lessons. I gave feedback on the board for common errors. For this I used a PowerPoint presentation again. I gave individual feedback at the desk for individual errors.



**Picture 5.** Evaluation

**2. What were the opinions of the participants about the smart board usage?**

The students opinions were learning mathematics subjects well, transferring mathematics subjects well, doing the opportunity of more exercise, the instructors using smart board usage make the courses more visual and enjoyable

The instructor's opinions were increasing smart board usage in other courses, feeling more competent in the use of technology, using better time about the students learn; therefore providing the opportunity to do more exercise in remaining time, providing the opportunity to re-edit materials according to students

## CONCLUSION

At the end of the study, it was observed that the students improved in motivation, participation in a group, their performances in mathematics, their skills in problem-solving, their skills in using technology, and also smart board usage in other courses. The teacher developed in her skills in preparing lesson plans and activities for using smartboard, using technology, and also motivating the students and create interesting courses by using smartboard.

Although the smart board usage benefits of hearing-impaired students in mathematics education, but noted the most important factor is that instructor know the hearing impaired students well and have expertise in mathematics education.

## RESOURCES

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# SOCIAL SUPPORT PROVIDED TO HIGH SCHOOL STUDENTS WITH VISUAL IMPAIRMENTS BY THEIR SIGHTED CLASSMATES

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**ABSTRACT**
The study presented in this article is intended to investigate the social support provided in high school (Gymnasium and Lyceum) students with visual impairments by their sighted classmates and the forms of that support most commonly met. One hundred eighteen students, aged 13-18, took part in the study. The participants completed a questionnaire of 36 closed type questions, 15 questions for practical support and 21 for emotional support. A five- point Likert Scale with scores ranging from 'never' to 'always' was used to record the answers of the participants. The results yield a list of forms of practical and emotional social support available in high school to individuals with visual impairments, from their classmates, along with their frequency. These results can be used as a tool for the design of high school programs aiming to help sighted students develop sensitivity to the practical and emotional requirements of students with visual impairments, as well as to facilitate the resolution of conflicts between them.

## INTRODUCTION

The needs of young people with disabilities, such as the educational need and the need for social inclusion appear to be common with those of their peers without disabilities, with the only difference that these needs are still to a large extent not met (Groce, 2004). However, it is supported that teenagers with physical disabilities possess a 'secondary place' in their school, as they haven't yet secured their fully social integration in their school community (Doubt & McColl, 2003). High school students with disabilities have still social problems to face at school (McDougall, DeWit, King, Miller, & Killip, 2004).

Students with visual impairments receive or expect to receive social support from individuals in and out of the school, which consists of professionals and teachers, parents, siblings, kin, and friends (Cauce & Srebnik, 1990; Schwarzer & Buchwald, 2004). Social support refers to the type of assistance/help that individuals receive or expect to receive from those who come into contact with them in any way (Papakonstantinou & Papadopoulos, 2010). One of the divisions of social support is into practical and emotional social support (Brough & Pears, 2004; Kahn & Antonucci, 1980; Kef, 2002; Papakonstantinou & Papadopoulos, 2009).

Social support contributes to the successful adaptation to stressful life conditions, such as to a chronically impairment (Reinhardt, 2001), enabling individuals to cope with this situation (Schwarzer & Buchwald, 2004). Social support has been reported to promote psychological well-being, the feeling of happiness (Kef, 2002) and self-esteem (Huurre, Komulainen, & Aro, 1999; Kef, 2002) for adolescents with visual impairments, while it is also indicated that social support in school affects the school performance of adolescents, especially of those at risk of school failure (Richman, Rosenfeld, & Bowen, 1998).

During adolescence, which is a crucial period in a person's life as so many changes take place (Fabes, Carlo, Kupanoff, & Laible, 1999) individuals want to be part of a group and to not to distinguish especially cause of their visual impairment (Kef, 2002). During this period the relationships within the school environment with teachers and peers become increasingly important (Lee, Smith, Perry, & Smylie, 1999). In a study of Bedell et.al. (2013) parents of children, aged 5-17 with disabilities, identified relationships with peers as a source of greatest support for their children.

According to a study of McDougall et al. (2004) the attitudes of the majority (61%) of high school students without disabilities towards their peers with disabilities in Canada range from above neutral to very positive, with 20% holding very positive attitudes and 7% very negative attitudes. In addition, adolescents with visual impairments less often appear to have a lot of friends and dates in comparison to their peers without visual impairments and more often to face difficulties in having friendly relationships (Huurre & Aro, 1998).

Negative relationships of high school students with disabilities with their peers without disabilities appear to be a great barrier to their full inclusion at school (Martin, Jorgensen, & Klein, 1998), leading often students with

  

disabilities to social isolation (Shapiro & Margolis, 1988). The school culture that promotes equality and understanding among students may contribute to a more positive way of thinking towards students with disabilities and to more positive attitudes (McDougall et al., 2004).

## STUDY

The research presented in this article is intended to investigate the social support provided in high school (Gymnasium and Lyceum) to students with visual impairments by their sighted classmates and the forms of that support most commonly met.

### Participants

One hundred eighteen sighted students, aged 13-18 ($M$ = 14.47, $SD$ = 1.65), took part in the study. Seventy four of the participants were gymnasium and 44 were lyceum students.

The classmates with visual impairments were 17 students, aged 13-18 ($M$ = 15.18, $SD$ = 1.81), 11 males and 6 females. Seven were gymnasium students and 10 were lyceum students. Nine out of 17 students were students with blindness or severe visual impairments (using Braille or text-to-speech systems) and 8 were students with low vision (using large-print and/or low-vision aids). All students could move independently without the help of a sighted guide.

### Instruments and Procedures

The participants completed a self-constructed questionnaire regarding the forms and frequency of social support that they provide or are willing to provide to their classmates with visual impairments. The questionnaire consisted of 36 closed type questions, 15 questions for practical support and 21 for emotional support. A five-point Likert Scale with scores ranging from 'never' to 'always' (*0* = not at all, *1* = rarely, *2* = sometimes, *3* = often, *4* = always) was used to record the answers of the participants. The questionnaire was based on the findings of a previous study (Papakonstantinou & Papadopoulos, 2010) regarding the various forms of workplace social support. In Tables 1 and 2 are presented the 36 questions of the questionnaire; each question corresponds to a form of social support.

## RESULTS

The mean of frequency of practical support is equal to 2.51 ($SD$ = .64) and the mean of frequency of emotional support is equal to 2.82 ($SD$ = .73). In Tables 1 and 2 are presented in descending order the forms of social support that sighted students provide to their classmates with visual impairments.

**Table 1.** Forms of practical social support from the most frequent to the least frequent - Mean and standard deviation (SD) regarding the amount/frequency of support.

| | Mean | SD |
|---|---|---|
| Q8 I don't underestimate their visual capacity- I appreciate the limits of what they can do | 3.41 | .96 |
| Q13 I stand up for them when they quarrel with other students, in case they are right. | 3.20 | 1.09 |
| Q14 I show flexibility and understanding in case they delay in completing or can't complete their tasks. | 3.12 | 1.10 |
| Q9 I don't underestimate their visual capacity- I understand from what point they start needing help. | 3.03 | 1.07 |
| Q7 I am willing to take on the own tasks, which they cannot carry out without being resent and angry with them. | 2.80 | 1.17 |
| Q15 I include them in the group activities during school hours. | 2.59 | 1.27 |
| Q5 I read things to them when necessary or when they ask me to. | 2.51 | 1.29 |
| Q3 I help them find things | 2.44 | 1.14 |
| Q2 I keep the class space tidy to avoid several minor injuries | 2.40 | 1.10 |
| Q12 I support students' rights and forward their requests to the Director of the school. | 2.36 | 1.32 |
| Q1 I help them move around – accompany them when necessary. | 2.34 | 1.03 |
| Q6 I understand the limits of their potentials - I delegate to them tasks that they can cope successfully. | 2.24 | 1.42 |

  

| | | |
|---|---|---|
| Q11 I give advice, help and guide them on general matters (not study-related matters). | 2.14 | 1.18 |
| Q10 I give advice, information and assistance on issues related to their professional career and their further education (eg foreign languages, music, etc.). | 1.94 | 1.31 |
| Q4 I help in shopping / purchases for their personal needs during school hours (food, water, etc.). | 1.22 | 1.37 |

**Table 2.** Forms of emotional social support from the most frequent to the least frequent - Mean and standard deviation (SD) regarding the amount/frequency of support.

| | Mean | SD |
|---|---|---|
| Q2 I treat them equally – I help them feel welcome – I try so that don' feel rejected and discriminated on grounds of their visual impairment and to be free of negativity. | 3.56 | .88 |
| Q1 I acknowledge and trust their skills - I do not underestimate them. | 3.49 | .96 |
| Q15 There is mutual respect - I respect and trust them. | 3.37 | .83 |
| Q16 I understand the difficulty they may face in various situations and try not to make them feel awkward when they can't accomplish something | 3.28 | .91 |
| Q9 I commend them for their achievements. | 3.19 | .98 |
| Q10 I recognize their contribution in various group activities | 3.17 | .93 |
| Q13 I show an interest in them – I try to make them feel good. | 3.03 | 1.00 |
| Q6 I do not make him feel awkward - I know how to reach out to them and how to behave | 2.91 | 1.27 |
| Q12 I make them feel that there is someone who cares for them, who understands them, to whom they can rely on whenever they have any kind of problems. | 2.88 | 1.11 |
| Q14 I encourage them and make them feel calm. | 2.85 | 1.08 |
| Q3 I don't have a hostile, ironic and judgmental attitude towards them. | 2.82 | 1.65 |
| Q19 I take part in discussions. I share my opinion with them on various subjects and ask for theirs. | 2.79 | 1.18 |
| Q20 I don't keep distance from them, I don't avoid them – I want to socialize with them and to know them better. | 2.67 | 1.30 |
| Q4 I don't look at them as if they are weird, making them feel awkward. | 2.65 | 1.70 |
| Q11 I provide the incentives for better performance. | 2.63 | 1.18 |
| Q8 I don't make them feel bad, providing overprotection and excessive willingness to help. | 2.53 | 1.41 |
| Q5 I don't regard them with compassion or pity. | 2.53 | 1.64 |
| Q7 I don't make them feel bad, giving them excessive praise. | 2.48 | 1.42 |
| Q18 I'm friendly towards them, I have friendly relationships with them- they are part of my friend circle. | 2.48 | 1.34 |
| Q21 I make sure to introduce them to other classmates. | 2.38 | 1.31 |
| Q17 I invite them to take part to activities outside school. | 1.55 | 1.47 |

## CONCLUSIONS

This study examines the social support provided in high school to students with visual impairments by their sighted classmates and the forms of that support most commonly met. The mean of frequency of practical support is approximately equal to 2.5, which lies between the answers "sometimes" and "often" and the mean of frequency of emotional support is approximately equal to 2.8 which lies closely to the answer "often". Perhaps the participants valued more emotional support than practical or considered various cases of practical support as unnecessary for their classmates with visual impairments.

The findings suggest that the forms of practical social support reported most frequently by the participants are: 1) not underestimating their visual capacity- appreciating the limits of what they can do, 2) standing up for them when they quarrel with other students, in case they are right, and 3) showing flexibility and understanding in case they delay in completing or can't complete their tasks. It emerges that the more generalized are the forms

  

of practical social support the more frequently reported are these forms by the participants. The participants appear to be willing to support their classmates with visual impairments on general practical matters and to show understanding and flexibility to them.

The forms of practical social support reported less frequently by the participants are: 1) helping in shopping / purchases for their personal needs during school hours (food, water, etc.), 2) providing advice, information and assistance on issues related to their professional career and their further education (e.g. foreign languages, music, etc.), and 3) giving advice, help and guidance on general matters (not study-related matters). It emerges that the more specified are the forms of practical social support the less frequently reported are these forms by the participants. The participants may not be aware of the way they could provide support to their classmates in specialized subject matters. This conclusion is consistent with the findings of a previous study (Papadopoulos, Koustriava, Papakonstantinou & Koutsoklenis, 2009), where it is supported that a large part of our society is unaware of the rights and needs of people with visual impairments or misinterpret those.

In addition, the findings suggest that the forms of emotional social support reported most frequently are: 1) treating them equally – helping them feel welcome – trying so that don' feel rejected and discriminated on grounds of their visual impairment, 2) acknowledging and trusting their skills - not underestimating them, and 3) building an environment of mutual trust and respect. The forms of emotional social support reported less frequently are: 1) inviting them to take part to activities outside school, 2) making sure to introduce them to other classmates, and 3) being friendly towards them, having friendly relationships with them- including them to my friend circle. It appears that the participants report more frequently forms of emotional social support that are general, whereas they report less frequently forms of emotional social support that are specified. It emerges that the participants are willing to treat their classmates with visual impairments equally and to create an environment free of discrimination for them. However, the participants appear to be reluctant to have friendly relationships with them. Perhaps more intimate relationships cause to the participants fears and concerns of more responsibilities towards their classmates with visual impairments. The participants seem to want to keep a social distance from their classmates. However, this assumption needs to be further explored in future studies, in order to draw additional and safer conclusions.

The results yield a list of forms of practical and emotional social support available in high school to individuals with visual impairments, from their classmates, along with their frequency. These results can be used as a tool for the design of high school programs aiming to help sighted students develop sensitivity to the practical and emotional requirements of students with visual impairments, as well as to facilitate the resolution of conflicts between them.

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# SOCIAL SUPPORT PROVIDED TO HIGHER EDUCATION STUDENTS WITH VISUAL IMPAIRMENTS BY THEIR SIGHTED FELLOW STUDENTS

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**ABSTRACT**
The research presented in this paper is intended: a) to investigate the social support that higher education students provide or are willing to provide to their fellow students with visual impairments and the forms of support most commonly met, and b) to investigate the impact of social contacts with individuals with visual impairments to the forms and amount/frequency of support that higher education sighed students provide or are willing to provide and c) to investigate the impact of social contacts with fellow students with visual impairments to the forms and amount/frequency of support that higher education sighted students provide or are willing to provide. Three hundred and eighty-three students, aged 18-45, took part in the study. The participants completed a questionnaire of 24 closed type questions, 12 questions for practical support and 12 for emotional support. A five- point Likert Scale with scores ranging from 'not at all' to 'very much' was used to record the answers of the participants. The results showed forms of practical and emotional social support available in higher education to students with visual impairments, from their fellow students, along with their amount/frequency. Moreover, the findings revealed the influence of social contacts with individuals with visual impairments and with fellow students with visual impairments on the forms and amount/frequency of social support provided. These results can highlight the limitations in the current provision of social support to higher education students with visual impairments and the need for an integrated approach for their inclusion in higher education.

## INTRODUCTION

Students with disabilities in higher education appear to be under-represented (Riddell, Tinklin, & Wilson, 2005) although at international level, their number in higher education institutions has increased over the last two decades (Shevlin, Kenny, & Me Neela, 2004). Initiatives have been overtaken to facilitate students' with disabilities participation in higher education (Goode, 2007; Riddell et al., 2005; Shevlin et al., 2004; Tinklin & Hall, 1999). Despite those efforts students with disabilities are still facing barriers to their full inclusion in higher education, such as access to information (Fuller, Bradley, & Healey, 2004), access to buildings (Chard & Couch, 1998; Holloway, 2001) and attitudinal barriers (Ryan & Struhs, 2004; Strnadová, Hájková, & Květoňová, 2015).

Students with visual impairments are also confronting barriers to their participation in higher education (Reed & Curtis, 2012), such as institutional, attitudinal and environmental barriers (Bishop & Rhind, 2011). Most of the difficulties of students with visual impairments are generally related with technical and practical issues (Koutsoklenis, Papadopoulos, Papakonstantinou & Koustriava, 2009). For instance, students with visual impairments face difficulties in obtaining books and handouts in their preferred format (Cole-Hamilton & Vale, 2000) and waste lot of their time on transforming a printed material to other formats (Lewin-Jones & Hodgson, 2004; Reed & Curtis, 2012). The significance of obtaining equipment (Crews & Keil, 2005) and of ensuring timely access to textbooks for students with visual impairment study needs is underlined (Harpur & Loudoun, 2011). Additional difficulties in higher education concern the non-existence of libraries formal policies in regard to students with visual impairments (Harpur & Loudoun, 2011), the traditional way that their examinations are still conducted (Papadopoulos & Goudiras, 2004).

Emphasis is placed upon social barriers of students with visual impairments. Social support refers to the type of assistance that individuals receive or expect to receive from those who come into contact with them in any way (Papakonstantinou & Papadopoulos, 2009; Papakonstantinou & Papadopoulos, 2010). It is supported that the number of close friends that individuals with visual impairments have is negatively correlated with the amount of negative practical and emotional support received by them (Papadopoulos, Papakonstantinou, Koutsoklenis, Koustriava, & Kouderi, 2015). The support received by the significant others, such as parents and universities staff can either be an obstacle or an enabler for students with visual impairments in higher education (Bishop & Rhind, 2011). Parents' support ranges between really helpful to disabling and Universities staff support appears to be sometimes insufficient and characterized by lack of understanding (Bishop & Rhind, 2011). Students with visual impairments state that they have difficulties participating in some campus activities due to the nature of these activities and that they their fellow students may feel hesitant being around them (McBroom, 1997),

  

nervous, or even apprehensive of them (Reed & Curtis, 2012). Tension can be caused by the refusal of students with visual impairments of extra support from the teaching staff, in order to avoid getting more attention to them. Teaching staff understands their need, however supports that this refusal is against their performance in grades (Orsini-Jones, 2009).

Despite the above mentioned, academic achievement of students with visual impairments doesn't appear to be significantly affected by their visual impairment per se (Klinkosz, Sekowski, & Brambring, 2006; Richardson, 2009; Richardson & Roy, 2002). Their graduation rates also appear to be high, as most of them complete their studies (Reed & Curtis, 2012). According to Reed and Curtis (2012) students seem to believe that learning advocacy and organized planning by universities can diminish barriers for their fellow students with visual impairments. After all universities can have an influence on confidence and empowerment of students with disabilities in a way that can make them revise possible negative perceptions of their impairment (Papasotiriou & Windle, 2012).

## STUDY

The present study aims to investigate: a) the social support that higher education students provide or are willing to provide to their fellow students with visual impairments and the forms of support most commonly met, b) the impact of social contacts with individuals with visual impairments to the forms and frequency of support that higher education sighed students provide or are willing to provide and c) the impact of social contacts with fellow students with visual impairments to the forms and frequency of support.

### Participants

Three hundred and eighty-three students, aged 18-45 ($M$ = 22.01, $SD$ = 3.57), took part in the study. The sample consisted of 152 males and 233 females. One hundred and seventy-seven out of the 383 participants stated that they never had any contact with a person with visual impairments, while 85 stated that they just had contact with only 1 person with visual impairments, 56 that had contact with 2, and 23 that had contact with 3. Moreover, 42 participants stated that they had contact with 4 or more individuals with visual impairments. Furthermore, 37 participants stated that they had contacts with persons with visual impairments almost on a daily basis, 36 had at least 1-2 contacts within a week period, 38 had at least 1-2 contacts within a month period, 35 had at least 1-2 contacts within a six-month period, while 60 participants stated that they had 1-2 contacts with persons who have visual impairments within a twelve-month period.

Sixty-six participants stated that fellow students with visual impairments are studying in their Department, 157 that they do not have fellow students with visual impairments and 160 that they are not aware whether in their Department are studying students with visual impairments. Eighteen out of 66 students who were aware that fellow students with visual impairments are studying in their Department stated that they had contacts with fellow students with visual impairments almost on a daily basis, 15 had at least 1-2 contacts within a week period, 12 had at least 1-2 contacts within a month period, 10 had at least 1-2 contacts within a six-month period, while 11 students stated that they had 1-2 contacts with visually impaired fellow students within a twelve-month period.

### Instruments and Procedures

The participants completed a self-constructed questionnaire of 24 closed type questions, 12 questions for practical support and 12 for emotional support. The participants were asked about the practical and emotional social support they provide or are willing to provide to their fellow students with visual impairments as well as the amount/frequency of social support. A five- point Likert Scale with scores ranging from 'not at all' to 'very much' (0 = never, 1 = rarely, 2 = sometimes, 3 = often, 4 = always) was used to record the answers of the participants. The questionnaire was based on the findings of a previous study (Papakonstantinou & Papadopoulos, 2010) regarding the various forms of workplace social support received (or perceived) by working-age adults with visual impairments. The questions of the questionnaire are presented in Table 1 below.

**Table 1.** The social support questionnaire.

| *Practical support* |
|---|
| Q1. I help them move around – accompany them when necessary. |
| Q2. I keep the class space tidy so that they won't bump into things (don't leave things lying around; don't leave cupboard doors open, and so on). |
| Q3. I help them find things |
| Q4. I help in shopping / purchases for their personal needs during their stay in university (food, water, coffee, etc.). |

  

| |
|---|
| Q5. I read things to them when necessary or when they ask me to. |
| Q6. I'm interested in learning more about their visual impairment or in exploring the limits of their visual capacity (what they can see). |
| Q7. I appreciate the limits to what they can do – I don't underestimate or overestimate their visual capacity. |
| Q8. I give advice, help and guidance on study-related matters. |
| Q9. I give advice, help and guidance on general matters (not study-related matters). |
| Q10. I support students' rights and back any claims or applications they may make. |
| Q11. When we work in groups I show flexibility and understanding in matters of leave or in cases where they need to be absent or a little late or when they delay in completing their tasks or cannot complete their tasks. |
| Q12. I show flexibility and understanding in case of delay in some of our appointments. |
| *Emotional support* |
| Q13. I recognize, believe in and use their abilities - I don't underestimate them – I treat them equally. |
| Q14. I don't look at them as if they are weird, regard them with compassion or pity, making them feel awkward. |
| Q15. I don't feel awkward around them – I know how to approach them and how to treat them. |
| Q16. I don't make them feel bad, giving them excessive praise or providing overprotection and excessive willingness to help. |
| Q17. I provide the incentives for cooperation. |
| Q18. They feel there is someone who cares, who understands them, to whom they can rely on whenever they have problems. |
| Q19. I show an interest in them – I try to make them feel good. |
| Q20. I understand the difficulty they may face in various situations and try not to make them feel awkward when they can't accomplish something - I encourage them and make them feel calm. |
| Q21. I invite them to activities and trips outside the university. |
| Q22. I'm friendly towards them; I have friendly relationships with my fellow students. |
| Q23. I take part in discussions. I share my opinion with them on various subjects and ask for theirs. |
| Q24. I don't keep distance from them, I don't avoid them – I want to socialize with them and to know them better. |

**RESULTS**

The overall mean of the amount/frequency of social support is equal to 2.12 (*SD* = .639) which is slightly higher from the value "2" that corresponds to the answer 'sometimes'. The mean of the amount/frequency of practical support and emotional support is equal to 2.10 (*SD* = .676) and 2.14 (*SD* = .667), respectively. In Table 2 are presented in descending order the forms of social support that students provide or are willing to provide to their fellow students with visual impairments.

**Table 2.** Forms of social support from the most frequent to the least frequent - Minimum, maximum, mean and standard deviation (SD) regarding the amount/frequency of support.

| | Minimum | Maximum | Mean | SD |
|---|---|---|---|---|
| Q13 | 0 | 4 | 2.52 | .95 |
| Q14 | 0 | 4 | 2.48 | 1.11 |
| Q7 | 0 | 4 | 2.36 | 1.02 |
| Q5 | 0 | 4 | 2.34 | .99 |
| Q24 | 0 | 4 | 2.28 | .90 |
| Q23 | 0 | 4 | 2.23 | .88 |
| Q20 | 0 | 4 | 2.17 | .84 |
| Q12 | 0 | 4 | 2.16 | 1.01 |
| Q1 | 0 | 4 | 2.16 | .93 |
| Q11 | 0 | 4 | 2.14 | .98 |
| Q10 | 0 | 4 | 2.13 | 1.06 |
| Q8 | 0 | 4 | 2.13 | .95 |

  

| | | | | |
|---|---|---|---|---|
| Q22 | 0 | 4 | 2.11 | .85 |
| Q3 | 0 | 4 | 2.11 | .93 |
| Q19 | 0 | 4 | 2.09 | .87 |
| Q15 | 0 | 4 | 2.07 | 1.06 |
| Q16 | 0 | 4 | 2.04 | .96 |
| Q2 | 0 | 4 | 2.03 | .92 |
| Q9 | 0 | 4 | 1.96 | .99 |
| Q18 | 0 | 4 | 1.94 | .90 |
| Q17 | 0 | 4 | 1.88 | .86 |
| Q6 | 0 | 4 | 1.85 | 1.05 |
| Q21 | 0 | 4 | 1.81 | .97 |
| Q4 | 0 | 4 | 1.80 | .97 |

Moreover, a correlation analysis was implemented in order to examine the effect of social contacts with visually impaired individuals as well as social contacts with fellow students with visual impairments to the forms and frequency of support that higher education sighed students provide or are willing to provide. Table 3 presents the Pearson (r) correlation coefficients between the amount/frequency of each form of support and the variables: contact frequency with fellow students with visual impairments, contact frequency with individuals with visual impairments and the number of individuals with visual impairments with whom they had contact.

Significant correlations were found between contact frequency with fellow students with visual impairments and amount/frequency of support measured by the questions Q10 ($r$ = .101, $p$ < .05), Q17 ($r$ = .102, $p$ < .05), and Q19 ($r$ = .132, $p$ < .01). Moreover, significant correlations were found between contact frequency with individuals with visual impairments and amount/frequency of support measured by the questions Q19 ($r$ = .101, $p$ < .05), and Q23 ($r$ = .101, $p$ < .05). Furthermore, significant correlations was found between the number of individuals with visual impairments with whom they had contact and amount/frequency of support measured by the question Q22 ($r$ = .101, $p$ < .05).

**Table 3.** Correlation coefficients between amount/frequency of support and frequency of contacts with visually impaired (VI) individuals, frequency of contacts with fellow students with visual impairments, and number of individuals with visual impairments with whom they had contact.

| | frequency of contacts with (VI) fellow students | frequency of contacts with (VI) individuals | Number of (VI) individuals in contact with |
|---|---|---|---|
| Q1 | -.007 | -.005 | -.058 |
| Q2 | .016 | .046 | .017 |
| Q3 | .020 | .030 | -.075 |
| Q4 | -.011 | -.013 | -.091 |
| Q5 | .030 | .030 | -.013 |
| Q6 | .026 | .083 | .044 |
| Q7 | .002 | .055 | .042 |
| Q8 | .023 | .058 | .036 |
| Q9 | .061 | .075 | .013 |
| Q10 | **.101*** | .050 | .004 |
| Q11 | .064 | -.047 | -.009 |
| Q12 | -.013 | -.034 | -.004 |
| Q13 | -.052 | .018 | .068 |
| Q14 | -.076 | -.013 | .038 |
| Q15 | -.037 | .073 | .072 |
| Q16 | -.053 | -.052 | .042 |
| Q17 | **.102*** | .072 | .024 |
| Q18 | .095 | .093 | .066 |

  

| | | | |
|---|---|---|---|
| Q19 | **.132**** | **.101*** | .028 |
| Q20 | .068 | .033 | -.067 |
| Q21 | .005 | .002 | -.059 |
| Q22 | .072 | .054 | **.101*** |
| Q23 | .002 | **.101*** | .067 |
| Q24 | .027 | .005 | .011 |

** p < .01, * p < .05

**CONCLUSIONS**

The present study examined the most frequent forms of social support that higher education students provide/ are willing to provide to their fellow students with visual impairments. Moreover, this study examined the impact of social contacts (inside and outside of the university) with individuals with visual impairments on these forms.

The findings of present study suggest that the forms of social support reported most frequently by the participants are as follows: 1) recognizing, believing in and using students' with visual impairments abilities, not underestimating them and treating them equally (emotional support), 2) not looking at them as if they are weird, not regarding them with compassion or pity and making them feel awkward (emotional support), 3) appreciating the limits to what they can do, not underestimating or overestimating their visual capacity (practical support), 4) reading things to them (practical support), 5) not keeping distance from them, not avoiding them – wanting to socialize with them and to know them better (emotional support), and 6) taking part in discussions, sharing opinions with them on various subjects and asking for theirs (emotional support).

In addition, among the most frequently reported forms the forms of emotional social support appear to be more numerous than the forms of practical social support. Perhaps the participants valued more emotional support than practical or considered various cases of practical support as unnecessary for their fellow students with visual impairments. We should consider that among the participants are included persons that have never had social contacts with individuals with visual impairments inside or outside the University.

The forms of practical and emotional support reported above should be considered in the context of higher education. Access to information is one of the greatest obstacles that individuals with disabilities have to confront (Tinklin & Hall, 1999). That might be the reason why sighted students pay particular attention to the above mentioned forms of practical support: a) appreciating the limits of what their fellow students with visual impairments can and can't do; not underestimating or overestimating their visual capacity, and b) reading things to them. Equally important to practical barriers for students with visual impairments in higher education are attitudinal barriers (Bishop & Rhind, 2011). Students with visual impairments in higher education highlight their wish to not be labeled cause of their visual impairment and to be treated '*as individuals in their own right*' (Bishop & Rhind, 2011). That is probable why sighted students pay attention to the above mentioned forms of emotional social support: a) recognizing, believing in and using students' with visual impairments abilities, not underestimating them and treating them equally, and b) not looking at them as if they are weird, not regarding them with compassion or pity and making them feel awkward. Moreover, students with visual impairments in higher education underline the importance of making friends (McBroom, 1997). That might be the reason why sighted students pay attention to two of the most frequently reported forms of emotional support: a) not keeping distance from them, wanting to socialize with them and to know them better, and b) taking part in discussions and sharing opinions with them on various subjects.

The findings revealed the influence of social contacts with individuals with visual impairments and with fellow students with visual impairments on the forms and amount/frequency of social support provided. The participants who had contacts with their fellow students with visual impairments appear to: a) Support or be willing to support students' rights and back any claims or applications they may make, b) provide or be willing to provide the incentives for cooperation, and c) show or be willing to show an interest in them and try to make them feel good. These findings are consistent with the findings of a study of McDougall, DeWit, King, Miller, and Killip (2004), according to which the relationships between high school students with and without disabilities tend to be more positive when students without disabilities have contacts with peers with disabilities in comparison to the relationships when they don' have such contact, maybe due to the greater sensitivity that they may develop towards their peers.

Moreover, classmates is recognized as the initial social group for students with visual impairments in higher education, where is primary cultivated the sense of belonging and acceptance for them (Hodges & Keller, 1999). The barriers that students with visual impairments face are seen by their sighted fellow students and this probable

  

raises sighted students' awareness, which is expressed by their willingness to advocate their fellow students with visual impairments and by their effort to integrate them in the life at the university. The reluctance, the hostility and nervousness that according to studies (McBroom, 1997; Reed & Curtis, 2012) sighted students in higher education may feel towards students with visual impairments, seem to be influenced in case of contacts between sighted students and fellow students with visual impairments.

The participants who had contacts with individuals with visual impairments appear also to: a) show or be willing to show an interest in them and try to make them feel good, and b) to have or be willing to have a discussion with them and to exchange opinions on various subjects. In addition, the number of individuals with visual impairments that the participants had/have contact with appears to have an effect on the friendly relationships that they keep with their fellow students with visual impairments. In particularly, the greater number of individuals with visual impairments that sighted students have contacts with is positively correlated with their greater willingness to be friends with them. This finding is consistent with a previous study (Papadopoulos et al., 2015), where is supported that the number of close friends that individuals with visual impairments have is negatively correlated with the amount of negative social support received by them.

The findings of this study raise additional matters related to the social integration of students with visual impairments in higher education. Further research is needed on the factors that might facilitate the social interaction of sighted students and students with visual impairments, as social interaction appears to be the key element to their social integration. Further research on the social contacts of sighted students with persons with visual impairments is also required in order to be able to draw safe conclusions on how the forms and the frequency of social support are affected by these contacts.

These results can highlight the limitations in the current provision of social support to higher education students with visual impairments and the need for an integrated approach for their inclusion in higher education. The list of forms of social support most frequently met can also be used as an educational material on informative seminars for students in tertiary education regarding the practical and emotional needs of their fellow students with visual impairments.

A mentoring program for both sighted students and students with visual impairments within higher education to promote the academic success of students with visual impairments and their full integration in the University can be developed based on the present study findings. Moreover, the findings may be useful for university students' advisors to support the transition of young adults with visual impairments from high school to higher education and their social interaction with sighted students on campus.

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# SOSYAL AĞLAR VE BİLGİ HİZMETLERİ: KULLANICI OLARAK AĞ KUŞAĞININ BEKLENTİLERİ

# SOCİAL NETWORKS AND THE INFORMATİON SERVİCES: USER EXPECTATİONS OF THE NET GENERATİON

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## ÖZ

Teknolojiyi yaşamlarının doğal bir parçası gibi kullanan ağ kuşağı üyeleri birçok alanı etkilediği gibi bilgi hizmetleri alanını da etkilemektedirler. Genç nüfusun yoğunlukta olduğu ülkemizde büyük bir kullanıcı grubunu oluşturan ağ kuşağı üyelerinin özellikleri saptanarak onlara daha verimli bilgi hizmetleri sunulması gerekmektedir. Bu çalışmanın amacı ağ kuşağının kütüphane ve bilgi hizmetlerinden beklentilerini belirlemektir. Bu bakımdan ağ kuşağının sosyal medyayı kurumsal bağlamda kullanımı, Web 2.0 araçlarına duydukları güven, sahip oldukları teknolojik araçlar ve araştırmalarında tercih ettikleri kaynaklar incelenmiştir. Araştırmada betimleme yöntemi kullanılmış, veriler anket ve görüşme yoluyla toplanmıştır. Facebook profil bilgisinde okulu Hacettepe Üniversitesi olarak geçen 18-35 yaş aralığındaki 250 katılımcıya anket uygulanmış, aynı ölçütlere uyan 24 katılımcı ile de yarı yapılandırılmış görüşmeler yapılmıştır. Katılımcıların büyük bir çoğunluğu (%94) en sık kullandıkları Facebook, Twitter vb. gibi sosyal medya araçları ile bilgi hizmetlerinin daha etkin sunulabileceğini düşünmekte, sosyal ağların bir politika dâhilinde kütüphanelerde kullanılmasını desteklemekte (%89) ve Web 2.0 araçlarına güven duymaktadırlar. Internet'i Web 2.0 araçlarına erişim için kullanan kullanıcılar kütüphane web sitelerini daha seyrek kullanmaktadırlar. Sosyal medya araçlarını yoğun olarak kullanan katılımcıların çok azı içeriğe katkı sağlamaktadırlar. Bu çalışma ülkemizde ağ kuşağının bilgi hizmetlerinden beklentilerine yönelik olarak yapılan ampirik verilere dayalı ilk araştırmadır. Araştırmanın bulgularına dayanarak ortaya çıkarılan dijital yerli profili göz önünde bulundurarak üniversite kütüphane hizmetlerinin yeniden planlanması önerilmektedir.

**Anahtar Kelimler:** Sosyal ağlar, ağ kuşağı, bilgi hizmetleri, kullanıcı beklentileri.

## GİRİŞ

Sosyal medya, üretici-tüketici (prosumer) olarak son kullanıcıyı sürecin içerisine dâhil eden, iki yönlü iletişime imkân veren araçlar bütününü temsil eden şemsiye bir kavramdır. Bu kavram altında sosyal medya araçları, sahip olduğu fonksiyon ve kullanım amacına göre isimlendirilmekte ve sınıflandırılmaktadır. Bunlar; bloglar, mikro bloglar fotoğraf/video paylaşım araçları, sosyal imleme araçları ile Facebook ve MySpace gibi sosyal ağlar olarak isimlendirilmektedir (Poynter, 2012, s. 212; Kaplan ve Haenlein, 2011, s. 112). Diğer yandan sosyal medya; yeni iş biçimlerini, sosyal yapıları ve teknoloji sunumlarını teşvik etmek için insanlar, içerik ve veri arasındaki verimli etkileşimi kolaylaştıran teknoloji ve uygulamalar düzeni olarak tanımlanmaktadır (Adıgüzel, 2012, s. 5). Yapı açısından incelendiğinde sosyal medya araçlarının Web 2.0 teknolojileri üzerine kurulu olduğunu söylemek mümkündür. Web 2.0 teknolojilerini kullanan en iyi sosyal ağlardan biri olan Facebook, e-posta gönderme, anında mesajlaşma (IM), fotoğraf, müzik ve video paylaşma hizmetlerinin yanı sıra çeşitli kategorilerde 75.000'den fazla uygulamaya erişim sunar. Kullanıcılar Facebook'dan ayrılmadan Amazon'dan alış veriş yapabilmekte, OCLC'nin WorldCat kataloğunu tarayabilmekte, kullandıkları diğer sosyal ağlar (örneğin, LinkedIn) ve paylaşım siteleriyle bağlantı kurabilmektedir (Tonta, 2009, s. 748).

## SOSYAL AĞLAR

Gerçek dünyadaki Sosyal ağlar; bireyler arasındaki rastlantısal tanışmalardan ailevi bağlara kadar uzanan ilişkilerin haritası olarak tanımlanırken (Barnes, 1969) araştırmanın konusunu oluşturan çevrimiçi sosyal ağlar ise "bireylerin sınırlı bir sistem içerisinde açık ya da yarı açık profil oluşturmalarına izin veren; bağlantıyı paylaştığı diğer kişilerin listesini ve sistem içinde bu kişilerin bağlantılı olduğu kişilerin listesini gösteren web

tabanlı hizmetler" olarak tanımlanmaktadır (boyd ve Ellison, 2007, s. 211). MySpace ve Facebook gibi uygulamalar artan sosyal ağların gündelik hayatta yaygın olarak kullanılmasını sağlamıştır. Kullanım alanı genişleyen sosyal ağlara yönelik çeşitli araştırmalar yapılmış ve bu araştırmaların sonunda çeşitli kuramlar geliştirilmiştir. Bu kuramların çoğu fiziksel dünyadaki ilişkiler üzerine yapılan çalışmalar sonucunda geliştirilmiştir. Bu bakımdan ele alındığında Milgram, bireyler arasında oluşan ağlarla ilgili çalışmasında "küçük dünya" (small world) kuramını geliştirmiş ve bir kişinin hiç tanımadığı birisine en fazla 5 kişiyi kullanarak ulaşabileceğini göstermiştir[2] (Milgram, 1967). Internet'in, bireylere kendini ifade etme, duygu ve düşüncelerini dünya çapında yayma, iş bulma, işbirliği yapma ve sosyalleşme fırsatı veren yapısı Milgram'ın gerçek kişi ve mekânlar üzerinde mektuplar aracılığı ile yürüttüğü bu çalışmasında geliştirdiği kuramına olumlu katkı sağlamıştır (Castells, 2003; Castells, 2005; Tekinalp ve Uzun, 2009). Diğer yandan bu avantajlarıyla Internet, sosyal ağların düşük maliyetle, fiziksel mekân kavramını ortadan kaldırarak, kitle iletişiminin hızlı yayılmasına imkân sunmuştur. Diğer bir deyişle sosyal ağlar ve benzeri yapıları destekleyerek; bireylerin web ortamında iletişim ağları kurmasına olanak sağlayarak ortak ilgileri, amaçları ve hedefleri olan, coğrafi ya da kurumsal sınırların dışında kişisel ve profesyonel ilişkiler geliştirebilmelerini sağlayan web tabanlı grupların oluşmasına altyapı oluşturmuştur (Durmuş ve diğerleri, 2010, s. 21).

Çevrimiçi sosyal ağların popülerlerinden biri olan Facebook üzerine yapılan birçok çalışma bulunmaktadır. Bu çalışmaların çoğunda Facebook'u daha çok genç neslin mevcut arkadaşlarla iletişimi sürdürmek için kullanıldığı görülürken, bu kullanıcı türünün aynı anda birden fazla işi yapabildiklerine (multitasking) vurgu yapılmaktadır (Hill, 2010; Wallis, 2006). Çevrimiçi sosyal ağ siteleri üzerine (Bebo, Facebook, Friendster, MySpace, Orkut ve Xanga) farkındalık düzeyleri, bu sitelerin kullanımları incelenmiş, Facebook'un sosyal ağ sitesi özelliklerine ek olarak bir iletişim platformu amacıyla da kullanıldığı görülmüştür. Ayrıca, sanılanın aksine, çevrimiçi etkileşimlerin bireylerin çevrimdışı ortamlardan ayrılmalarına, yani onların asosyal bir hal almalarına neden olmadığı da gözlenmiştir. Bu açıdan değerlendirildiğinde sosyal ağların, bireylerin ilişkilerini desteklemeye yardımcı olduğu ve gündelik yaşamda yapılan rutin işlere yönelik etkide bulunsalar bile kullanıcıların birbirleriyle olan bağlantılarının sürdürülmesine olumlu katkıda bulundukları söylenebilir (Ellison, Steinfield ve Lampe, 2007, s. 1116).

Ellison, Steinfield ve Lampe, 286 lisans öğrencisinin katıldığı ankette Facebook kullanımı ile toplumsal sermayenin sürdürülmesi ve oluşturulması arasında pozitif bir ilişki olduğu sonucuna ulaşmıştır; buna göre Facebook'un öğrencilerin toplumsal sermaye oluşturma ve sürdürme süreçlerinde önemli bir rolü vardır. Bulgular Facebook kullanımı ile toplumsal sermaye göstergeleri arasında, özellikle de köprü kurucu toplumsal sermaye arasında, derin bir ilişki olduğuna işaret etmektedir. Bu ilişki gençlerin üniversiteden mezun olduktan sonra birbirleriyle olan iletişimlerini sürdürmelerine yardımcı olurken, bu tür bağlantıların iş, staj ve diğer olanaklar açısından da fayda sağladığını gözlemlemişlerdir; örneklemde ankete katılan öğrencilerin yüzde 94'ü Facebook kullanıcısıyken, kullanıcıların Facebook'ta geçirdikleri zaman günde 10 dakika ile 30 dakika arasında değişmektedir. Profillerindeki arkadaş sayıları 150-200 arasındadır (Ellison, Steinfield ve Lampe, 2007).

## AĞ KUŞAĞI, DİJİTAL YERLİLER

Dijital yerliler ve dijital göçmenler, öncelikli olarak doğum tarihlerine göre sınıflandırılmaktadırlar (Dingli ve Seychell, 2015). Prenskye göre dijital yerliler bilgisayarların, Internet'in ve video oyunlarının dilini kendi anadilleri gibi kullanabilen bir nesildir. Onların teknolojiye olan uyumu üzerinde yaşın çok büyük bir etkisi vardır (Prensky, 2001). Tapscott ise yaştan daha çok kişilerin teknolojiye erişim düzeyi ile teknolojiyi kullanım seviyelerinin daha etkili olduğunu düşünmektedir (Tapscott, ,1998). Helsper ve Enyon bu tartışmayı bir düzey daha öteye götürerek dijital yerlileri sınıflandırırken; yaş, deneyim ve teknoloji kullanımının kapsamı aşamalarının aynı anda göz önünde bulundurulması gerektiğini vurgulamaktadır (Helsper ve Enyon, 2009). Dijital yerlilerin tanımlanmasında temel ölçüt olarak yaş kullanılsa da sınıflandırmada dijital yerlilik seviyesinin tespit edilmesinde dijital yerlilerin dijital göçmenlerden ayrılmasına dönük çabalarda yetersiz kaldığını söylemek mümkündür. Bu kısıtlılığın önüne geçmek için kullanıcıların deneyimi ile teknolojiyi gündelik yaşamlarında ne kadar kullandıkları da incelenmektedir (Helsper ve Enyon, 2009; Dingli ve Seychell, 2015).

Amerika'da EDUCAUSE, Centre for Applied Research (ECAR) ve Pew Internet gibi oluşumların önünü çektiği araştırmalar, İngiltere'de Joint Information Systems Committee (JISC), British Educational Committee and Technology Agency (BECTA) ile Oxford Internet Institute ağ kuşağının bu tür genel özelliklerini ortaya koymaya yönelik ampirik veriye dayalı çalışmalar yürütmüşlerdir. Bu çalışmalarda ulaşılan sonuçların geneli

[2] Bu kuram ilk sosyal ağ sitesinin (sixdegrees.com) adına da esin kaynağı oluşturmuştur.

karşılaştırmaya olanak vermekle birlikte gençlerin genel bir tanımla birleştirilebilecek ortak özelliklerinin olmadığına dikkat çekmektedir. Çalışmaların hemen hemen hepsinde gençlerin teknolojiye kolaylıkla adapte olabilen yapısına dikkat çekilirken, kullandıkları teknolojiyi hem sosyal hem de öğrenme ortamlarına adapte ederken çok seçici davrandıklarına vurgu yapılmaktadır. 2009 ECAR araştırmasında, öğrencilerin teknoloji sahipliğine ve teknolojiye erişim olanaklarına odaklanılmış ve on bin öğrencinin %98'inin kendine ait bir bilgisayarının olduğu (bunların %83'ü dizüstü bilgisayar) görülmüştür. Öğrencilerin %90'ı her gün kısa mesaj atarken aynı zamanda sosyal ağ sitelerine (Facebook vb.) girdiğini belirtmiştir (Smith, Salaway, Caruso ve Katz, 2009). İngiltere'de yürütülen araştırmada Jones, Ramanau, Cross ve Healing (2010), öğrencilerin mobil telefon sahiplik oranını %98,7 olarak rapor etmiştir. Czerniewicz ve Brown, Güney Afrika'daki öğrencilerin teknolojiye erişim eşitliğini inceledikleri çalışmalarında öğrencilerin %22'sinin kampüs dışında bilgisayar erişiminin olmadığını gözlemlemiştir. Yapılan çalışmalarda her ne kadar mobil telefon sahiplik oranının çok yüksek olduğu görülse de (%98,5) bunun sosyo-ekonomik yapı ile doğrudan ilişkisinin olmadığı görülmektedir. Teknoloji sahiplik oranının yüksek olduğu gençler için gündelik yaşam içerisinde de çevrimiçi bilgi erişim oldukça önemli bir faaliyet olarak göze çarpmaktadır. Pew Internet araştırmaları 18-29 yaşları arasındaki gençlerin %55'inin her gün arama motorlarını kullandıklarını ölçümlemiştir (Fallows, 2008). Sonuç 2009 yılında ECAR tarafından yürütülen çalışma sonuçlarıyla (%80) da benzerlik göstermektedir (Smith ve diğerleri, 2009). Sosyal ağların dışında blog, wiki, dosya paylaşım vb. gibi diğer sosyal medya araçlarının kavranmasında (uptake) daha yavaş bir eğilim olduğu gözlenmiştir (Kennedy ve diğerleri, 2007; Jones ve diğerleri, 2010). Bu teknolojilerin öğrenciler tarafından kullanımı kuşkusuz artış gösterecektir. Aynı zamanda öğrencilerin öğrenme yönetim sistemlerine uyum sağlamaları ayrı bir araştırma sorusu olarak incelenmiş, öğrencilerin bu tür teknolojilere uyum sağlamasında eğitimcinin çok kritik bir rol üstlendiğinin altı çizilmiştir.

Teknoloji kullanımı ve teknolojiye uyum sağlanmasında; yaş, cinsiyet, disiplin ve sosyo-ekonomik yapı vb. gibi demografik özelliklerin de önemli bir etkisinin olduğu görülmektedir. Teknoloji kullanımının erken yaşlarda daha yoğun bir şekilde yapıldığı, diğer bir deyişle yaş ile teknolojinin etkin kullanımı arasında ters bir orantının olduğunu söylemek mümkündür (Smith ve diğerleri, 2009; Kennedy ve Judd, 2011, s. 122). Erkek öğrencilerin kadın öğrencilere oranla daha yoğun teknoloji kullanıcısı oldukları ve yine erkek öğrencilerin kendilerini teknolojiye çabuk adapte olan kullanıcı grubu içerisinde tanımladıkları rapor edilmektedir. Teknoloji kullanımı ile disiplin arasında da farklılıkların bulunduğu, mühendislik öğrencileri mükemmele yakın teknoloji kullanımı sergilerken, eğitim bilimleri öğrencilerinin teknoloji kullanım seviyesinin oldukça düşük olduğu da bu bağlamda yapılan testler arasında gösterilmektedir (Smith ve diğerleri, 2009).

Sosyal ağların sadık birer kullanıcısı olan ağ kuşağı, diğer bir deyişle dijital yerliler aynı zamanda bilgi sistemlerinin de doğal kullanıcı grubunu oluşturmaktadır. Bu açıdan bakıldığında ağ kuşağının bilgi arama davranışları, bilgi sistemlerinin kullanımı, arayüz tercihi, format tercihi vb. konulardaki tercihleriyle Kütüphanecilik ve Bilgibilim'in çalışma alanına giren konularda da araştırmalara konu oldukları görülmektedir. Bu bakımdan yapılan çalışmaları incelediğimizde; ağ kuşağının, bilgi ararken öncelikli olarak arama motorlarını tercih ettikleri (Gaston, 2006; Robinson, 2008, s. 5), arama motorlarının ardından elektronik kaynakları, eğer başka hiçbir seçenekleri kalmadıysa kütüphane web sitesini kullandıkları tespit edilmiştir. Bu oran, kütüphanelerin fiziksel kullanımının çok yüksek olduğu topluluklarda bile kütüphane web sitesine yapılan ziyaretler açısından aynı düzeyde değildir (De Rosa ve diğerleri, 2005, s. 1-2).

Hizmet alan tarafta bulunan kullanıcı kitlesi olarak ağ kuşağı kontrolün kendilerinde olmasını isteyen bir beklenti içerisindeyken, Onlar için kütüphane ile dizüstü bilgisayar arasında hiçbir fark bulunmamaktadır. Belirli çalışma saatlerine bağlı bir kurumda araştırma yapmak yerine hareket esnekliği sağlayan bir yapıyı tercih eden yapılarıyla da geleneksel çalışma kültüründeki mesai saati yaklaşımına yönelik bir meydan okuma getirmektedirler (Gardner ve Eng, 2005, s. 410). Bu meydan okuma ağ kuşağına hizmet vermek için mesai saatlerinin dışında da ulaşılabilir bir yapı kurulması gerektiğine dair açık bir mesaj niteliğindedir.

Ağ kuşağı herhangi bir karar alma sürecinde kendi akranlarına (peer) kendi ebeveynlerine ya da öğretmenlerine kütüphanecilerden daha çok güvenmektedir. Bunun nedeni akranlarına daha kolay ulaşmalarıdır (Gardner ve Eng, 2005, s. 413). Ağ kuşağı daha yüksek akademik beklenti içerisindedir. Teknolojide ve araştırmada daha kişiselleştirilebilir bir yapı arzulayan bu nesil, eğitimde teknoloji ile entegrasyonun sağlanmasını ve yeni iletişim kanallarının kullanılmasını beklemektedir (Gardner ve Eng, 2005, s. 416). Bu beklentilerin kütüphane web sitesi ve çevrimiçi katalog sayfası için daha kişiselleştirilebilir bir yapı geliştirilmesi için tetikleyici bir etken olarak düşünülebileceği gibi kütüphanelerin sunduğu bütün hizmetlere yönelik beklentileri de şekillendiren bir talep olarak okuması gerektiği aşikardır.

## TÜRKİYE'DEKİ ÇALIŞMALAR

Türkiye'de sosyal medya kullanımı dünya ortalamasının çok üzerindedir. Türkiye'de bilgisayar ve Internet kullanım oranları 2015 yılı Nisan ayında yapılan bir çalışmaya göre 16-74 yaş grubundaki bireylerde sırasıyla %55 ve %56 olarak ölçülmüşken bu oranlar erkeklerde %64 ve %66 iken, kadınlarda her iki kullanım oranı için %46 olarak rapor edilmiştir. Internet kullanım açısından bakıldığında ise yılının ilk üç ayında internet kullanan bireylerin %81'i sosyal medya üzerinde profil oluşturma, mesaj gönderme veya fotoğraf vb. içerik paylaşırken, bunu online haber, gazete ya da dergi okuma %70 ve %66 ile sağlıkla ilgili bilgi arama, %62 ile kendi oluşturduğu metin, görüntü, fotoğraf, video, müzik vb. içerikleri herhangi bir web sitesine paylaşmak üzere yükleme, %60 ile mal ve hizmetler hakkında bilgi arama olarak şekillendiği görülmüştür.[3]

Sosyal ağların kullanımı, ülkemizde ağırlıklı olarak işletme literatüründe incelenmiştir. Bu bakımdan insanların kişilik özellikleri ile sosyal ağlarda gizlilik ve güven kavramlarına yaklaşımları öncelikli olarak incelenen konular arasında yerini almıştır. Kullanıcıların %22'sinin kişisel bilgilerini sanal ortamda açık tuttukları görülmüştür (Durmuş ve diğerleri, 2010, s. 183). Yine kullanım nedenleri bakımından sosyal ağların siyasal ve toplumsal hareketler tarafından örgütlenme amacıyla kullanıldığı gözlenmiştir (Toprak ve diğerleri, 2009, s. 263). Bireyler için de gündelik hayatta vakit geçirmek, eski veya yeni arkadaşlarla iletişime geçmek, sanal ortamda gerçek hayatta sahip olunamayan kimlikleri oluşturmak anlamına gelen sosyal medya kullanımı, profesyonel iş yaşamında ise hedef kitleye erişmek, amacıyla da kullanılmaktadır (Toprak ve diğerleri, 2009, s. 292).

Sosyal ağlar ya da sosyal medya müşteri, tüketici, üre/tüketici (prosumer) (Rifkin, 2014) kitleye ulaşmada kullanılabilecek güçlü bir araç olarak görülmektedir. "Her yenilik sadece kendi ortamında değil, etkileşimde bulunduğu her alanda devinime neden olmaktadır" savından yola çıkarak, sosyal medyanın işbirliğine (collaboration) olanak veren yapısının pazarlama ve halkla ilişkiler alanında da kendi devinimini oluşturduğunu söylemek mümkündür (Peltekoğlu, 2012, s. 4). Bu kuramı merkezine alan çalışmalar, ağ kuşağının tüketim alışkanlıkları üzerine çok büyük etki eden sosyal medya araçlarını kullanarak doğrudan pazarlama tekniklerinin etkileşimli yöntemlerle birleştirilmesinin mümkün olduğu noktasında birleşmektedirler. Sosyal medyanın oluşturduğu devinimden etkilenen alanlardan bir diğeri de halkla ilişkiler yaklaşımıdır. Bu devinimin halkla ilişkilere yansıması ise sosyal medyanın kurumsal kimlik ve kültürel değerlere sadık kalınarak kullanıcılarda güven algısı oluşturacak şekilde kullanılması şeklinde özetlenebilir (Özgen, 2012, s. 19).

Kütüphanecilik ve Bilgibilim açısından baktığımızda ise ülkemizdeki gençlerin Internet kullanım becerileri ile Web 2.0 araçları kullanım becerileri arasında benzerlik bulunduğu gözlenmiştir (Uçak ve Çakmak, 2010, s. 51). Öğrencilerin Web 2.0 araçlarının eğitim amacıyla kullanılmasını önemli olarak nitelendirdikleri görülürken Web 2.0 araçlarının mesleki amaçlarla nasıl kullanılacağı konusunda ise bilgi sahibi olmadıkları diğer bir deyişle eğitim amaçlı olarak daha etkileşimli araçlar kullanılmasını isteyen öğrencilerin aynı araçların mesleki amaçlarla nasıl kullanılacağı hakkında bilgi sahibi olmadıkları görülmüştür. Öğrencilerin mobil teknoloji kullanımı ekonomik yapıyla doğrudan ilintilidir. Cep telefonlarından ya da mobil cihazlardan Internet kullanımı oldukça düşüktür. Öğrenciler mobil cihazlarını en çok üyesi bulundukları sosyal ağları takip etmek amacıyla kullanmaktadırlar (Çakmak ve Yalçın, 2013, s. 58).

Sosyal ağların ve ağ kuşağının kütüphanelere etkileri de ülkemizde incelenen konular arasındadır. Kütüphaneler tarafından yürütülen birçok etkinlik ve hizmetin sosyal ağlar üzerinde kabuk değiştirdiği görülmektedir. Kütüphaneler tarafından sunulan birçok hizmete son kullanıcılar da dâhil olmuş, mobil teknolojiler ile teknolojik yakınsama da bilgi hizmetlerini etkilemiştir. Bu etkiye bağlı olarak kütüphanelerin kullanıcıların alışkın oldukları ortamlardan ayrılmalarına gerek kalmadan, sosyal ağlar üzerinde görünebilir olması için üç şartın sağlanması gerekmektedir: Tonta (2009, s. 763) bu şartları bağlantılı olma, iletişim ve içerik olarak sıralamıştır. Yakınsamanın etkisine bağlı olarak kütüphaneciler yalnızca bilginin yerinin belirlenmesinde (locate) değil, bilgiye erişimi daha etkin kanallar üzerinden gerçekleştirme konusunda da yeni roller üstlenmelidirler (Yıldız, 2010, s. 190). Bu roller geleneksel kütüphane hizmetlerine ek olarak, çevrimiçi öğrenme ortamlarının, özellikle dijital medya araçlarının yoğun kullanıcısı olan dijital yerlilerin özellikleri dikkate alınarak tasarlanacak olan öğrenme ortamlarının özelliklerine bağlı olarak da şekillenecek ve çeşitlenecektir (Bilgiç, Duman ve Seferoğlu, 2011, s. 6). Kütüphanelerin sosyal medya araçlarını, hizmetlerin pazarlanması, kütüphane hakkında genel bilgilerin sunumu, kütüphane kaynaklarına erişim, etkinlik duyuruları, deneme veri tabanı duyuruları, referans

[3] http://www.tuik.gov.tr/PreHaberBultenleri.do?id=18660

hizmeti, fotoğraf ve video paylaşımı, kullanıcı istek ve önerilerinin toplanması ve kitap tanıtımları yapmak amacıyla kullanmaktadır (Tavluoğlu, 2013, s.45-46).

Kendine has özelliklerinden dolayı bu neslin çevrimiçi ortamlardaki kullanım örüntüleri, kaynak tercihleri, bilgi ihtiyacı olduğunda başvurdukları kaynaklara yönelik bir profilin ortaya çıkarılması gereklidir. Bu sayede bu kuşağının kütüphane ve bilgi hizmetlerinden beklentilerinin belirlenmesi ve genel özelliklerinin ortaya konması mümkün olabilecektir. Çalışmamızda bu gereksinimlerden yola çıkılarak ağ kuşağına dair kütüphane hizmet planlamasına destek sağlayabilmek için şu sorulara yanıt aranmaktadır:

- Ağ kuşağının sahip oldukları teknolojik araçlar nelerdir? Bu sayede hedef kitlenin en sık kullandıkları araçlara uygun arayüz ve teknoloji seçimi mümkün olabilecektir.
- Ağ kuşağı sahip olduğu teknolojik araçları ve Internet'i en çok hangi amaçlarla kullanmaktadır? Bilgi sistemlerine entegre edilecek çevrimiçi hizmetlerinin belirlenmesinde yol gösterici olacaktır.
- Ağ kuşağının çevrimiçi oldukları ortamlar (ev, okul, kütüphane, mobil vb.) nerelerdir? Kütüphanelerin kullanıcılarına yalnızca kaynak sunmakla kalmayıp buna ek olarak çalışma ortamı sağlama görevi için önemli olacaktır zira Türkiye'de Internet kullanımının en sık gerçekleştiği mekânları incelediğimizde 2015 yılının ilk üç ayında 16-74 yaş grubu bireylerin %87,1'inin Internet'i evde kullandığı, bunu %42,5 ile işyeri, %37,7 ile akraba, arkadaş evleri, %29,2 ile alışveriş merkezi, havaalanı, vb. kablosuz bağlantının yapılabildiği yerler takip ederken, internet kafede kullanım oranının %10,6 olduğu görülmüştür.
- Bilgiyi değerlendirme ölçütleri nelerdir? Kullanıcıların bilgi okuryazarlığı ve eriştiği bilginin kritiğini yapabilme yetilerinin ortaya konması adına faydalı olacaktır.
- Gündelik bilgi ihtiyacı ile profesyonel bilgi ihtiyacını karşılamak için tercih ettikleri kaynaklar nelerdir? Her iki bilgi ihtiyacı için de ortak bir arayüzün mümkün olup olmadığı ortaya çıkarılabileceği gibi aynı zamanda bu nesil için gündelik bilgi ihtiyacı ile profesyonel bilgi ihtiyacı durumlarında başvurulan kaynakların ne kadar benzeştiği ya da ayrıştığı da ortaya konmuş olacaktır.
- En çok tercih ettikleri sosyal medya araçları nelerdir ve bu araçları kullanım düzeyleri nedir?
- Son olarak araştırmanın ortaya çıkarması gereken durumda kullanıcıların kütüphanelerden beklentileri nelerdir?

## YÖNTEM

Ağ kuşağına ait bir profil oluşturabilmek için veri toplama tekniği olarak 46 sorudan oluşan bir anket kullanılmıştır. Yaş sorusu katılımcıların metin girişine imkân veren bir yapıda sunulmuş, bu bilgi daha sonra gruplanmıştır (18-23 yaş, 24-29 yaş, 30-35 yaş gibi). Aynı zamanda katılımcıların cinsiyeti, sahip oldukları Internet erişimin türü (ADSL, Fiber vb.) Internet kullanım amaçları, teknoloji sahipliği, kullanılan sosyal medya araçları ve türleri ile en güvenilir buldukları kaynaklar hakkında sorular sorulmuştur. Katılımcılar mezun oldukları ya da okudukları bölümlere göre gruplanmış ancak disiplin gruplarında sosyal bilimlerin çok yoğun olması nedeniyle çalışmamızda disiplinlere göre farklar incelenmemiştir. Anket formu FBML dilinde Facebook'da oluşturulmuş ve çalışmamız için oluşturulan grup sayfasında paylaşılmıştır[4]. Böylece katılımcıların Facebook'dan ayrılmadan soruları cevaplayabilmeleri sağlanmıştır. Elde edilen veriler IBM Statistics Versiyon 21 ve MS Excel yazılımları kullanılarak incelenmiştir. Ankette yer alan demografik bilgilerle ilgili soruların analizi amacıyla yaş, cinsiyet, Internet erişim şekli, teknoloji sahipliği, kullanılan sosyal medya türleri ile katılımcıların en güvenilir kaynak olarak gördükleri kaynak türleri de ayrıca incelenmiştir.

Araştırmaya katılan katılımcıların bu faktörleri oluşturan sorulara verdikleri cevapların istatistiksel açıdan farklı olup olmadığını belirlemek amacıyla "Bağımsız örneklem t-testi" uygulanmıştır. Bu testi yapmadan önce verilerin normal dağılıma uygunluğunu test etmek amacıyla Kolmogorov-Smirnov ve Shapiro-Wilk testleri uygulanmış p değerleri >0,05 olduğu için verilerin normal dağıldığı gözlenmiştir (Tablo 1).

[4] https://apps.facebook.com/my-surveys/form/9crvdg4e

*Tablo 1:Normallik testi*

**Tests of Normality**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Değer | sd | p | Değer | sd | p |
| SOSYAL AĞLAR VE KÜTÜPHANELER | ,121 | 250 | ,079 | ,919 | 250 | ,081 |
| WEB 2.0 ARAÇLARINA DUYULAN GÜVEN | ,095 | 250 | ,231 | ,980 | 250 | ,329 |

a. Lilliefors Significance Correction

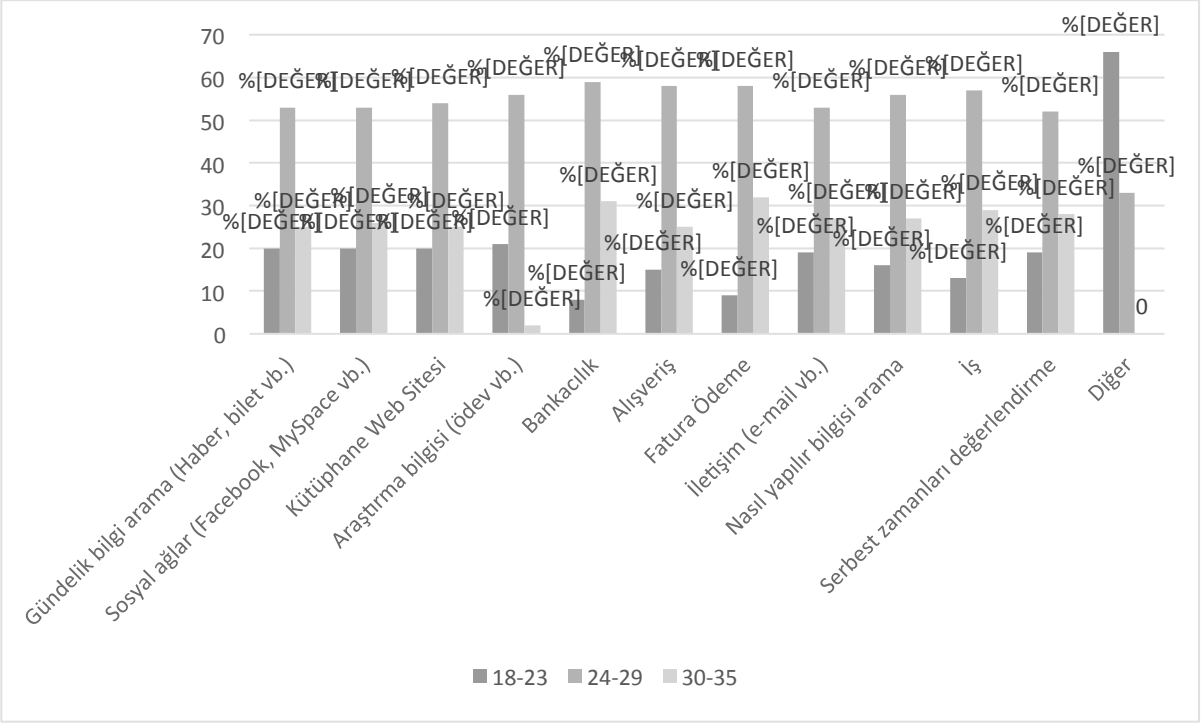
"Bağımsız örneklem t-testi" yapmak için her deneğin her soru için işaretlediği seçenekler (1 ile 5 arası) satır toplamları oluşturularak yeni bir sütuna kaydedilmiştir. Bu sayede ölçek puanları hesaplanmıştır. Katılımcıların birden fazla seçenek işaretleyebileceği sorular için maksimum puan belirlenmiştir. Katılımcıların verdikleri cevaplar, tamamen katılıyorum için 5, kesinlikle katılmıyorum içinse 1 puan verilerek hesaplanmıştır. Kodlama sırasında yapılan bu puanlama sistemine göre bütün sorulara olumlu cevap veren bir deneğin alabileceği maksimum puan 180, minimum 36'dır. Elde edilen ölçek puanı için, söz gelimi kullanılan sosyal medya araçları sorusunda Facebook seçeneğine Evet diyenlerle Hayır diyenlerin ölçek ortalama puanları bağımsız gruplar t testi ile karşılaştırılmıştır. Faktör 1'e yüklenmiş dokuz, Faktör 2'ye yüklenmiş beş soru için alınabilecek maksimum puanlar sırasıyla 45 ve 25'tir. "Hipotez testlerinde %95 güven düzeyi ($p<0,05$) kabul edilmiştir.

**Bulgular ve Yorum**

**Tanımlayıcı İstatistikler**

Ölçütlerimize uyan ve anketi cevaplayan katılımcıların sayısı 250'dir. Katılımcıların %55'i (137) kadın, %45'i (113) ise erkektir. Katılımcıların %76'sı bir işte çalışmaktadır. Katılımcıların yaşı 18 ile 35 arasındadır (ortanca 26). Yaş verileri daha sonraki değerlendirmeler için üç gruba (18-23, 24-29 ve 30-35) ayrılmıştır**.** Katılımcıların hemen hemen hepsi geniş bant Internet erişimine sahiptir.

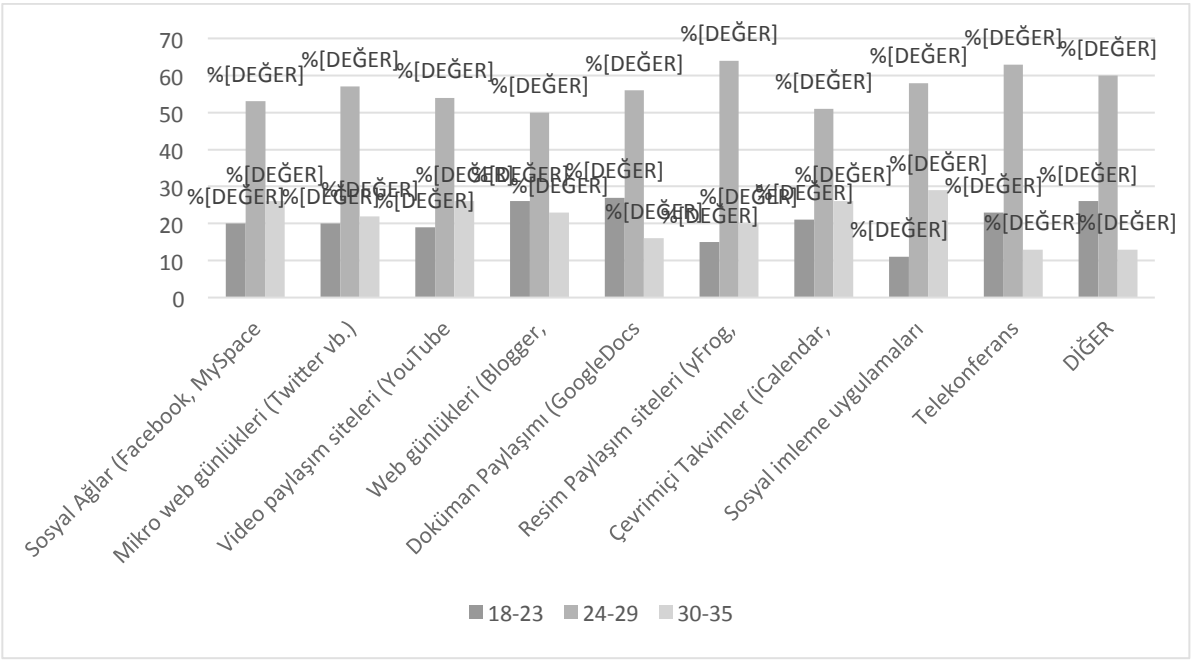
18-23 yaş grubu Internet'i en çok bilgi aramak (%20) ve sosyal ağlara erişmek (%20) amacıyla kullanırken, kullanım amaçları diğer yaş gruplarında da gündelik bilgi arama (%53) ve sosyal ağların kullanımı (%53) şeklindedir (Şekil 1).




*Şekil 1:Internet Kullanım Amaçları*

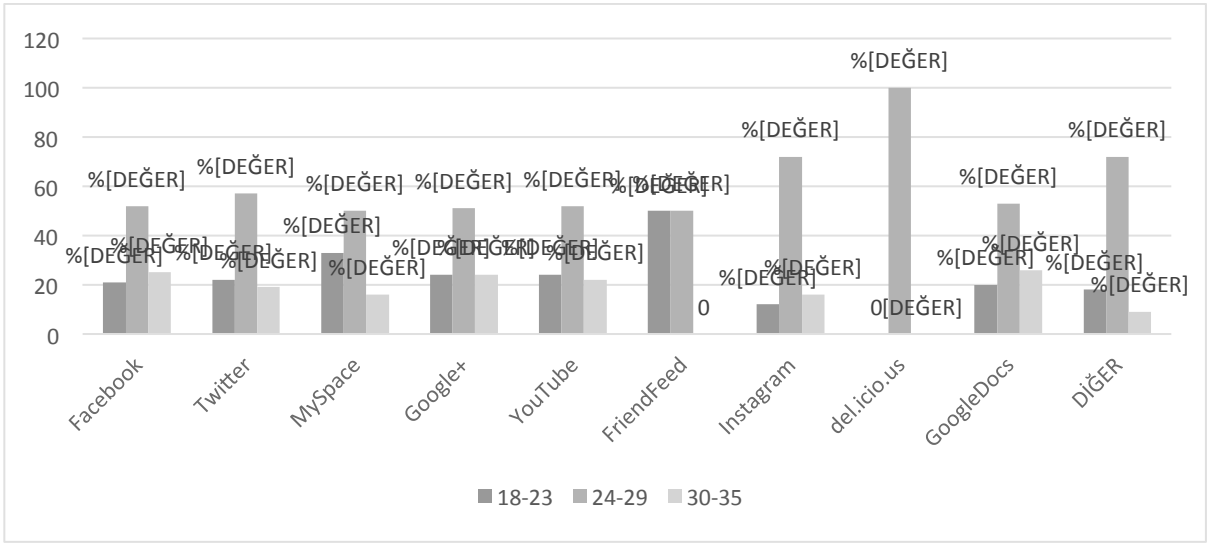
  

Araştırmaya katılan kullanıcıların teknoloji erişimi bakımından ortalamanın üzerinde bir profil sergilediği görülmektedir. 18-23 yaş grubunda dizüstü bilgisayara ve cep telefonuna sahip olanların oranı sırasıyla %20 ve %16'dır. 24-29 yaş grubu ile 30-35 yaş grubunda da dizüstü bilgisayara sahip olanların oranı %20 civarındadır (%19 ve %20). Tablet bilgisayar, e-kitap okuyucu gibi mobil araçlara sahip olan katılımcıların oranı ise %10'un altındadır. Yaş grupları içerisinde en çok kullanılan medya türleri sosyal ağlar ve video paylaşım siteleridir. Sosyal ağ kullanımı oranı 18-23 yaş grubu için %25, 24-29 yaş grubu için %25, 30-35 yaş grubu için de %29'dur. 18-23 yaş grubunun %21'i video paylaşım sitelerini kullanırken, 24-29 yaş grubu için bu oran %21, 30-35 yaş grubu için ise %25'dir. Özetle en çok sosyal ağların, video paylaşım sitelerinin ve mikro web günlüklerinin kullanıldığı görülmektedir (Şekil 2).




*Şekil 2: Kullanılan sosyal medya türleri*

En sık kullanılan sosyal medya aracı Facebook'tur. katılımcılar arasındaki en baskın grubun 24-29 yaşındakiler olduğu görülmektedir. Sosyal medya aracı kullanımında YouTube kullananlar ikinci sırayı alırken mikro web günlüklerinin temsilcisi olan Twitter ise onları takip etmektedir.




*Şekil 3: Kullanılan Sosyal Medya Araçları*

En güvenilir kaynak bütün yaş gruplarındaki denekler için kitaptır (%66,7 ile %75,4 arası) (Şekil 4).

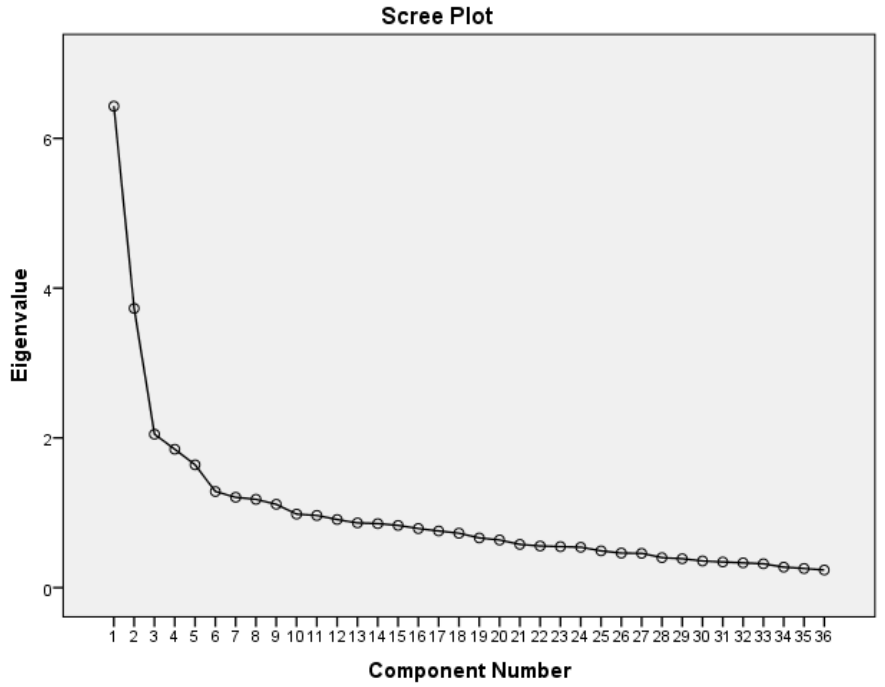
  

Özetlemek gerekirse, delicious'ı sadece 24-29 yaş grubu kullandığı görülürken, diğer iki grup için kullanım sıfır olarak ölçülmüştür. FriendFeed kullanımı 18-23 ile 24-29 yaş grubundakiler arasında eşit olarak paylaşılıyorken, bu oran 30-35 yaş için sıfırdır. Instagram kullananların önemli bir kısmı (%72) 24-29 yaş aralığındaki kullanıcılardan oluşmaktadır.

**Faktör Analizi**

Araştırmamızda Likert ölçeği ile toplanan cevapların hangi faktörler altında toplandığını belirlemek amacıyla faktör analizi uygulanmıştır. Örneklem büyüklüğü faktör analizine uygundur (Kaiser-Meyer-Olkin testi sonucu *0,811*) (Çokluk, Şekercioğlu ve Büyüköztürk, 2010, s. 207). Ağ kuşağının bilgi hizmetlerinden beklentilerinin faktör desenini ortaya koymak amacıyla grupların ayrıştırılabilmesi için Temel Bileşen Analizi (TBA) (Principal Component Analysis); döndürme yöntemi olarak da dik döndürme yöntemlerinden maksimum değişkenlik (Varimax) seçilmiştir. Otuz altı sorudan oluşan ölçeğin güvenilirlik düzeyinin de uygun olduğu görülmüştür (Cronbach $\alpha = 0,789$).

Faktör analizi sonucu öz değeri 1'in üzerinde olan dokuz faktör olduğu gözlenmiştir.




*Şekil 5: Faktörlere ait öz değerleri*

Varimax rotasyon sonrası oluşan faktörler toplam varyansın yaklaşık %57'sini açıklamaktadır. Sırasıyla ilk faktör toplam varyansın yaklaşık % 14'ünü,ikinci faktör %8,'ini, üçüncü faktör % 6'sını, dördüncü faktör %5'ini, beşinci faktör %5'ini, altıncı faktör % 4'ünü, yedinci ve sekizinci faktörlerin her biri % 4'ünü, dokuzuncu faktör ise % 3,9'unu açıklamaktadır (Tablo 1). Tek tek faktörlerin güvenilirlik düzeyleri için hesaplanan Cronbach alpha değerleri de Tablo 2'de verilmektedir. Ulaşılan Cronbach değerleri $0,60 < \alpha < 0,80$ ise ölçek oldukça güvenilirdir (Türkan, Manisalı, ve Çelikkol, 2009, s. 110). Buna göre rotasyon sonrasında oluşan birinci ve ikinci faktörlerin güvenilirlik seviyelerinin oldukça yüksek olduğu görülmektedir. Bu iki faktörün varyansa yaptıkları toplam katkı ise % 22'dir.

*Tablo 2: Rotasyon sonrası faktörler*

| | Faktör | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| S11 | ,778 | | | | | | | | |
| S13 | ,776 | | | | | | | | |
| S12 | ,729 | | | | | | | | |
| S15 | ,679 | | | | | | | | |
| S33 | ,676 | | | | | | | | |
| S14 | ,673 | | | | | | | | |
| S22 | ,661 | | | | | | | | |
| S18 | ,604 | | | | | | | | |
| S27 | ,476 | | | | | | | | |
| S37 | | ,826 | | | | | | | |
| S36 | | ,763 | | | | | | | |
| S35 | | ,722 | | | | | | | |
| S38 | | ,692 | | | | | | | |
| S24 | | ,507 | | | | | | | |
| S43 | | | ,675 | | | | | | |
| S32 | | | ,630 | | | | | | |
| S31 | | | ,590 | | | | | | |
| S16 | | | ,433 | | | | | | |
| S41 | | | | ,653 | | | | | |
| S30 | | | | ,607 | | | | | |
| S17 | | | | ,503 | | | | | |
| S20 | | | | ,457 | | | | | |
| S29 | | | | ,405 | | | | | |
| S34 | | | | | ,656 | | | | |
| S28 | | | | | ,575 | | | | |
| S21 | | | | | ,528 | | | | |
| S25 | | | | | | ,816 | | | |
| S26 | | | | | | ,726 | | | |
| S44 | | | | | | | ,723 | | |
| S45 | | | | | | | ,673 | | |
| S40 | | | | | | | | ,744 | |
| S46 | | | | | | | | ,483 | |
| S39 | | | | | | | | | ,545 |
| S42 | | | | | | | | | ,476 |
| S19 | | | | | | | | | -,426 |
| S23 | | | | | | | | | ,409 |
| Eigen değeri | 4,9 | 3,0 | 2,2 | 2,0 | 1,8 | 1,8 | 1,6 | 1,6 | 1,4 |
| Varyans (%) | 13,7 | 8,3 | 6,2 | 5,5 | 5,0 | 4,9 | 4,5 | 4,5 | 3,9 |
| α | 0,87 | 0,79 | 0,59 | 0,51 | 0,45 | 0,62 | 0,47 | 0,36 | 0,32 |

Faktör analizi sonucunda oluşan ve Cronbach alpha değerleri yüksek olan ilk iki faktör "sosyal ağların kurumsal bağlamda kullanımı" faktör 1 olarak, "Web 2.0 araçlarına duyulan güven" de faktör 2 olarak adlandırılmıştır.

Faktör analizi sonucunda ulaşılan "Sosyal Ağların Kurumsal Bağlamda Kullanımı" faktörünü oluşturan sorulara verilen cevaplara göre katılımcıların büyük bir çoğunluğunun sosyal ağların (Facebook, Twitter vb.) kütüphanelerde kurumsal olarak kullanılmasını istediği söylenebilir (%89)[5] (Tablo 3). Bilgi hizmeti sunan kuruluşların bir sosyal medya politikasının olması gerektiğine inanan katılımcıların oranı %97 iken, katılımcıların %94'ü Facebook, Twitter vb. gibi sosyal medya araçları ile bilgi hizmetlerinin daha etkin sunulabileceğini düşünmektedirler. Sosyal ağlar üzerinden yürütülecek bilgi hizmetleri için bilgi hizmeti şablonları tasarlanmasını gerekli gören katılımcıların oranı %91, bilgi hizmeti veren kuruluşların sosyal ağlar üzerinden de hizmet vermesini isteyen katılımcıların oranı %90'dır. Kullandığı bilgi sistemlerinde ortak bir hesapla (Facebook ya da Twitter) oturum açabilmeyi isteyenlerin oranı %76'dır. Kişisel verinin paylaşılması noktasında katılımcıların şüpheci yaklaşımının bu oranı etkilediği düşünülmektedir. Bilgi hizmetlerinin sosyal ağlarla bir şekilde sunulmasının işini kolaylaştıracağını düşünenlerle, kütüphanelerin artık sadece fiziksel mekânlar olmadığını, kullanıcıların çalışma ortamlarına ve sosyal ağlara gömülmüş, sentezlenmiş, uzmanlaşmış ve mobil bilgi hizmetleri sunan sanal ortamlar olarak da hizmet vermesi gerektiğini düşünen katılımcıların oranı ise %90'dır. Kütüphanelerin Facebook, Twitter vb. gibi kullanıcıların alışkın oldukları ortamlarda görünebilir ve kullanılabilir olmalarını isteyen katılımcıların oranı ise %87'dir (Tablo 2).

*Tablo 3:Sosyal ağların kurumsal bağlamda kullanımına verilen cevaplar*

| **Sosyal ağların kurumsal bağlamda kullanımı** | **5** | | **4** | | **3** | | **2** | | **1** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | n | % | n | % | n | % |
| **S11.** Kütüphaneler sosyal ağları (Facebook, Twitter vb.) kurumsal olarak kullanmalıdır | 131 | 52,4 | 92 | 36,8 | 13 | 5.2 | 11 | 4,4 | 3 | 1,2 |
| **S12.** Kütüphaneler ve bilgi hizmeti sunan kuruluşların bir sosyal medya politikasının olması gerekir | 157 | 62,8 | 86 | 34,4 | 3 | 1,2 | 3 | 1.2 | 1 | 0,4 |
| **S13.** Facebook, Twitter vb. sosyal medya araçları bilgi hizmetlerinin daha etkin sunumunda kullanılabilir | 146 | 58,4 | 89 | 35,6 | 11 | 4,4 | 4 | 1,6 | 0 | 0 |
| **S14.** Sosyal ağlara göre bilgi hizmeti şablonları tasarlanmalıdır | 126 | 50,4 | 102 | 40,8 | 19 | 7,6 | 3 | 1,2 | 0 | 0 |
| **S15.** Bilgi hizmeti veren kuruluşlar sosyal ağlar üzerinden de hizmet vermelidir | 145 | 58,0 | 80 | 32,0 | 16 | 6,4 | 8 | 3,2 | 1 | 0,4 |
| **S18.** Kullandığım bilgi sistemlerine ortak bir hesapla (Facebook ya da Twitter) oturum açabilmeyi isterim | 104 | 41,6 | 86 | 34,4 | 31 | 12,4 | 24 | 9,6 | 5 | 2 |
| **S22.** Bilgi hizmetlerinin sosyal ağlarla bütünleşik bir şekilde sunulmasının işimi kolaylaştıracağını düşünüyorum | 121 | 48,4 | 106 | 42,4 | 17 | 6,8 | 5 | 2,0 | 1 | 0,4 |
| **S27.** Kütüphaneler günümüzde sadece fiziksel mekânlar değil, kullanıcıların çalışma ortamlarına ve sosyal ağlara gömülmüş sentezlenmiş, uzmanlaşmış ve mobil bilgi hizmetleri sunan sanal ortamlar olarak da hizmet vermelidir | 133 | 53,2 | 94 | 37,6 | 20 | 8,0 | 3 | 1,2 | 0 | 0 |
| **S33.** Kütüphanelerin kullanıcıların alışkın oldukları ortamlarda (Facebook, Twitter vb.) görünebilir ve kullanılabilir olmaları gerekmektedir. | 104 | 41,6 | 115 | 46,0 | 26 | 10,4 | 5 | 2,0 | 0 | 0 |

Not: 5 Tamamen katılıyorum, 1 kesinlikle katılmıyorum

**Faktörlerin Soru Gruplarına Göre Karşılaştırılması**

Buna göre iki faktör, Internet kullanım amacı, teknoloji sahipliği, kullanılan sosyal medya türleri, kullanılan sosyal medya araçları ve en güvenilir kaynak gruplarına göre incelenmiştir.

**Internet Kullanım Amacına Göre iki Faktörün Karşılaştırılması**

Sosyal ağları iletişim kurmak ve Web'de "nasıl yapılır" bilgisi aramak için kullanan denekler kullanmayanlara oranla sosyal ağların kurumsal bağlamda kullanımını daha çok desteklemektedirler ve iki grup arasındaki fark

[5] Yüzdeler Tablo 8'deki "5. Tamamen katılıyorum" ve "4. Katılıyorum" seçeneklerine verilen cevapların toplamından oluşmaktadır.

istatistiksel açıdan anlamlıdır (sırasıyla *t*= -2,075, *t*=-2,959, *p*<0,05) (Tablo 3). Kolayca tahmin edilebileceği gibi, sosyal ağları kullanan denekler kullanmayanlara oranla sosyal ağların kurumsal bağlamda kullanımını daha çok desteklemektedirler (*t*= -1,981, *p*=0,049). Fakat hem sosyal ağ kullanmayan katılımcıların oranı çok düşük (yaklaşık %6'sı) hem de p değeri sınır değere (0,05) çok yakındır. Internet'i kütüphane web sitesine erişmek için kullanan denekler kullanmayanlara oranla Web 2.0 araçlarına daha çok güven duymaktadırlar (*t*= 2,166, p<0,05). Diğer bir deyişle, Web 2.0 araçlarına daha çok güven duyan denekler Internet'i kütüphane web sitesine erişmek için pek kullanmamaktadırlar. Öte yandan, Internet'i alış veriş yapmak ve fatura ödemek için kullanan deneklerle kullanmayanlar arasında Web 2.0 araçlarına duyulan güven yönünden istatistiksel açıdan anlamlı bir fark olmaması ise dikkat çekicidir.

Bu bilgiler ışığında araştırmamızın hipotezlerinden biri olan "Internet'i Web 2.0 araçlarına erişim için kullanan kullanıcılar kütüphane web sitelerini daha seyrek kullanmaktadırlar" hipotezi doğrulanmıştır. Bu durum kütüphane web sitelerinin devreden çıkmaya başladığı şeklinde yorumlanabilir. Ancak kütüphaneler bu durumu kendi web sitelerini Web 2.0 araçları ile bütünleşik hale getirerek kendileri için bir avantaja çevirebilirler.

*Tablo 4:Internet kullanım amacına göre iki faktörün karşılaştırılması*[6]

| Internet kullanım amacı | | | N | Ortalama | Std. Sapma | Std. Hata Ort. | t | P |
|---|---|---|---|---|---|---|---|---|
| Gündelik bilgi arama | FAKTÖR 1 | Hayır | 16 | 38,31 | 5,288 | 1,322 | -,922 | 0,357 |
| | | Evet | 234 | 39,46 | 4,769 | ,312 | | |
| | FAKTÖR 2 | Hayır | 16 | 16,06 | 3,435 | ,859 | 1,578 | ,116 |
| | | Evet | 234 | 14,63 | 3,512 | ,230 | | |
| Sosyal ağlar | FAKTÖR 1 | Hayır | 14 | 36,93 | 6,545 | 1,749 | -1,981 | **,049** |
| | | Evet | 236 | 39,53 | 4,655 | ,303 | | |
| | FAKTÖR 2 | Hayır | 14 | 15,86 | 3,134 | ,838 | 1,242 | ,216 |
| | | Evet | 236 | 14,66 | 3,534 | ,230 | | |
| Kütüphane Web Sitesi | FAKTÖR 1 | Hayır | 100 | 38,92 | 5,010 | 0,501 | -1,249 | ,213 |
| | | Evet | 150 | 39,69 | 4,647 | ,379 | | |
| | FAKTÖR 2 | Hayır | 100 | 15,31 | 3,215 | ,322 | 2,166 | **,031** |
| | | Evet | 150 | 14,33 | 3,665 | ,299 | | |
| Bankacılık | FAKTÖR 1 | Hayır | 99 | 39,32 | 4,517 | 0,454 | -,162 | ,872 |
| | | Evet | 151 | 39,42 | 4,993 | ,406 | | |
| | FAKTÖR 2 | Hayır | 99 | 15,21 | 2,932 | ,295 | 1,784 | ,076 |
| | | Evet | 151 | 14,40 | 3,830 | ,312 | | |
| Alışveriş | FAKTÖR 1 | Hayır | 88 | 39,19 | 4,922 | 0,525 | -,462 | ,644 |
| | | Evet | 162 | 39,49 | 4,746 | ,373 | | |
| | FAKTÖR 2 | Hayır | 88 | 15,14 | 3,263 | ,348 | 1,368 | ,172 |
| | | Evet | 162 | 14,50 | 3,639 | ,286 | | |
| Fatura ödeme | FAKTÖR 1 | Hayır | 113 | 39,27 | 4,895 | 0,461 | -,354 | ,724 |
| | | Evet | 137 | 39,48 | 4,737 | ,405 | | |
| | FAKTÖR 2 | Hayır | 113 | 15,05 | 2,912 | ,274 | 1,345 | ,180 |
| | | Evet | 137 | 14,45 | 3,939 | ,337 | | |
| İletişim (e-mail vb.) | FAKTÖR 1 | Hayır | 32 | 37,75 | 4,250 | 0,751 | -2,075 | **,039** |
| | | Evet | 218 | 39,62 | 4,839 | ,328 | | |
| | FAKTÖR 2 | Hayır | 32 | 15,31 | 3,487 | ,616 | 1,013 | ,312 |
| | | Evet | 218 | 14,64 | 3,522 | ,239 | | |
| Nasıl yapılır bilgisi arama | FAKTÖR 1 | Hayır | 138 | 38,59 | 4,899 | 0,417 | -2,959 | **,003** |
| | | Evet | 112 | 40,37 | 4,508 | ,426 | | |
| | FAKTÖR 2 | Hayır | 138 | 14,56 | 3,351 | ,285 | -,828 | ,409 |
| | | Evet | 112 | 14,93 | 3,719 | ,351 | | |
| İş | FAKTÖR 1 | Hayır | 109 | 38,72 | 4,743 | 0,454 | -1,900 | ,059 |
| | | Evet | 140 | 39,89 | 4,816 | ,407 | | |
| | FAKTÖR 2 | Hayır | 109 | 15,04 | 3,260 | ,312 | 1,291 | ,198 |
| | | Evet | 140 | 14,46 | 3,700 | ,313 | | |
| Serbest zamanları değerlendirme | FAKTÖR 1 | Hayır | 85 | 39,07 | 5,021 | 0,545 | -,740 | ,460 |
| | | Evet | 165 | 39,55 | 4,691 | ,365 | | |
| | FAKTÖR 2 | Hayır | 85 | 14,46 | 3,890 | ,422 | -,855 | ,393 |
| | | Evet | 165 | 14,86 | 3,315 | ,258 | | |
| Diğer | FAKTÖR 1 | Hayır | 247 | 39,35 | 4,814 | 0,306 | -,949 | ,343 |
| | | Evet | 3 | 42,00 | 3,000 | 1,732 | | |
| | FAKTÖR 2 | Hayır | 247 | 14,72 | 3,507 | ,223 | -,136 | ,892 |

[6] Karşılaştırma tablolarında yer alan faktör 1 sosyal ağlar ve kütüphaneleri, faktör iki de Web 2.0 araçlarına duyulan güveni temsil etmektedir.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Evet | 3 | 15,00 | 5,292 | 3,055 | | |

**Kullanılan Sosyal Medya Türlerinin İki Faktöre Göre Karşılaştırılması**

Sosyal medya türleri içerisinde Facebook, MySpace gibi sosyal ağları, resim paylaşım sitelerini ve çevrimiçi takvimleri kullanan deneklerle kullanmayanlar arasında hem sosyal ağların kurumsal bağlamda kullanımı hem de Web 2.0 araçlarına duyulan güven ortalamaları arasındaki farklar istatistiksel açıdan anlamlıdır (sırasıyla *t= -2,201, t= -2,123, t= -2,556, t= -2,093, t= -2,525, t= -2,668, p < 0,05,* Tablo 5). Video paylaşım siteleri ve web günlüklerini kullananların sosyal ağların kurumsal bağlamda kullanımı ve Web 2.0 araçlarına duyulan güven ortalamaları arasındaki farklar ise istatistiksel açıdan anlamlı değildir. Öte yandan Twitter gibi mikro web günlüklerini, doküman paylaşım sitelerini, sosyal imleme yazılımlarını ve telekonferans hizmetlerini kullananlar da kullanmayanlara oranla sosyal ağların kurumsal bağlamda kullanımını daha çok desteklemektedirler (sırasıyla *t= -3,387, t= -2,068, t= -2,043, t= -1,977, p < 0,05*). Ancak bu araçları kullanan ve kullanmayan katılımcıların Web 2.0 araçlarına güven ortalamaları arasındaki fark istatistiksel açıdan anlamlı değildir. Denekler kütüphanelerin sosyal ağları kurumsal bağlamda kullanımını büyük ölçüde desteklemekte ve Web 2.0 araçlarına daha çok güven duymaktadırlar. Başka bir deyişle, iş ve gündelik yaşamlarını sosyal ağlar aracılığıyla planlayan kullanıcılar benzeri ortamları kütüphanelerde de bulmayı, kütüphanelerden sağladıkları bilgileri de kendi ortamlarına kolayca entegre etmek istediklerini ve bu araçlara daha çok güvendiklerini göstermektedir. Bu bulgular araştırmamızın "Facebook, MySpace vb. gibi sosyal ağları kullanan dijital yerliler kütüphanelerin sosyal ağları kurumsal olarak kullanımını desteklemekte ve Web 2.0 araçlarına güven duymaktadırlar" hipotezini doğrulamaktadır.

*Tablo 5:Kullanılan sosyal medya türlerinin iki faktöre göre karşılaştırılması*

| **Kullanılan sosyal medya araçları** | | | **N** | **Ortalama** | **Std. Sapma** | **Std. Hata Ort.** | **t** | **P** |
|---|---|---|---|---|---|---|---|---|
| Sosyal Ağlar | FAKTÖR 1 | Hayır | 2 | 32,00 | 5,657 | 4,000 | -2,201 | **,029** |
| | | Evet | 248 | 39,44 | 4,760 | ,302 | | |
| | FAKTÖR 2 | Hayır | 2 | 9,50 | 4,950 | 3,500 | -2,123 | **,035** |
| | | Evet | 248 | 14,77 | 3,486 | ,221 | | |
| Mikro web günlükleri | FAKTÖR 1 | Hayır | 105 | 38,20 | 5,480 | 0,535 | -3,387 | **,001** |
| | | Evet | 145 | 40,24 | 4,051 | ,336 | | |
| | FAKTÖR 2 | Hayır | 105 | 14,85 | 3,180 | ,310 | ,472 | ,637 |
| | | Evet | 145 | 14,63 | 3,752 | ,312 | | |
| Video paylaşım siteleri | FAKTÖR 1 | Hayır | 37 | 38,35 | 4,620 | 0,760 | -1,420 | ,157 |
| | | Evet | 213 | 39,56 | 4,820 | ,330 | | |
| | FAKTÖR 2 | Hayır | 37 | 13,70 | 3,688 | ,606 | -1,923 | ,056 |
| | | Evet | 213 | 14,90 | 3,466 | ,237 | | |
| Web günlükleri | FAKTÖR 1 | Hayır | 158 | 39,05 | 4,905 | 0,390 | -1,442 | ,151 |
| | | Evet | 92 | 39,96 | 4,586 | ,478 | | |
| | FAKTÖR 2 | Hayır | 158 | 14,53 | 3,305 | ,263 | -1,134 | ,258 |
| | | Evet | 92 | 15,05 | 3,853 | ,402 | | |
| Doküman Paylaşımı | FAKTÖR 1 | Hayır | 159 | 38,91 | 5,092 | 0,404 | -2,068 | **,040** |
| | | Evet | 91 | 40,21 | 4,143 | ,434 | | |
| | FAKTÖR 2 | Hayır | 159 | 14,67 | 3,430 | ,272 | -,340 | ,734 |
| | | Evet | 91 | 14,82 | 3,684 | ,386 | | |
| Resim Paylaşım siteleri | FAKTÖR 1 | Hayır | 205 | 39,02 | 4,887 | 0,341 | -2,556 | **,011** |
| | | Evet | 45 | 41,02 | 4,042 | ,603 | | |
| | FAKTÖR 2 | Hayır | 205 | 14,51 | 3,448 | ,241 | -2,093 | **,037** |
| | | Evet | 45 | 15,71 | 3,703 | ,552 | | |
| Çevrimiçi Takvimler | FAKTÖR 1 | Hayır | 199 | 39,00 | 4,967 | 0,352 | -2,525 | **,012** |
| | | Evet | 51 | 40,88 | 3,772 | ,528 | | |
| | FAKTÖR 2 | Hayır | 199 | 14,43 | 3,441 | ,244 | -2,668 | **,008** |
| | | Evet | 51 | 15,88 | 3,609 | ,505 | | |
| Sosyal imleme uygulamaları | FAKTÖR 1 | Hayır | 232 | 39,20 | 4,856 | 0,319 | -2,043 | **,042** |
| | | Evet | 17 | 41,65 | 3,316 | ,804 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Telekonferans | FAKTÖR 2 | Hayır | 232 | 14,61 | 3,505 | ,230 | -1,774 ,077 |
| | | Evet | 17 | 16,18 | 3,575 | ,867 | |
| | FAKTÖR 1 | Hayır | 220 | 39,16 | 4,847 | 0,327 | -1,977 **,049** |
| | | Evet | 30 | 41,00 | 4,177 | ,763 | |
| | FAKTÖR 2 | Hayır | 220 | 14,87 | 3,391 | ,229 | 1,818 ,070 |
| | | Evet | 30 | 13,63 | 4,247 | ,775 | |
| Diğer | FAKTÖR 1 | Hayır | 227 | 39,33 | 4,864 | 0,323 | -,599 ,549 |
| | | Evet | 23 | 39,96 | 4,172 | ,870 | |
| | FAKTÖR 2 | Hayır | 227 | 14,62 | 3,503 | ,233 | -1,518 ,130 |
| | | Evet | 23 | 15,78 | 3,567 | ,744 | |

**En Güvenilir Bilgi Kaynağının iki Faktöre Göre Karşılaştırılması**

Yedi seçeneği olan bu değişken için grupların ortalamaları arasında (Faktör 1 ve Faktör 2) sosyal ağların kurumsal bağlamda kullanımında istatistiksel açıdan anlamlı bir farklılık bulunmazken, Web 2.0 araçlarına duyulan güven bakımından ise gruplar arasında anlamlı farklılık görülmektedir. Kaynaklara duyulan güvenle iki faktör arasındaki karşılaştırma Tablo 7'de verilmiştir. Tablo 7: En güvenilir kaynak faktör gruplarının karşılaştırılması

| | | **N** | **Ortalama** | **Std. Sapma** | **Std. Hata** | **F** | **p** |
|---|---|---|---|---|---|---|---|
| Faktör 1 | Kitap | 180 | 5,58 | 4,75 | 0,35 | 0,105 | 0,991 |
| | e kitap | 18 | 5,94 | 6,06 | 1,43 | | |
| | Web sitesi | 8 | 6,63 | 5,15 | 1,82 | | |
| | Wiki | 14 | 5,43 | 4,33 | 1,16 | | |
| | Dergi | 16 | 5,31 | 5,03 | 1,26 | | |
| | Arama motoru | 14 | 5,64 | 4,45 | 1,19 | | |
| | **Toplam** | **250** | **5,62** | **4,8** | **0,3** | | |
| Faktör 2 | Kitap | 180 | 8,73 | 2,61 | 0,19 | 5,242 | **0,000** |
| | e kitap | 18 | 7,89 | 2,61 | 0,62 | | |
| | Web sitesi | 8 | 6,5 | 2,56 | 0,91 | | |
| | Wiki | 14 | 5,79 | 1,76 | 0,47 | | |
| | Dergi | 16 | 9,13 | 2,22 | 0,55 | | |
| | Arama motoru | 14 | 7,43 | 2,74 | 0,73 | | |
| | **Toplam** | **250** | **8,39** | **2,66** | **0,17** | | |

Farklılığın hangi gruptan kaynaklandığını tespit etmek için Tukey post hoc testinden yararlanılmıştır. Buna göre fark, kitap ve dergileri en güvenilir kaynak olarak görenlerle wikileri en güvenilir kaynak olarak gören denekler arasındadır (Tablo 8). Kolayca tahmin edilebileceği gibi, kitap ve dergileri en güvenilir kaynak olarak gören katılımcıların Web 2.0 araçlarına bakış açıları wikileri en güvenilir kaynak olarak görenlerden farklıdır. Diğer gruplar arasında anlamlı bir fark bulunmamaktadır. Bu bulgulardan yola çıkarak araştırmamızın "Araştırma kaynağı olarak geleneksel yayın türlerini güvenilir bulan dijital yerliler wikileri en güvenilir kaynak olarak görenlere oranla Web 2.0 araçlarına daha olumsuz yaklaşmaktadırlar" hipotezi doğrulanmıştır.

*Tablo 8 : İkili grupların karşılaştırması*

| | | | | Ortalama Fark (I-J) | Std. Hata | p |
|---|---|---|---|---|---|---|
| Faktör 2 | Tukey HSD | Kitap | Wiki | 2,94762* | 0,70839 | **0,001** |
| | | Wiki | Kitap | -2,94762* | 0,70839 | **0,001** |
| | | | Dergi | -3,33929* | 0,93435 | **0,006** |
| | | Dergi | Wiki | 3,33929* | 0,93435 | **0,006** |

**İkili Grupların Faktör Gruplarıyla Karşılaştırılması**

Katılımcıların birden fazla seçeneği aynı anda işaretleyebildiği sorulara verdiği cevaplar yeniden kodlanarak Internet kullanım nedenleri ve kullanılan sosyal medya türleri için "yoğun kullanım" ve "düşük kullanım", teknoloji sahipliği için de "düşük seviye" ve "yüksek seviye" grupları oluşturulmuştur. Buna göre Internet'i yoğun seviyede (7 ve üzerinde nedenle kullandığını belirten denekler) kullanan deneklerle düşük seviyede kullanan katılımcıların faktör 1 ve faktör 2 ortalamaları arasında istatistiksel açıdan anlamlı bir fark bulunmamaktadır. Başka bir deyişle Internet kullanım yoğunluğu ve teknoloji sahipliği sosyal ağların kurumsal bağlamda kullanımı ve Web 2.0 araçlarına duyulan güven açısından birbirinden farklı değildir. Teknoloji sahipliği kategorileri için de ilgili teknolojiye sahip olanlar ile olmayanlar arasında sosyal ağların kurumsal bağlamda kullanımı ile Web 2.0 araçlarına duyulan güven ortalamalarında istatistiksel açıdan anlamlı bir fark bulunmamaktadır. Yapılan korelasyon testine göre yalnızca teknoloji sahipliği sayısıyla sosyal ağların kurumsal bağlamda kullanımı arasında istatistiksel açıdan anlamlı ama çok zayıf bir ilişki bulunmaktadır (*Spearman's rho= 0,198, p <0,05*). Bu sonuçtan yola çıkarak teknoloji sahipliği sayısının Web 2.0 araçlarına duyulan güven üzerinde bir etkisi olmadığını söylemek mümkündür. Başka bir deyişle araştırmamızın hipotezleri arasında yer alan "Sahip olunan teknolojik araç sayısı arttıkça Web 2.0 araçlarına duyulan güven düzeyi de artmaktadır" hipotezi doğrulanamamıştır.

**Sonuç ve Öneriler**

Facebook, MySpace vb. gibi sosyal ağları kullanan dijital yerliler kütüphanelerin sosyal ağları kurumsal olarak kullanımını desteklemekte ve Web 2.0 araçlarına güven duymaktadırlar. Internet'i Web 2.0 araçlarına erişim için kullanan denekler kütüphane web sitesini daha seyrek kullanmaktadırlar. Araştırma kaynağı olarak kitap, dergi gibi geleneksel yayın türlerini güvenilir bulan dijital yerliler wikileri en güvenilir kaynak olarak görenlere göre Web 2.0 araçlarına daha olumsuz yaklaşmaktadırlar. Sahip olunan teknolojik araç türü ve sayısı ile Internet kullanım düzeyinin Web 2.0 araçlarına duyulan güven üzerinde anlamlı bir etkisi olmadığı görülmüştür.

Araştırmamızda "Sosyal medyayı sık kullanan kullanıcılar sosyal ağların kurumsal bağlamda kullanımını daha çok desteklemektedirler" hipotezi ise doğrulanamamıştır. Analizler sonucunda ulaşılan sonuç, sosyal medyayı daha seyrek kullananların daha sık kullananlara oranla sosyal ağların kurumsal bağlamda kullanımını daha çok desteklediği yönündedir. Ancak burada sosyal medya kullanımının gruplanmasında kullanılan araç sayısına göre bir sınıflandırma yapıldığı yani yalnızca Facebook, Twitter ve YouTube gibi sosyal medyanın armadaları olarak tabir edilebilecek araçlarını kullansalar da uygulanan sınıflandırmaya göre bu tür denekler yalnızca 3 tane sosyal medya aracını kullandıklarından seyrek kullanım grubunda sınıflandırılmışlardır. Sınıflandırmada seyrek kullanım grubunda bulunsalar da bu üç büyük sosyal medya aracı içerisindeki trafiğin oldukça büyük olabileceği de unutulmamalıdır.

Bilgi hizmeti sunan kuruluşların sosyal medya politikasının olması gerekmektedir. Ağ kuşağı sosyal medya araçlarının bilgi hizmetleri ile entegrasyonunun bilgi hizmetlerinin daha etkin sunumuna katkı sağlayacağını

düşünmekte ve bilgi hizmeti veren kuruluşların sosyal ağlar üzerinden de hizmet vermesini istemektedirler. Denekler, kullandıkları bilgi sistemlerinde ortak bir hesapla (Facebook ya da Twitter) oturum açabilmeyi isterlerken, kişisel verinin paylaşılması konusuna şüpheci yaklaşmaktadırlar. Bilgi hizmetlerinin sosyal ağlarla bütünleşik bir şekilde sunulmasının işlerini kolaylaştıracağını düşünen denekler için kütüphane tanımı da değişmiştir. Buna göre denekler kütüphanelerin artık sadece fiziksel mekânlar olmadığını, kullanıcıların çalışma ortamlarına ve sosyal ağlara gömülmüş, sentezlenmiş, uzmanlaşmış ve mobil bilgi hizmetleri sunan sanal ortamlar olarak da hizmet vermesi gerektiğini düşünmektedirler. Denekler, aşina oldukları bilgi sistemlerini kullanmayı tercih etmekte ve kütüphanelerin Facebook, Twitter vb. gibi kullanıcıların alışkın oldukları ortamlarda görünebilir ve kullanılabilir olmalarını istemektedirler. Bilgi hizmeti sunan kuruluşların sosyal medya politikasının olması gerekmektedir.

Bu çalışma ülkemizdeki ağ kuşağının kütüphane ve bilgi hizmetlerinden beklentilerini ortaya çıkarmak amacıyla yapılmıştır. Araştırmamızda ulaşılan sonuçlar, bir genelleme yapma kaygısından çok bir durum betimlemesi yapmaya yöneliktir. Bu nedenle araştırmanın yapıldığı örnekleme yönelik olarak bir profil çıkarılmıştır. Bu profilden yola çıkılarak beklentileri bilinen bu neslin ihtiyaç ve özelliklerine hitap eden bir hizmet planlaması yapmak mümkün olabilecektir. Bunun için kullanıcı olarak ağ kuşağının beklentileri belirlense de kurumsal olarak kütüphanelerin bu kuşağa yönelik olarak hangi hizmetleri nasıl geliştireceği ayrıca incelenmelidir. Bu amaçla yapılacak bir boşluk analizi (gap analysis) kütüphanelerin hedefleri ile ağ kuşağının kütüphanelerden beklentileri arasındaki boşluğun belirlenmesi adına faydalı olacaktır.

Bilgi arama davranışlarındaki farklılıkların genel olarak cinsiyet, yaş, akademik disiplin gibi etkenlerden kaynaklandığı bilinmektedir. Bu nedenden ötürü kütüphanelerin farklı yaş gruplarından farklı ihtiyaçlara ve beklentilere sahip kullanıcılara hizmet vermek durumunda kaldığını söylemek mümkündür. Kütüphanelerin kullanıcılara bilgi kaynaklarını yalnızca erişime açmak şeklinde hizmet vermesi yeterli değildir. O halde kütüphane web sitesini bile kullanmayan kullanıcılara kütüphane hizmetlerini kullandırtmak için neler yapılmalıdır sorusuna cevap aranmalıdır. Bunun için geleneksel yöntemler sosyal medya araçlarıyla desteklenmeli, kütüphaneler koleksiyon yönetimine yönelik kararlarını yeniden gözden geçirmelidir. Kütüphane kullanım faaliyetinin tanımının değiştiği gerçeğinden yola çıkarak kullanım faaliyetinin ölçümü artık başka göstergelere göre yapılmalıdır. Kütüphane kaynak kullanımının sınırları net olarak çizilmelidir. Büyük koleksiyonlar oluşturup kullanıcıların kullanmasını beklemek yerine, istek üzerine (on-demand) ya da kullanıcı güdümlü (patron-driven) modellerle kaynak temini ve kullanıma açma işlemlerine yoğunluk verilmesi bu bağlamda yapılabilecekler arasında gösterilebilir. Kaynağa erişim sağlayanın kütüphane olduğunun son kullanıcıya bildirilmesinin kütüphanelerin bir marka olarak işlevini ve önemini vurgulamak adına olumlu katkı sağlayabileceği söylenebilir. Başka bir deyişle kütüphanelerin erişime açtığı kaynakların sunumunda bir marka olarak daha görülebilir olmayı tercih eden uygulamalar yapması gerekmektedir. İndirilen makalelere kütüphane logosunun ve filigranının eklenmesi, erişilen sayfaya kütüphane logosunun konulması vb. gibi çalışmalar bu bağlamda yapılacak uygulamalar arasında gösterilebilir. Öğrenen sistemler tasarlamak için şeffaflık ilkesine bağlı olarak, kütüphane web sitelerinde çerez (cookie) kullanımı yapılabileceği gibi e-kaynak kullanımı ya da kişiselleştirilmiş bilgi hizmetleri için de işlem kütüğü (log) analizi uygulamaları yapılabilir.

Kütüphane kullanıcılarının ağ kuşağının birer üyesi olarak kütüphanelerinden beklentilerini ortaya koyan bu bulgular sayesinde bu tür kullanıcı grubunun beklentileri daha iyi anlaşılmış ve bu beklentilere yönelik hizmetlerin tasarlanabilmesine yönelik bir profil bilgisine ulaşılmıştır. Kurumsal bağlamda bu bilgiler ışığında hizmetlerin hangi ölçekte ve hangi düzeyde sosyal ağlara taşınacağı planlanabileceği gibi, kullanıcılarla iletişimde kullanılacak kanalların ve araçların belirlenmesi de mümkün olabilecektir. Bu bağlamda beklentileri ortaya konan ağ kuşağına yönelik olarak kurumsal bağlamda hangi kütüphane hizmetlerinin verildiği, bu hizmetlerin ne kadarının beklentilere (örneğin, hizmet sunulan ortam, mekân, zaman, kanal, vb. gibi) karşılık verdiği araştırılabilir. Kütüphanelerin son kullanıcılara açılan vitrini olan katalog tarama sayfalarını yalnızca kütüphanede bulunan kaynakların yerinin belirlenmesine olanak sağlayan bir yapı olarak görmeyip, inovasyonlara imkân sağlayan sanal ekosistemler olarak yapılandırmaları gerekmektedir (Tapscott, 2009, s. 203). Daha önce de belirtildiği gibi, bilgi hizmetleri için ekosistemleri kullanıcıların aradıkları bilimsel makalelere, kitaplara erişimine imkân sağlayan, okudukları kitaplar ya da kullandıkları kaynaklar hakkında yorum ve eleştirilerini paylaşabilmelerine imkân veren bir yapı olarak yeniden kurgulanması çevrimiçi katalog sayfalarının ağ kuşağına daha çok hitap etmesinde yarar sağlayacaktır. Diğer bir ifadeyle karşılıklı işlerlik ilkesi ile herhangi bir bilgi sistemi ile bütünleşik bir şekilde çalışabilen bir çevrimiçi katalog sayfası, kullanıcılarına ilgisini çeken bir kitabı daha önce okuyan bir kişinin kitap hakkındaki yorumları görmeyi isteyen bir nesil için bu tür bilgi sistemleri ilgi çekici birer araç hâline getirecektir.

Ağ kuşağı kullanıcılarına, yaş bakımından daha büyük ve teknoloji kullanımı, kaynak tercihi vb. gibi konularda farklı düşünen kütüphaneciler tarafından hizmet verilebilmesi için, onlarla aynı dili konuşabilen, onların dilini kullanan kütüphaneciler yetiştirmek gerekmektedir. Her ne kadar ağ kuşağının tanımında temel ölçütün yaş olduğu ve 1980 sonrasında doğan kişilerin ağ kuşağının birer üyesi olduğu söylense de ülkemizdeki kullanıcıların sosyo-ekonomik yapı vb. gibi nedenlerden ötürü aslında literatürde yer aldığı gibi mobil teknolojiye sahip olma oranları çok üst seviyede değildir. Bu nedenle neredeyse 35 yaşında olan en eski ağ kuşağı kütüphanecilerinin tam anlamıyla ağ kuşağının özelliklerine sahip olup olmadıkları incelenmelidir.

Ağ kuşağı şimdiye kadarki nesiller içerisinde teknoloji ile etkileşime en çok giren nesildir. Bu etkileşim sonucunda meydana gelen farklılıklar onların bilgi kullanım ve tüketim davranışlarına da belirli düzeyde etki etmektedir. Teknolojinin dilini kendi anadili gibi kullanabilen bir nesil için geleneksel bilgi kaynakları, geleneksel pazarlama yaklaşımı ve geleneksel çalışma ortamı yeterli değildir. Ağ kuşağının bu konulardaki beklentileri nelerdir sorusu daha derinlemesine incelenmelidir. Sosyal medyanın kütüphanelerde daha stratejik olarak kullanılması için tek görevi sosyal medya olan kütüphaneciler istihdam etmek gerekmektedir. Kütüphane kullanım faaliyetinin tanımı değişmiştir. Kütüphane web sitesini bile kullanmayan ağ kuşağının kütüphane kullanımı farklı yaklaşımlarla ölçülebilir. Onların en sık bulundukları ortamlardan biri olan sosyal ağlar bu kullanıcılara erişmek için kullanılabilir. Kullanıcılara gitmek, onların bulundukları ortamlarda bulunmak gerekmektedir. Karşılıklı işlerlik ilkesine göre bilgi sistemleri için esnek, kişiselleştirilebilir ve özelleştirilebilir arayüzlerin tasarlanması gerekmektedir. Bu kullanıcı türü beklentileri itibariyle arayüz tasarımına etki eden noktalara değinmektedir. Masaüstü araçlardan erişimi çok olağan karşılayan ağ kuşağına ulaşabilmek için kütüphanelerin mobil teknolojileri kullanması gerekmektedir (Rowlands ve diğerleri, 2008, s. 293).

Bilgiye kendi masa üstü bilgisayarlarından ya da mobil araçlardan erişimi çok olağan olarak gören bu nesil için bilgi hizmetleri hangi düzeyde ve nasıl mobil ortamlara taşınabileceği sorusuna cevap aranmalıdır. Kütüphanelerin verdiği her hizmetin mümkün olduğunca mobil ortama taşınması gerekmektedir. Mobil çevrimiçi katalog uygulaması, mobil web sitesi, koleksiyona yeni eklenen yayınların linklerini içeren site akış özetleri (RSS), kullanıcı deneyimlerinin paylaşılmasına imkân veren çevrimiçi katalog tarama uygulamaları, katalog navigasyon uygulamaları, kitap bul uygulaması gibi yazılımlar geliştirilmelidir. Kütüphanelerin kullanıcıların teknoloji ile tanışacakları ve yeni teknolojileri deneyimleyecekleri hizmetleri barındırmaları teknolojiye erişimde fırsat eşitliği sağlama konusunda kütüphanelerin üstlenebileceği roller arasında gösterilebilir.

Sosyal ağların sıkı bir müşterisi olarak ağ kuşağı bu platformlar üzerinden günün her saati erişilebilir durumdadır. Kütüphaneler bu durumu bir avantaja çevirerek onlara ulaşmak ve kişiselleştirilmiş bilgi hizmetleri sunmak için sosyal ağları kullanmalıdır. Disiplinler arasındaki farklardan kaynaklanan nedenlerden ötürü kaynak türü ve atıf alışkanlıkları olmak üzere birçok konuda kullanıcı grupları arasında farklılıklar olduğu bilinmektedir. Gözünü teknolojiyle açan bu nesil, ihtiyaç duyduğu her şeye kendi kişisel bilgisayarından ve uzaktan erişmek istemektedir. Kütüphane koleksiyonlarında yer alan kaynakların türü ve kayıtlı olduğu ortam bu kaynakların barındırdığı bilgiyi kullanıcılara ulaştırmada yeterli değildir. Bu bağlamda koleksiyonun yeniden gözden geçirilmesi ve koleksiyon geliştirme politikasının değişen şartlara ve gereksinimlere göre yeniden güncellenmesi gerekmektedir. Koleksiyonda yer alan kaynakların kullanımını uzak kullanıcılara açmak için gerekli alt yapı çalışmalarının yapılması ve kaynak kullanımının ölçülebilmesi için yeni ölçme ve değerlendirme yöntemleri geliştirilmelidir. Sağlama politikasının da yeniden değerlendirilmesi ve buna bağlı olarak da satın alma ve temin işlemlerinde kütüphaneleri bağlayıcı nitelikteki yasa ve yönetmeliklerin de gözden geçirilmesi ve güncel şartlara göre güncellenmesi gerekmektedir.

Yaşça ağ kuşağından çok daha büyük olduğunu varsayabileceğimiz kütüphane yöneticilerinin bu değişikliklere ne kadar hazır ya da bu gereksinimlerden ne kadar haberdar olduğu incelenmelidir. Yöneticilerin bu gereksinimlerden haberdar olmaları ve bu konularda neler yapmaları gerektiği hakkında kütüphane çalışanlarına hizmet içi eğitim vererek onların bu konularda kendilerini geliştirmeleri sağlanabilir. Bu sayede farkındalık düzeyi artırılmış bir kütüphane yöneticisinin kütüphanenin teknolojik alt yapısının bu beklentileri ne düzeyde karşıladığına karar vermesi; çevrimiçi katalog sayfası, mobil web sitesi, elektronik danışma hizmeti vb. gibi konularda harekete geçmesi sağlanabilir. Teknolojik alt yapının beklentilerin karşılanmasında şart olması, sonraki aşamalarda ise personelin eğitimi ile yasal çerçevenin beklentileri karşılayacak esnekliğe kavuşturulması sağlanabilir.

Özetlemek gerekirse; kütüphaneler ya da bilgi hizmeti sağlayan kuruluşlar sosyal ağların kullanımında belirli bir politika ve stratejiye göre hareket etmelidir. Bu politika sayesinde kütüphanelerin kurumsal bağlamda ne tür

bilgilerin paylaşılacağı ve hangi durumlara dikkat edileceği ile ilgili noktalar tanımlanabilir. Bu konuda Amarikan Kütüphaneciler Derneği'nin belirlemiş olduğu etik kurallar (ALA Code of Ethics) kullanılabilir (Aras, 2014, s. 25). Politika, yazılı bir metin halinde ağ kuşağının birer üyesi olarak son kullanıcıların erişebileceği bir ortamda paylaşılmalıdır. Kurumlar sosyal medya politikasıyla, sosyal medya üzerinden nelerin duyurulacağı, nelerin paylaşılacağı ve bunları kimin yapacağını açıkça tanımlamalıdır. Görev tanımı açıkça yapılmış bir sosyal medya kütüphanecisi etkileşimde bulunulacak kişinin hedeflenmesi bağlamında önemlidir. Sosyal medya araçlarının kullanımında kişisel verilerin kullanımı vb. gibi hassas noktalarda şeffaf olunmalıdır. Kullanıcıların kişiselleştirme amacıyla kullanılabilecek verilerinin sınırlarının açık bir şekilde ifade edilmesi gerekmektedir. Bilgi hizmetlerini sosyal ağlar üzerine taşımak kullanım açısından olumlu etkiler yaratacaktır. Ancak bilgi hizmetlerinin entegrasyonu aşamasında son kullanıcıların kişisel verilerinin kullanımı, özel hayat ve mahremiyet vb. gibi kaygılarının göz önünde bulundurulması gerekmektedir. Diğer bir deyişle, bilgi sistemlerinin kullanıcıların aşina oldukları platformlara taşınması ya da o platformlardaki gibi tasarlanması, bilgi hizmetlerinin yalnızca bilgisayarlardan değil mobil araçlar üzerinden de erişilebilir olması kullanımı olumlu yönde etkileyecektir.

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# SOSYAL BİLGİLER LİSANS ÖĞRENCİLERİNİN HARİTA OKURYAZARLIKLARININ İNCELENMESİ (Gazi Üniversitesi Örneği)

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**ÖZET**
Bu araştırmanın amacı, sosyal bilgiler lisans öğrencilerinin harita okuryazarlık düzeylerini çeşitli değişkenler açısından incelemektir. Araştırma tarama modelinde gerçekleştirilmiştir. Araştırmada veri toplama aracı olarak Koç ve Demir (2014) tarafından geliştirilen DevelopingValidandReliableMapLiteracyScale isimli harita okuryazarlık ölçeği uygulanmıştır. Araştırma, 2015-2016 öğretim yılında Gazi Üniversitesi, Gazi Eğitim Fakültesi Sosyal BilgilerEğitimi Anabilim dalında öğrenim gören 221öğrenciüzerinde gerçekleştirilmiştir. Araştırmanın alt problemlerinin çözümlenmesinde; t-testi ve tek yönlü varyans analizi (OneWay ANOVA) kullanılmıştır.Araştırma sonuçlarına göre, araştırmaya katılan lisans öğrencilerinin harita bilgisi ve becerileri testi toplam puanları yaş, CBS eğitimi alma durumu, günlük yaşamda harita kullanma sıklık düzeyi, harita kullanma amacı değişkenlerine göre farklılaşmazken; cinsiyet, sınıf, doğal ortamdaki çeşitli aktivitelere katılma düzeyi ve coğrafya dersine ilgi düzeyi değişkenlerine göre farklılık göstermiştir. Scheffe Post Hoch testi sonuçlarına göre söz konusu farklılıklar; erkek öğrenciler, 3. ve 4. sınıf öğrencileri, aktivitelere fazla katılan öğrenciler ve coğrafya dersine çok fazla ilgi duyan öğrenciler lehine bulunmuştur.
Sosyal bilgiler lisans öğrencilerin harita uygulamalarına yönelik yeterlik ölçeği puanları yaş ve CBS eğitimi alma durumu değişkenlerine göre farklılaşmazken; cinsiyet, sınıf, günlük yaşamda harita kullanma sıklık düzeyi, harita kullanma amacı, doğal ortamdaki çeşitli aktivitelere katılma düzeyi ve coğrafya dersine ilgi düzeyi değişkenlerine göre farklılık göstermiştir. Çoklu karşılaştırma testi sonuçlarına göre söz konusu farklılıklar; erkek öğrenciler, 3. sınıf öğrencileri, günlük yaşamda çok fazla harita kullanan öğrenciler, doğal ortamdaki aktivitelere fazla katılan öğrenciler, ders çalışırken harita kullanan öğrenciler ve coğrafya dersine çok fazla ilgi duyan öğrenciler lehine bulunmuştur. Araştırma sonuçlarına göre sosyal bilgiler lisans öğrencilerinin harita okuryazarlıklarının geliştirilmesi için harita ile ilgili zorunlu ve seçmeli dersler konulması önerilmektedir.

Anahtar kelimeler: Harita okuryazarlığı, harita becerisi, sosyal bilgiler öğretimi

**ABSTRACT**
The purpose of this study is to examine undergraduate social sciences students' map literacy levels in terms of various variables. Survey model was employed in this study. DevelopingValidandReliableMapLiteracyScale, which was developed by KoçandDemir (2014), was used for collecting data. The study was conducted on 221 students studying at the Division of Social Sciences Education at Faculty of Education of Gazi University in the 2015-2016 academic year. T-test and one-way ANOVA were used for solving the sub-problems of the research. The research results show that the participating undergraduate students' total map knowledge and skills test scores do not differ by age, status of receiving GIS training, the frequency of using maps in the daily life, and the purpose of using maps whereas they differ by gender, grade, the level of participation in various activities in the natural environment, and the level of interest in the geography course.According to the Scheffe post-hoch test results,these differences are in favor of the male students, third and fourth graders, the students having a high level of participation in activities, and the students having a very high level of interest in the geography course.

  

The undergraduate social studies students' scores obtained from the Competence in Map Practices Scale do not differ by age and the status of receiving GIS training whereas they differ by gender, grade,the frequency of using maps in the daily life, the purpose of using maps,the level of participation in various activities in the natural environment, and the level of interest in the geography course.According to the multiple comparison test results, these differences are in favor of the male students, third graders, the students using maps in the daily life very frequently, the students having a level of participation in the activities in the natural environment, the students using maps while studying, and the students having a very high level of interest in the geography course. Based on the research results,it is recommended to put compulsory and electives courses in the curriculum for map literacy of undergraduate social sciences students to be improved.

Keywords: Map literacy, map skills, social sciences teaching

## GİRİŞ

Haritalar, günlük yaşantıda geniş bir kullanım alanına sahiptir. Turistik geziler, dersler, bilimsel çalışmalar, yön bulma, konum ve koordinat belirleme, uzaklık ve alan hesaplama, fiziki özellikleri yorumlama, mekânsal planlama vb. konuda pek çok amaçla kullanılmaktadır (Tümertekin ve Özgüç, 2000). Haritalar neyi ifade eder? Coğrafyanın masum bir fotoğrafını mı, bilimsel bir temsili mi, yoksa zihnimizin imgelerini mi? Haritalar olmasaydı yaşadığımız yerin imgesini yaratmakta zorlanabilirdik. Örneğin, Fransa'nın dairesel Türkiye'nin dikdörtgene benzediğini nasıl bilebilirdik? Bu nedenle haritalar zihnimizin, coğrafya bilimi ve diğer bilimlerin ayrılmaz bir parçasıdır (Ünlü, M.,Üçışık, S., Özey, R., 2002; Demiralp, 2006; Kızılçaoğlu, 2007; Koç, 2008; Sönmez, 2010; Aksoy, 2013; Koç ve Karatekin, 2015; Aksoy, Kılıçoğlu ve Ablak, 2015).

Harita, mekânsal olay, olgu ve özelliklerin belirli bir ölçeğe göre küçültülerek düzlem üzerinde gösterilmesidir. Başka bir tanıma göre harita; yeryüzünde ya da diğer gök cisimlerinde yer alan, doğal ya da beşeri olgu, olay ve objelerin (orman, nehir, yerleşme, ticaret, turizm vb.) veya mekansal ilişkisi bulunan konuların (hava kirliliği, gelir dağılımı, yağış oranı vb.) belirli bir ölçek dahilinde, birtakım kartografik kurallar uygulanarak iki veya üç boyutlu bir yüzey (kağıt, cam, bilgisayar ekranı, kabartma yüzey vb.) üzerine aktarılmasıdır (www.hgk.mil.tr). Harita görsel bir betimleme aracıdır. Gösterim gücü olarak haritaların keşfedilmesi, disiplinler arası, güçlü ve önemli bir bağ oluşturmuştur (Mac Eachren, 2004; Akt: Koç, 2008).

Harita becerileri ve harita okuryazarlığı coğrafya öğretimindeki bu çalışmaların önemli bir kısmını oluşturmaktadır. Harita becerilerinin kategorize edilmesi ile ilgili araştırmalara literatürde sıkça rastlanmaktadır. Harita becerileri ile ilgili literatür incelendiğinde Mcclure (1992) ve Weeden (1997)'in sınıflandırması dikkati çeker. Mcclure (1992)'un yaptığı sınıflandırmanın daha ayrıntılı olduğu belirlenmiştir. Mcclure (1992) harita becerilerini somuttan soyuta doğru; 1) Sembolleri Anlama ve Yorumlama Becerisi, 2) Profil Çıkarma Becerisi: Profil çıkarma becerisi, 3)Yön Bulma Becerisi, 4) Uzaklık, Alan ve Eğim Ölçme Becerisi, 5) Konum ve Koordinat Belirleme Becerisi, 6) Ölçek Kullanma Becerisi, 7) Taslak Harita Oluşturma ve Fiziksel Özellikleri Tanımlama Becerisi ve 8) Harita okuma ve Yorumlama Becerisi şeklinde sınıflandırmıştır. Weeden (1997) ise harita becerilerini; 1) Harita kullanma, 2) Harita yapma, 3) Harita okuma ve 4) Harita yorumlama şeklinde kategorize etmektedir.

Okuryazarlık ise, genel olarak belli bir alanda iyi eğitimli olma veya belli bir alanla ilgili geniş bir bilgi birikimine sahip olma anlamında kullanılmaktadır"(McBride, 2011, Akt: Çiftci ve Koç, 2016).

Harita okuryazarlığı, harita kullanımı olarak nitelendirilmekte ve harita kullanımı da üç kategoriye ayrılmaktadır Bu kategoriler harita okuma, harita analizi ve harita yorumlamadan oluşmaktadır (Buckley, Muehrcke ve Muehrcke, 1978). Olson (1976) basitten zora doğru; tek tek sembol özelliklerinin karşılaştırılması, bir bütün olarak haritadaki sembol gruplarının özelliklerini tanıma ve karar almada veya sembollere dayalı bilgiyi yorumlayarak haritaları bilgiyi yapılandırmada bir araç olarak kullanma olmak üzere üç seviyede harita okumayı düzenlemiştir. Clarke (2003)'e göre harita okuryazarlığı haritaları günlük yaşamda kullanma ve haritaları anlama yeteneğidir. Harita okuryazarlığı bilgi, anlama, uygulama, analiz, sentez ve değerlendirme basamaklarından oluşur (Koç ve Çifci, 2016).

Harita okuryazarlığı ve harita becerileri konusunda literatürde çeşitli araştırmalar yer alır (Buckley, Muehrcke&Muehrcke, 2011; Clarke, 2003; Carswell 1971; Catling 1998;.Gerber ve Wilson, 1989; Gilmartin ve Patton 1984; Ünlü, Üçışık ve Özey 2002, Demiralp 2006, Kızılçaoğlu 2007, Golledge, Marsh, ve Battersby, 2008; Liben ve Downs, 1989; MacEachren, 2004; McClure, 1992; Richard B. Schultz Joseph J. Kerski ve Todd C. Patterson, 2008; Weeden, 1997; White, 1995; Wiegand, 2006; Wood, 1992; Koç 2008; Koç 2010; Aksoy, 2013; Koç ve Karatekin, 2015;Aksoy, Kılıçoğlu ve Ablak, 2015;Çifçi ve Koç, 2016).

  

Literatürde bireylerin harita okuryazarlık düzeylerini belirlemeye yönelik Jongwon ve Bednarz (2012) ile Koç ve Demir (2014)'in geliştirdiği ölçek çalışmaları bulunmaktadır (Çifci ve Koç, 2016).

**Araştırmanın Amacı**

Bu araştırmanın amacı, sosyal bilgiler lisans öğrencilerinin harita okuryazarlık düzeylerini çeşitli değişkenler açısından incelemektir.

## 2. YÖNTEM

### 2.1.Araştırmanın Modeli

Bu araştırmada tarama modeli kullanılmıştır. Tarama (survey) araştırması bir grubun belirli özelliklerini belirlemek için verilerin toplanmasını amaçlayan çalışmalardır (Büyüköztürk ve diğerleri, 2009). Karasar (1999)'a göre tarama modelleri geçmişte ya da halen var olan bir durumu var olduğu şekliyle betimlemeyi amaçlayan araştırma yaklaşımlarıdır.

### 2.2. Çalışma Grubu

Araştırmanın çalışma grubunu 2015-2016 eğitim öğretim bahar döneminde Gazi ÜniversitesiSosyal Bilgiler Eğitimi Anabilim Dalı'nda öğrenim gören 221 öğretmen adayı oluşturmaktadır.
Araştırmaya katılan sosyal bilgiler öğretmen adaylarının %57.9'u kadın, 42.1'i erkektir.Katılımcıların %15.4'ü 1. sınıf, %25.3'ü 2. sınıf, %31.7'si 3. sınıf ve %27.6'sı 4. sınıf lisans öğrencilerinden oluşmaktadır.

### 2.3. Veri Toplama Aracı

Sosyal bilgiler lisans öğrencilerinin harita okuryazarlık düzeylerini belirlemek amacıyla Koç ve Demir (2014) tarafından geliştirilen harita okuryazarlık ölçeğikullanılmıştır. Harita okuryazarlık ölçeği; harita bilgi ve beceri testi ve harita yeterlik (haritalarla işlem yapabilme, haritaları okuma ve yorumlama, taslak harita çizebilme ve haritaları kullanma) olarak isimlendirilmiş toplam beşboyuttan oluşmaktadır. 23 maddeden oluşan harita bilgisi testinin KR20 güvenirlik katsayısı 0.76; 5'li likert türünde yapılandırılmış ve 4 (dört) maddeden oluşan haritalarla işlem yapabilme boyutunun Cronbach Alpha kat sayısı 0.834 hesaplanmıştır. 9 (dokuz) maddeden oluşan haritaları okuma ve yorumlamaboyutununCronbach Alpha katsayısı 0.885; 3(üç) maddeden oluşan taslak harita çizebilme boyutununCronbach Alpha katsayısı 0.807 ve 8(sekiz) maddeden oluşan harita kullanma boyutunun Cronbach Alpha katsayısı 0.850 olarak belirlenmiştir (Koç ve Demir, 2014).

### 2.4. Verilerin Analizi

Araştırmada istatistiksel analizler SPSS 22 (Statistical PackageforSocialScienceforPersonalComputers) programı kullanılarak yapılmıştır. Öğretmen adaylarının harita okuryazarlığını oluşturan bilgi-beceri ve yeterlik boyutları ile bağımsız değişkenler arasında İlişkisiz Örneklemler İçin t-Testi; İlişkisiz Örneklemler İçin Tek Yönlü Varyans Analizi testi (ANOVA) yapılmıştır. Bu çalışmada verilerin çözümlenmesinde,harita yeterlik boyutunu oluşturan dört alt boyutun toplam puanı alınarak analizler yapılmıştır.

## 3. BULGULAR VE YORUM

### 3.1. Sosyal BilgilerLisans Öğrencilerinin Kullandıkları Harita Türlerine İlişkin Bulgular ve Yorum

Sınıf öğretmeni adaylarının kullandıkları harita türlerine ilişkin betimsel veriler Tablo 1'de verilmiştir.

**Tablo1.** Sosyal BilgilerLisans Öğrencilerinin Kullandıkları Harita Türlerine İlişkin Betimsel Veriler

| Harita Türleri | N | % |
|---|---|---|
| Yol Haritaları | 50 | 22,6 |
| Şehir İmar Planları | 1 | ,5 |
| Fiziki Haritalar | 91 | 41,2 |
| Siyasi Haritalar | 38 | 17,2 |
| Turizm Haritaları | 4 | 1,8 |
| Dijital Harita Uygulamaları | 29 | 13,1 |
| Diğer | 8 | 3,6 |
| Toplam | 221 | 100,0 |

Tablo 1'deki bulgulara göre araştırmaya katılan sosyal bilgiler öğretmen adaylarının en çok kullandıkları harita türlerinin fiziki haritalar (%41,2), yol haritaları (%22,6) ve siyasi haritalar (%17,2) olduğu söylenebilir. Sosyal

  

bilgiler öğretmen adaylarının diğer harita türlerini (Şehir imar planları, Turizm haritaları ve Dijital harita uygulamaları ve diğer haritalar) ise daha az kullandıkları belirlenmiştir.

### 3.2. Sosyal BilgilerLisans ÖğrencilerininHarita OkuryazarlığıPuanlarının Cinsiyete Göre Farklılığına İlişkin Bulgular ve Yorum

Sosyal bilgilerlisans öğrencilerinin harita okuryazarlığı puanlarının cinsiyete göre farklılık gösterip göstermediğini belirlemek için ilişkisiz örneklemler için t testi yapılmıştır. Analiz sonuçları Tablo 2'te verilmiştir.

**Tablo 2.** Sosyal Bilgiler Öğretmen Adaylarının Harita Okuryazarlığı Puanlarının Cinsiyet Değişkenine Göre Farklılığı İçin t- Testi Sonuçları

| Boyut | Cinsiyet | N | $\bar{X}$ | S | sd | t | p |
|---|---|---|---|---|---|---|---|
| Bilgi ve Beceri | Kadın | 128 | 8,46 | 3,83 | 219 | -2,048 | ,042 |
| | Erkek | 93 | 9,59 | 4,24 | | | |
| Harita Yeterlik | Kadın | 128 | 77,84 | 16,87 | 219 | -1,742 | ,083 |
| | Erkek | 93 | 81,91 | 17,52 | | | |

Tablo 2'teki bulgulara göre harita okuryazarlığının, bilgi ve beceri alt boyutunda [$t_{(219)}$ = -2,048; p<,05] cinsiyet değişkenine göre erkek öğretmen adayları lehine anlamlı bir farklılık olduğu söylenebilir.
Sosyal bilgilerlisans öğrencilerininharita okuryazarlığı harita yeterlik boyutuna ilişkin puanları cinsiyet değişkenine göre anlamlı bir farklılık göstermemiştir [$t_{(219)}$ = -1,742; p>,05] Bu bulguya göre erkek ve kadın öğretmen adaylarının harita yeterlik düzeyleri benzer bulunmuştur.

### 3.3. Sosyal BilgilerLisans ÖğrencilerininHarita Okuryazarlığı Puanlarının Sınıf Değişkenine Göre Farklılığına İlişkin Bulgular ve Yorum

Sosyal bilgiler lisans öğrencilerininharita okuryazarlığı puanlarının sınıfa göre anlamlı bir farklılık gösterip göstermediğini belirlemek için ilişkisiz örneklemler için tek yönlü varyans analizi yapılmıştır. Analiz sonuçları Tablo 3'te verilmiştir.

**Tablo 3.** Sosyal Bilgiler Öğretmen Adaylarının Harita Okuryazarlığı Puanlarının Sınıf Değişkenine Göre Farklılığı İçin Tek Yönlü Varyans Analizi (ANOVA) Sonuçları

| Boyut | Sınıf | N | $\bar{X}$ | S | F | p | FarkScheffe |
|---|---|---|---|---|---|---|---|
| Bilgi ve Beceri | 1.sınıf | 34 | 8,17 | 3,14 | 18,664 | ,000 | 1-3<br>2-3<br>2-4<br>3-4 |
| | 2. sınıf | 53 | 6,35 | 3,95 | | | |
| | 3. sınıf | 70 | 11,21 | 3,88 | | | |
| | 4. sınıf | 61 | 8,98 | 3,23 | | | |
| Harita Yeterlik | 1.sınıf | 34 | 79,55 | 18,94 | ,200 | ,896 | |
| | 2. sınıf | 56 | 78,64 | 19,48 | | | |
| | 3. sınıf | 70 | 80,81 | 15,52 | | | |
| | 4. sınıf | 61 | 78,95 | 16,20 | | | |

Tablo 3'deki bulgulara göre harita okuryazarlığının, bilgi ve beceri alt boyutunda [$F_{(3-214)}$ = 18,664; p<,05] sınıf değişkenine göre 3. Sınıfta öğrenim gören öğretmen adayları lehine anlamlı bir farklılıklarbulunmuştur. Yine 1. ve 4. Sınıf öğrencilerinin harita bilgi ve beceri düzeyleri 2. Sınıf öğrencilerinden daha yüksek bulunmuştur.

Sosyal bilgiler öğretmen adaylarının harita okuryazarlığı harita yeterlik boyutuna ilişkin puanlarısınıf değişkenine göre anlamlı bir farklılık göstermemiştir[$F_{(3-217)}$ = ,200; p>,05]. Başka bir anlatımla katılımcıların harita yeterlikleri benzer bulunmuştur.

### 3.4. Sosyal BilgilerLisans Öğrencilerinin Harita Okuryazarlığı Puanlarının Harita Kullanma Sıklığına Göre Farklılığına İlişkin Bulgular ve Yorumlar

  

Sosyal bilgiler lisans öğrencilerininharita okuryazarlığı puanlarının harita kullanma sıklığına göre anlamlı bir farklılık gösterip göstermediğini belirlemek için ilişkisiz örneklemler için tek yönlü varyans analiziyapılmıştır. Analiz sonuçları Tablo 4'te verilmiştir.

**Tablo 4.** Sosyal Bilgiler Lisans Öğrencilerinin Harita Okuryazarlığı Puanlarının Harita Kullanma Sıklığı Değişkenine Göre Farklılığı İçin Tek Yönlü Varyans Analizi (ANOVA) Sonuçları

| Boyut | Harita kullanma sıklığı | N | $\bar{X}$ | S | F | p | FarkScheffe |
|---|---|---|---|---|---|---|---|
| Bilgi ve Beceri | Hiç | 18 | 7,94 | 3,26 | ,775 | ,509 | |
| | Çok az | 112 | 8,88 | 4,02 | | | |
| | Orta | 75 | 9,04 | 4,10 | | | |
| | Çok | 13 | 10,15 | 4,82 | | | |
| Harita Yeterlik | Hiç | 18 | 68,27 | 16,63 | 8,589 | ,000 | 1-3 |
| | Çok az | 114 | 77,75 | 15,52 | | | 1-4 |
| | Orta | 76 | 82,00 | 17,98 | | | 2-4 |
| | Çok | 13 | 96,69 | 13,45 | | | 3-4 |

Tablo 4'deki bulgulara göre harita okuryazarlığının, bilgi ve beceri boyutunda [$F_{(3-214)}$ = ,775; p>,05] harita kullanma sıklığı değişkenine göre anlamlı bir farklılık bulunmamıştır.

Sosyal bilgiler lisans öğrencilerininharita okuryazarlığı harita yeterlik boyutuna ilişkin puanlarıharita kullanma sıklığı değişkenine göre haritayı çok kullanan ve orta düzeyde kullananlar lehine anlamlı farklılıklar göstermiştir[$F_{(3-217)}$ = 8,589; p<,05]. Bu bulgu harita kullanma sıklığı arttıkça harita yeterlik düzeyinin de arttığı şeklinde yorumlanabilir.

### 3.5. Sosyal BilgilerLisans Öğrencilerinin Harita Okuryazarlığı Puanlarının Doğal Ortamda Aktivitelere Katılma Sıklığına Göre Farklılığına İlişkin Bulgular ve Yorumlar

Sosyal bilgiler lisans öğrencilerininharita okuryazarlığı puanlarının doğal ortamda aktivitelere katılma sıklığına göre anlamlı bir farklılık gösterip göstermediğini belirlemek için ilişkisiz örneklemler için tek yönlü varyans analiziyapılmıştır. Analiz sonuçları Tablo 5'te verilmiştir.

**Tablo 5.** Sosyal Bilgiler lisans Öğrencilerinin Harita Okuryazarlığı Puanlarının Doğal Ortamda Aktivitelere Katılma Sıklığı Değişkenine Göre Farklılığı İçin Tek Yönlü Varyans Analizi (ANOVA) Sonuçları

| Boyut | Aktivite katılma sıklığı | N | $\bar{X}$ | S | F | p | FarkScheffe |
|---|---|---|---|---|---|---|---|
| Bilgi ve Beceri | Hiç | 112 | 8,38 | 3,68 | 2,940 | ,034 | 1-4 |
| | Çok az | 79 | 9,29 | 4,26 | | | |
| | Orta | 21 | 9,48 | 3,94 | | | |
| | Çok | 6 | 12,83 | 5,74 | | | |
| Harita Yeterlik | Hiç | 112 | 76,17 | 16,31 | 3,975 | ,009 | **1-3** |
| | Çok az | 80 | 81,40 | 17,83 | | | |
| | Orta | 23 | 87,86 | 15,12 | | | |
| | Çok | 6 | 86,16 | 20,85 | | | |

Tablo 5'deki bulgulara göre harita okuryazarlığının, bilgi ve beceri boyutunda [$F_{(3-214)}$ = 2,940; p<,05] doğal ortamda aktivitelere katılma sıklığı değişkenine göre anlamlı bir farklılık bulunmuştur.Çoklu karşılaştırma testi sonuçlarına göre söz konusu farklılık doğal ortamda çok fazla bulunan öğretmen adayları ile hiç bulunmayanlar arasında çok fazla bulunan öğretmen adayları lehine bulunmuştur. Bu bulgu doğal ortamda bulunma sıklığı arttıkça sosyal bilgiler lisans öğrencilerinin harita bilgi ve becerilerinin arttığı şeklinde yorumlanabilir.

  

Sosyal bilgiler öğretmen adaylarının harita okuryazarlığı harita yeterlik boyutuna ilişkin puanlarıdoğal ortamda aktivitelere katılma sıklığı değişkenine göre orta düzeyde katılım gösterenler ile hiç katılmayanlar arasında orta düzeyde katılanlar lehine anlamlı farklılıklarbulunmuştur[$F_{(3-217)}$ = 3,975; p<,05]. Bu bulgu harita aktivitelere katılım arttıkça harita yeterlik düzeyinin de arttığı şeklinde yorumlanabilir.

### 3.6. Sosyal BilgilerLisans Öğrencilerinin Harita Okuryazarlığı Puanlarının Doğal Ortamda Aktivitelere Katılma Sıklığına Göre Farklılığına İlişkin Bulgular ve Yorumlar

Sosyal bilgiler lisans öğrencilerinin harita okuryazarlığı puanlarının doğal ortamda aktivitelere katılma sıklığına göre anlamlı bir farklılık gösterip göstermediğini belirlemek için ilişkisiz örneklemler için tek yönlü varyans analiziyapılmıştır. Analiz sonuçları Tablo 6'da verilmiştir.

**Tablo 6.** Sosyal Bilgiler lisans Öğrencilerinin Harita Okuryazarlığı Puanlarının Harita Kullanma Amacı Değişkenine Göre Farklılığı İçin Tek Yönlü Varyans Analizi (ANOVA) Sonuçları

| Boyut | Harita Kullanma Amacı | N | $\bar{X}$ | S | F | p |
|---|---|---|---|---|---|---|
| Bilgi ve Beceri | Turistik seyahaetlerde | 13 | 8,92 | 5,02 | ,005 | ,999 |
| | Konum ve yön belirlemede | 83 | 8,97 | 3,96 | | |
| | Akademik çalışmalarımda | 9 | 9,11 | 5,81 | | |
| | Ders çalışırken | 112 | 8,94 | 3,85 | | |
| Harita Yeterlik | Turistik seyahaetlerde | 13 | 73,46 | 20,32 | 2,538 | ,058 |
| | Konum ve yön belirlemede | 84 | 83,33 | 17,44 | | |
| | Akademik çalışmalarımda | 9 | 79,22 | 26,20 | | |
| | Ders çalışırken | 114 | 77,38 | 15,51 | | |

Tablo 6'daki bulgulara göre harita okuryazarlığının, bilgi ve beceri boyutunda [$F_{(3-213)}$ =,005; p>,05] harita kullanma amacı değişkenine göre anlamlı bir farklılık göstermemiştir.

Sosyal bilgiler öğretmen adaylarının harita okuryazarlığı harita yeterlik boyutuna ilişkin puanlarındaharita kullanma amacı değişkenine göre farklılık bulunmamıştır[$F_{(3-216)}$ = 2,538; p>,05].

### 3.7. Sosyal BilgilerÖğretmen Adaylarının Harita Okuryazarlığı PuanlarınınCoğrafyaya Duydukları İlgi Düzeyine Göre Farklılığına İlişkin Bulgular ve Yorum

Sosyal bilgiler lisans öğrencilerinin harita okuryazarlığı puanlarının coğrafyaya duydukları ilgi düzeyine göre anlamlı bir farklılık gösterip göstermediğini belirlemek için tek yönlü varyans analizi yapılmıştır. Analiz sonuçları Tablo 7'de verilmiştir.

  

**Tablo 7.** Sosyal Bilgiler Lisans Öğrencilerinin Harita Okuryazarlığı Puanlarının Coğrafyaya İlgi Düzeyi Değişkenine Göre Farklılığı İçin Tek Yönlü Varyans Analizi (ANOVA) Sonuçları

| Boyut | Coğrafyaya İlgi | N | $\bar{X}$ | S | F | p | FarkScheffe |
|---|---|---|---|---|---|---|---|
| Bilgi ve Beceri | Hiç | 9 | 6,77 | 2,43 | 3,395 | ,019 | 2-4 |
| | Çok az | 31 | 7,70 | 3,34 | | | |
| | Orta | 122 | 8,88 | 3,89 | | | |
| | Çok fazla | 56 | 10,0 | 74,59 | | | |
| Harita Yeterlik | Hiç | 9 | 66,33 | 21,27 | 23,275 | ,000 | **1-4** |
| | Çok az | 31 | 65,09 | 14,58 | | | **2-3** |
| | Orta | 124 | 78,76 | 14,80 | | | **2-4** |
| | Çok fazla | 57 | 91,22 | 14,91 | | | **3-4** |

Tablo 7'deki bulgulara göre harita okuryazarlığının, bilgi ve beceri boyutunda [$F_{(3\text{-}214)}$ = 3,395; p<,05] coğrafyaya ilgi düzeyi değişkenine göre anlamlı bir farklılık bulunmuştur.Scheffeçoklu karşılaştırma testi sonuçlarına göre, coğrafyaya çok ilgi duyan öğretmen adayları ile orta düzeyde ilgi duyan öğretmen adayları arasında çok ilgi duyan öğretmen adayları lehine anlamlı farklılıklar bulunmuştur. Bu bulgu coğrafyaya ilgi düzeyi yüksek öğretmen adaylarının harita bilgi ve becerilerinin daha iyi olduğu şeklinde yorumlanabilir.

Sosyal bilgiler öğretmen adaylarının harita okuryazarlığı harita yeterlik boyutuna ilişkin puanları coğrafyayailgi düzeyi değişkenine göre anlamlı farklılık göstermiştir[$F_{(3\text{-}217)}$ = 23,275; p<,05]. Farkın hangi gruplar arasında olduğunu belirlemek amacıyla yapılan Scheffe testi sonuçlarına göre, coğrafyaya çok ilgi duyan öğretmen adayları ile hiç ilgi duymayan, çok az ve orta düzeyde ilgi duyan öğretmen adayları arasında çok ilgi duyan öğretmen adayları lehine anlamlı farklılıklar bulunmuştur.

Bu bulguya göre coğrafya disiplinine ilgi düzeyi arttıkça öğretmen adaylarının harita okuryazarlık düzeylerinin de arttığı söylenebilir.

## 4. TARTIŞMA, SONUÇ VE ÖNERİLER

### 4.1. Tartışma veSonuç

Araştırma sonuçlarına göre araştırmaya katılan sosyal bilgiler lisans öğrencilerinin en çok kullandıkları harita türlerinin fiziki haritalar (%41,2), yol haritaları (%22,6) ve siyasi haritalar (%17,2) olduğu söylenebilir. Bu bulgu Koç ve Karatekin (2015), Çifçive Koç (2016)'nin ulaştığı sonuçlara benzerlik göstermektedir.
Araştırma sonuçları harita okuryazarlığının, bilgi ve beceri alt boyutunda cinsiyet değişkenine göre erkek öğretmen adayları lehine anlamlı bir farklılık olduğunu; harita yeterlik boyutunda ise cinsiyet değişkenine göre anlamlı bir farklılık bulunmadığını ortaya koymuştur.

Araştırma sonuçlarına göre harita okuryazarlığının, bilgi ve beceri alt boyutunda sınıf değişkenine göre 3. Sınıfta öğrenim gören öğretmen adayları lehine anlamlı şekilde farklılaşırken; harita yeterlik boyutuna ilişkin puanları sınıf değişkenine göre benzer bulunmuştur.

Araştırma sonuçlarına göre harita okuryazarlığının, bilgi ve beceri boyutunda harita kullanma sıklığı değişkenine göre anlamlı bir farklılığa rastlanmazken; Harita yeterlik boyutuna ilişkin puanları harita kullanma sıklığı değişkenine göre haritayı çok kullanan ve orta düzeyde kullananlar lehine anlamlı farklılıklar göstermiştir.

Araştırma sonuçlarına göre harita okuryazarlığının, bilgi ve beceri boyutunda doğal ortamda aktivitelere katılma sıklığı değişkenine göre doğal ortamda çok fazla bulunan öğretmen adayları lehine farklılıklar bulunmuştur.

Harita yeterlik boyutuna ilişkin puanlarda doğal ortamda aktivitelere orta düzeyde katılanlar lehine anlamlı farklılıklar bulunmuştur. Çifçive Koç (2016)'da benzer sonuçlar bulunmuştur.

Araştırma sonuçlarına göre sosyal bilgiler lisans öğrencilerinin harita okuryazarlığının, bilgi-beceri ve harita yeterlik boyutuna ilişkin puanlarında harita kullanma amacı değişkenine göre farklılık bulunmamıştır.

Araştırma sonuçlarına göre harita okuryazarlığının, bilgi ve beceri boyutunda coğrafyaya ilgi düzeyi değişkenine göre coğrafyaya çok ilgi duyan öğretmen adayları lehine anlamlı farklılıklar bulunmuştur. Yine benzer şekilde sosyal bilgiler öğretmen adaylarının harita okuryazarlığı harita yeterlik boyutuna ilişkin puanları coğrafyaya ilgi düzeyi değişkenine göre coğrafyaya çok ilgi duyan ve orta düzeyde ilgi duyan öğretmen adayları lehine anlamlı

  

farklılıklar bulunmuştur. Coğrafya disiplinine ilgi düzeyi arttıkça öğretmen adaylarının harita okuryazarlık düzeylerinin de arttığı sonucu Koç ve Karatekin (2015) ve Çifçive Koç (2016) sonuçları ile benzerlik göstermektedir.

### 4.2. Öneriler

Araştırma sonuçlarına göre sosyal bilgiler lisans öğrencilerinin harita okuryazarlık düzeylerinin geliştirilmesi için sosyal bilgiler lisans programına harita ile ilgili zorunlu ve seçmeli dersler konulması önerilmektedir.
Lisans öğrencilerinin harita okuryazarlığı ile ilgili bilgi-beceri ve yeterlikleri kazanabilmek için coğrafya derslerinin işlenişi sırasında harita kullanımını alışkanlık haline getirmesi gerektiği önerilmektedir.

Arazi çalışmasına katılan lisans öğrencilerinin harita okuryazarlık düzeyleri daha yüksek bulunmuştur. Bu nedenle arazi çalışmalarında kartografik materyalin daha fazla kullanılması gerektiği önerilmektedir.

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# SOSYAL BİLGİLER ÖĞRETMEN ADAYLARININ SOSYAL BİLGİLERE İLİŞKİN METAFORİK ALGILARI

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**ÖZET**

Sosyal bilgiler dersinin ne olduğu, nasıl olması gerektiği uzun yıllardır tartışılmaktadır. Farklı birçok tanıma sahip olan bu ders dolayısıyla öğrenciler ve öğretmenler tarafından da farklı algılanmaktadır. Bu algıları belirmenin etkili araçlarından biri metaforlardır. Metafor, bir anlatım biçimidir ve benzetmeyi temel alır. Her bir benzetme bir kavrama ilişkin farklı algıları gösterir. Bu algılar sayesinde bahsi geçen kavramın güçlü ve zayıf yönleri analiz edilebilir, karmaşık ve gizli özellikleri anlaşılabilir, sorunlar karşısında çözüm yolları bulunabilir. Bu bilgiler doğrultusunda araştırmamızın amacı Sosyal Bilgiler öğretmen adaylarının "Sosyal Bilgiler Öğretmenliği bölümünü, sosyal bilgiler öğretmenini ve sosyal bilgiler dersini betimlemekte ne tür metaforlar kullandığını belirlemektir. Bu araştırma 2014-2015 Eğitim-Öğretim yılı güz döneminde bir devlet üniversitesi eğitim fakültesi sosyal bilgiler öğretmenliğinde öğrenim gören 1.,2.,3. ve 4. sınıf 137 öğretmen adayı üzerinde gerçekleştirilmiştir. Araştırma nitel araştırma yöntemlerinden olan durum çalışması yöntemiyle desenlenmiştir. Verilerin toplanmasında yarı yapılandırılmış görüşme formundan yararlanılmıştır. Elde edilen veriler betimsel analiz yöntemiyle analiz edilmiştir. Araştırmanın sonucunda sosyal bilgilere ilişkin metaforik algılara yönelik çalışmaların az olması ve bu eksikliğin giderilmesi ve de sosyal bilgilerin bölüm, öğretmen, ders kapsamında eksiklerinin görülüp çözümler üretilmesi açısından önemli olduğu düşünülmektedir

## GİRİŞ

Sosyal bilgiler bir ders olarak okutulduğu 1916'dan günümüze sosyal bilgiler dersinin tanımı, kapsamı ve amaçları tartışılmaktadır. Bu durum sosyal bilgilerin farklı tanımlara sahip olmasına ve insanlar arasında farklı algılanmasına sebep olan en önemli etkendir. Uluslararası sosyal bilgiler konseyi NCSS (National Council fort the Social Studies) sosyal bilgileri, vatandaşlık yeterlikleri kazandırmak için sanat, edebiyat ve sosyal bilimlerin disiplinler arası bir yaklaşımla birleştirilmesinden ortaya çıkan bir çalışma alanı olarak tanımlamaktadır. Okul programı olarak Sosyal Bilgiler, antropoloji, arkeoloji, ekonomi, coğrafya, tarih, hukuk, felsefe, siyasal bilimler, psikoloji, din, sosyoloji ve sanat, edebiyat, matematik ve doğa bilimlerinin uygun ve ilgili içeriklerden oluşan bir çalışma alanıdır. Sosyal Bilgilerin temel amacını ise; birbirlerine bağımlı, küresel bir dünyada, kültürel farklılıkları olan demokratik bir toplumun vatandaşları olarak kamu yararına bilgiye dayalı, mantıklı kararlar verebilme yeteneği geliştirmek için genç insanlara yardımcı olmaktır (NCSS, 1992).

Milli Eğitimi Bakanlığı (MEB, 2008) sosyal bilgileri *"bireyin toplumsal var oluşunu gerçekleştirebilmesine yardımcı olması amacıyla; tarih, coğrafya, ekonomi, sosyoloji, antropoloji, psikoloji, felsefe, siyaset bilimi ve hukuk gibi sosyal bilimleri ve vatandaşlık bilgisi konularını yansıtan; öğrenme alanlarının bir ünite ya da tema altında birleştirilmesini içeren; insanın sosyal ve fizikî çevresiyle etkileşiminin geçmiş, bugün ve gelecek bağlamında incelendiği; toplu öğretim anlayışından hareketle oluşturulmuş bir ilköğretim dersidir"* şeklinde tanımlanmaktadır.

  

Günümüzde araştırmacılar çalışma alanları ve bakış açıları doğrultusunda kendi tanımlarını yapmaktadırlar. İnan (2014, s.2) sosyal bilgileri, "kavrayış düzeyleri gözetilerek sosyal (beşeri) bilimlerin gerçek hayat ve yaşanılan toplumla ilgili seçilmiş konularına yer veren bir ders" olarak tanımlamaktadır.

Öztürk (2009), sosyal bilgilerin, değişen dünyada bilgiye dayalı kararlar alıp, problemleri çözüme ulaştırabilen etkin vatandaşlar yetiştirebilmek amacıyla sosyal bilimlerin bilgi ve yöntemlerinden yararlanan öğretim programı olduğunu söyler.

Doğanay (2005), sosyal bilgileri, sosyal ve insanla ilgili bilimlerden ve bu bilimlerin yöntemlerinden yararlanarak, insanın çevresiyle etkileşimini zaman boyutu içerisinde ve disiplinler arası bir yaklaşımla ele alan ve küreselleşen dünyada yaşamla ilgili temel demokratik değerlerle donatılmış, düşünen ve becerili demokratik vatandaşlar yetiştirmeyi amaçlayan bir çalışma alanı" tanımlarken, Sönmez (1998) ise toplumsal gerçeklerle kanıtlamaya dayalı bağ kurma süreci ve bu sürecin sonunda elde edilen bilgiler olduğunu belirtir.

Bireylerin kendilerini ve çevrelerini tanımaları ve kimlik kazanmaları, kültürel unsurların öğrenilmesi ve aktarılması noktasında bu dersin rolü yadsınamaz. Bireylerin gelişimi ve topluma uyum sağlamaları noktasında büyük etkisi olduğu kabul edilen Sosyal Bilgilerin içeriği kadar uygulanması da önemlidir. Elbette ki bu noktada, dersin öğretmenlerinin bu derse ilişkin görüşleri ve bu derse yükledikleri anlam da önem taşımaktadır. Bu nedenle öğretmen adaylarının sosyal bilgiler dersine, öğretmenine ve sosyal bilgiler öğretmenliği eğitimine ilişkin algıları dikkat çekmektedir. Bu algıların belirlenmesinde metaforların kullanımı son yıllarda tercih edilen bir yöntem olmuştur (Gömleksiz, Kan ve Öner, 2012).

Metafor yabancı kökenli bir kelimedir. Türkçe'de (TDK) mecaz, Arapça'da istiare kelimeleriyle karşılanmaktadır (Aydın, 2006). Metafor bir kavram ya da terimi başka bir kavram ya da terimle anlatma çabasıdır (Gömleksiz, Kan ve Öner, 2012). Cerit (2008) metaforları, bireyler metaforlar yoluyla, hayatında, çevresinde gördüğü olayları ve nesneleri nasıl gördükleri; farklı benzetmeler kullanarak açıklamaya çalışmada kullandıkları bir araç olarak tanımlamaktadır.

Metaforlar, olayların oluşumu ve işleyişi hakkındaki düşüncelerimizi yapılandıran yönlendiren kontrol eden güçlü zihinsel araçlardan biridir (Saban, 2004). Metafor, dünyayı açıklamak ve anlamak kurmak amacıyla insanoğlunun keşfettiği dilsel araçlardır. Aynı zamanda metaforlar bireylerin düşünce eylemlerine de yön verirler (Lakoff ve Johnson'dan akt. Güven ve Akhan, ). Bilinmeyeni bilinenle ilişkilendirerek, kavramlar arasında yeni bağlantılar kurma çabası bireylerde yaratıcılığı geliştirmektedir (Aydoğdu, 2008). Bireylerin kendi dünyalarını anlamalarına ve yapılandırmalarına yönelik güçlü bir zihinsel "haritalama ve modelleme mekanizması" olarak dikkat çeker (Arslan ve Bayrakçı, 2006).

**AMAÇ**

Bu çalışmanın amacı, sosyal bilgiler öğretmen adaylarının sosyal bilgiler dersine, ilişkin metaforik algılarını belirlemektir. Böylece öğretmen adaylarının sosyal bilgiler dersini ve öğretmenini nasıl algıladıkları ortaya konmaya çalışılmıştır. Geleceğin öğretmenleri olacak insanların sosyal bilgiler dersi için nasıl metaforlar oluşturdukları, sosyal bilgiler dersinin amaçlarına ulaşabilmesi ve gelişebilmesi açısından önemlidir. Bu amaç doğrultusunda sosyal bilgiler dersine ilişkin aşağıdaki sorulara cevaplar aranmıştır.

- Sosyal bilgiler öğretmen adaylarının "sosyal bilgiler öğretmenliği bölümünde okumaya" ilişkin algılarını hangi metafor aracılığıyla açıklamaktadırlar?

  

- Sosyal bilgiler öğretmen adaylarının "sosyal bilgiler öğretmenine" ilişkin algılarını hangi metafor aracılığıyla açıklamaktadırlar?
- Sosyal bilgiler öğretmen adaylarının "sosyal bilgiler dersine" ilişkin algılarını hangi metafor aracılığıyla açıklamaktadırlar?

## YÖNTEM

Bu çalışma, 2014- 2015 Eğitim-Öğretim yılı güz döneminde bir devlet üniversitesi (Pamukkale Üniversitesi) eğitim fakültesi sosyal bilgiler öğretmenliğinde öğrenim gören 1.,2.,3. ve 4. sınıf 137 öğretmen adayı üzerinde gerçekleştirilmiştir. Örneklem seçiminde "kolay ulaşılabilir durum örneklemesi" kullanılmıştır. Bu örneklem araştırmacıya yakın ve erişilmesi kolay olan bir durumu seçmesini sağlar (Yıldırım ve Şimşek, 2013). Araştırma nitel araştırma yöntemlerinden olan durum çalışması yöntemiyle desenlenmiştir.

Araştırma kapsamındaki öğretmen adaylarının, "Sosyal bilgiler öğretmenliği bölümünde okumak ……. gibidir/benzer. Çünkü .....", Sosyal bilgiler öğretmeni ……. benzer/gibidir. Çünkü …….", "Sosyal bilgiler dersi ..... Gibidir/benzer. Çünkü ……." biçiminde eksik bırakılmış cümlelerin yer aldığı formları doldurmaları istenmiştir. Toplanan verilerden 15'i güvenirlik kapsamında geçersiz sayılmış, çalışma güvenirliği sağlayan 122'si üzerinden yürütülmüştür. Toplanan formlardan elde edilen veriler betimsel analiz yöntemiyle analiz edilmiştir.

## BULGULAR

Bulgular bölümünde öğretmen adaylarına yöneltilen sorulardan 3 tema altında kategoriler oluşturulmuştur. Temalar sosyal bilgiler öğretmenliği bölümünde okumak, sosyal bilgiler öğretmeni ve sosyal bilgiler dersidir. Kategoriler bu iç tema altında öğrencilerin oluşturduğu metaforların gruplandırılması sonucu elde edilmiştir.

## TEMA 1: SOSYAL BİLGİLER ÖĞRETMENLİĞİ BÖLÜMÜNDE OKUMAK

### Hayatı/Toplumu/Yaşamı Yansıtması

Bu kategoriyi elli bir (51) metafor oluşturmuştur. Öğretmen adaylarının oluşturduğu metaforlar göz önüne alındığında, sosyal bilgiler bölümünde okumanın hayata bir hazırlık/deneyim olduğu ve sosyalleşme için önemli olduğunu vurguladıkları belirlenmiştir.

Metaforlar incelendiğinde; sosyal bilgiler bölümünde okumaya ilişkin *"hayat"* metaforunu oluşturan öğretmen adaylılarından **(ÖA20)** "*İnsanların yaşantılarını düze*nler", yine aynı metaforu oluşturan öğretmen adayı **(ÖA56)** *"Sosyal bilgiler bölümündeki dersler hayatın içinden konuları içeriyor",* hayat metaforunu oluşturan bir diğer öğretmen adayı **(ÖA58)** *"Hayatla iç içe bir bölümdür. Hayatta karışılacağın sorunlara çözümler öğretmen"* ifadeleriyle benzetme gerekçelerini açıklamışlardır. Bir başka öğretmen adayı **(ÖA32)** *"ordudaki asker"* metaforunu oluşturmuş ve gerekçesini *"halkın sosyal bilincinin savunmasını yapmak sosyal bilgiler öğretmenliğine düşer"* şeklinde açıklamıştır. *"Zevki"* metaforunu oluşturan **(ÖA6)** gerekçesini *"hayatın içinde olan kendi çevremizle ilgili güncel bilgileri öğreniriz"* şeklinde, *"güneş"* metaforunu oluşturan **(ÖA45)** gerekçesini *"güneşin nasıl dünyadaki bütün canlıların üzerinde etkisi varsa, sosyal bilgilerin de dünyadaki bütün canlılar üzerinde etkisi vardır"* şeklinde belirtmişlerdir. Öğretmen adaylarının yoğun olarak oluşturduğu bu metafordan oluşan kategori, İnan'ın (2014) "Sosyal Bilgiler; kavrayış düzeyleri gözetilerek sosyal (beşerî)

  

bilimlerin gerçek hayat ve yaşanılan toplumla ilgili seçilmiş konularına yer veren bir derstir." Tanımıyla örtüşmektedir.

**Sonunda Öğretmenlik Atamasının Yetersizliği**

Sosyal bilgiler bölümünde okumayı okulu bitirdikten sonra atamaların yetersizliği ile bağdaştıran öğretmen adaylarının oluşturduğu otuz dört (34) metafor bu kategoride toplanmıştır. Oluşturulan bazı metaforlar ve gerekçelerine aşağıda yer verilmiştir.

Sosyal bilgiler bölümünde okumak için *"umut"* metaforunu oluşturan **(ÖA9)** nedenini *"Hep bir umut ile beklemektir. Atanabilme umuduyla yaşar ve yaşamalıdır. Umut olmazsa olmaz."* şeklinde açıklamıştır. *"Kelebek"* metaforunu oluşturan **(ÖA49)** *"hevesle okuyorsun tam öğretmen olucam derken atanamıyorsun"* ve *"Milli piyango bileti"* metaforunu oluşturan **(ÖA23)** *"en kötü ihtimalle amorti olur diye düşünürsün. Okurken yılbaşında saatin on iki olmasını beklersin. Hep umut dolu. Mezun olunca on ikiyi geçmiştir. Amortiyse bir muamma."* şeklinde açıklamışlardır. *"Futbol topu"* metaforunu oluşturan **(ÖA34)** *"onlarca kişi peşinden koşar ama yalnızca bir kişi yakalar"* diyerek öğretmen atamalarının zorluğuna dikkat çekmiştir.

**Birçok Bilimden Yararlanması Ve Konu Fazlalığı**

Sosyal bilgiler bölünde okumayan öğretmen adaylarının oluşturduğu metaforlardan on sekizi (18) bu kategoride değerlendirilmiştir. Sosyal bilgiler dersinin çok disiplinli olması ve alanlarının fazlalığı sosyal bilgiler bölümünde okumaya da yansımış ve öğretmen adayları bu durumu metaforlarıyla belirtmişlerdir.

Konu çeşitliliği ile ilgili *"yelpaze"* metaforunu oluşturan **(ÖA65)** açıklamasını *"toplu halde iken bir bilgi açıldığında ise geniş bir yelpazedir"* şeklinde yapmıştır. **(ÖA37)** *"Ahtapot"* metaforunu kullanmış ve *"çok çeşitli ve geniş dalları var. Birçok alanı kapsıyor"* diye açıklamış ve sosyal bilgilerin kapsadığı alanlarının çokluğuna dikkat çekmiştir. "Pasta" metaforunu oluşturan (ÖA14) benzetme gerekçesini "birçok sosyal bilimden yararlanıp ortaya karışık bir yemek yapmaya benzer" olarak belirtmiştir.

**Sevilen Bir Bölüm Olması**

Bu kategoriye ilişkin olarak on (10) metafor öğretmen adayları tarafından geliştirilmiştir. Bu kategoriyi oluşturan metaforlar incelendiğinde öğretmen adaylarının sosyal bilgiler bölümünde okumayı eğlenceli ve buldukları, bölüme isteyerek geldikleri söylenebilir.

*"Lunaparka gitmek"* metaforunu oluşturan **(ÖA28)** metaforunu *"lunaparka giderek güzel vakit geçirilir. Oyuncakları fazladır ve keyiflidir. Bu bölümde dersler lunaparktaki oyuncalar gibi çeşitlidir, dersler zevkli geçer"* şeklinde açıklamıştır. **(ÖA32)** *"Legoda temeli sağlam yapmak" metaforunu kullanmış "küçükken çocukların beynini, ruhunu gerekli ve sağlam bilgilerle doldurup, düşünceli, bilinçli, ruhu olan, etkin beyinli insanlar yetiştirmek için önce kendini yetiştirmektir…"* sözleriyle sosyal bilgiler bölümünde okumanın önemine vurgu yapmıştır.

**Beklentileri Karşılamaması**

Bölümde okuyan öğretmen adaylarının beklentilerini karşılamaması nedeniyle oluşturulmuş dört (4) metafor bu kategoride bir araya getirilmiştir. Bu kategorideki metaforlar incelendiğinde, *"sweet"* metaforunu oluşturan **(ÖA13)** metaforunu *"kazağa benzer, sıcak tutacak sanırsın ama sıcak tutmaz"* sözleriyle açıklamıştır. *"Yüksek lisede okumak*" metaforunu oluşturan **(ÖA43)** *"bizim üniversitede sadece birkaç hoca hariç diğer hocalar boş"* diyerek bölümü sevmeme nedenini hocalarla ilişkilendirmiştir.

**Tarihi konulara ağırlık vermesi**

  

Bu kategoride toplam iki (3) metafor bulunmaktadır. Anketin uygulandığı öğretmen adaylarından üçü bölümü tarih ile ilişkilendirmiştir. *"tarih bilmek"* metaforunu oluşturan **(ÖA18)** *"kültürümüzü, tarihimizi öğreniriz"* diyerek metaforu açıklamıştır. Bu kategorinin oluşmasındaki etken sosyal bilgiler eğitim-öğretim programının özelliklerinden biri olan "toplumun tarih ve kültürüne ilişkin temel bilgileri; sosyal ve bireysel konularla ilgili kavram ve temaları" kapsamasıdır (Öztürk ve d., 2014).

İki (2) öğretmen adayı bu temayı boş bırakmıştır.

**TEMA 2: SOSYAL BİLGİLER ÖĞRETMENİ**

**Rehber Olması/İnsanları Aydınlatması**

Sosyal bilgiler öğretmenlerinin görevlerinden biri de öğrencileri hayata hazırlarken onlara rehber olmaktır (Vural, 2004). Bu kategoride öğretmen adaylarının oluşturduğu kırk beş (45) metafor öğretmenlerin rehber olma vasfını vurgulamaktadır.

*"Pusula"* metaforunu oluşturan **(ÖA48)** metaforunu *"toplumun ışığında toplumu eleştirir, yön verir ve öğrencilerini toplum konusunda aydınlatır"* şeklinde açıklamıştır. *"Yaşam koçu"* metaforunu kullanan **(ÖA15)** *"bireyi hayata hazırlar, bireyin sosyalleşmesini sağlar"* diyerek metaforunu açıklamıştır. **(ÖA10)** *"temizlik elemanı"* metaforunu geliştirmiş ve açıklamasını *"öğrencilerin beyinlerinde yanlış bilinen toz zerreciklerini temizler. Yerine hayat bilgisinden devraldığı temellerin üzerine güzel bilgiler inşa eder"* şeklinde yapmıştır.

**Yaşamı/Hayatı/Toplumu Öğretmesi**

Sosyal bilgiler dersi hayatla iç içe bir ders olması nedeniyle, sosyal bilgiler öğretmenleri de hayatı öğreten kişiler olarak algılanmaktadır. Bu kategoride toplam yirmi yedi (32) metafor öğretmen adayları tarafından oluşturulmuştur.

Bu kategoride *"toplum mühendisi"* metaforunu oluşturan **(ÖA81)** metaforunu "*toplumu canlandırmak ve olumlu bireyler yetiştirmek amacındadır"* şeklinde açıklamıştır. **(ÖA41)** *"mühendis"* metaforunu oluşturmuş ve açıklamasını *"toplumun inşasında büyük rol oynar"* şeklinde yapmıştır. *"Hakem"* metaforu oluşturan **(ÖA72)** metaforunu *"bütün insanları uymaları gereken toplumsal kurallar konusunda uyarı…"* şeklinde belirtmiştir.

**Alanın Kapsamına Bağlı Olarak Çok Yönlü Olması**

Sosyal bilgiler dersi disiplinler arası bir olduğu için bu dersin öğretmenleri de hayatla ilgili hemen her konuda az çok bir fikir sahibi olmak durumundadır. Katılımcıların sosyal bilgiler öğretmenlerinin bu özelliğine vurgu yapan metaforları da bu kategoride bir araya getirilmiştir. Toplamda yirmi altı (26) metafor bu kategoride incelenmiştir.

Sosyal bilgiler öğretmenine ilişkin *"haber programı"* metaforunu geliştiren **(ÖA21)** metaforunu *"sosyal bilgiler öğretmeni her konuda bilgi verir öğrencilerine"* şeklinde açıklamıştır. "mahalle abisi" metaforunu geliştiren **(ÖA51)** metaforunu *"sosyal bilgiler dersi sosyal çevre ile ilgilidir. Sosyal bilgiler öğretmeni de çevre hakkında bilgileri bize sunan kişidir*" şeklinde açıklamıştır.

**Atama Sorunu Olması**

Sosyal bilgiler öğretmenliğinin atama sorunu bölümde okuyan öğretmen adaylarını da etkilemektedir. Bu nedenle sosyal bilgiler öğretmeni hakkında oluşturdukları metaforları da etkilemiştir. Bu kategori de öğretmen adaylarının geliştirdikleri toplam on dört (14) metafor bu kategoride toplanmıştır. Bu kategoride *"jokey"* metaforunu geliştiren **(ÖA25)** açıklamasını *"yarışı kazanmakla kazanmamak arasında gidip gelir*" şeklinde yapmıştır. Aynı kategoride *"zor atama"* metaforunu geliştiren **(ÖA9)** metaforunu *"geniş bilgi alanlarına sahip*

  

*olarak öğrenim görmelerine rağmen atanamama nedeniyle nitelikli sosyal bilgiler öğretmeni olanlar açıkta kalmaktadır"* şeklinde açıklamıştır.

**Sayıca Fazla Olunması**

Bu kategoride bir (1) metafor değerlendirilmiştir. *"kültür mantarı"* metaforunu geliştiren (ÖA11) açıklamasını *"birçok sosyal bilgiler öğretmeni var ve hala yeni öğretmen adayları yetişiyor. Sürekli çoğalıyoruz"* şeklinde yapmıştır.

Dört (4) öğretmen adayı bu temayı boş bırakmıştır.

**TEMA 3: SOSYAL BİLGİLER DERSİ**

**Yaşamı yansıtan bir ders olması**

Bu kategoride birleştirilen metaforlar her bu tema içinde öğretmen adaylarının en çok geliştirdiği metaforlardır. Otuz dokuz (41) metafor bu kategoride değerlendirilmiştir. Öğretmen adayları sosyal bilgiler dersini ve sosyal bilgiler bölümünü en fazla hayatla iç içe olması ve yaşamı yansıtması ile ilişkilendirmişlerdir.

*"Mahalle"* metaforunu oluşturan **(ÖA102)** metaforunu "sosyal bilgiler dersinde işlenen konular genellikle sosyal çevremizle ile ilişkili konulardır" şeklinde açıklamıştır. *"Yaşamın kendisi"* metaforunu geliştiren **(ÖA104)** metaforunu *"bu derste gördüklerinin aynısını yaşamına aktarabiliyorsun, bağ kurabiliyorsun"* kelimeleriyle ifade etmiştir. *"Saklambaç"* metaforunu kullanan **(ÖA32)** oluşturduğu metaforu *"hayatın içindeki saklı bilgileri aktarır"* cümlesiyle açıklamıştır. Öğretmen adaylarının yoğun olarak oluşturduğu bu metafordan oluşan kategori, Smith'in (1963) sosyal bilgilerin konusunu açıklarken kullandığı *"insan ve onun diğer insanlarla ve çevreyle olan ilişkisi"* tanımla uyumludur.

**Disiplinler Arası Bir Ders Olması**

Bu kategoride öğretmen adayları otuz üç (33) metafor geliştirmişlerdir.

*"Berrak su"* metaforunu geliştiren **(ÖA51)** metaforunu *"neredeyse tüm dersleri içinde bulundurur ve öğrencilere hayatı, yaşamı, geçmişi öğrettikçe öğrencileri su gibi berrak hale getirir"* sözleriyle açıklamıştır. *"Yemek"* metaforunu geliştiren **(ÖA114)** metaforunu *"içinde birçok sosyal bilim vardır. Bunları kullanarak yeni bir hal almıştır*" şeklinde ifade etmiştir. Bu kategorinin oluşturan metaforların üretilmesindeki etken Keçe ve Merey'in (2011) "Sosyal bilgilerin birçok amacı vardır. Bu amaca ulaşabilmek için birçok disiplinden de yararlanılmaktadır. Bu süreç disiplinler arası işbirliğini ve disiplinler arası yaklaşımı da gerekli kılmaktadır" ifadeleriyle uyumludur.

Yukarıda bahsedilenlerden başka öğretmen adayları bu kategori altında *"zekâ küpü", "salata", "ansiklopedi", "deniz", "kozmopolit şehir", "kan"* gibi farklı metaforlar da üretmişlerdir.

**Sevilen Bir Ders Olması**

Sosyal bilgilerin sevilen bir ders olarak algılanıp bu yönde metaforlar üretilmesi sonucu bu kategori oluşturulmuştur. On beş (15) metafor bu kategori altında değerlendirilmiştir.

*"Aşk"* metaforunu geliştiren **(ÖA24)** metaforunu *"hayatıma anlan katan şey"* şeklinde, aynı metaforu geliştiren **(ÖA120)** *"aşkın mantığı olmaz o bir tutkudur"* şeklinde açıklamıştır.

**Sevilmeyen Bir Ders Olması**

Sosyal bilgiler dersinin sevilmemesi ile oluşturulan metaforlar bu kategori altından birleştirilmiştir. Bu kategoride on dört (12) metafor değerlendirilmiştir.

  

*"Ütopya"* metaforunu geliştiren **(ÖA1)** metaforunu *"ütopik bir toplum yapısı hedeflemektedir"* şeklinde açıklamıştır. *"Yeşil Çam"* metaforunu geliştiren **(ÖA13)** metaforunu *"kim kime, dum duma"* sözleriyle ifade etmiştir.

**Rehber Bir Ders Olması**

Sosyal bilgiler dersinin rehber olma sıfatına vurgu yapılan on (12) metafor bu kategori altında bir araya getirilmiştir.

*"Yol haritası"* metaforunu oluşturan **(ÖA30)** metaforunu *"hayatı ve nasıl yaşanılacağını öğretir"* sözleriyle açıklamıştır. *"Hayat haritası"* metaforunu geliştiren **(ÖA111)** metaforunu *"öğrencilerin nasıl davranmaları gerektiğini, hangi yolları takip etmeleri gerektiğini öğretir"* şeklinde ifade etmiştir.

**Tarih ve coğrafya konularına ağırlık vermesi**

Sosyal bilgiler dersinin disiplinlerinden ikisi tarih ve coğrafya eğitimidir. Bu kategoriyi oluşturan dört (4) metafor sosyal bilgilerin bu özelliğine vurgu yapmaktadır.

*"Coğrafya ve tarih"* metaforunu oluşturan **(ÖA122)** metaforunu *"Geçmişimizi ve çevremizi öğreniyoruz. Geçmişteki savaşları ve olayları öğretir. Coğrafya ise yeryüzüyle ilgili olayları işler. Bu sayede çevremizi ve tarihimizi öğreniriz."* şeklinde açıklamıştır. *"Albüm"* metaforunu oluşturan **(ÖA93)** metaforunu *"Geçmişten günümüze neler olduğunu öğretir."* sözleriyle ifade etmiştir.

**Bilimsel Bir Ders Olması**

Çalışmaya katılan öğretmen adaylarından bir (1) kişi "hipotez" metaforunu oluşturmuş ve bu kategoriyi gerekli kılmıştır. *"Hipotez"* metaforunu oluşturan **(ÖA12)** metaforunu *"sosyal bilgiler dersi de bilim gibi hipotezler oluşturur ve sonucunda gerçekleri bulur"* sözleriyle açıklamıştır.

Dört (4) öğretmen adayı bu temayı boş bırakmıştır.

## SONUÇ

Öğretmen adayları sosyal bilgiler bölümünde okumak temasıyla ilgili yüz yirmi (120), sosyal bilgiler öğretmeni ve sosyal bilgiler dersi temasıyla ilgili yüz on sekizer (118) metafor oluşturmuşlardır. Elde edilen metaforlar her bir tema altında farklı kategorilerde incelenmiştir.

Sosyal bilgiler bölümü/öğretmeni/dersi ile ilgili en çok ilişki kurulan ve oluşturulan metaforlar; hayat, rehber, toplum, çok alanlı/disiplinli olmasıdır. Çalışmanın geneline bakıldığında öğretmen ayalarının sosyal bilgilere ilişkin çoğunlukla olumlu tavır sergiledikleri söylenebilir.

Bu çalışma sonucunda öğretmen adaylarının sosyal bilgilere ilişkin oluşturdukları metaforlar sosyal bilgilerin gelişimi için yol gösterici nitelikte kullanıldığı takdirde çalışma amacına ulaşacaktır.

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# SOSYAL MEDYADA OYUN İZLEMEK

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**ÖZET**
Çalışma, gelişen teknoloji üzerinden değişen teknolojiye bakış açısının, toplumsal düzeyde sayısal ortama yansımasının güncel bir perspektifini yansıtmaktadır. Bu doğrultuda, genç neslin sayısal ortamı yorumlaması ve ilgili ortamı değerlendirmesi üzerinde gerçekleşen değişimin farklı bir ürünü olarak ortaya çıkan sanal oyun ortamlarının, sosyal paylaşım platformlarındaki izdüşümleri konu alınmıştır. Özellikle video bazlı etkileşimin çok büyük bir zaman ve ilgi eksenli yoğunlaşmaya sahip olduğu bu izdüşümler üzerinden, mevcut ve gelecek nesillerdeki konsol, taşınabilir cihaz ve benzeri sistemler üzerinden şekillenen beklentilere yer verilmiştir. Beklentilerin oluşmasını sağlayacak altyapı ise, bilgisayar tabanlı oyun sistemlerinin, ekran görüntülerinin paylaşıldığı sanal sosyal medya platformuna, diğer bir deyişle yeni medya entegrasyonuna bakılarak incelenmiştir.

## GİRİŞ

Teknoloji, tüm simetrik yapıları ile birlikte gün geçtikçe daha da bütünleşik ancak bir o kadar da alt kategorileri bazında yayılma eğilimi gösteren bir ilerleyiş kaydetmektedir. Bu sebeple, fiziki ürün olarak niteleyeceğimiz sayısal ortam ürünleri ve bu ürünlerin çıktıları olan sanal ortam ürünleri her geçen gün daha da büyük farklılıklar ortaya koyan çeşitli ürün gamlarını meydana getirmektedir. Ürün gamları, fotoğraftan, hareketli görüntüye, müzikten, tümleşik yapıda bulunan ve tüm farklı sanal ortam ürünlerinin içeriğine hapsolan yapılara kadar oldukça geniş yelpazede bir açıklık göstermektedir. Bu durum, 2006 ve sonrası Web 2.0 döneminin de etkisinde kalan bir sosyal çevre oluşumunu tetiklemiştir. Birçok paylaşım mekanizması doğmuş ve teknik altyapının kendisini revize etmesine bağlı olarak gelişim kaydedilmiştir. Bu noktada karşımıza iktisadi iş ağları, kamuya açık kişisel günlük paylaşım ortamları, doğrudan bilgiye dayalı(haber benzeri) veri paylaşım ortamları ve tüm bunların paylaşım ortamlarını tek bir potada eriten doğrusal sosyal paylaşım noktaları çıkmaktadır.
Bir bütün olarak sosyal medya kavramı içerisinde değerlendirilen bu yapılar, üç temel ana başlık altında sınıflandırılmaktadır: Bloglar, içerik üretim ortamları ve kritik(eleştiri) ortamlarıdır. Birbiriyle bir bütün halini almaya başlayan ortamların bu sınıflandırma çerçevesinde değerlendirilmesi, bilgisayar oyunlarını ve dolayısıyla yapısal anlamda bu oyunlar üzerinden gerçekleşen sosyal paylaşım kavramının açıklanmasını daha da kolaylaştırmaktadır. Bu doğrultuda bakıldığında, bireylerin kendi istekleri doğrultusunda, doğrusal olarak yazılarını paylaştıkları ve günlük olarak kullandıkları ortamlar blog olarak değerlendirilirken; görüntü, ses ve tümleşik yayın paylaşımının yapıldığı ortamlar, içerik ortamı olarak değerlendirilmektedir. Kritik ortamları ise, bu üç sınıfa da girmeyen, üçüncü şahıs şirketlerinin girişimleriyle oluşturulmuş olan ve genel kullanıcıların yorumları ile, belirli bir hedefteki yapının, etkinliğin ne derece faydalı olup olmadığına dair bilgileri içeren, genel itibarıyla puanlamalar yoluyla kaydedilen bir sisteme sahip ortamları nitelemektedir(Baruah, 2012:4). Bununla birlikte, doğrudan veya dolaylı amaçlar doğrultusunda basının da rolünü üstlenmeye başlayan ve alternatif bir haber iletişim merkezi halini alan sosyal medyada, ilgili haber paylaşım kategorileri de üç sınıfa ayrılabilmektedir. Ana sınıflandırma, temel yapısı itibarıyla kullanıcı, içerik ve bu ikisinin bağlamını sağlayan ağ yapısı şeklindedir (Kümpel v.d., 2015:3-6).

## SANAL SOSYAL PAYLAŞIM VE OYUNLARIN BAĞLANTILARI

Tüm sosyal paylaşım ortamları, yapıları ve çıktıları itibarıyla farklı anlamlar içermektedir. Bunlar, kazanımlar ve kazanımların yol açtığı farklı düşünceler olarak da değerlendirilebilir. Kaldı ki sosyal paylaşım ortamları, yeni nesil ve orta yaş grubu içerisinde bir bariyer çizerek konuyu sınırlandırdığımızda, eğitim ve eğitim sonrası hayata atılma mücadelesi içerisinde iş tecrübeleri kapsamında, hayatın kendi zorluğundan bir kaçış olarak da görülebilmektedir. Bu doğrultuda, nesillerin birbirlerini anlamaları adına da, Web 2.0'ın büyük bir ortak

  

paydaşlığı simgelediğini söylemek yanlış olmayacaktır. O halde, ortak paydaşın anlamını biraz daha netleştirmek gerekirse, bireylerin kendi yaşamlarından bir parçayı, diğer bireylere açarak; kendi sosyal statüleri gereği yeni bir sanal kimlik oluşturma çabası haline gelen, tüm sayısal uğraşlar olarak da nitelememiz mümkün olacaktır. Teknolojinin hızı düşünüldüğünde ise, bu ortak paydaşın daha net anlaşılabilmesi adına, yeni neslin sosyal paylaşım üzerindeki doğrudan veya dolaylı etki alanlarını incelemek gerekecektir. Zira, yeniliği süresi kısalmaktadır. Süresi kısalan yenilikler, dolayısıyla öğrenim süresini ve çabuk adapte olabilme yetisini mümkün kılacaktır. Yeni neslin mental ve fiziki olarak iyi okunabilmesi ise, ilgili adaptasyon süreci ve sosyal medya kavramının içinin doldurulabilmesi adına, iktisadi ve sosyal etki alanını değerlendirme hususunda yardımcı olacaktır.

Yeni neslin teknolojik anlamdaki paylaşım kaygısı, eğitimsel ortamda desteklenen teknoloji ile doğru orantılı olarak katma değer ortaya çıkartmaktadır. Diğer bir deyişle, teknolojinin eğitim ile iç içe kullanılmasını takiben, sosyal paylaşım mekanizmalarındaki farkındalık düzeyi yükselmekte ve özellikle genç nesil, bir birey olma benzerliği ile, eylemlerini sanal ortamda test etme imkanı elde edebilmektedir. İşbu sebepten ötürü, eğitimin ilk başladığı nokta olan aile içerisinde, teknolojik cihaz kullanımının sıklığı, genç tarafından pozitif yönde pekiştirmeye sebebiyet vermektedir. Her pozitif sonucun olumlu yan sonuçlar doğurmayacağı prensibiyle hareket edildiğinde, genç neslin sürekli biçimde elektronik cihazlar ile ilgilenmesi belki de genel anlamda bir olumluluk tezi doğurmayacaktır. Zira, sayısal ortam uzmanlığı gelişirken, fiziki realiteden kaçınma, sonuç itibarıyla birbirinden farklı hayati sonuçlar doğurabilmektedir. Yaşanmış bir örnek ile açıklayacak olursak; Daily Mail gazetesinden David Gardner'ın 2011 yılına ait haberine konu olan, uluslararası şirketlerin yöneticilerinin çocuklarını teknolojiden uzak bir okula göndermeleri ile netleştirebiliriz. İlgili haberde, aralarında Google, Yahoo, Hewlett-Packard ve Apple gibi firmaların yöneticilerinin de olduğu bu ebeveyn gruplarının, çocuklarının ev içerisindeki internet kullanımını dahi kısıtladığı söylenmektedir. O halde, teknik yapının farklı cephelerde farklı biçimlerde oluştuğunu ve fiziki realiteden uzaklaşarak tamamen sayısal ortama bağlı hale gelmenin de bir sakınca doğuracağı tezini ileri sürmemiz mümkün olmaktadır (Gardner, 2011). Bunun karşı örneği olarak, Amerika Birleşik Devletleri'nde başta olmak üzere, hali hazırda güçlü biçimde eğitim prensiplerinde tercih edilen ve adaptasyonu her geçen gün kuvvetlendirilen bir yol olan teknoloji beraberliğindeki eğitim anlayışı, pozitif ivmesini olumlu yönde göstermektedir inancı da, çeşitli teknolojik eğitim araştırmalarında yerini muhafaza etmektedir. Özellikle, çeşitli duyguya yönelik içsel birikimi dışarıya aktarımda bir etken olduğu varsayılan görüntü temelli eğitimin, insan beyninin çeşitli kısımlarında belirgin ölçüde etki yarattığı ve öğrenmeyi teşvik ettiği kadar, öğretici tarafta da işlemin aktarımının kolaylaştığı yönünde ortaya çıkan çeşitli araştırmalar mevcuttur. Ayrıca yine aynı araştırmalarda, sosyal medya üzerinde yayın yapan paylaşım ortamlarından elde edilen görüntülerin de katkı sağladığı vurgulanmaktadır (Berk, 2009:2-6).

Gençlerin, eğitim esnasında farklı bir ilginçlik mekanizması ile birlikte eğitim görmeleri hususundaki görüşler, teknolojiden maksimum anlamda faydalanılması gerekliliğini ortaya koymaktadır. Diğer taraftan, teknoloji adına sayısal ortamlar vasıtasıyla oluşturulmuş sanal ortam ürünlerinin en etkin modern alanı olan bilgisayar oyunları da kendi iç rekabet ve gelişim etkenleri çerçevesinde ayrı bir yere sahiptir. Özellikle, eğitim döneminde, oyunlaştırılmış eğitim metotlarının, liderlik, arkadaş edinme ve problem çözmede katkı sağladığı tezinden yola çıkarak, fiziki oyunların sanal ortamda bir yansımalarının oluşturulmasının oldukça etkili olacağından bahsetmemiz mümkün olacaktır. Çünkü eğlence, merak uyandırıclık özellikleriyle keşfe el vermesi sayesinde bir sosyal motive olarak görülen oyun teknikleri, yeni nesillerin fiziki realiteyi algılamasında bir güncel örnek olmaya başlamıştır (Olson, 2010:1-2). Farklı araştırmalarda bunu pekiştiren örnekler üzerinde de çalışılmıştır. Ancak tüm çalışmalardaki ortak sonuç ve amaç olarak; oyunculuk ve rekabet birleşkesiyle ortak bir katkı, katkının eğlence ile tümleşik bir hale gelmesi ile de öğrenme çıktısının elde edilmesi hususunda fikir birliği olduğu gözlemlenmiştir (Lang ve Jones, 2014:3).

Fiziki evrenin sayısal ortama adaptesi ve oyun kavramının sanal evrende bir eğlence ve eğitim mekanizması olarak değerlendirilebileceği tezinden yola çıkarsak, bunu sayısal ortam mekanizması çerçevesinde destekleyen günümüzdeki en önemli materyal, şüphesiz ki tablet ve benzeri taşınabilir akıllı cihazlar olacaktır. Birleşik Krallık'ta 10 aile üzerinden 2014 yılında 0-8 yaş arası çocuklar için yapılan araştırmada, tabletin aile içerisinde çok büyük ve etkin rol oynadığı tespit edilmiştir. Zira çocukların oyun oynama ve video izleme amacıyla kullandıkları tabletlerde, çeşitli edinimler kazandığı ifade edilmiş, bu edinimlerin karşısında, ailelerin her ne

  

kadar eğlence ve eğitim amaçlı kullanılmasında fayda görüyor olsalar dahi, aslında çocuklar ile ilgilenilmesi gereken zamanlarda, çocuklara ayrı bir meşgale oluşturduğu ve gündelik hayat içerisinde büyük bir boşluğu kapatmasına yardımcı olduğu gözlemlenmiştir. Araştırmaya dair üzerinde durulması gereken en önemli husus, video izleyen ya da oyun oynayan çocukların, özgürce cihaz inceleme fırsatına sahip olduklarında, farklı yan edinimler kazanması ve bunları fiziki materyal ve sanal ortam arasında uygulayabiliyor olmasıdır (Livingstone v.d., 2015:3-4). Bu da, aslında çocukların hızlı öğrenmelerine ve uygulamalara, diğer yaş gruplarından daha elverişli biçimde hazırlanabilmelerine fırsat tanımaktadır tezini doğrular niteliktedir.

Her yaş grubu artık kendi fiziki gerçekliği ile birlikte uyum sergilemesi beklenen sanal ortam ürünlerini, kendi ihtiyaç ve kişilik özelliklerine göre kullanmaktadır. Kimi zaman eğlence, kimi zaman eğitim amaçlı olan bu kullanım türleri, iktisadi pazardaki maliyetlerin teknoloji üzerinde düşüşe geçmesi ve perakende pazarında yüksek alıcılara ulaşmasıyla mümkün olabilmiştir. Diğer taraftan, kullanımlara göre sınıflandırılabilme seviyesine gelmiş sayısal ortam mekanikleri, sanal ortamda da kendi içerisinde alt kategoriler oluşturmuştur. Böylece isteyenin istediği ortama rahatlıkla ulaşabildiği, istenilen uygulama veya sosyal paylaşım figürünü temin edebilir konuma geldiği bir dönemece gelinmiştir. Böylesine farklılıkların doğduğu bir dönem içerisindeki ilgi odakları, sosyal paylaşım platformları kendi alt kategorilerini yaratmıştır. Bir anlamda, fiziki materyallerin yan oluşumları, yani kaset ve kasetçalar, video kaset ve video oynatıcı gibi platformlardan sıyrılıp, çevrimiçi ortamda sınırsızca içerik üretebilmenin ve üretilenin temin edilip paylaşılabilmesinin önü açılmıştır. Ortam içerisinde teknolojik anlamda farklılıklar doğmuş olsa dahi, güncellemeler ve yazılımsal yenilikler sayesinde, kullanıcılar arasındaki mesafe oldukça kısaltılmıştır (Snelson ve Perkins, 2009:8-9). Bu kısalan mesafe, eğlence üzerinde de, ilgili edinimin paylaşılmasına vesile olmaktadır. Bireyler, kazandıkları edinimleri çevreleriyle ve diğer eğlence odaklarıyla paylaşmak istemektedirler. Dolayısıyla da, sosyal paylaşım ortamları, kendi çıkış noktası olan içeriğin paylaşımı tezini, kullanıcılar üzerinden dolaylı yollarla büyütmektedir. Sosyal paylaşım, doğrudan olduğu kadar, bu yönüyle de dolaylı yollar ile sürekli biçimde büyüyen ve alternatif bir merkez halini alan yaşayan sanal evren halini almaktadır. 2006'da büyümeye ve gelişmeye başlayan platformun büyük bir ikinci atılımı 2010'lardan itibaren hareketlenmeye başlamış ve genç nesiller arasında ilgili yeni yönüyle iktisadi anlamda farklı bir anlama sahip olmuştur. İktisadi büyümenin ivmesini arttıran en temel konu, sosyal paylaşım içerisinde, diğer sanal ortam üreticisi firmaların ürünleri üzerinden gerçekleştirilen eğlence paylaşımlarıdır. Diğer bir ifadeyle, bilgisayar oyunları üzerinden gerçekleştirilen, sosyal medya paylaşımlarıdır.

## OYUNLAR ÜZERİNDEKİ İKTİSADİ EĞİLİM

Oyunlar, günümüzde fiziki realitenin bir yansıması olarak kurgulanan ya da, hayali evrenler üzerinde eğlence odaklı yaratılmış kurgusal yapıları simgelemektedir. Perakende pazarında bilgisayar ve bilgisayar yan parça ürünlerinin yaygınlaşmaya başladığı 1999 ve 2000'li yılların başı için, sadece çocuklara yönelik olan oyun algısı, kurgusal yapısındaki değişim ve kimi zaman gerçekçi görüntüleri ile birebir simüle edilen yapay ortamın getirileri sayesinde, yaş grubundan bağımsız bir hal almıştır.

2000'li yılların başında, Amerika Birleşik Devletleri menşeili güçlü bir piyasa olarak yükselmeye başlayan oyun endüstrisi, yapılan araştırmalarda, ABD ölçeğinde toplam 6.35 milyar Amerikan Doları'na yakın bir piyasa hacmine sahip olmuştur. Bu sayı içerisinde bilgisayar ve kısmen taşınabilir olan konsol ismiyle adlandırılan doğrudan oyun oynamaya yarayan sayısal ortamların satışları da dahildir (Squire, 2003:49). Amerika Brleşik Devletleri menşeili ESA(Entertainment Software Association)'in, yani Eğlence Yazılımları Birliği'nin 2016 raporuna göre ilgili piyasa hacmi, yan ekipman, asli ekipman ve sanal içeriklerle birlikte 23.6 milyar Amerikan Doları'na yükselmiştir (ESA, 2016:12-13). Bu yükseliş eğiliminin oluşmasındaki en büyük etken, çevre donanımların ve taşınabilir cihazların perakende pazarındaki yükselişi ve aynı zamanda bu cihazlar için üretilen oyun ve sanal paylaşım ortamı entegrasyonlarının(internet sitelerinin taşınabilir cihazlara entegrasyonu) büyük bir pazar payına sahip olmaya başlamasıdır. Yazılımsal uygulamaların çeşitliliği ve birbirlerini tetikleyici platformlar üzerinde kullanılmaları da ayrı bir etkendir. Bunu örneklendirmek gerekirse, Samsung'un, Google'ın Android işletim sistemi ile taşınabilir cihazların yanında fiziki televizyon ürünleri için de birleştirmesini ve bu birleşimden, bireylerin televizyonlar üzerinden ilgili altyapıyı kullanarak tümleşik deneyim edinmelerini ifade etmek mümkündür. İlgili örnekten de anlaşılacağı üzere, perakende piyasası ile doğrudan sanal ortam içerisindeki yazılımsal üreticilerin birlikteliklerinden doğan sayısal ortam mekanizmaları, geniş ve oldukça etkin bir ağa yayılmaktadır (Gorp ve Batura, 2015:21). Böylelikle de, iktisadi anlamdaki birliktelikler gerek içerik üretimi, gerek içerik paylaşımı adına oldukça etkin bir yayılım gösterdiği anlaşılmaktadır.

  

İktisadi anlamdaki birliktelikler yorumlanırken; farklı şirketlerden söz edilebileceği gibi, farklı sektörlerin de birlikteliklerinden söz edilebilir. Ayrıca, oyunların yaş grupları ve vakit açısından değerlendirilebilir olma klasifikasyonlarına girildiğinde, farklı tiplerde sonuçlarla karşılaşılmaktadır. Örneğin, Angry Birds isimli oyunun benzeri nitelikte mevcut pazarda 2009 süresince birçok oyun mevcuttur. Tamamen aynı olmasa dahi, çalışma prensibi açısından Flash fizik motoru ile çalışan oyun mekaniklerinin en önemli örneklerinden biri, Armor Games tarafından piyasaya sürülen, Joey Betz isimli geliştiricinin üstlendiği Crush the Castle isimli oyun bunlardan biridir. 2009 yılında, Angry Birds'ten farklı olarak yalnızca çevrimiçi ortamda pazara çıkan oyunun popülerliğinin, çevrimiçi ortamda Flash destekli cihazlar ile sınırlı olması sebebiyle, daha sonra mobil destekli çalışmaları yapılmış olsa dahi, çıkış anlamında çevre açılımlara ulaşamamıştır. 28 Nisan 2009 çıkışlı ilk sürüm ve 18 Haziran 2010 tarihli ikinci sürümüyle birlikte 60 milyon civarında bir kullanıcı kitlesine ulaşmayı başaran oyun (Armor Games, 2009), çevre sektörlerle neden sürekli bir iletişim halinde olunması gerektiğinin de cevabı niteliğindedir. Dünya Bankası raporlarında da kendine yer bulan Angry Birds, ilgili iletişim ortamını, yayınlandığı Aralık 2009'dan beri tüm ortamlarda varlığını göstermek suretiyle yaygınlaştırmıştır. Bu yayma işlemi, Electronic Arts'ın 2010 yılında, oyunun geliştiricisi Rovio'nun elindeki Angry Birds haklarını devralmasına kadar belirli bir çizgide devamlılığını sürdürmüştür. Günümüze kadar gelinen noktada Angry Birds'ün satış istatistikleri, büyük bir başarı ortaya koymuş ve 100 milyondan fazla, farklı Android cihazına yüklenmiştir. Electronic Arts ile olan anlaşmadan farklı olarak kendi çalışmalarını sürdüren ve farklı türleri de piyasaya sürmeyi hedefleyen Rovio firması büyük kitlesel başarılarına devam etmiştir (Minges, 2012:18-19). Dikkat edilmesi gereken en önemli husus ise, Star Wars gibi, kült bir eser ile birlikteliği neticesinde, yükselişini devam ettirmiş olmasıdır. İşte tam bu noktada iktsadi anlamda, çevresel sektörlerin ne derece önemli olduğu, yan sektörlere açılma süreci olan 2012 yılında 5.5 milyar İngiliz Sterlini değerindeki Rovio'nun (Barnett, 2012) tercihleri ile net biçimde algılanabilmektedir. 2016 yılında 73 milyar Amerikan Doları maliyet (Ewing, 2016) ile de film yapımı gerçekleştirilen Angry Birds'ün bir benzer kariyeri, Agar.io isimli sanal ortam oyunu ile örneklendirilebilir. Dingo Games tarafından piyasaya sürülen Tasty Planet gibi önemli bir örneğe sahip oyun türünün, yine çevrimiçi ortamda 2016 itibarıyla en büyük örneği olan Agar.io, tıpkı Angry Birds gibi fiilen iletişim alanlarını geliştirme çabası içerisindedir. Matheus Valadares tarafından 2015 yılında yayınlanan ve MiniClip ile sayısal ortam ortaklığına giden oyun (App Annie, b.t.), 1.381.568 (YouTube, 2016) YouTube kullanıcısı üzerinden, süreklilik arz eden oyun içi görüntü paylaşımları ile iletişim ağını genişletmektedir. Oyunun temel çıkış tarihi ve devamında öncelikle YouTube odaklı bir mekanizma kurması da, aslında kullanıcıların oyunları izleme ve izledikleri oyunlar üzerine yorum yapma alışkanlığının ne derece tutarlı biçimde iktisadi pazar tezi olduğunu ispatlar nitelik taşımaktadır. Sayısal ortamın gereği olan birlikteliği ise, Netflix'in yayını olan House of Cards dizisinde, Kevin Spacey tarafından canlandırılan Başkan Frank Underwood karakterinin, telefon üzerinden oynaması ile gerçekleştirmiş olan Agar.io (Miniclip, 2016); gerek isminin vermiş olduğu ulaşım basitliği, gerek oyun içi mekaniğinin basitliği ve kurgusundaki özellikler ile, gerekse de MiniClip gibi bir alanının uzmanı bir oyun iletişimi firması desteği ile birlikte, oyun oynama ve oyun izleme alanında yaşanan devrimin önemli bir tanığı statüsündedir. Anlaşılacağı üzere, "izleme", "izletme" ve "yayma", aslında reklam, reklama bağlı gelir elde etme mekaniğinin birer alt elemanı haline gelmiştir. Sayısal ortam ürünlerinin gelişimi ve sosyal paylaşım ortamları ile edindikleri ortak pazarlama refleksi bu ölçüde incelenmelidir.

Amerika Birleşik Devletleri merkezi Woodside Capital Partners isimli uluslararası bağımsız yatırım danışmanlığı firmasının 2015 son çeyrek piyasa araştırma raporunda, taşınabilir cihaz satışları ve sosyal medya kullanıcıları üzerinden yapılan çalışmaların, 2019 yılında 14 milyar Amerikan Doları net gelir hacmine sahip olacağı, piyasa içerisindeki satın alma operasyonlarının 7 milyar Amerikan Doları'na dayandığı, konsol oyunlarından ziyade taşınabilir cihaz ve çok kullanıcılı oyunlara yönelindiği belirtilmektedir. Aynı raporda, kadınların ve kadınlarla beraber yetişkinlerin hedef kitle olmaya başladığı vurgulanmıştır. Anlaşılacağı üzere, oyun ve oyun içi pazarda, dogmatik olarak kabul edilen bazı temel öngörüler, zamanla yerini teknolojinin sistematik gelişme gösteren mekanizması içerisinde yerini daha modern ve realist görüşlere bırakmıştır. Yine aynı raporda tahminler üzerine kurulu olan bir diğer önemli ifade ise, taşınabilir cihazlar için üretilen oyunların, kendi çalışma prensipleri dahilinde oyun içi ücretlendirilen ek özelliklerin, piyasa hacmini daha da dinamikleştirdiği dile getirilmiştir (WCP, 2015:10). Zira raporda da belirtilen, 2008 yılında Amerika Birleşik Devletleri'nin kendi içerisinde sigorta şirketleri üzerinden yaşadığı emlak krizini dünyaya ihraç etmesiyle birlikte durgunluktan büyük oranda etkilenen sayısal ortam pazarı bu tip farklı ücretlendirme tarifeleri vasıtasıyla renk

  

değiştirmeye başlamıştır. Masaüstü sürümleri için expansion(eklenti) ya da downloadable content(indirilebilir içerik-DLC) olarak adlandırılan bu uygulamalar, oyuncuların hem yeni hedef belirlemelerine, hem de oyun içi grafiksel yollarla ek ücretlendirmeleri ve dolayısıyla gelir yolları oluşturulmasını gerçekleştirmektedir. Mobil ortamda "freemium" ismiyle karşılaşılan bu gelir yolları, ücretsiz oyunların dağıtımı ve bu ücretsiz oyunların içerik bakımından kullanıcıyı "ücretli ek içerik" edinmeye uzun dönemde, oyunu oynatarak ikna etmesi üzerine kurgulanmaktadır (Moreira v.d., 2014:2). Diğer taraftan, bu oyun içi sistemlerin üzerinden inşa edilen iktisadi yapının diğer uzantıları, oyunların kendi kayıtları üzerinden şekillenen üretim mekanizmalarını doğurmuştur. Sistemsel açıdan grafiklerin gelişmesine bağlı olarak internet üzerinden bulut sistemleriyle oyun oynama ve oyun ile sosyal ağ üzerinde bir etkileşim sistemi kurulması gibi hususlarla, defalarca gündeme gelen yayıncılık faaliyetlerinin, oyunların kendi görüntülerinden oluşması bu doğan mekanizmanın temelini oluşturmuştur (Greenspan, 2013:29,174). Sonuç itibarıyla, 2006-2007 yıllarında hareketli görüntüler üzerinden tekrar gündeme gelen oyun izleme türleri, hızlı internet bağlantıları ve gelişen bilgisayar teknolojisinin, Web 2.0 ile sosyal paylaşım platformu alanında ortak paydada buluşmasıyla yükselişe geçmiştir. Çok sayıda sosyal paylaşım ortamında yer edinmeye başlayan bu tip, oyun içeriğinden şahsi içerik üretimi gerçekleştiren ortamlar, kendi bağımsız yayın alanlarını dahi elde etmeye başlamışlardır. Ancak çıkış noktaları itibarıyla Youtube ve Dailymotion gibi temel ve büyük yapılar, bu ortamlara kaynak noktası olmuşlardır. Oluşan yeni ortam ve bu çıkış noktalarında kurulan video kanalları üzerinden önce yüzlerce, daha sonra o yüzlerce kişiyi takip eden milyonlara kadar, çok büyük bir topluluklar bütünü oluşmaya başlamıştır. Genel itibarıyla terimsel adı ise "Let's Play", yani "Haydi Oynayalım" olarak adlandırılmıştır.

## "HAYDİ OYNAYALIM" VE SANAL OYUN İÇERİK PAYLAŞIMININ GELİŞİMİ

Let's Play kavramı, günümüz modern sosyal paylaşım platformlarında, video bazlı ve genç nesil tarafından oluşturulan içerikleri tabir için kullanılmaktadır. Ancak diğer taraftan bu tür paylaşım ortamlarının, Türk örnek olarak GameShow ve GamePro, uluslararası örnek olarak Pc Gamer isimli teknoloji ve bilgisayar oyunu dergilerinin dönem koşulları içerisinde başlattıkları basılı ortamların yansımaları olarak da kabul edilmesi mümkündür. İlgili dergilerdeki oyun incelemeleri ve bu incelemelerin yanında, "playthrough", yani ilerlemeli kayda dayalı düz gösterim ve bu ilerlemeye bağlı oyun içi bölümlerin aşama aşama anlatımı esasına dayanan "walkthrough" örneklerin, ilk temel Let's Play örnekleri olduğunu kabul etmemiz pekala mümkündür. Özellikle 2000'li yıllardaki perakende sektöründeki hızlı değişim ve her eve bilgisayar ile birlikte konsol türevi sayısal ortam cihazlarının girmesinin hızlanması neticesinde, dergi sektörünün altın çağı yaşanmış olup; işbu paylaşım süreçlerinin de, kullanıcılarla basılı ortamda paylaşılmasının büyük bir yayılım gösterdiği gözlenmiştir. Kore, Japonya, Amerika Birleşik Devletleri ve Kıta Avrupası başta olmak üzere, dünya çapında büyük bir başarıya imza atan bu dergiler, internetin kısmen daha uygun ve tercih edilebilecek bir iletişim ortamı olmasının keşfedilmesi ile birlikte, ilgili ünvanlarını, internet üzerinde konuşlanan sanal ortam inceleme sayfalarına bırakmışlardır. Dolayısıyla da, Let's Play kavramının, oyunların zorlu bölümlerinde kullanıcılara yardımcı olabilmesi adına tüm oyunun oynanmış haliyle hazırlanan yazılar ve ekran görüntüleri şeklinde kullanıcıya iletilmesinde farklı bir deneyim kanalı açılmıştır. Bu noktada, oyunlar için, üreticiler tarafından planlanan bir yapıdan ziyade, bağımsız kullanıcıların kendi hazırladıkları ya da, kullanıcıların birbirleriyle iletişim kurabildikleri, yenilikleri takip edebildikleri ve oyunlar hakkında haber alabildikleri bağımsız firmalar tarafından oluşturulan bir yapı söz konusudur. Genel hatları itibarıyla kullanıcıların forum ve benzeri kalıcı ileti paylaşım noktalarında bilgilerini ve içeriklerini paylaşabildikleri bu ortamlar, video bazlı sosyal paylaşım ve sosyal medya kavramının güç kazanması ile birlikte, yerini kaybetmese dahi, büyük bir kitlesini ilgili yeni mecraya doğru yöneltmiştir.

Terimsel bir bakış açısı getirilirse, Let's Play kavramı, günümüz anlamı itibarıyla kullanıcılara oyun içerisinde nasıl hareket edilmesi gerektiğini gösteren bir işlevden, eğlence odaklı ve sohbet programı havasında geçen bir eğilime devrolmuştur. Eğitsel amaçlı, oyun içerisindeki yön, puan, hedef gibi içeriğe odaklı ve oyunun kimliğini hedefleyen anlatımlar yerini muhafaza etse dahi; iktisadi anlamdaki pastadan büyük payı, cümle tercihinde genç nesle cazip geleceği düşünülen terimleri kullanan kişilerin hazırladığı ve genelde oyunu doğrudan bir diyalog taklidi monolog üzerinden devam ettiren, bol görsel efektli ve abartılı yazı karakterleri kullanan kişiler sahiplenmektedir. Ancak yine de bir spiker olarak kayda değer anlamda bilgi aktaran kişiler de yok denemeyecek sayıdadır. Bununla birlikte, Let's Play kavramını profesyonel bir iletişim ağı terimi bağlamında

  

aradığımızda; ilgili çalışmalara yapılan yorumlar üzerinden doğrudan birey çıkarımları yapılabilen yarı şeffaf ve çok ya da tekil kullanıcılı sanal ortamda ismini sayfalar üzerinde performansı ya da sözleri ile duyurmuş olan prestijli addedilen kişilerin kendi kendilerine çektikleri videolar olarak da tanımlandığı görülebilmektedir (Radde-Antweiler ve Zeiler, 2015:101). Daha detaylı açıdan bakıldığında ise, Ivan O. Taylor Jr. tarafından yapılan araştırmada da belirtildiği üzere, Something Awful isimli dünyaca ünlü forum tabanlı internet sitesindeki ekran görüntüsü paylaşımlarının temel olarak bir çıkış oluşturduğu bilinmektedir. "Slowbeef" rumuzlu forum kullanıcısının, "The Immortal" isimli oyun için hazırladığı ve oyundaki içerikle hazırlanmış video ile bu videoya referans olarak gösterilen, "Vlaphor" rumuzlu kullanıcının "I Have No Mouth and I Must Scream" isimli oyununa dair aynı forumda yer alan videosu ilk örnekleri teşkil etmektedir. Taylor, bu iki videonun ortak forum toplulukları adına bir yol açtığını ve benzer ortamlara hızlı biçimde yayıldığını ifade etmektedir (Taylor, 2015:251). Ki, içeriklerin özellikleri bakımından bir farklılık olsa dahi, bu teori kendisini günümüz koşullarındaki ortamlar incelendiğinde haklı çıkarmaktadır.

Oyun platformlarının sosyal medyada yer almaya başlamış olması iktisadi anlamda da büyük farkındalıkların oluşmasına sebebiyet vermiştir. Örneğin, 2013 yılında Nintendo ile YouTube'un iş ortaklığına girmesi vesilesiyle, Nintendo tarafından firmaya bağlı oyunları oynayan kullanıcılar hakkında kısıtlamalar getirilmesi bunlardan önemli bir tanesidir. Zira, kullanıcıların ve oyun içeriklerini kendi yorumlarıyla internet üzerine yükleyen kişilerin elde ettikleri tek kazanım, yüklenici firma olan YouTube tarafından, ilgili kişilere izlenme başına belirli bir ücret ödemesidir. Nintendo'nun kısa sürede hak ihlali iddiasından vazgeçmesiyle birlikte, kullanıcıların önündeki kısıtlamalar kalkmıştır (Taylor, 2015:248). Diğer taraftan, yazılım firmalarının bu içerik oluşturma ortamlarını bir pazarlama mekanizması olarak değerlendirmeye başlaması da, aslında bu yeni medya platformunun önünün ne kadar açık ve gelişmeye müsait olduğunun ilgili taraflarca ispatı niteliği taşımaktadır. Ancak bu durum sadece YouTube üzerinde yapılan oyun anlatımlarına dair gerçekleşmemektedir. Geniş perspektiften bakıldığında, Bandicam, Smart Pixel ve Fraps gibi popüler ekran kayıt yazılımlarıyla kaydedilmiş ve montajlanarak üzerine spiker formatıyla yorumlar ve görsel efektler eklenmiş videolar her halükarda durağanlıklarını muhafaza etmektedirler. Bunun karşısında dinamik bir rekabetin de geleceği elbette tahmin edilmiştir ki, canlı yayın özelliğini sunan ortamların pazara girmesiyle, Let's Play kavramı farklı bir derinliğe kavuşmuştur. Justin Tv, Livesteam ve UStream gibi çok sayıda izleyiciye(multiuser) aynı anda canlı yayın imkanı sunan birçok internet sitesi, bu alanda YouTube'a alternatif oluşturmuştur. Ancak hedef odaklı olan iki örnek göstermek mümkündür. Bu iki örnek, kendi içerik grupları bakımından sadece oyun odaklı olduklarından, diğer canlı yayın uygulamalarından, hatta YouTube'un canlı yayın frekansından dahi ayrılmaktadırlar. Bunlar sırasıyla Twitch TV ve nispeten çok daha küçük ölçekli olan Azubu TV'dir. Azubu TV, topluluk bazındaki bilinirliği bakımından çok daha kısıtlı bir edinime sahip olsa dahi, eş zamanlı strateji tabanlı ve birincil kişi ilerlemeli (first person walkthrough-first person shooter) görüntü sistemlerine yönelik oyun mekaniklerini temel içerik olarak barındırmaktadır. Kullanıcıları, özel yayın frekansları edinerek, canlı yayın ile bağlantıya geçme imkanına sahiptirler. Topluluk anlamında bilinirliği ve gelir dağılımına ettiği etki bakımından Azubu TV'nin yanında sayılabilecek birçok ek platform bulunmaktadır. Ancak küresel anlamda en yaygın ağa, Twitch TV sahiptir. Canlı yayına bağlanma, canlı yayına ev sahipliği yapma, canlı yayına aracılık yapma gibi temel birçok yayıncılık faaliyetine sahip olan Twitch TV, uygulaması itibarıyla, yayını kendi bilgisayar sistemlerinde barındırmak yerine, yayına bağlanan kişiler arasında veri transferi gerçekleştirmek vasıtasıyla çalışma prensibi oluşturmaktadır. Bu bir yönüyle zayıf bağlantı modülleri için problem teşkil etmekte ve yayına bağlanan kullanıcılar ile yayını sahiplenen taraflar arasında bağlantı problemleri ortaya koyabilmektedir. Ancak diğer taraftan, konsolide anlamında, kullanıcı sayısının kısa sürede 50 milyona ulaşması ve 1 milyon tekil yayıncı ile yayınlara katılımı arttırması, küçük pürüzlerin görülmemesini sağlamaktadır (Zhang ve Liu, 2015:55).

Twitch TV, önemli bir özelliği itibarıyla popüler oyunların en çok simgeleştiği alanlardan biri olmaktadır. Özellikle Defense of the Ancients 2 ve League of Legends gibi önemli oyunların, küresel anlamda kullanıcılarını tek bir yerde toplama gibi önemli bir sistematiği sunmaktadır. Benjamin Burroughs ve Paul Rama'nın yaptıkları çalışmada, günün herhangi bir kısmında ve yalnızca bu iki oyunda dahi, yüz binlerce kişilik canlı izleyici kapasitesine ulaşılmakta olduğu vurgulanmıştır. Oyunlar için canlı yayınların merkezi haline gelen Twitch TV, düzenlenen ödüllü turnuvalara da yayıncılık yapmaktadır. Öyle ki, 2015 yılında düzenlenen League of Legends turnuvası adına 725 bin kişilik çevrimiçi izleyici sayılarından söz edilmektedir (Burroughs ve Rama, 2015:2). eSports olarak da adlandırılmaya başlayan elektronik ortamda sanal oyun turnuvalarının düzenlenmesi ve buna

  

ev sahipliğinin yapılması şüphesiz ki çok büyük bir etkinliğin sistem içerisine dahil edilmesi anlamını taşımaktadır. Öyle ki, her ülkeden her farklı yaş grubundan ve eğitim seviyesinden gençleri bir araya getirmektedir. Elektronik sporların meslek haline gelme süreci ise, aile bireyleri ve oyuncunun kendisinin yaşamının ilerleyen dönemlerindeki hedef ve kriterleri ile uyuşması süreci ile paralel olarak ilerlediğini söylemek yanlış olmayacaktır. Örneğin Christian Sebastian Loh'un çalışmalarında da ifade edilen; 2000'li yılların ortalarında bir kült değer olarak anılmış olan "fatal1ty" rumuzlu Jonathan Wendel isimli Amerikalı oyuncunun turnuvalardan 1 milyon Amerikan Doları tutarında ödül elde etmesinin arka planında, 1999 yılından beri profesyonel olarak ilgili alanda kendini geliştirmesi ve yaptığı iş için, hayatını idame ettirmek için sahip olduğu gerçek işi olarak nitelemesi kayda değer en önemli hususlardan birini teşkil etmektedir. Ayrıca kendisinin, bilgisayar oyunculuğunun geçerliliği üzerine bir felsefi anlayış kurgusu da mevcut olmuştur (Loh, 2008:189-190). Wendel, aynı zamanda çok farklı tipte ve nitelikte oyunlar oynamış olup; ilgili oyunlar, aksiyondan, stratejiye kadar geniş bir yelpaze içermektedir.

| Oyuncunun İsmi | Oyuncu Abonesi | Oyuncunun, Kanalında Son Oynadığı Oyun |
|---|---|---|
| syndicate | 2,449,441 | Overwatch |
| riotgames | 2,234,903 | League of Legends |
| esl_csgo | 1,493,765 | Counter-Strike: Global Offensive |
| summit1g | 1,425,913 | RollerCoaster Tycoon 2 |
| Nightblue3 | 1,416,353 | League of Legends |
| LIRIK | 1,403,732 | Town of Salem |
| PhantomL0rd | 1,386,716 | Counter-Strike: Global Offensive |
| captainsparklez | 1,296,014 | Forza Motorsport 6 |
| sodapoppin | 1,249,733 | World of Warcraft |
| imaqtpie | 1,236,313 | League of Legends |

Şekil A-2016 Haziran-Twitch TV en çok aboneye sahip ilk 10 yayıncı (Social Blade, b.t.)

Şekil A'da görüldüğü üzere, içerik ve ilgi bakımından son derece farklı nitelikte oyunlar, oyuncular arasında yayınlara konu olmaktadır. Twitch TV'nin 2015 raporunda genel itibarıyla en çok oynanan oyunların ise League of Legends, Counter Strike, Defend of The Ancients 2, HearthStone, Minecraft, H1Z1, Destiny, World Of Tanks, World of Warcraft ve FIFA 15 şeklinde gerçekleştiği belirtilmiştir. Ayrıca aynı raporda, izleyicilerin %35'inin taşınabilir cihazlardan, %56'sının doğrudan masaüstü ve benzeri cihazlar vasıtasıyla internet sitesi üzerinden, %7'sinin konsol cihazları üzerinden işleve ulaştıkları tespit edilmiştir (Twitch TV, b.t.). Temel anlamda zirve için konuşulduğunda ve genelde oynan oyunlar kıyaslandığında, özellikle eş zamanlı strateji oyunlarının tercih edilmesi ise dikkat edilmesi gereken bir diğer önemli husustur. Ancak bu oyunların şahsi istekler doğrutlusunda oynandığı ve yayına hazırlandığı konusunda emin olmak mümkün değildir. Zira, oyun üreticilerinin çeşitli hak talepleri ve pazarlama refleksleri gereği kendi iç dinamiklerini tanıtım alanında kullanmaları düşünülebilir. Resmi sponsorluk duyurularının bu anlamda büyük önemi olmakla birlikte, işletmelerin kendi aralarında sahip oldukları centilmenlik anlaşmaları gibi korumacı bir işletme refleksinden söz etmek mümkün olmadığından, rekabete dayalı farklılıklar, içeriğin sunumu esnasında tercih edilen mimik ve hareketler bazında kendisini göstermektedir. Bu durumu YouTube içerik analiziyle de orantılı olarak değerlendirmek mümkündür.

YouTube üzerinden en popüler olarak adlandırılabilen hesaplardan üç farklı kullanıcı hesabı olan 46 milyon aboneye sahip PewDiePie (YouTube: PewDiePie, 2016), 17 milyon aboneye sahip VanossGaming (YouTube: VanossGaming, 2016) ve 7 milyon aboneye sahip olan Yogcast Lewis and Simon (YouTube: Yogcast Lewis and Simon, 2016) hesapları incelendiğinde, hesaplardan sadece Yogcast ve Yogcast'in alt hesapları altında belirli bir kategori ayrımı yapıldığı görülmektedir. Yogcast, birden çok kişinin bir ekip oluşturmak suretiyle video hazırlamasına dayalı, ancak temel anlamda Minecraft isimli, Microsoft tarafından 2014 sonlarında 2.5 milyar Amerikan Doları'na satın alınan (Cooper, 2015) bilgisayar oyunu üzerinden, oyun karakterlerini kullanmak suretiyle canlandırılan kısa filmlerden oluşmaktadır. Benzerlik açısından VanossGaming hesabı ile farklı içerik ve sunumlara sahip olmakla birlikte, genel anlamı itibarıyla "machinima" ismi verilen ve Let's Play kültürünün

  

içerisinde önmeli bir yere olan oyun içi karakterlerin animasyon karakterleri haline devşirildiği türler en büyük ortak özellik olmaktadır. İsmiyle özdeş bir kanal da sahip olan Machinima, YouTube üzerinde, kendi videolarını hazırlayan kullanıcıların özel olarak seçilmiş olanlarını yayınlamaktadır. Bu örneklerden farklı olarak ise, PewDiePie rumuzlu Felix Kjellberg isimli İsveçli kullanıcının videoları, temel bilgisayar ve taşınabilir cihaz oyunları üzerine tamamen Let's Play kültürünün çıkış noktasındaki oyun içindeki ilerlemeyi kayıt etme özelliği ile hareket eden çalışmaları içermektedir. Tüm bu kanalların ve hesapların, bilgisayar oyunları üzerinden kullanıcılara ulaşarak, küresel anlamda bir birliktelik yarattığı düşünülmektedir. Ancak diğer taraftan, izlenme başına alınan reklam gelirleri dışında bir gelir elde edilmediğini düşünmek çok iyimser bir tahmin olacaktır. Örneğin Curse Inc şirketi tarafından Union For Gamers adıyla başlatılan oyun platformunda, oyuncuların ürettikleri içerikler ile doğrudan bir iş ortaklığına başlayarak gelir elde edebilmeleri sağlanmaktadır (Peterson, 2015). Bu tip tümleşik iş ortaklıklarının yanında, Twitch TV, YouTube'un kullanıcılara doğrudan tanımlamak yerine reklam gelirleri üzerinden dağıttığı karşılıkların aksine bir gelir yöntemi sunmaktadır. Twitch TV üzerinden, oyunculara izleyiciler tarafından belirli miktarlarda bağışlar yapılabilmektedir. Bu bağış sayılarının sansasyonel düzeylerden tek haneli sayılara kadar oldukça geniş yelpazede olması da dikkat çekici bir husus olmaktadır (Corriea, 2014).

Google'ın YouTube'u satın almasının ardından benzer bir satın almanın Twitch TV'nin de başına gelmesi çok da uzak ihtimal olmamıştır. Nitekim, 2014 yılında Amazon tarafından 970 milyon Amerikan Doları bedel ile satın alınan Twitch TV, büyük bir rekabetin sanal dünya üzerinde farklı cephelere yayılmasına sebep olmuştur (Kim, 2014).

## OYUN İÇERİK PAYLAŞIM ORTAMLARININ BİREYLERE ETKİLERİ

Günümüzde oyunlara doğru yöneltilen bakış açısı, ilgili platformların yaygınlığı ve başarıları neticesinde negatif etki göstermekten uzaklaşmaya başlamıştır. Bu doğrultuda, eğitimin dahi içerisinde bir içerik materyali olarak kullanılması sağlanan oyunların, ilk perakende dönem şartları içerisinde karşılaştığı "çocuklara özgü olma" durumunun göz ardı edilmeye başlaması, aynı zamanda içeriği yorumlayan ve kendine özgü değerleriyle yeni bir içerik üretimi ortaya koymaya başlayan bireyler için de fırsat olmuştur. Bu fırsat, iktisadi anlamda da yeni istihdam kaynakları oluşmasını sağladığı kadarıyla, sosyo-kültürel açıdan, genç neslin uzak ülkelerdeki akranları ile temasa geçmesini kolaylaştırır bir hal almıştır. En nihayetinde oyunun kendisi olmasa dahi, video olarak takip edilmesi, bireylerin boş vakitlerinde hayatın kendi zorlu şartlarından kurtulmak için başvurdukları eğlence metodu olan video izleme eylemine de hizmet edecektir denilebilir. Nitekim bu durumu eğitim veya iş aralarında bir dinlenme faktörü olarak belirten araştırmalar mevcuttur (Widén v.d., 2015:6). Öte yandan, bir eğlence aracı olarak kullanılmanın ötesinde, psikolojik açıdan yaş ile uyumsuz ve içerik açısından uygunsuz olan şiddet içerikli oyunların oynanması gibi aktivitelerin ise, pozitif katma değer sağlamaktan öteye, gelişme çağındaki gençler üzerinde negatif tesirler oluşturduğuna yönelik çalışmalar da mevcuttur (Travers, 2008:222). Aynı negatif etkilerin sağlık açısından uzun süreli ekran başında oturmaya yönelik doğurduğu tahmin edilen sakıncalı durumlar ile çoğaltılması ise, Amerika Birleşik Devletleri'nde yapılan araştırmalar sonucunda göz ardı edilmiştir. Uzun süreli hareketsiz kalma ile kilo alımı arasında doğrusal bir bağlantıya yan etkenler devre dışı bırakıldığında rastlanılmamakla birlikte, Amerika Birleşik Devletleri'nde görülen aşırı obezite yoğunluğundan da oyun veya video bazlı vakit geçirme eğiliminin alakalı olmadığı tespit edilmiştir. Yapılan aynı araştırmalar, ekran önünde vakit geçiren gençlerin, geçirmeyen gençlere nazaran özsaygılarının daha yüksek ve okuma becerilerinin daha başarılı olduğu yönündeki sonuçları ortaya sermiştir (Jackson, 2010:603).

## SONUÇ

Sosyal medya araçları, birbiriyle iç içe geçmiş sistematik sayısal ortam araçlarının birer yansımaları olarak günümüzde varlıklarını geliştirerek sürdürmektedirler. Bu ölçüde, ilgili araçlardan ortaya çıkan sanal ortam ürünleri, kullanıcılarının varolduğu ve isteklerinin ne ölçüde şekillendiği ile doğru orantılı olarak kendilerini yenilemekte veya oluşan farklı sistemlere adapte olabilmektedirler. İktisadi anlamdaki dönüşleri de, aynı ölçüde, kendi adaptasyonlarının, denetim kurumlarınca ve kar amacı güden işletmelerin pazarlama sistematikleri ile ortaklaşa biçimde aynı yolu kullanmaktadır. Bireylerin tercihleri her ne kadar iktsadi anlamda kendi özgür düşünceleri ile şekilleniyor gibi görülse de, çıkmaza giren ya da yeni açılımlar yoluyla daha büyük gelirler elde

  

etmeyi hedefleyen taraflar, kullanıcıların isteklerini o veya bu şekilde tesir altına alacaklardır. Paylaşılan her bir fotoğraf, her bir hareketli görüntü veya tümleşik sanal ortam ürünü, aslında bu amaç ve doğrultuda pazarlama mekanizmasının bir fonksiyonu olma görevi görmektedir. Bağımsız ve genç neslin kendi alanı olarak kabul ettiği elektronik spor alanları da ülkelerin kendi ölçekleri doğrultusunda bu fonksiyondan etkileneceklerdir. İlgili gelişimler göz önünde bulundurulduğunda, oyun bazlı gelirlerin düşük olması, ülkelerdeki pazarlama refleksinin fonksiyon dışında kaldığı anlamına gelmemektedir. Teknolojik ilerlemenin hız kazandığının yadsınamaz gerçekliği kabul edildiğinde, ülkelerin iç dinamiklerinde bu konuya verdikleri önem daha da artacaktır.

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# SPOR BİLİMLERİ FAKÜLTESİ ÖĞRENCİLERİNİN ÖĞRENİM GÖRDÜKLERİ BÖLÜMLER VE YAPTIKLARI SPOR DALLARI İLE PROBLEM ÇÖZME BECERİLERİ ARASINDAKİ İLİŞKİNİN İNCELENMESİ

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## ÖZET
Bu araştırmada, Spor Bilimleri Fakültesi öğrencilerinin öğrenim görmekte oldukları bölüm ve yaptıkları spor branşları ile problem çözme becerileri arasında ilişki olup olmadığını ortaya koymak amaçlanmıştır.

Çalışmaya Uşak Üniversitesi Spor Bilimleri Fakültesinde Beden Eğitimi ve Spor Öğretmenliği ve Spor Yöneticiliği bölümlerinde öğrenim görmekte olan toplam 207 (71 bayan ve 136 erkek) öğrenci katılmıştır.

Araştırmada veri toplama aracı olarak, araştırmacı tarafından geliştirilen kişisel bilgi formu ve orijinali Heppner ve Petersen (1982) tarafından geliştirilmiş, daha sonra Şahin ve Heppner (1993) tarafından Türkçe'ye uyarlaması yapılmış olan Problem Çözme Envanteri(PÇE) kullanılmıştır. Elde edilen verilerin analizinde tanımlayıcı istatistik, Kruskal Wallis H, Man Whitney U ve Anova testlerinden yararlanılmıştır. Anlamlılık düzeyi 0.05 olarak ele alınmıştır.

Sonuç olarak problem çözme becerisi açısından toplam puanlarda ve alt boyutlarda, cinsiyetler arası anlamlı bir fark tespit edilememişken, Beden Eğitimi ve Spor Öğretmenliği ve Spor Yöneticiliği bölümleri arasında öğretmenlik bölümü lehine istatistiksel olarak anlamlı sonuçlar elde edilmiştir. Branşlara göre bakıldığında ise hem alt boyutlarda hem de toplam puan açısından, bireysel sporlarla ilgilenen öğrenciler ile branşı basketbol olan öğrencilerin problem çözme becerilerinin, voleybol, futbol ve badminton sporcu ile ilgilenen öğrencilerden daha iyi olduğu tespit edilmiştir.

Anahtar Kelimeler: Problem Çözme, Beden Eğitimi, Problem Çözmede Yaratıcılık, Spor Bilimleri.

## GİRİŞ
Problem çözme becerisi Bingham'a göre istenilen amaca ulaşma yolunda karşılaşılan problemleri ortadan kaldırabilme süreci olarak tanımlanmıştır(Bingham, 1998). Bireyin karşılaştığı bir problemi ortadan kaldırabilmesi için belli bir bilgi ve tecrübe birikimine ihtiyacı vardır. Burada çocukluk yıllarına dayanan bir bilgi birikiminden söz edilebilir. Özellikle çocuklar okullarda, işler istedikleri gibi gitmeyince belli problemlerle karşı karşıya kalacaklar ve onlarla başa çıkabilmek için çözüm yolları arayacaklar hatta bu süreçte hatalar yapacaklar ki doğru çözüme kendileri ulaşabilsinler (Berke, 2016). Bireyin karşılaştığı zor durumların içerisinden çıkabilmesi, yani problem çözme becerisi, yaşantısının her anında etkili olan ve yaptığı tüm eylemlerde mevcut olan önemli bir yaşam becerisidir (Temel, 2015). Bu beceri, bireyin hem kendisi hem de çevresi ile ilgili problemlerin üstesinden gelme sürecinde önemli bir yere sahiptir. Problem çözme becerisinin gelişimi ailede başlayan ve okullarda eğitimciler tarafında üzerinde durulması gereken bir konudur. Çünkü bu becerinin gelişim düzeyi her bireyde farklılık gösterebilir.

Sportif etkinlikler denilince akla sadece fiziksel performans gelmektedir. Ancak, sportif etkinliklerin bedensel, zihinsel ve motorsal performans bütünü olmasının yanı sıra bireysel ve toplumsal bir etkinlik bütünü olduğu düşünülmelidir(Kuru, 2000). Dolayısı ile problem çözme becerisi kişilik gelişimi ile doğrudan orantılıdır. Utangaç olmayan özgüveni ve benlik saygısı yüksek bireyler girişimcilikleri ve sorumluluk almaktan korkmamaları sayesinde problem çözme konusunda daha beceriklidirler (Afyon ve ark., 2014). Çünkü atılgan

  

kişilik yapısına sahip bireyler ne yapabileceklerinin farkında oldukları ve kendi haklarını iyi bildikleri için problem çözme becerisi konusunda daha başarılıdırlar (Efe ve ark., 2008). Problem çözme konusunda zayıf olan bireylerin, başarılı olanlara oranla, daha kaygılı, daha az kendine güvenen ve daha çok duygusal problemleri olan bireyler oldukları görülmüştür (Şentürk, 2010 & Heppner ve Baker, 1997).

Bazı durumlarda problemin çözümü için bilgi ve tecrübe birikiminin yanı sıra kişisel yaratıcılığa ihtiyaç duyulabilir (Basmacı, 1998). Problem çözme ve yaratıcı düşünme arasında da bağ olduğu düşünülmektedir (Güzel, 2004). Karşılaşılan özel durumlarda yenilikçi ve yaratıcı çözümlere olan ihtiyaç gün geçtikçe artmaktadır (Collins ve ark., 2016).

Bu çalışma, spor bilimleri fakültesinde öğrenim görmekte olan öğrencilerin kayıt oldukları bölümler, ilgilendikleri spor branşları ve problem çözme becerileri arasında ilişki olup olmadığını ortaya çıkarmak amacıyla gerçekleştirilmiştir.

## YÖNTEM

Çalışmaya, Uşak Üniversitesi Spor Bilimleri Fakültesinde öğrenim görmekte olan toplam 207 (71 bayan ve 136 erkek) öğrenci katılmıştır. Bu öğrencilerin 145'i Beden Eğitimi ve Spor Öğretmenliği, 62'si ise Spor Yöneticiliği bölümlerinde öğrenim görmektedir. Çalışmaya katılan tüm öğrencilerden, araştırmacı tarafından geliştirilen Kişisel Bilgi Formu ve Heppner ve Petersen (1982) tarafından geliştirilmiş olan ve daha sonra Şahin ve Heppner (1993) tarafından Türkçe'ye uyarlaması yapılmış olan Problem Çözme envanterinin Türkçe versiyonunu cevaplamaları istenmiştir.

Araştırmada kullanılan envanter, bireyin problem çözme becerisi ile ilgili öz algısını ölçmekte olup, 1 den 6 ya kadar puanlanan ve 35 maddeden oluşan likert tipi bir ölçektir. Değerlendirme yapılırken envanterinin 35 maddesinin 3'ü orijinalinde olduğu gibi değerlendirme dışı bırakılmıştır. Ayrıca envanterin, Aceleci Yaklaşım, Düşünen Yaklaşım, Kaçıngan Yaklaşım, Değerlendirici Yaklaşım, Kendine Güvenli Yaklaşım ve Planlı Yaklaşım olmak üzere 6 alt boyutu bulunmaktadır. Ölçeğin Cronbach Alfa iç tutarlık katsayısı 0,88 ve test yarılama yöntemi ile yapılan güvenirlik katsayısı ise 0,81 olarak tespit edilmiştir(Aldemir ve ark.- 2014). Her zaman boyle davranırım" (1) ve " Hic bir zaman boyle davranmam" (6) olmak uzere 6'lı Likert tipindeki olcum aracı 35 maddeden oluşmaktadır. Olumsuz ifade iceren maddelerin (1., 2., 3., 4., 11., 13., 14., 15., 17., 21., 25., 26., 30., 34. maddeler) ters cevrilmesi ve kontrol amaclı olarak olcekte yer alan 3 maddenin (9., 22., 29. maddeler) uzaklaştırıldıktan sonraki puanlama aralığı 32 ile 192 arasında değişmektedir. Alınan toplam puanın duşuk olması, bireyin problem cozme becerisinin yuksek olduğunu gostermektedir. Hesaplama sonrası alınan 32 ile 85 arasındaki puanlar yuksek, 86 ile 138 arasındaki puanlar orta, 139 ile 192 arasındaki puanlar duşuk problem cozme becerisi olarak değerlendirilmektedir

## BULGULAR

**Tablo 1: Öğrencilerin Öğrenim Gördükleri Bölümler ve Problem Çözme Becerisi Arasındaki İlişki**

| Bölüm | Medyan(Min:Maks) | P değeri |
|---|---|---|
| Beden Eğitimi ve Spor Öğretmenliği (n=145) | 86(49:154) | p<0,001 |
| Spor Yöneticiliği (n=62) | 101(67:130) | |

Tablo 1'de öğrencilerin öğrenim gördükleri bölümler ile problem çözme becerileri arasında ilişkinin karşılaştırılması sonucundaki istatistiksel veriler yer almaktadır. Yapılan karşılaştırma sonucunda Beden Eğitimi Öğretmenliği bölümü ve Spor Yöneticiliği bölümü arasında istatistiksel olarak anlamlı farklılık elde edilmiştir (p<0,001). Spor Yöneticiliği bölümü problem çözme becerisi medyan değeri Beden Eğitimi Öğretmenliği bölümü problem çözme becerisi medyan değerinden daha yüksektir. Spor Yöneticiliği bölümünde okuyanlar Beden Eğitimi Öğretmenliği bölümünde okuyanlara göre problem çözme becerileri konusunda kendini daha yetersiz olarak algılamaktadır. Bu durumda Beden Eğitimi Öğretmenliği bölümünde okuyanların problem çözme beceri algısı, Spor Yöneticiliği bölümünde okuyanlardan daha olumlu yöndedir sonucuna varılabilir.

**Tablo 2: Öğrencilerin Yaptıkları Spor Branşlarına Göre Problem Çözme Beceri Puanları**

| Öğrencilerin Spor Branşları | N | Ortalama | SS |
|---|---|---|---|
| Voleybol | 31 | 94,29 | 23,75 |
| Bireysel Spor | 84 | 83,90 | 19,48 |
| Basketbol | 10 | 74,70 | 14,70 |
| Futbol | 69 | 90,88 | 19,63 |
| Badminton | 13 | 90,37 | 14,57 |

  

Tablo 2'de öğrencilerin yapmakta oldukları spor branşlarına göre dağılımları, Problem Çözme envanterinden aldıkları puan ortalamaları ve standart sapma puanları yer almaktadır. Envanterden elde edilen puanın yüksek olması problem çözme becerisi ile ilgili algının düşüklüğünü, envanterden elde edilen puanın düşüklüğü ise problem çözme beceri algısının yüksekliğini işaret etmektedir. Buna göre problem çözme beceri algısı en yüksek olan grup Basketbol ve Bireysel Sporlar grubu diyebiliriz. En düşük problem çözme beceri algısı ise Voleybol branşında gözlemlenmiştir.

**Tablo 3: Öğrencilerin Yaptıkları Spor Branşlarına Göre İkili Karşılaştırma Sonuçları**

| **Branşlar** | **Voleybol** | **Bireysel Spor** | **Basketbol** | **Futbol** | **Badminton** |
|---|---|---|---|---|---|
| **Voleybol** | | P=0.027 | P=0.019 | P>0.05 | P>0.05 |
| **Bireysel Spor** | P=0.027 | | P>0.05 | P=0.043 | P>0.05 |
| **Basketbol** | P=0.019 | P>0.05 | | P=0.012 | P=0.038 |
| **Futbol** | P>0.05 | P=0.043 | P=0.012 | | P>0.05 |
| **Badminton** | P>0.05 | P>0.05 | P=0.038 | P>0.05 | |

Tablo 3'de öğrencilerin spor branşlarına göre ikili karşılaştırma sonuçları yer almaktadır. tablo incelendiğinde "Voleybol" ve "Basketbol" Branşları arasında problem çözme becerisi açısından istatistiksel olarak anlamlı farklılık elde edilmiştir (p=0,019). Voleybol branşında problem çözme becerisi toplam puan ortalama değeri basketbol branşından daha yüksektir. Bu durumda Basketbol branşıyla ilgilenenlerin problem çözme beceri algısı Voleybol branşıyla ilgilenenlerin daha olumlu yöndedir denilebilir. Öte yandan Voleybol branşıyla ilgilenenler Bireysel Spor yapanlara göre problem çözme becerileri konusunda kendini daha yetersiz olarak algılamaktadır. Bu durumda Diğer branşlarda okuyanların problem çözme beceri algısı Voleybol branşında okuyanlardan daha olumlu yöndedir sonucuna varılabilir. Yine tabloya göre Futbol branşıyla ilgilenenler Basketbol branşıyla ilgilenenlere göre problem çözme becerileri konusunda kendini daha yetersiz olarak algılamaktadır.

**Tablo 4: Öğrencilerin Aceleci Yaklaşım Tutumları İle Yaptıkları Spor Branşları Arasındaki İlişki**

| **Branş** | **Ort±S.Sapma** | **P değeri** |
|---|---|---|
| Futbol (n=69) | 31,44±6,93 | 0,045 |
| Bireysel Spor (n=84) | 28,58±6,06 | |

Hangi branşlar arasında farklılık olduğunun incelenmesi için yapılan ikili karşılaştırmalar sonucunda futbol ve bireysel sporlarla ilgilenen öğrenciler arasında istatistiksel olarak anlamlı fark elde edilmiştir (p=0,045). "Bireysel spor" yapan öğrencilerin aceleci yaklaşım toplam puan ortalaması branşı futbol olan öğrencilerin aceleci yaklaşım toplam puan ortalamasından daha düşük olduğundan, bireysel spor yapan öğrencilerin aceleci yaklaşım biçimini, branşı futbol olan öğrencilere göre daha az kullanıldığı sonucuna varılabilir.

**Tablo 5: Öğrencilerin Düşünen Yaklaşım Tutumları İle Öğrenim Gördükleri Programlar Arasındaki İlişki**

| **Bölüm** | **Medyan(Min:Maks)** | **P değeri** |
|---|---|---|
| Beden Eğitimi ve Spor Öğretmenliği (n=145) | 11(5:30) | 0,001 |
| Spor Yöneticiliği (n=62) | 15(7:29) | |

Yapılan ikili karşılaştırma sonucunda Beden Eğitimi ve Spor Öğretmenliği ve Spor Yöneticiliği bölümleri arasında istatistiksel olarak anlamlı farklılık elde edilmiştir (p=0,001). Beden Eğitimi Ve Spor Öğretmenliği bölümünde okuyan öğrencilerin düşünen yaklaşım toplam puan medyan değeri Spor Yöneticiliği bölümünde okuyan öğrencilerin düşünen yaklaşım toplam puan medyan değerinden daha yüksek olduğu görülmektedir. Dolayısı ile Beden Eğitimi Ve Spor Öğretmenliği bölümünde okuyan öğrencilerin Spor Yöneticiliği bölümünde okuyan öğrencilere göre düşünen yaklaşım tutumunu daha fazla kullandığı sonucuna varılabilir.

**Tablo 6: Öğrencilerin Kaçıngan Yaklaşım Tutumları İle Öğrenim Gördükleri Programlar Arasında İlişki**

| Bölüm | Medyan(Min:Maks) | P değeri |
|---|---|---|
| Beden Eğitimi ve Spor Öğretmenliği (n=145) | 9(4:23) | 0,002 |
| Spor Yöneticiliği (n=62) | 10(4:20) | |

  

İki bölüm arasında kaçıngan yaklaşım tutumu açısından istatistiksel olarak anlamlı farklılık vardır (p=0,002). Beden Eğitimi ve Spor Öğretmenliği bölümünde okuyanların kaçıngan yaklaşım toplam puan medyan değeri Spor Yöneticiliği bölümünde okuyanların kaçıngan yaklaşım toplam puan medyan değerinden daha düşüktür. Bir başka deyişle, beden eğitimi ve spor öğretmenliği bölümünde okuyanların kaçıngan yaklaşım tutumunu spor yöneticiliği bölümünde okuyanlardan daha az kullandığı şeklinde yorumlanabilir

**Tablo 7: Öğrencilerin Kendine Güvenli Yaklaşım Tutumları İle Öğrenim Gördükleri Programlar Arasında İlişki**

| Bölüm | Medyan(Min:Maks) | P değeri |
|---|---|---|
| Beden Eğitimi ve Spor Öğretmenliği (n=145) | 17(8:41) | 0,006 |
| Spor Yöneticiliği (n=62) | 17(7:35) | |

İki bölüm arasında kendine güvenli yaklaşım tutumu açısından istatistiksel olarak anlamlı farklılık vardır (p=0,006). "Spor yöneticiliği" bölümünde okuyanların medyan değeri beden eğitimi ve spor öğretmenliğinde okuyanların medyan değerinden daha büyüktür, yani spor yöneticiliği bölümü öğrencileri kendine güvenli yaklaşım tutumunu daha az kullanmaktadır sonucuna varılabilir.

## TARTIŞMA VE SONUÇ

Hayatın her aşamasında birçok problemle karşı karşıya kalan insanoğlu sürekli çözüm üretme çabası içerisinde olmuş ve olmaya devam edecektir. Günümüzde, özellikle ülkemizde spor yapmaya veya yaptırmaya çalışmak, başlı başına birçok problemle karşılaşmak anlamına gelmektedir. Spor yapmak veya yaptırmak için okul yönetimleri, aileler, maddi olanaklar ve daha eklenebilecek hesaplanmayan birçok sorunla karşılaşmak anlamına gelebilir. Bu şartlarla mücadele etmeyi başaran ve bir şekilde üniversitelerin beden eğitimi bölümlerinde öğrenim görmeye hak kazanan gençlerin problem çözme becerilerinin gelişmiş olabileceği düşünülebilir.
Bu çalışmada elde edilen veriler ışığında, Spor Bilimleri Fakültesinde öğrenim görmekte olan öğrencilerin problem çözme becerisi algılarının orta düzeyde olduğu tespit edilmiştir. Bu sonuç Kiremitçi ve Canpolat'ın (2014) elde ettiği sonuçlarla benzerlik göstermektedir. Aldemir ve ark. (2014) 16-20 yaş arası futbolcular üzerine yaptıkları çalışmada yine benzer sonuçlar elde etmişlerdir. Çağlayan ve ark. (2008) spor yapan lise öğrencilerinin problem çözme becerilerinin bu çalışmayla benzer şekilde orta düzüeyde olduğu sonucuna varmıştır. Ancak Karabulut ve Pulur (2011) gençlik merkezine üye gençler üzerine yaptıkları çalışmada aktif spor yapan gençlerin sağlık için spor yapan veya spor yapmayan gençlerden düşünen, kaçıngan ve planlı yaklaşım alt boyutlarında daha olumlu problem çözme becerisine sahip olduklarını tespit etmişlerdir. Erozkan (2013) ise eğitim fakültesi ve beden eğitimi öğretmenliği bölümündeki öğrencilerin duygusal zekaları ve problem çözme becerileri arasında anlamlı bir korelasyon olduğu sonucuna varmıştır. Otacıoğlu (2007) çalışmasında müzik eğitimi bölümü öğrencilerinin, psikolojik danışmanlık ve rehberlik bölümü öğrencilerine oranla yaklaşma kaçınma ve kişisel kontrol alt boyutlarında daha yüksek problem çözme beceri algısına sahip olduğu sonucunu elden etmiştir. Sportif aktivite olarak duvar tırmanışını kullanan Özen (2015) ise bu aktivitelerle çocuklarda problem çözme algısının geliştiğini tespit etmiştir.

Beden eğitimi ve spor öğretmenliği bölümünde okuyan öğrencilerin problem çözme becerisi üzerine algıları, spor yöneticiliği bölümündekilere göre hem toplam puan üzerinden, hem de alt boyutlar incelendiğinde daha yüksek çıkmıştır. Özellikle düşünen yaklaşım tutumları, kendine güvenli yaklaşım tutumları ve kaçıngan yaklaşım tutumları açısından öğretmenlik bölümünde okuyan öğrenciler lehine sonuçlar elde edilmiştir. Genel olarak ülkemizde Beden Eğitimi bölümlerinde öğrenim görmek isteyen öğrencilerin ilk tercihleri öğretmenlik bölümleri olduğu için daha başarılı öğrencilerin öğretmenlik bölümlerinde okuyor olması bu sonucun ortaya çıkmasında etkili olmuş olabilir. Öğrencilerin yaptıkları spor branşlarına göre yapılan karşılaştırmalar incelendiğinde ise en yüksek problem çözme beceri algısının basketbolcu öğrencilerde ve bireysel spor yapan öğrencilerde olduğu saptanmıştır. Voleybol, Futbol ve Badminton sporu yapan öğrenciler arasında istatistiksel olarak anlamlı bir farlılık tespit edilememiştir.

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# SPOR GAZETECİLİĞİ EĞİTİMİNİN ÖNEMİ

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**ÖZET**
Günümüzde yaşamın her alanında spor olgusu büyük anlam ifade etmekte ve kendini göstermektedir. Futbol başta olmak üzere sporun farklı dallarına ilişkin gelişmeler ayrıntılı olarak kitle iletişim araçları ile insanlara aktarılmaktadır. Dünyanın herhangi bir yerindeki sporla ilgili haber, anında dünyanın her bir farklı köşesine ulaştırılabilmektedir. Medya bu alanda uzmanlaşmış gazetecilerle spor dünyasını takip etmektedir. Her ne kadar spor olgusu, gelişmiş Batı ülkelerinde üzerinde ciddiyetle durulan ve hakkında çok sayıda haber, yazı dizisi ile kitap yazılan geniş bir araştırma alanına sahipse de, ülkemizde önemi son yıllarda artmıştır. Bu noktada sporun birçok dalındaki faaliyetlerin medyada hak ettiği ölçüde yer bulabilmesi, daha bilimsel ve nitelikli bir biçimde ele alınmasını sağlamak için spor gazeteciliği alanında uzmanlaşmanın sağlanması ve devam ettirilmesi önem taşımaktadır.
Çalışmanın amacı sporun toplumların fiziksel ve ruhsal gelişimine de katkısı olduğundan hareketle, bu alanda verilecek eğitimin önemini farklı yönleriyle vurgulamaktır. Projenin yöntemi doğrultusunda yerli ve yabancı literatür taramasına başvurulacak, ayrıca geçmiş dönemde farklı tarihlerde yayımlanan gazetelerin haber metinlerinde tespit edilen eksiklikler ile çözüm önerileri vurgulanacaktır. Yine mevcut proje aracılığıyla gazetecilerin mesleki eğitim süreçlerinin başarıyla tamamlanması, habercilik uygulamalarındaki kalite düzeyinin arttırılması ve ilgili literatüre katkı sağlanması beklenmektedir.

**Anahtar kelimeler:** spor, spor gazeteciliği, eğitim

# THE IMPORTANCE OF SPORTS JOURNALISM

**ABSTRACT**
Today in every facet of life the concept of sport has great importance and demonstrates itself. The developments pertaining to different sports branches, particularly football, are conveyed to large masses by means of the mass media. The media monitors the sports world accordingly by means of the journalists specialized in this area. At this point, in order to enable the due coverage of various sports branches in the media and their being held in a more scientific and qualitative way, it is very important to provide and sustain specialization in sports journalism.
Based on the fact that sport contributes a great deal to the physical and spiritual development of societies, the purpose of this study is to highlight the importance of the education to be provided in this area through different perspectives.

**Keywords:** sport, sports journalism, education

## GİRİŞ

Spor olgusu, ortaya çıktığından günümüze kadar çeşitli değişiklikler göstererek herkes tarafından önemi ve karlılığı hissedilen bir ticari alan haline dönüşmüştür. Spor, reklam gelirleri, sponsorluklar, naklen yayınlar, taraftarlara yönelik kulüp ürünleri, borsalarda işlem gören kulüplerin hisse senetleri, mağazalarda satılan spor malzemeleri, kulüplere gönül veren seyircilerin ödedikleri maç bileti ücretleri, kombine kartları ve hatta bankaların 'taraftara özel kredi kartları' ile birlikte büyük bir sanayi haline dönüşmüş ve amatör ruhundan çıkıp profesyonelleşmiş bir olguya dönüşmüştür.

Günümüzde sporun bu derece popüler hale gelmesinin önemli bir sebebi de, profesyonelliktir. Sporun, para hem de çok büyük miktarlarda para getirdiğini gören gençlerin çoğu; sporu yalnız zevk için değil, aynı zamanda meslek olarak da seçmektedirler. Yine sporda başarıya giden yol umut edilerek, şansa inanarak zengin olma hayalleri kurulmaktadır. Çünkü bir tarafta yıldız sporcu olup büyük paralar elde etme amacı taşıyan milyonlarca genç; bir tarafta da sporla ilgili şans oyunlarından para kazanmayı hayal eden milyonlarca sporsever bulunmaktadır.

Sporun önem kazanmasında kitle iletişim araçları büyük bir işlev üstlenmiş ve sporun geniş kitlelere ulaşmasında itici bir güç olmuştur. İletişim alanında yaşanan hızlı ve teknolojik ilerlemeye yönelik çalışmalar ile birlikte dünyanın herhangi bir yerinde meydana gelen sporla ilgili gelişme, anında dünyanın dört bir yanına ulaştırılabilmektedir. Farklı iletişim araçlarının yaygın olarak kullanımıyla; spora ait bilgilerin, haberlerin

  

iletişim ağları sayesinde yayılması ve aktarılması ivme kazanmıştır. Ancak her zaman kendine özgü bir yayıncılık anlayışı doğrultusunda haberleri yansıtan, ele alınan konuları veya haberleri fotoğraf ögesinin kullanımıyla renkli ve anlaşılır kılan yazılı basın; okuyucunun gözünde farklı bir konuma sahiptir.

## SPORUN TANIMI VE GENEL ÖZELLİKLERİ

Spor, beden eğitimi ve boş vakit kavramlarının ötesinde oyun yoluyla hayatı yorumlama işinin bir biçimidir. Genel bütünlüğü içinde bilimsel birçok farklı disiplinin yardımıyla gelişen sporu, temel özelliklerine dayanarak tanımlama olanağı vardır. "En kestirme sözlük tanımıyla, oyun, oyalanma, eğlenme ve işten uzaklaşma anlamına gelir... Ayrıca spor, oyunla yarışmayı birleştiren, bedensel yetenekleri daha fazla olduğu için kazananları ödüllendiren, üst düzeyde oyun, mücadele ve ağır kas çalışması gerektirdiği için sürekli ve yoğun çabayı zorunlu kılan bir uğraşıdır." (Fişek, 1985:5,8)

Günümüzde üzerinde çeşitli görüşlerin bulunduğu, bilimsel çalışmaların hız kazandığı
spor kavramını daha farklı biçimlerde de ele almak mümkündür: "Günlük olarak gelişen politik çekişmelere, teknik değişikliklere, sosyal değişimlere boyun eğen dünyamızda, herkesçe algılanabilen evrensel diller oldukça azdır. Spor, bunlardan biridir." (Bourg, 1992:59)

Sporda temel amaç kazanmaktır. Kimi zaman bir takım halinde kimi zaman bireysel olarak bu ideal peşinde koşulur. "Spor oyunları, vücut teknolojisi kullanarak hedeflerin zaman ve rakip baskıları altında başarılması demektir." (Yaman, 2003) Bu oyunlardaki mücadele bazen ülkeler düzeyinde yapılırken bazen de kişisel çekişmelerle olur. Ancak asla kazanmak için centilmenlik kurallarının dışına çıkılmamalıdır. Zira tüm spor karşılaşmalarının hepsinin temelinde centilmenlik, barış ve dostluk yatmaktadır. Eğer bu kavramlara zarar gelirse, sporun tüm anlamı ve amacı kirlenmiş olur.

"Başlangıcı insanlığın bilinebilen tarihine dek götürülebilen spor olgusu, özellikle son iki yüzyıldır büyük kitlelerin ilgisini giderek artan bir oranda çekmektedir."(Sert, 2000: 14)
Bunda birçok etken ön plana çıkmaktadır: Ülkelerin hükümet politikalarında sporun ve özellikle futbol, basketbol gibi dallarının öncelikli olarak yer alması, kitle iletişim araçlarının her geçen gün artan biçimde spora geniş yer ayırmaları, sporun sağlıklı yaşam için kaçınılmaz bir gerçek olduğunun her yaştan insan tarafından kabul edilmesi, spor-ekonomi ilişkisinin büyük bir potansiyel arz etmesi ve spor-siyaset ilişkisinin beraberinde getirdiği etkiler temel gerekçeler olarak bilinmektedir.

"Spor günümüzde çoklu amaçlar doğrultusunda yapılmaya başlanmıştır. Boş zamanları değerlendirmek için yapılan spor artık sağlıklı yaşam, dinlenme, iş dünyasında daha planlı ve programlı çalışabilme, ani karar verme, verilen kararların tutarlılığı, savunma ve saldırı stratejileri geliştirme gibi birçok amaç doğrultusunda yapılmaya başlanmıştır." (Kaya, 2000:246)

Spor, dünyanın farklı kıtalarındaki değişik etnik, dinsel ve kültürel kökene sahip insanları bir araya getirip kaynaşmalarına da katkıda bulunmaktadır. Spor karşılaşmalarının televizyonlardan canlı olarak tüm dünyada yayınlanması, milyonlarca hatta milyarlarca insanın aynı anda, aynı heyecanı paylaşmasını sağlamaktadır. Spor karşılaşmaları, ülkeler arasındaki uluslararası anlaşmazlıkların giderilmesine de yardımcı olabilmektedir: ABD-Çin arasında oynanan masa tenisi karşılaşması, 1998 Dünya Kupası'nda ABD-İran Milli Futbol Takımları'nın mücadelesi, Türkiye ile Yunanistan'ın 2008 Avrupa Futbol Şampiyonası için ortak adaylık başvuruları, Galatasaray ile Olimpiakos futbol takımları arasında İstanbul'daki Olimpiyat Stadı'nda oynanan dostluk maçı örnek olarak verilebilir.

Bir başka açıdan konuyu ele almak gerekirse, "spor, kişinin önce kendisine, sonra doğaya, zamana, insana karşı ruhsal ve bedensel faaliyetlerle sürdürdüğü bir mücadele biçimidir. Spor kişiye sağlıklı, disiplinli, kurallara saygılı, toplum içinde sevgi ve anlayışla ilişkiler kurabilen bir karakter de kazandırabilmektedir." (Ünlütepe, 1991: 61) Türkiye'de çok az genç insan sporu kendine amatörce bir uğraş ya da profesyonelce bir meslek olarak seçmektedir. Yetersiz spor salonları, devletin teşvikinin yetersiz olması, halkın desteğinin sınırlı olması gibi birçok zorluk, sporcu yetiştirememizdeki en önemli nedenlerdir. Eğer bu tip sorunları aşarsak, spor ülkemizde de kalkınacak ve hak ettiği seviyeye ulaşabilecektir.

## TÜRKİYE'DEKİ SPOR GAZETECİLİĞİNİN DURUMU

Günümüzde uluslararası organizasyonlarda Türkiye'yi başarıyla temsil eden lisanslı sporcularıyla etkinliklerini sürdüren, ancak birçok sorunu da beraberinde taşıyan ve spor kamuoyunda bunları dile getirmek isteyen birbirinden farklı spor dalları bulunmaktadır. "Ancak spor basını futbol ile kendisini sınırlamıştır. Bunda kuşkusuz futbolun sadece Türkiye'de değil tüm dünyada en popüler spor dalı olması, Türk futbol liginde başarılı takımların basının merkezi gibi İstanbul'da bulunması ve bu taraftarların tiraja etki yapmaları, okurun

  

futbol haberi istemesi, futbol haberi toplamanın daha ekonomik olması gibi nedenler de bulunmaktadır." (Kaya, 2002:166)
Türkiye'de futbol yazarlığı, herhangi bir takımın taraftarlığı biçiminde bir gelişme göstermiştir. Günümüzde özellikle İstanbul'un üç büyükleri; Fenerbahçe, Galatasaray, Beşiktaş haber, yazı, yorum, tahmin, övgü ve eleştirilerde en çok ve en ayrıntılı biçimde gündemde yer alan ayrıcalıklı takımlar olmaktadır. Türkiye futbol liginin diğer takımlarından, ancak bir başarı kazandıklarında veya bir olaya konu olduklarında söz edilmektedir.

Başlık, fotoğraf gibi görsel ögeler, haberin en önemli bölümünü oluşturan haber metninden daha fazla yer kaplar olmuştur. Bu durumu, görsel basın ile yürüttüğü rekabet ortamında avantaj sağlamak, okuma aşamasında yeterli zamanı olmayan okuyucu kitlesini kazanmak için içerikleri kısaltma, magazin habercilik anlayışına ağırlık verme gibi yöntemlere başvuran yazılı spor basınının, futbolda görsel etkileyiciliği olan ögelere daha fazla yer vermesi olarak açıklamak mümkündür. Nitekim yazılı basın bir golün nasıl atıldığını fotoğraflarla okuyucusu için ölümsüzleştirebilmektedir. Oysa naklen yayında veya bir maç özetinde gol birkaç kez daha izlenir ve geçip gider. Futbola ilişkin heyecan dolu, ilginç başlıklarla da okuyucunun ilgisi çekilebilmektedir.

Yine günümüzdeki yazılı spor basınında futbol haberlerini, yorumlarını yazan kişiler, genellikle eski futbolcular olduğundan tarafsız kalamamakta, sayfalarında her zaman kendi takımlarını övmekte veya yermektedirler. Futbolla ilgili yorumlar yapan kişiler eski futbolcular oldukları halde, maçları teknik anlamda irdelememekte, yüzeysel ve temelden yoksun değerlendirmeler yapmaktadırlar. Gazetelerin spor servisleri ya da spor yazarlarının arasındaki söz düelloları kişiselleşmiştir.

Uzun yıllar futbol oynamış, jübilesini yaparak futbolu bırakmış olan futbolcular hemen bir gazeteye spor yazarı olarak işe alınmaktadırlar. Futbol ya da spor yazarı olma niteliklerini taşımayan bu kişiler; Beşiktaş, Galatasaray, Fenerbahçe yazarı olabilmektedirler. Ancak oynanan oyunun teknik analizine girmeden, yalnızca maçta gördüklerini okuyucuya aktarmaktan başka bir şey veremeyen bu yazarlar, yazılı spor basınının kalitesini her geçen gün düşürmektedirler. Yalnızca verilen pası, atılan golü anlatan bu yazıların yazılı spor basınımızı gün geçtikçe daha da güçsüz bir hale getirdiği inkar edilemez bir gerçektir. Ciddi anlamda spor yazısı yazan, gerek üslubu gerekse yazılarının içeriği bakımından son derece kaliteli olan yazarların çoğunun da eskiden futbol oynamamış insanlar olması da, bu söylenenleri kanıtlar niteliktedir.

Eski futbolcuların yanı sıra futbol oynamamış, ancak yine de bir takımın sempatizanı olup yalnızca o takımı takip eden yazarlar da mevcuttur. Tabii ki bu yazarların taraftarlıkları, diğer kesime göre katlanılabilir bir düzeydedir. Zira bu isimler gerektiği zaman yaptıkları eleştirilerde daha bilimsel ve daha somut yaklaşımlar sergilemekte, yapıcı eleştirilerde bulunmaktadırlar. Yine son dönemde Uğur Meleke, Tanıl Bora, Mehmet Demirkol ve Altan Tanrıkulu gibi yazarlar geçmişte futbol oynadıkları için değil, küresel arenada endüstriyel futbolu ve sıklıkla da diğer birçok sporu da takip edebildikleri için yazılarını analitik bir platformda neden-sonuç ilişkileri üzerine oturtabilmektedirler.

Meslek disiplininin köklü prensip ve geleneklere bağlı olmaması, spor yazarlarının mesleki birliğine büyük zarar vermektedir. Jübile yapan ünlü futbolcuların, sahalardan ayrılışlarının hemen ertesinde spor sayfalarında köşe sahibi olmaları, meslek disiplininin önceden belirlenmiş kurallara dayanmamasından kaynaklanmaktadır. Futbolcu kökenli yazar kadrolaşmasındaki aşırı artış, spor yazarlığının öz kaynaklarını hızla eritmekte, yani mesleki eğitim görmüş genç spor yazarı adaylarının önünü kapatmaktadır. Farklı meslek gruplarının önde gelen isimleri arasındaki yazar olma heveslilerine de tavizler verilince, spor yazarlığı adeta bir hobi mesleği haline dönüşmüştür.

Genel anlamda basında görülen asparagas haber yapma sorunu, günümüzde yazılı spor basınına da yansımıştır. Özellikle yaz aylarında ya da liglerin devre aralarında, sansasyon yaratmak amacıyla yapılan asılsız transfer haberleri bunun en iyi örneğidir. İlgi uyandırmak amacıyla yazılan seviyesiz, niteliksiz yazılar; mantıklı, teknik, bilimsel yazıların yerini almışlardır.

Oysa tiraj elde etme, okuyucuyu etki altına alma, yönlendirme amacıyla fanatizm düşüncesini ön plana alan yazılar yerine yazılı spor basını; sporu, okuyucularına dostluğu, kardeşliği, barışı, sportmenliği, kurallara uygun bir rekabet ortamını özendirici bir anlatım diliyle yansıtmayı kendine ilke edinmelidir. Ancak belirli bir standardı yakalayacak ve temel prensipleri doğrultusunda yayın politikasını belirleyecek bir spor basını başarı ulaşacak ve okurlar tarafından beğeniyle izlenecektir.

## BİR SPOR GAZETECİSİNDE OLMASI GEREKEN MESLEKİ NİTELİKLER

Gazetelerin spor sayfaları, günümüzde okuyucuların en fazla ilgisini çeken bölümlerin başında gelmektedir. Gazetelerin çoğunlukla arka sayfalarından başlanarak okunduğu kabul edilen bir gerçektir. Spor sayfalarındaki

  

yorum, haber ve hatta fotoğrafların taşıdığı mesajlar, çok geniş halk kitlelerini etkileyebilmekte ve spor kamuoyunu kısa zamanda yönlendirmektedir.

Farklı alanlarda görev yapan gazetecilerde olduğu gibi, spor gazetecisi de öncelikle sosyal sorumluluğa sahip olmalıdır. Bir gazetecinin sosyal sorumluluklarının ilk basamağı ise okuyucularına haber iletmektir. Spor gazetecisi de, haberleriyle toplumu bilgilendirirken, gerçeğe uygunluğu göz ardı etmemelidir. Yanlış, yanlı ve eksik bilgi vermemelidir. Bu sorumluluğun tam olarak yerine getirilebilmesi için spor gazetecisi her konuya duyarlı, geniş bir spor kültürüne sahip, kendini sürekli yenileyen, spor gündemini izleyen, meslek içi eğitimi takip eden kişi olmalıdır. Bir gazeteci olayları kendi oluşturmaz, olan olayları belirli ilkeler çerçevesinde ele alarak kamuya aktarır. Spor gazetecisi, gerek spor gündemindeki gerek spor basını alanındaki sorunları ortaya koyup tartışabilmelidir. Tarafsız olmalı, bağımsız olmalı, kendi düşüncelerini değil, gerçekleri ön plana çıkarmalıdır.

Öte yandan "Bir gazetecinin gözlemlediği olayları, gelişmeleri, haberleri okuyucuya doğru ve anlaşılır bir şekilde aktarabilmesi için yazılı anlatım yeteneğinin gelişmiş olması, imla ve noktalama kurallarını iyi bir şekilde kullanması, konuyla ilgili teknik terimleri bilmesi gereklidir. Haberlerin içeriği kadar, yalın ifadelerle herkesin anlayacağı bir dille yazılmış, zaman zaman edebi açıdan güzellik taşıyan yazıların gazetede yer alması okuyucunun da beklentileri arasındadır. Gazetelerin spor sayfaları okul çağlarındaki genç kuşağın da yoğun olarak takip ettiği bölümlerin başında geldiğinden aynı zamanda medyanın kullandığı dil, dolaylı olarak eğitimin önemli bir unsuru olarak görülebilir."(Özsoy,2006:132)

Yazılı spor basınının en çok dikkat etmesi gereken noktalardan biri ise, dilbilgisi kurallarına uyulmasıdır. Spor sayfalarında fiillerin, isimlerin ve tümleçlerin yanlış yerlerde kullanıldığı görülmektedir. Kurallı cümleler yerine sokak ağzı kullanılmakta, bağlaçların yazımına dikkat edilmemektedir. Sokak ağzının kullanımında, gazetecinin okuyucusuna en kısa yoldan ulaşma isteği birincil etkendir. Bu yaklaşımın sonucunda yazım kuralları açısından hatalar ortaya çıkmaktadır. Temel amaç daha çok satmak olduğu için böylesi yanlışlar yapılmaktadır. Örneğin ayrı yazılan -de, -da, -ki ve soru eki olan -mı ve -mi'ler bitişik yazılmaktadır. Spor yazarları kelime bulamadıklarından, kelime hazinelerinin kıt olduğu izlenimini uyandırmaktadırlar. Aynı cümle veya paragrafta bir kelime birkaç kez peşpeşe kullanılmaktadır. Bazı spor yazarlarının ise kelimenin aslını araştırmadıkları hatta imla kılavuzu ve sözlük bile kullanmadıkları göze çarpmaktadır. Türkçe karşılığı olan kelimelerin ısrarla yabancı dildeki şekliyle kullanımı ise bir başka sıkıntıyı oluşturmaktadır. Örneğin 'hücuma destek verdi' yerine ısrarla 'ofansa destek verdi' cümlesi yazılmaktadır. Oysa 'ofans', Fransızca'da hakaret veya Tanrı'ya karşı günah anlamında kullanılmaktadır.

Sonuçta yazılı spor basını, her bir spor dalıyla ilgili yazılarda geçerli olduğu gibi, futbolla ilgili haber ve yazılarda da dilbilgisi kurallarına dikkat etmek zorundadır. Kurallara uygun bir yazı-anlatım dili, okuyucuya da olan saygının bir göstergesi olmaktadır. Kelimelerin doğru ve yerinde kullanımı, anlam kargaşasına da son verecektir. Yanlış kullanılan futbol terimleri yerine, Uluslararası Futbol Birliği Kurulu (IFAB) tarafından onaylanan ve hemen hemen her yıl yenilenen, Uluslararası Futbol Birliği Federasyonları (FIFA) tarafından yayınlanan futbol oyun kuralları kitapçığında belirtilen günümüzdeki doğru karşılıkları kullanılmalıdır. Yine her bir spor yazarı, imla kılavuzu ve sözlük kullanma alışkanlığına sahip olmalıdır. Tiraj elde etme, okuyucuyu etki altına alma, yönlendirme amacıyla fanatizm düşüncesini ön plana alan yazılar yerine yazılı spor basını; sporu okuyucularına dostluğu, kardeşliği, barışı, sportmenliği, kurallara uygun bir rekabet ortamını özendirici anlatım diliyle yansıtmayı kendine ilke edinmelidir.

Sportif gelişmelerin değiştirilmeden olduğu gibi aktarılması, çarpıtılmaması, abartıya kaçılmaması gerekir. Buna örnek vermek gerekirse, özellikle 3 büyük takımla ilgili haberler spor sayfalarında ağır bastığı için, zaman zaman asılsız transfer haberleri okuyucuya aktarılmaktadır. Yabancı ülkelerdeki spor basınını takip etmek, yurt dışında ve yurt içinde yabancı haber kaynakları ile temas kurup haber yapabilmek veya yorumda bulunabilmek için yabancı dile hakim olmak şarttır. Ayrıca bir spor gazetecisi, sporun ilke ile yöntemlerini bilen ve sporu seven, sporda fair play felsefesini benimsemiş biri olmalıdır. Sporla ilgili yasa ve yönetmelik bilgisine sahip olmak da, spor gazetecisinin bir gelişme olduğunda konuyu okuyucusuna ayrıntılı ve anlaşılır bir biçimde aktarmasında büyük yarar sağlamaktadır.

## SPOR GAZETECİLİĞİNDE MESLEKİ EĞİTİMİN ÖNEMİ

Özellikle TSYD'nin öndeliğinde mesleki eğitim kursları, seminerler veya sertifika programları basın kuruluşları ile İletişim Fakültelerinin ilgili bölümlerinin ortak çalışmalarıyla düzenlenmelidir. Yine basın kuruluşları dünyanın önde gelen spor kulüplerinden, spor okullarından ve yazılı basın organlarından spor yazarları, uzmanlar, hocalar ve teknisyenler getirtmeli ve dünyada ortaya çıkan sporla ilgili yenilikler ve buna bağlı uygulamalar konusunda genç spor gazetecisi adaylarının gelişimine katkıda bulunmalıdır. Spor sayfalarında

farklı bakış açılarının yansıtılması, okuyucuyu bilgi açısından tatmin edici nitelikli yazıların, inceleme dosyalarının kaleme alınması için araştırmacı ruhun spor gazetecisi adaylarına kazandırılması gerekir.

Hızla gelişen iletişim teknolojilerini kullanabilmek ve bu teknolojiyi mesleki alanda etkin ve hızlı bir biçimde kullanabilmek için kurum içi eğitim seminerleri düzenlenmelidir. Yine bu eğitimler kapsamında spor gazetecisinin arşiv bilincine sahip olması ve üst düzeyde spor tarihi bilgisine sahip olması sağlanmalıdır. Bu tür bir donanım, spor olaylarını okuyucuya aktarırken geçmişle bağlantı kurma ve karşılaştırma olanağı verdiği gibi, yorum yapmada da avantaj getirecektir. Örneğin, bir spor gazetecisinin bir atletizm müsabakasını izlerken atletin önceki performansı hakkında ayrıntılı bilgiye sahip olması, örneğin pistte bir rekorun kırılması haberini yazarken o rekorun daha önce kim tarafından, ne zaman, nerede kırıldığını bilgi olarak okuyucuya aktarması çok yararlı olacaktır.

Ayrıca mesleki eğitim kapsamında, ulusal ve uluslararası spor organizasyonları hakkında da gerekli bilgilerin kazandırılması gerekir: "Gençlik ve Spor Genel Müdürlüğü, spor federasyonları gibi ulusal örgütlerle Uluslararası Olimpiyat Komitesi (UOK), Uluslararası Futbol Federasyonu (FIFA), Avrupa Futbol Federasyonu (UEFA), Uluslararası Basketbol Federasyonu (FIBA), Uluslararası Güreş Federasyonu (FILA) gibi uluslararası kuruluşların yapısı, işleyişi, organları, komite ve kurulları ile yöneticileri hakkında bilgi sahibi olmak; haberleri yazarken gazetecinin dağarcığında bulunması gereken bilgilerdendir." (Özsoy&Doğu, 2006:138-139)

Bir spor gazetecisinin başarılı olabilmesi için en az bir spor dalında uzmanlığa sahip olması gerekir. "Bugün Türkiye'deki futbol takımlarında hangi oyuncunun oynatılması gerektiği, hangi sistemle oynanması gerektiğini, çok sayıdaki insanımız o takımın teknik direktöründen daha iyi bildiğine inanmaktadır. Bu yüzden spor gazetecilerinin, okuyucularına aktaracakları spor branşı hakkında derinlemesine bilgi sahibi olmaları gerekir… Avrupa ülkelerinde ve ABD'de spor gazetecileri arasında kesin bir uzmanlaşma vardır. O dalın uzmanı olmayanlar o dalda bir çalışma yapamaz. Örneğin olimpiyatlarda her dalın uzmanı kendi alanıyla ilgili görev yapar. Olimpizmin bile uzmanı vardır. Türkiye'de futbolun dışında sadece basketbolda, atletizmde ve güreşte sınırlı sayıda uzman bulunmaktadır…Günümüzde 'futbol medyası' olarak da adlandırılan ülkemiz spor medyasında uzmanlaşma denildiğinde 'spor branşı uzmanlığı' yerine 'spor kulübü uzmanlığı' anlaşılmaktadır." (Özsoy&Doğu, 2006:139)

Türkiye'deki üniversiteler kapsamında değerlendirme yapılacak olursa, spor iletişimi, işletmesi, ekonomisi ve hukukuyla ilgili ders sayısının ve ilgili program sayısının yok denecek kadar az olduğu görülmektedir. Örnek model vermek gerekirse, Kadir Has Üniversitesi Spor Hukuku Araştırma ve Uygulama Merkezi, mevcut açığı kapatmak üzere, Ocak 2008'den beri 'Spor İletişimi Sertifika Programı' adıyla eğitim vermektedir. Bu programda, spor endüstrisine iyi eğitimli spor yöneticileri, spor iletişimcileri yetiştirilmesi ile gazetelerde çalışan ya da çalışmayı düşünen muhabirlerin eğitiminin üstlenilmesi hedeflenmektedir.
Program kapsamında basın tarihi, yazılı spor basını, uluslararası spor basını, habercilik etiği, karşılaştırmalı habercilik perspektifleri, spor kültürü ve tribün folkloru, spor sosyolojisi, olimpizm ve olimpiyat tarihi, editörlük, sayfa düzeni, foto muhabirliği, arşivcilik, gazete yönetimlerinde spora bakış, canlı müsabaka anlatımı, halkla ilişkiler, Türkiye'de kulüplerin halka açılması, spor ekonomisi, kulüp ekonomileri, uluslararası örgütlenmeler, spor hukukunun açmazları ve pratiği adlı dersler okutulmaktadır. Yine bir başka örnekte İstanbul Üniversitesi İletişim Fakültesi'nde lisans düzeyinde spor basını dersi, doktora düzeyinde ise spor endüstrisi ile spor basını arasındaki etkileşim adlı dersler verilerek, spor gazetecisi olmak isteyen genç adayların akademik donanımlarının tamamlanması amaçlanmaktadır.

**SONUÇ**

Gazeteciliğin farklı alanlarında olduğu gibi spor alanında da uzmanlaşma haberin güvenilirliği, kabul-ilgi görmesi, geçerliliği, dikkate alınması ve takip edilmesi açısından önemi büyüktür. Konusunda uzman bir gazeteci tarafından kaleme alınan haber, daima daha fazla ilgi uyandırmaktadır. Bu alandaki uzmanlaşma gazetecinin çalıştığı basın kuruluşunun kurumsal kimliği, prestiji ve sektördeki rakipleriyle olan mücadelesi açısından da önemlidir.

Uzmanlaşma yolunda gerek okul bazındaki eğitim yılları gerekse meslek hayatına adım atmış olan gazetecilerin süreç boyunca elde edecekleri eğitim odaklı faaliyetler, spor gazeteciliği alanında da kendini göstermektedir. Yurt dışındaki birçok üniversitede de spor gazeteciliği alanında eğitimler sürdürülmekte, bu doğrultuda uzman spor gazetecileri yetiştirilmektedir. Özellikle batılı ülkelerde yayımlanan günlük gazetelerin spor sayfalarında ve günlük yayımlanan spor gazetelerinde spor muhabirlerinin farklı spor branşlarında uzmanlaştıkları görülmektedir. Türkiye'de ise futbol dışında uzmanlaşma yetersiz düzeydedir.

  

Bu noktada uzmanlaşmak, konusunda başarılı, nitelikli spor gazetecisi istihdam edebilmek için basın kuruluşlarının İletişim Fakülteleri ve Spor Meslek Yüksekokulları ya da Spor Bilimleri Fakülteleri ile sıkı işbirliği içinde bulunmaları gerekmektedir. Tiraj elde etme, okuyucuyu etki altına alma, yönlendirme amacıyla fanatizm düşüncesini ön plana alan yazılar yerine yazılı spor basınının; sporu okuyucularına dostluğu, kardeşliği, barışı, sportmenliği, kurallara uygun bir rekabet ortamını özendirici anlatım diliyle yansıtmayı kendine ilke edinmesi için mesleki eğitimin sürekliliği ve niteliği önemlidir.

Özellikle İletişim Fakültelerinin Gazetecilik Bölümlerinin müfredat programlarında mevcut olan uzman gazetecilik dersinin spor basını alanında pratik uygulamalara ve teorik içeriğe ağırlık verilmelidir. İleride spor gazetecisi olmak isteyen öğrencilerin, tecrübe kazanmaları ve mesleğin inceliklerini yerinde görmeleri için dış stajlarını farklı basın kuruluşlarının spor servislerinde yapmaları için fakülteler tarafından destek verilmelidir. Düzenlenecek seminerler ve konferanslarla spor dünyasının önde gelen isimleriyle konuya ilgi duyan kesimin buluşması yararlı olacaktır. Türkiye Spor Yazarları Derneği de düzenleyeceği mesleki seminer ve kurslarla aktif olarak çalışan spor gazetecilerinin eğitim anlamındaki eksikliklerinin giderilmesi ve ortaya çıkan teknolojik yeniliklerin zamanında tatbik edilmesi için öncü olmalıdır.

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# STALKING AND OTHER FORMS OF HARASSMENT AND PERSECUTION ACCORDING TO A NEW APPROACH: THE DIOXOLOGIA

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**ABSTRACT**
Victims of stalking often suffer from severe psychological effects (anxiety, depression, trauma symptoms) in the form of intense reactions that are expected due to an abnormal and continuously intrusive behavior (Meloy, 1998). The life of those who go through this experience, or other forms of harassment or persecutions, changes (life disruptions): victims may change or quit their job, give up on friends and family, resort to psychological counseling or feel constantly worried about their own safety (Aramini, 2002). The Dioxologia (diòxis = persecution, lògos = speech) (Ege, 2010) is an innovative theoretical framework through which it is possible to search for a behavioral regularity in order to understand the persecutory conducts; it is responsible for the definition of all those phenomena that, even if individually analyzable, have a common epidemiological origin: the persecution.
Being able to recognize and distinguish the different forms of harassment and persecution would allow a greater possibility to educate, prevent and fight such phenomena starting from the young age.
Dealing with gender issues in training and social context or for the psychosocial intervention, would also help the victims, often abandoned by the authorities due to a slow bureaucracy, which is clogged by cases of so-called exploitation.

**Key words**: Dioxologia, persecution, harassment, education, victims, gender issues.

## INTRODUCTION

Harald Ege, psychologist specializing in Psychology of Work and Organization, starts talking in 2010 about "Dioxologia" (diòxis = persecution, lògos = speech) or the "Science of Harassment and Persecution", a branch of psychology that would deal with all forms of persecution.
Ege begins his work talking about “mobbing” (bullying at work) as the persecution in the workplace and expands his theory to include all the possible variants of mobbing, and not only that. He inserts, in fact, within this new branch all the existing forms of persecution: from bullying at schools to hazing in the military, from xenophobia to political persecution, to the "persecution without the persecutor".
Analyzing the italian etymology, to persecute (“perseguire”) and to follow (“seguire”) could apparently be similar and have the same etymological root. Actually “to follow” comes from the root “sek” (follow mentally) and also requires the will of an exchange between those who follow and those who want to be followed.
To persecute derives from the Latin “persequi” by that means chasing. The persecution then underlies the behavior (such as the physically chasing), which aims to disturb the victim. These unwanted behaviors and deemed troublesome to those who suffer.
In addition, it should be considered that those pursuing can also create *ad hoc* situations always directed to the same people and this can define its discriminatory nature.
Persecution is therefore a conflictual situation, characterized by systematic hostile actions directed towards a person (or a group of people) not consumed in the same day, but that persists over time. Moreover, every form of persecution comes from a conflict or a hostile action; to persecute means pursuing someone intentionally and this would exclude a conflict consumed randomly (Ege, 2010).

## DIOXOLOGIA: THE THEORY

The dioxological theory identifies individual parameters that can be recognized by a situation of persecution and define its type; specifically the parameters proposed by Ege are 7:
1. The **setting** is important to identify the type of persecution and distinguish it from other forms. For example if the setting is the school you can talk about bullying at school, but in case of stalking the problem begins in the victim’s private life.
2. The **frequency** indicates the number of actions committed by the aggressor in a given period of time, highlighting the systematic nature and intentionality.
3. The **duration** is closely linked to frequency. It is not always possible to know exactly how long the aggressor performs acts of persecution, but Ege is critical that persecution does not grow out as a reaction to a just suffered

  

provocation (instinctive) and that it is instead a life motive of the persecutor which plans, day by day, harassing actions. Furthermore, to establish the cut off of the duration, Ege refers to the difference between chronic or acute pathology present in the manuals for the diagnostic criteria (in particular refers to the DSM IV-TR).
4. The **types of actions** against the victim. Ege refers in particular to the five categories of violent actions theorized by Wieners & Hellbernd (2000): physical violence, psychological violence, sexual violence, economic violence and social violence.

**Table 1**: the categories of violent actions theorized by Wieners & Hellbernd (2000) [look at: Ege, 2005, p. 123]

| | |
|---|---|
| Physical violence | Actions involving violent physical contact: beatings, use of weapons or dangerous objects, strangulation, physical constraints, various types of aggression even with fatal consequences for the victim. |
| Psychological violence | Violent acts aimed at creating intense negative feelings such as anxiety or panic: threats of violence to the person or to his/her children, insults, humiliations, behaviors or speeches aimed at arousing feelings of guilt, constraints and limitations of the basic necessities. |
| Sexual violence | Violence or sexual content purposes: sexual harassment, rape, induction and exploitation of prostitution. |
| Economic violence | Violent acts that aim to hinder the access to economic resources: a prohibition or obligation to work, deprivation of opportunity to build economic independence. |
| Social violence | Violence that target social acts of the victim: attempts (usually by men) to socially isolate the victims (usually women) through the imposition of prohibitions or forms of control, prohibition to have contact with family members, friends, colleagues, etc. |

Through this continuing violence, the victim perceives the aggressor omnipresence feeling helpless and vulnerable; this determines a load of unsustainable stress, which transforms any hostile action in a real trauma.
5. The **gap between the antagonists** shows a clear distinction between the actor and his victim because who suffers is always in disadvantage. This results in the loss of their mental and physical balance, benefiting the aggressor's position. A key role in this gap is played by the family and social life of the victim, as well as by the help of which this has. Often the effects that can cause harassing actions on the victims or the narratives that this does, is minimized by external parties to each other: the victim is not believed, rather they cast doubt on his words and this involves further psychophysical difficulties on the victim. If at discrediting the victim they are the institutions or the police is called "secondary victimization" defined as "a condition of further suffering and outrage experienced by the victim in relation to an attitude of insufficient attention, or negligence on the part of formal control agencies at the stage of their activity and manifests itself in more negative psychological consequences for the victim suffers "(Rossi, 2005); "It stems from attitudes of the judicial authorities of denial towards the victim in a lack of support provided, as well in a condition of blame and / or alienation" (Williams, 1984).
6. The **trend in stages** underlines the dynamics of the conflict that follows well-defined escalation: the birth of the conflict - persecutory actions and reactions of victims - psychophysical consequences for the latter. Already in 1980 Glasl had theorized the escalation of the conflict in the model which shows how this worse as you go forward in time, coming to change the nature of the conflict itself.
7. The **persecutory intent** determines the objective due to a motivational below by the aggressor.

All the 7 parameters are contained in the definition that Ege (2010) gives to the persecution, "with the word persecution it is possible to refer to a conflict situation characterized by hostile action or systematic consequences resulting from hostile actions, which are not consumed in the same day, but persist over time and which consist of a physical tracking, repeated harassing actions and / or discriminating situations. The victim is in a constant inferiority position. It is a dynamic process that is implemented intentionally".
Analyzed closely the parameters that define persecution it is important now to move on to define the types of persecution identified by the dioxologia, or rather the various branches in which it is divided. Ege (2010) identifies four.
The **private dioxologia** studies the persecution that could take place in the daily private life of the victim. This branch of dioxologia includes for example stalking and mobbing.
**Social dioxologia**, or the science of mass persecution, is characterized by "mega" size of the phenomenon of persecution; what changes is, in fact, the amount of people involved: often a group with certain characteristics, held responsible for a general malaise or a crisis, is seen as "different". Fall into this branch racism, xenophobia, religious persecution, etc.

  

The third branch of dioxologia identified by Ege is the **community dioxologia** or persecution in cohexistence. The peculiarity of this branch is the possibility of choice because, apart from exceptional cases, it is the prerogative of every man to choose the person or people you live with. The main stage is the family, but within this branch there are also forms of persecution such as bullying at school.
Finally, Ege identifies a fourth branch relative to the persecutions that calls **internal dioxologia**, also called the "persecution without the persecutor". It explains how, beyond the real victims and that persons in bad faith attempting to profit from an alleged persecution, sometimes there are patients who need help without presenting objective evidence in their favor that they witness the suffered aggressions. They are overly sensitive subjects or victims of their phobias, emphasizing certain situations perceived as hostile, in good faith believe to be victims of persecution.
Here below is a summary of the four main areas of dioxologia; for a more complete discussion reference is made to the texts of Ege (2005, 2010).

| DIOXOLOGIA | | | |
|---|---|---|---|
| **PRIVATE** | **SOCIAL** | **COMMUNITY** | **INTERNAL** |
| MOBBING | RACISM | BULLYING AT SCHOOL | VICTIMHOOD |
| STRAINING | RELIGIOUS DISCRIMINATION | HAZING | GELOTOPHOBIA |
| HARASSMENT | VIOLENCE IN STADIUMS | PSYCHOLOGICAL VIOLENCE | PERSECUTION COMPLEX |
| STALKING | TERRORISM | SEXUAL VIOLENCE | |
| | NATIONALISM | SOCIAL VIOLENCE | |
| | POLITICS PERSECUTION | ECONOMIC VIOLENCE | |
| | MEDIATIC PERSECUTION | PHYSICAL VIOLENCE | |

We can consider harassment as the building blocks of the persecution; these are injurious behaviors, for sexual purposes or otherwise, carried out by one or more offenders against a victim who expressed dissent or rejection of such behavior: what is important for the assessment is the identification of the persecutory component, beyond the kind of harassment, distinguishing it from occasional or situational action.
The scheme proposes a summary of the types of harassment that can be implemented by the aggressor in order to achieve his goal.

| | **PSYCHOLOGICAL HARASSMENT** | PHYSICAL **HARASSMENT** | **SEXUAL VIOLENCE** |
|---|---|---|---|
| **Aggressor's behaviour** | Amused, Rude | Rude, Aggressive | Aggressive, Violent |
| **Way of acting** | Verbal and non-verbal communication | Non-sexual physical contact | Sexual physical contact |
| **Types of actions** | Jokes, insinuations, words and vulgar gestures, exhibitionism | Touch physical parts, even if non-sexual | Rape, insults and threats |
| **Consequences on the victim** | Bother, disgust, exasperation | Disgust, emotional shock | Trauma and/or post traumatic stress disorder |
| **Aggressor purpose** | Indirect sexual satisfaction | Indirect or direct sexual satisfaction | Physical sexual intercourse |

**THE ANALISYS OF STALKING ACCORDING TO THE DIOXOLOGIA**
Stalking can be defined as "a constellation of troubling behaviors, intrusive and persecutors, with relational purposes and discriminating, that are repeated over time with different frequencies and intensities, causing the victim to receive such intrusions as a traumatic experience; arousing feelings of fear, alert and distress" (Mangiapane, 2011).
The stalker can implement his persecution driven by positive feelings, his goal is to find (or rediscover) the attention of the victim, with which he is in love or obsessed. Usually the action moves in this circumstance, are apparently pleasing actions, such as sending a letter or flowers, but because the victim preceives these as

  

unwanted gifts, it should be considered as troublesome. In addition, it is said that the categorical rejection of these gifts is perceived by the aggressor, therefore the persecution increases in intensity or, worse, the positive feelings become negative.
If moved by a negative interest, the stalker usually harbors feelings of revenge that can lead to threats, damage and often violence.

Harald Ege essentially identifies three types of stalking:
1. The first is the emotional stalking, the most popular, generally characterized by a previous emotional relationship interruption or at a desired approach from the persecutor, but not by the victim (ex-partners, neighbors, ex-friends, etc.). Emotional stalker is not usually able to accept rejection of his victim, and he is convinced of being able to change their minds.
2. The star stalking describes the persecution perpetrated against people who enjoy a certain visibility by fanatical supporters or envious.
3. Finally, what Ege defines employment stalking "a form in which the actual persecutory activities you exercise in the privacy of the victim, but whose motivation comes instead from the work environment, where the stalker realized, now or desired a situation of conflict, persecution or harassment "(Ege, 2005, p. 109). This type of persecution might look like bullying, but the harassing actions do not take place only in the employment context and moving instead in the privacy of the victim.
Mangiapane and Compagno (2013) extend the Ege's vision adding a fourth category: the passionate stalking. Since the persecution to (re)search a love affairs are the most widespread, it seemed appropriate to give to 'love' a separate category from the others. It was therefore decided to split the persecution that can take place between neighbors or between a patient and a clinician (remained in category "emotional stalking") with the persecution that can take place between partners or ex-partners. The motivation linked to a loving relationship can bring forth, in fact, more violent behavior linked to the experience of the aggressor rejection.
Mangiapane (2012), regarding the analysis of a case of stalking, uses a metaphor speaking of three monitors: he believes it is crucial to pay attention to the aggressor (first monitor) and his actions through criminology and dioxologia, but it is also essential to analyze the actions of the victim (the second monitor) and the relationship in the dyad (third monitor), hypotheses, the latter, already considered by Caretti and Craparo (2011).
The dioxological perspective undertaken by Ege and reviewed by Mangiapane, provides a dual approach to the analysis of the traumatic experience of stalking: the descriptive approach and the psychodynamic approach. For the psychodynamic approach, please refer to the Cupach studies & Spitzberg (2011), Meloy (1996, 1997, 1998, 1999, 2001), Galeazzi & Curci (2001), Caretti, Craparo & Schimmenti (2012).
As mentioned above, the analysis of the victim is just as important: the first studies on victimology, began with B. Mendelsohn in 1937, the victim of the crime was perceived as passive, but when it was noted that some people had the "responsibility" for their own victimization (eg. they had caused the assailant) the "focus" of investigation has moved, including all actors in the criminal scene (Zucchini, 2011).
Often, it is the victim who facilitates the persecution. It is not uncommon for victims of abuse and violence, fail to turn away the partners, the author of these behaviors, and they often turn away one and then they cast themselves in an even more complicated relationship than the last.
Sparks (1982) has shown how a person could contribute to their victimization:
• PRECIPITATION: the behavior of the victim may precipitate the event (for example, by physical or verbal provocation);
• FACILITATION: the victim, consciously or unconsciously, is located in hazardous environments (eg, a person crossing at night a particularly seedy part of the city);
• VULNERABILITY: the victim is at risk for a particular behavior or social position (for example, a person who is mobbed at work as an employee is not acceptable);
• OPPORTUNITIES: the victim is in possession of something that could attract the interest of the criminal and is an easy target (for example, an older person who travels alone to pick up the board);
• ATTRACTIVENESS: the victim is in possession of something that could attract the interest of the criminal (for example, a jewelry representative).
Victimology in this sense has a dual function: that of reparative, to reduce the effects of physical and psychological damage caused by the study on the effects on the victim found in both the short and the long term, and that preventive, with the aim of groped to reduce the number of victims and the contextual circumstances in which it is more likely to be victimized (Gulotta, 1976).
For Mangiapane stalking can be "explained" through a reporting of events from an external vantage point (the clinician evaluate the experience of the victim and places compared to the parameters), but must also be "understood" the perception of personal significance since the event (as we have seen is in fact the victim who defines the type of crime of stalking).

  

It is important to understand that give weight to the experience of the victim and to her responsability in this situation does not mean to discredit and justify the actions of the aggressor, but this is important to help the victim to understand what happened and to reflect on herself, making it aware of what could arouse some interest and some attention from his persecutor.
The descriptive approach builds on those which are the seven parameters listed by Ege for the detection of a persecution.
Having already discussed the general parameters, we now analyze specifically those necessary for the existence of stalking.

| **THE SEVEN PARAMETERS OF THE STALKING** | |
|---|---|
| **PARAMETERS** | **REQUIREMENTS** |
| **SETTING** | Persecution in private life. Mainly the stalker moves near the home of the victim, an ideal place from which he can track her down, but not only that. The house is, in fact, the symbol of intimacy of a person and that's where the stalker wants to come in and settle down (Ege, 2005). |
| **FREQUENCY** | The harassing actions must occur at least weekly. Jurisprudence and psychology have different approaches (just think about the American Stalking Law in which only two harassing actions are sufficient to define the stalking): in psychology the difference between the single or sporadic harassing action and the systematic nature of the persecution is crucial to understanding the different levels of psychological pressure experienced by the victim. See also the results of Voß's studies (2004). |
| **DURATION** | The conflict must be going on for at least three months. But there may well be "extreme" stalking cases; Mangiapane (2010a) then finds it useful to differentiate also in this case a shorter time parameter, that is a month, so that we can talk about Quick Stalking: "We can talk about Quick Stalking before 3 months when the person suffers at least one persecutory action capable to destabilize and undermine the quality of life of the victim". |
| **TYPE OF ACTIONS** | The sustained actions must come from at least one of the five categories of violent actions (physical, sexual, psychological, economic and social). If we analyze more specifically the behaviors that an aggressor can implement in working persecution, it appears very fruitful the analysis performed by Cupach and Spitzberg (2004, Italian translation by Caretti and Craparo, 2011, p. 96-109) which traced 8 tactic events of stalking and relational harassment: hyper-intimacy, mediated contacts, interactive improper contacts, surveillance, intrusion, harassment and intimidation, coercion and threats, aggression and violence. |
| **GAP BETWEEN THE ANTAGONISTS** | The victims are always in an inferior position; they do not have the ability to defend themselves properly because the stalker has the advantage of being able to "hit" anywhere, anytime. As stated previously, in the long run this situation can lead victims to some psychophysical consequences: stress for a troublesome situation and for a feeling of intrusion can be transformed into real anxiety and fear for the safety. |
| **TREND IN STAGES** | Schematically, the story has reached at least the second phase of Ege's method: a ***conflict*** would be at the origin of criminal activity; the refusal of the victim, his/her inaccessibility or the inability to strike him/her effectively make the stalker frustrated. He perceives a personal defeat, a wrong from which must redeem. Often there is a distortion of reality and the aggressor is perceived as the real victim of the situation (which leads him to further justify his desire for revenge). That's why the aggressor goes from the intentions to the ***persecutory and continuative actions (stalking)***; The third stage sees the arrival of the ***psycho-physical consequences for the victim*** which begins to accuse the blow suffering from insomnia, anxiety, irritability, but also the collapse of self-esteem and social withdrawal. In this regard, Freud (1915-1917) believed that "any experience that inspires a painful situation - such as fear, anxiety, shame or physical pain - can act as a trauma", and defined the trauma: "events can provoking a psychic excitement that overcomes the subject's ability to support it or process it"; the last step is ***the final confrontation*** that can lead to a complaint and to request for help or it can have adverse outcomes. |
| **PERSECUTORY INTENT** | The stalker may have an affective purpose, such as to resume a relationship or to get attention, or a destructive purpose, such as a desire to punish the victim for a |

  

| | |
|---|---|
| | something she made that caused him sufference. It is usually not difficult to identify the intent of persecution because in most cases the stalker does not even realize to be author of harassment and persecution and openly declares his purpose in messages or calls addressed to the victim. |

**CONCLUSIONS**

Stalking is a very complex phenomenon, in which come into play situational and relational factors. It is a child of "zeitgeist" of Western society, where more and more women take the field and buy power at the expense of man which, however, feels private of their "manhood" and fails to adequately tolerate frustration and separation (we conventionally refers to the male aggressors at the expense of female victims, but should not go forgotten cases of woman stalker who see as victims a male partner, or those stalking cases that have nothing to do with relations between partners or ex-partners).

Although not in itself a disease, stalking is not considered as a "normal" phenomenon; Freud believed, in fact, that normality was "the ability to love and to work" and the studies conducted, as well as from the very essence of the phenomenon, it is quite clear that these actions, or rather this persecution, denoting a noticeable lack of the capacity to love. "The term itself, therefore, is not specifically medical, while physicians may be its implications: upstream there may be some mental disease or disorder of the aggressor, as well as the victim may ensue a pathological impairment of his mental and physical balance" (Ege, 2005, p. 102).

The definition of stalking is difficult because the phenomenon describes a complex behavioral constellation, which encloses motivations of various kinds, in which may also fall nature of psychopathological conditions. It is therefore a group of trans-nosographical behavior, a series of activities that initially are socially accepted and considered normal, but that in the long run, because of their pervasiveness, consistency and persistence over time, can cause psychological effects on the recipient and the risk of associated violence; which is why this phenomenon has acquired in recent years dignity of clinical focus of attention besides of the legal one.

The slow bureaucracy and the Italians laws, sometimes ineffective, make it difficult to protect the victims, who are subject not only to the harassment of their persecutors, but also suffer due to the same slowness of the Italian legal system.

The prison sentences and precautionary measures are often insufficient to prevent violent crimes, because in most cases they are only applyed in particularly serious cases, having compelling evidence, and do not, therefore, a limit to the continuous reiteration of persecutory behavior.

Punitive measures, provided for the crime of stalking by the Italian law, are intended to combat gender violence, to prevent disastrous consequences and to protect the victims. This is what is apparent in Article 612bis of the Penal Code of 2009, subsequently integrated by the Law of October 15, 2013, n.119. The penalties are tightened, you can request the court to impose an urgent injunction, prohibiting the suspect 's presence in the family home and to get closer to places usually frequented by the victim, but all this do not seem to be enough to stem the persecutors behavior. Although there are many women that are able to avoid the tragedy of the story, unfortunately many of them are equally pervaded by a sense of loneliness and emptiness due to the ineffectiveness of aid served.

In this regard, it is necessary to intervene and focus the attention on the importance of prevention and education of the entire community, but also to all professionals working in this area and not only.

In fact, to accommodate the victims in the initial moment are rarely experts in the field, since on several occasions to hear the outburst, the frailties, the fears and the concerns of victims, there are teachers, paramedics, police organs etc... The poor training, information and knowledge of the persecutors phenomena, and in the specific case of stalking, may determine an inadequacy in providing help, running the risk that some situations are diminished, minimized, ridiculed or ignored, creating an uncomfortable yet more insistent that, in the long run, it would be more distressing and disturbing for the victim, leaving free in the meantime the persecutor in his actions.

On the other hand, it is useful to do prevention, a depth training to study and know this social phenomenon of stalking that nowadays it is growing between young and old. We must not only intervene when the situation is so serious as to be unrecoverable, but it is important to create preventive measures to enable an immediate and early recognition of the victims, but also the possible stalker. With the prevention is intercepted the risk that stalking has fertile ground to be acted.

Every professional must be able to recognize and identify the characteristic of a persecutor behaviors, so that they can be stopped since the beginning.

For these considerations, think about an integrated approach between the different professions it seems the most suitable solution. It is useful an obligatory training that encourages networking between the various services offered on the Italian territory. Taking an example, healthcare professionals should be able to help the victims

  

who arrive at the hospital, recognizing who is actually at risk and providing an intervention that is in line with the discomfort and showed that is not limited only to an alert at the police, but which is capable of providing first assistance showing an empathetic listening devoid of ratings, which guarantees confidentiality and enabling connection to other help services.

Doctors, psychologists, social workers, law enforcement have to work together to accommodate at every stage, from the beginning to the end, the victims who decide to report, to which must be guaranteed protection during the entire journey taking that a victim of stalking does not receive necessarily and solely physical violence but, as has been explained earlier, there are multiple areas, therefore psychological, social, cultural, economic and relational. Working in synergy is necessary not only for the victims but for the whole community, in fact, by integrating services and healthcare scope interventions, social, educational, psychological, legal, may be easier to stop this phenomenon and combat the different faces of a condition that is likely to become more and more dramatic.

Unfortunately there are still too many victims and murders already foretold by persecutory actions and there are still too many cases in which real victims are not adequately supported by the police or justice. Also, there are numerous cases in which current laws, specifically anti-stalking ones, are exploited by individuals in bad faith trying to make a profit. Consider, for example, the people who separate from their partners seeking to gain advantage through false complaints of harassment and/or stalking. Justice is so overloaded by these cases clogging the bureaucracy and preventing to put the right attention on those who, indeed, are real victims of persecution.

It would also be useful to create educational plans for prevention and information to disseminate in the community since the school years.

A good understanding of the phenomenon, in fact, among youngs and adults could reduce the possible cases of stalking: to know how to recognize the persecution, to know how to behave and who to contact in the event that persecutory conducts are perpetrated, would reduce the unpleasant consequences that this phenomenon brings with it, by limiting the number of possible victims and, consequently, the number of cases in which the stalking terminate by a murder.

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# STATISTICAL ANALYSIS OF THE HETEROGENEOUS STRUCTURE OF THE STUDENT DEMAND TO ANADOLU UNIVERSITY OPEN EDUCATION FACULTY BY PROVINCE

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**ABSTRACT**

In developing countries such as Turkey with their proportionally younger population, problems of meeting the demand towards higher education are gaining importance. In meeting the demand for higher education in Turkey, Anadolu University (AU), Open Education Faculty (OEF) has an important place in the country with its open and distance learning opportunities. This system with 105 offices in 81 provinces of Turkey is carrying an important service for more than 33 years to higher education and hence to open and distance education in Turkey. Distance education students living in all geographic areas are generally belong to the poorer layers of society, with a wide age range, high motivation and with different educational backgrounds. In this study, while assessing the demand towards to (OEF) in 2012, 2013 and 2014, we used, k-means cluster analysis technique which is one of the multivariate statistical techniques; first on the basis of office, then on the provincial basis. As the result of our analysis done with the data set we used, especially we faced that Istanbul Aksaray and Istanbul Bahçelievler offices are providing services for the biggest mass of students. In provincial basis, Istanbul, Ankara and Izmir were found to be in a special positions. These provinces were followed by Antalya and Bursa. When provinces with single office were evaluated separately; Eskisehir, Gaziantep and Samsun were found to be serving for the demand towards the open education system in a single cluster.

## 1. INTRODUCTION

One of the problems of higher education in Turkey is the size of it (Lewis & Dündar, 1999; Erk, 1989; Maxwell, 1987). It is clear that, Anadolu University Open Education Faculty is playing the most important role in meeting the demand for higher education demand in Turkey.

Since 1982, Anadolu University (AU) Open Education Faculty (OEF) offers open and distance education to a large audience. When we discussed the situation with the number of faculties providing education with OEF system, in the 2014-2015 Academic Year by December 2014, including 602 520's women and 763 424 men in

  

total with 1,365,944 students, education were continuing. Additionally, with the number of students, AU is located among the mega-universities in the world and through open and distance facilities, is offering educational opportunities to many young people, across the country both in the cities and in the countryside which are not able to benefit from formal education.

Can (2004) has stated that the students of OEF taking benefit of distance education, are generally belonging to the lower strata of the society. They have broad geographic and age distribution and they all possess high degrees of motivations and different educational backgrounds (Can, 2004).

## 2. THE VARIABLES IN OUR ANALYSIS

1. **New Enrollments (X1):** The number of students enrolled in the open education system for the first time.
2. **Additional Placements (X2):** The number of students enrolled the new departments, the quota stuffed departments or even though the quota is full, the departments which are vacancies because of no certain enrollment.
3. **Vertical Transitions (X3):** The number of students that makes vertical transition according to the field of undergraduate graduation who are owning the possibility of direct enrollment.
4. **Degree Completions (X4):** The number of students which received only an undergraduate degree from the four-year colleges or high schools, and enroll to the fifth semester to complete a faculty education without an examination.
5. **The Second University Enrollments (X5):** The number of students which enrolls the undergraduate and graduate programs in the Open Education system as a second university without any examination.
6. **Renewal of Enrollments (X6):** The number of students which are continuing the education in the Open Education system and making enrollment for a new year.

## 3. THE ANALYSIS AND FINDINGS

It is important to determine and analyze the structure of population in this type of statistical research. After collecting all of the data related to the population, generally researchers chose the common methods such as calculating the arithmetic means and standard error of the data set. However, they face with another important issue in the beginning of their analysis, as whether the distribution of the population is homogeneous or not. Having a prior knowledge in terms of heterogeneity of the population, may shed light on the various different studies which will be conducted thereafter. In particular, when the correct selection and implementation of the sampling method is concerned, the homogeneous or heterogeneous structure of the population is of great importance. In this paper, by considering the importance of model selection in study, we have examined the heterogeneity of the population structure of the students demand by provinces, to Anadolu University Open Education System, by using k-means cluster analysis.

In our study, non-hierarchical k-means cluster analysis, which are among the multivariate statistical analysis techniques, were used. Cluster analysis is an objective method developed to evaluate the structural features of the observations (Kalaycı, 2008). While the members of a cluster present similarity among each other, they don't resemble the members of the other cluster (Nakip, 2006).

### 3.1. k-Means Technique

Mac Quenn used the term of the k-means technique in order to define the algorithm that can divide each element with close values into clusters. This technique follows the following steps:

1. It divides the units into k clusters.
2. It is continued by gathering the units under the closest cluster in terms of the value. The distance is generally determined by using the "Euclidean distance." Then, the new value of the cluster is found by calculating the units. Thereafter, the new value of the cluster is found by calculating the mean value for the units.
3. Step 2 is repeated until there are no more allocations left (Norusis, 1993; Atamer, 1992).

  

**Table 1.** Clustering of offices for 2012, 2013, and 2014 (n=106)

| Year | Cluster (Number of Cases in Each Cluster) | OEF Offices (Total Offices Number = 106) |
|---|---|---|
| 2012 | 1. Cluster (2) | İstanbul (Aksaray), İstanbul (Bahçelievler) |
| | 2. Cluster (4) | Ankara (Anıttepe), İst. (Kartal), İst. (Ümraniye), İzmir (Karşıyaka) |
| | 3. Cluster (4) | Antalya (Falez), Ank. (Cebeci), İst. (Beşiktaş), İzmir (Bornova) |
| | 4. Cluster (7) | Ank. (Aydınlıkevler), Bursa (Nilüfer), Eskişehir, Gaziantep, Kocaeli (İzmit), Konya (Meram), Mersin (Yenişehir) |
| | 5. Cluster (19) | Adana (Toros), Adana (Seyhan), Aydın, Balıkesir, Bursa (Osmangazi), Diyarbakır (Dicle), Denizli, Hatay, İst. (Kadıköy), İst. (Avcılar), Kayseri (Kocasinan), Malatya, Manisa, Muğla, Sakarya, Samsun, Şanlıurfa, Tekirdağ, Trabzon |
| | 6. Cluster (25) | Adıyaman, Afyon, Ank. (Sincan), Antalya (Mevlana), Batman, Çanakkale, Çorum, Edirne, Elazığ, Erzurum, Giresun, Isparta, İst. (Mecidiyeköy), Kahramanmaraş, Kocaeli (Gebze), Kütahya, Mardin, Ordu, Osmaniye, Rize, Sivas, Tokat, Uşak, Van, Zonguldak |
| | 7. Cluster (45) | Ağrı, Aksaray, Amasya, Ardahan, Artvin, Bartın, Bayburt, Bilecik, Bingöl, Bitlis, Bolu, Burdur, Çankırı, Diyarbakır (Kayapınar), Düzce, Erzincan, Gümüşhane, Hakkâri, Iğdır, İst. (Ataköy), İst. (Beylikdüzü), İst. (Fatih), İzmir (Basmane), KKTC, Karabük, Karaman, Kars, Kastamonu, Kayseri (Erciyes), Keşan, Kırıkkale, Kırklareli, Kırşehir, Kilis, Konya (Selçuklu), Mersin (Akdeniz), Muş, Nevşehir, Niğde, Siirt, Sinop, Şırnak, Tunceli, Yalova, Yozgat |

| Year | Cluster (Number of Cases in Each Cluster) | OEF Offices (Total Offices Number = 106) |
|---|---|---|
| 2013 | 1. Cluster (2) | İstanbul (Aksaray), İstanbul (Bahçelievler) |
| | 2. Cluster (4) | Ankara (Anıttepe), İst. (Kartal), İst. (Ümraniye), İzmir (Konak) |
| | 3. Cluster (4) | Antalya (Falez), Ank. (Cebeci), İst. (Beşiktaş), İzmir (Bornova) |
| | 4. Cluster (10) | Adana (Toros), Ank. (Aydınlıkevler), Bursa (Nilüfer), Kocaeli (İzmit), Konya (Meram), Mersin (Yenişehir), İst. (Avcılar), Eskişehir, Gaziantep, Samsun |
| | 5. Cluster (19) | Adana (Seyhan), Ank. (Sincan), Aydın, Balıkesir, Bursa (Osmangazi), Denizli, Diyarbakır (Dicle), Hatay, İst. (Kadıköy), İst. (Mecidiyeköy), Kayseri (Kocasinan), Kahramanmaraş, Malatya, Manisa, Muğla, Sakarya, Şanlıurfa, Tekirdağ, Trabzon |
| | 6. Cluster (22) | Adıyaman, Afyon, Antalya (Mevlana), Batman, Çanakkale, Çorum, Edirne, Elazığ, Erzurum, Giresun, Isparta, Kocaeli (Gebze), Kütahya, Mardin, Ordu, Osmaniye, Rize, Sivas, Tokat, Uşak, Van, Zonguldak |
| | 7. Cluster (45) | Ağrı, Aksaray, Amasya, Ardahan, Artvin, Bartın, Bayburt, Bilecik, Bingöl, Bitlis, Bolu, Burdur, Çankırı, Diyarbakır (Kayapınar), Düzce, Erzincan, Gümüşhane, Hakkâri, Iğdır, İst. (Ataköy), İst. (Beylikdüzü), İst. (Fatih), İzmir (Basmane), KKTC, Karabük, Karaman, Kars, Kastamonu, Kayseri (Erciyes), Keşan, Kırıkkale, Kırklareli, Kırşehir, Kilis, Konya (Selçuklu), Mersin (Akdeniz), Muş, Nevşehir, Niğde, Siirt, Sinop, Şırnak, Tunceli, Yalova, Yozgat |

  

| Year | Cluster (Number of Cases in Each Cluster) | OEF Offices (Total Offices Number = 106) |
|---|---|---|
| 2014 | 1. Cluster (2) | İstanbul (Aksaray), İstanbul (Bahçelievler) |
| | 2. Cluster (4) | Ankara (Anıttepe), İst. (Kartal), İst. (Ümraniye), İzmir (Konak) |
| | 3. Cluster (4) | Antalya (Falez), Ank. (Cebeci), İst. (Beşiktaş), İzmir (Bornova) |
| | 4. Cluster (11) | Adana (Toros), Ank. (Aydınlıkevler), Bursa (Nilüfer), Bursa (Osmangazi), Eskişehir, Gaziantep, İst. (Avcılar), Kocaeli (İzmit), Konya (Meram), Mersin (Yenişehir), Samsun |
| | 5. Cluster (18) | Adana (Seyhan), Ank. (Sincan), Aydın, Balıkesir, Denizli, Diyarbakır (Dicle), Hatay, İst. (Kadıköy), İst. (Mecidiyeköy), Kayseri (Kocasinan), Kahramanmaraş, Malatya, Manisa, Muğla, Sakarya, Şanlıurfa, Tekirdağ, Trabzon |
| | 6. Cluster (25) | Adıyaman, Afyon, Antalya (Mevlana), Batman, Çanakkale, Çorum, Diyarbakır (Kayapınar), Edirne, Elazığ, Erzurum, Giresun, Isparta, İst. (Ataköy), İst. (Fatih), Kocaeli (Gebze), Kütahya, Mardin, Ordu, Osmaniye, Rize, Sivas, Tokat, Uşak, Van, Zonguldak |
| | 7. Cluster (42) | Ağrı, Aksaray, Amasya, Ardahan, Artvin, Bartın, Bayburt, Bilecik, Bingöl, Bitlis, Bolu, Burdur, Çankırı, Düzce, Erzincan, Gümüşhane, Hakkâri, Iğdır, İst. (Beylikdüzü), İzmir (Basmane), KKTC, Karabük, Karaman, Kars, Kastamonu, Kayseri (Erciyes), Keşan, Kırıkkale, Kırklareli, Kırşehir, Kilis, Konya (Selçuklu), Mersin (Akdeniz), Muş, Nevşehir, Niğde, Siirt, Sinop, Şırnak, Tunceli, Yalova, Yozgat |

Considering 2012, 2013 and 2014 years, Bahçelievler and Aksaray offices in İstanbul have the highest student demand, so they are most responsive to student demand. In Cluster2, offices where most of the students' demand are Anıttepe (in Ankara), Kartal and Ümraniye (in İstanbul) and Konak (in İzmir). Cluster with the least student demand is Cluster7. In all three years, clusters were ranked in order of largest to smallest: largest-1, smallest-7.
So far, the analysis has been made considering the offices. After that, the analysis will be done according to the provinces. For 2014 it was analyzed in 81 provinces (n=81) and the appropriate cluster number, k, is calculated as follows.

$$k=(n/2)^{1/2}=6,36$$

k is taken as 6 or 7 according to the formula. The result of this calculation Ankara, İstanbul and İzmir have formed a cluster alone. In fact, this is not a desired result. Based on this result, it was removed three large provinces, and it was n = 78. Then, k was found to be 6.24. According to these results, k is taken as 5 and 6. Also in this case Bursa has formed a cluster alone. Unfortunately, this is not the desired result. However, if k is taken as 4, Bursa and Antalya has created a class by resembling each other. The results are listed in Table2.

**Table 2**. Distances by k-means technique for n=78

| Distances between Final Cluster Centers | | | | |
|---|---|---|---|---|
| Cluster | 1 | 2 | 3 | 4 |
| 1 | | 9297.479 | 11188.013 | 15642.977 |
| 2 | 9297.479 | | 20478.896 | 6347.155 |
| 3 | 11188.013 | 20478.896 | | 26825.700 |
| 4 | 15642.977 | 6347.155 | 26825.700 | |

According to Table 2, Cluster1 has highest student demand. This sequence is followed by the Cluster2 and Cluster3. Cluster4 has provinces with the least student demand.

Table 3 is Table of variance analysis for the clusters according to six variables and hypothesis which are tested are as follows.

  

$H_0$: There was no significant difference between clusters according to variables.
$H_1$: There is a significant difference between clusters according to variables.

It is seen that all of the p-value is less than the significance level (p value <0,05) in Table 3, so null hypothesis is rejected. Consequently, according to these variables are significant differences between clusters.

**Table 3.** ANOVA for k=4 and n=78

**ANOVA**

| | Cluster | | Error | | F | Sig. |
|---|---|---|---|---|---|---|
| | Mean Square | Df | Mean Square | Df | | |
| X1 | 20051100.146 | 3 | 111744.771 | 74 | 179.437 | .000 |
| X2 | 1539458.839 | 3 | 9670.227 | 74 | 159.196 | .000 |
| X3 | 27416970.599 | 3 | 168476.528 | 74 | 162.735 | .000 |
| X4 | 11905.046 | 3 | 84.047 | 74 | 141.648 | .000 |
| X5 | 16445276.707 | 3 | 113649.229 | 74 | 144.702 | .000 |
| X6 | 986071354.999 | 3 | 3435168.790 | 74 | 287.052 | .000 |

Thus, these 6 variables are statistically significant by 5%. According to these 6 variables, the correct clustering emerges as follows:

**Table 4.** Clustering of offices for 2014 (n=78)

| **Year** | **Cluster (Number of Cases in Each Cluster)** | **OEF Offices (All provinces excluding Ankara, İstanbul, İzmir: 78)** |
|---|---|---|
| 2014 | 1. Cluster (2) | Antalya, Bursa |
| | 2. Cluster (9) | Adana, Diyarbakır, Eskişehir, Gaziantep, Kayseri, Kocaeli, Konya, Mersin, Samsun |
| | 3. Cluster (17) | Aydın, Balıkesir, Denizli, Elazığ, Erzurum, Hatay, Kahramanmaraş, Malatya, Manisa, Muğla, Osmaniye, Sakarya, Sivas, Şanlıurfa, Tekirdağ, Trabzon, Van |
| | 4. Cluster (50) | Adıyaman, Afyon, Ağrı, Aksaray, Amasya, Ardahan, Artvin, Bartın, Batman, Bayburt, Bilecik, Bingöl, Bitlis, Bolu, Burdur, Çanakkale, Çankırı, Çorum, Düzce, Edirne, Erzincan, Giresun, Gümüşhane, Hakkâri, Iğdır, Isparta, Karabük, Karaman, Kars, Kastamonu, Kırıkkale, Kırklareli, Kırşehir, Kilis, Kütahya, Mardin, Muş, Nevşehir, Niğde, Ordu, Rize, Siirt, Sinop, Şırnak, Tokat, Tunceli, Uşak, Yalova, Yozgat, Zonguldak |

In Table 4, it is seen that Antalya and Bursa is faced with the most student demand in the sample which is excluded Ankara, İstanbul, İzmir. Cluster 4 has the least student demandWe can demonstrate the positions of the provinces shown in Table 4 on the map of Turkey as below:

  

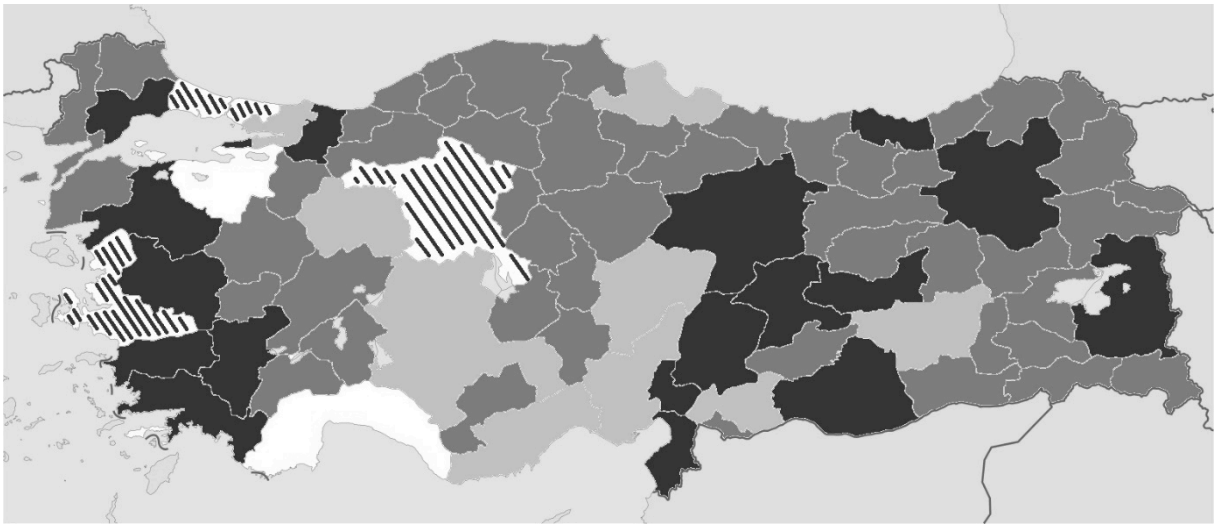

**Figure 1:** OEF Offices (All provinces excluding Ankara, İstanbul, İzmir)

In this study, whether or not the province of the metropolitan and population of the province are very important. Open Education Faculty open multiple offices in metropolitan and provinces with high student population. The provinces with multiple offices are Ankara, İstanbul, İzmir, Bursa, Kayseri, Mersin, Diyarbakır, Kocaeli, Konya, Adana, Edirne, Antalya. In the next part of the study, we analyses for 69 provinces, n=69, by excluding these 12 provinces. So k is calculated as 5.87 (k=5.87), and k is taken as 5 and 6 for 2014. When k is taken 5 and 6, Samsun left alone. On the other hand, when k is taken 4, the results obtained are listed in the Table 5.

**Table 5.** Distances by k-means technique for n=69

**Distances between Final Cluster Centers**

| Cluster | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1 | | 11284.161 | 6750.878 | 14679.797 |
| 2 | 11284.161 | | 4540.219 | 3397.817 |
| 3 | 6750.878 | 4540.219 | | 7937.841 |
| 4 | 14679.797 | 3397.817 | 7937.841 | |

According to Table 5, Cluster1 has highest student demand. This sequence is followed by the Cluster2 and Cluster3. Cluster4 has provinces with the least student demand.

It is seen that all of the p-value is less than the significance level in Table 6, so null hypothesis is rejected. Consequently, according to these variables are significant differences between clusters.

**Table 6.** ANOVA for k=4 and n=69

**ANOVA**

| | Cluster | | Error | | F | Sig. |
|---|---|---|---|---|---|---|
| | Mean Square | Df | Mean Square | df | | |
| X1 | 5909442.206 | 3 | 26400.588 | 65 | 223.838 | .000 |
| X2 | 533075.112 | 3 | 5071.183 | 65 | 105.119 | .000 |
| X3 | 8205990.610 | 3 | 59641.698 | 65 | 137.588 | .000 |
| X4 | 3562.516 | 3 | 48.841 | 65 | 72.941 | .000 |
| X5 | 6233688.024 | 3 | 54159.935 | 65 | 115.098 | .000 |
| X6 | 332927297.788 | 3 | 980652.999 | 65 | 339.496 | .000 |

Thus, these 6 variables are statistically significant by 5%. According to these 6 variables, the correct clustering emerges as follows: (in Table 7)

**Table 7.** Clustering of offices for 2014 (n=69)

  

| Year | Cluster (Number of Cases in Each Cluster) | OEF Offices (With only one office: 69) |
|---|---|---|
| 2014 | 1. Cluster (3) | Eskişehir, Gaziantep, Samsun |
| | 2. Cluster (13) | Aydın, Balıkesir, Denizli, Hatay, Kahramanmaraş, Malatya, Manisa, Muğla, Sakarya, Şanlıurfa, Tekirdağ, Trabzon, Van |
| | 3. Cluster (16) | Adıyaman, Afyon, Batman, Çanakkale, Çorum, Elazığ, Erzurum, Isparta, Kütahya, Mardin, Ordu, Osmaniye, Rize, Sivas, Tokat, Zonguldak |
| | 4. Cluster (37) | Ağrı, Ardahan, Artvin, Bartın, Bayburt, Bilecik, Bitlis Burdur, Çankırı, Erzincan, Gümüşhane, Iğdır, Kars, Kırşehir, Kilis, Muş, Nevşehir, Siirt, Sinop, Tunceli, Aksaray, Amasya, Bingöl, Bolu, Düzce, Giresun, Hakkâri, Karabük, Karaman, Kastamonu, Kırıkkale, Kırklareli, Niğde, Şırnak, Uşak, Yalova, Yozgat |

As seen below, Table 7 is demonstrated visually on the map of Turkey:

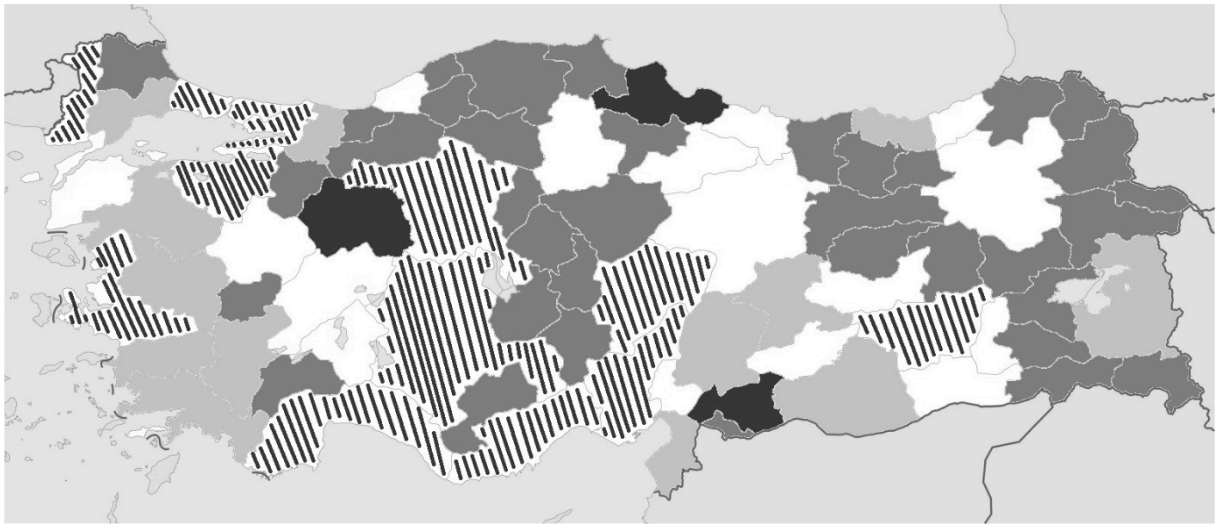

**Figure 2:** OEF Offices (With only one office)

If we consider provinces with single office, Eskişehir, Gaziantep and Samsun faced by most students demand. Cluster4 includes the provinces with the least student demand. As previously mentioned that the population of the province is a major factor in the formation of this sort.

## CONCLUSION

Higher education has a critical value in providing the necessary intellectual input of people to convert knowledge-based and innovation-driven society needed in the community living in a country or region. Sustainable development and economic growth will lead to a capacity increase is not possible without an innovative system of higher education. Higher education is known to be positively correlated with economic growth.

As a result of this analysis, especially Aksaray (in İstanbul) and Bahçelievler (in İstanbul) are offices where most students get service. A special situation for Ankara, İstanbul, İzmir has been detected in the data set. This was followed by Antalya and Bursa. When the provinces with single office are also evaluated, Eskişehir, Gaziantep and Samsun are province of the most services to Open Education system.

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# STATUS AND REQUIREMENTS FOR USING OF LEARNING MANAGEMENT ON MOBILE LEARNING FOR UNDERGRADUATE STUDENTS

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**ABSTRACT**
The purposes of this research were: 1) To study the status of using mobile devices in undergraduate students and 2) To study the requirement of mobile learning in undergraduate students. The research project involved 336 students of King Mongkut's University of Technology Thonburi in the 2nd semester of academic year 2016, derived from simple random sampling. Descriptive statistics included percentage (%), average ($\bar{x}$), and standard deviation (S.D.). It was found that most students used smartphones as mobile devices and used university WIFI for iOS operating system during 09:00 to 12:00 a.m. on a daily basis. The students were interested in mobile learning on Design and Production of Printed Media, for the reason that smartphones could be powerfully displayed animation and multimedia. Mobile learning included: 1) Lesson design, 2) Contact between learners and tutors, 3) User interface design, and 4) Assessment of students. The study's main results and conclusion are also discussed.

**Keyword:** status / requirements / learning management / mobile learning / undergraduate students

## INTRODUCTION

Current educational technology has developed rapidly. The transformation of learning from the presentation of classical teaching through a desktop computer to learning via mobile devices. Students can access learning anytime, anywhere. In accordance with the information and communication technology policy, B.E. 2011-2020 of Thailand that everyone can get access equally to learning anytime, anywhere. Including access to infrastructure information and a variety of digital media throughout correspondingly. To increase learning opportunities/applying and furthering creative and appropriate knowledge for their benefit in continuity (The Ministry of information and communication technology, 2011).

Mobile learning is likely to be a new channel to distribute knowledge to the community effectively and encouraging learners to develop lifelong learning. That can be seen from the updated number of Internet users and Social Media in Thailand (January, 2016). From the total 68 million Thai people, 38 and 34 million people used internet and social media via mobile phones, respectively. When comparison has been made with the other types of electronic devices. The proportion in the possession of smartphones is 64% as compared with 27%, 11% and 4% in owning laptop or computers, tablets and the other types of electronic devices, respectively (Puvadon Wirojjanapirom, 2016).

From the abovementioned reasons, it was found that the process of learning in the 21st century focusing on studying skills together with technology learning, that having rapid growth in technology. This study aimed to explore the status and requirements for learning management on mobile learning in undergraduate students. The outcomes will be further use to develop constructivism in learning via mobile learning and enhancing creative thinking in undergraduate students.

## OBJECTIVES.

1) To study status of using mobile devices in undergraduate students.
2) To study the requirement of mobile learning in undergraduate students.

## METHODOLOGY

The populations of this research were: 2,115 students of King Mongkut's University of Technology Thonburi in the second semester of academic year 2016. The 336 samples derived from simple random sampling using Taro Yamane at 95% reliability and 5% error.

  

The instrument is the questionnaire of status and requirements for using of learning management on mobile learning in undergraduate students. The questionnaire were divided in to 3 parts: 1) status of respondents, 2) using of mobile devices and 3) requirements of learning management on mobile learning with IOC between 0.67-1.00, and reliability of the questionnaire is 0.74.

Data were collected manually within one week at the Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi. Descriptive statistics included percentage (%), average ($\bar{x}$), and standard deviation (S.D.).

## CONCEPTUAL FRAMEWORK

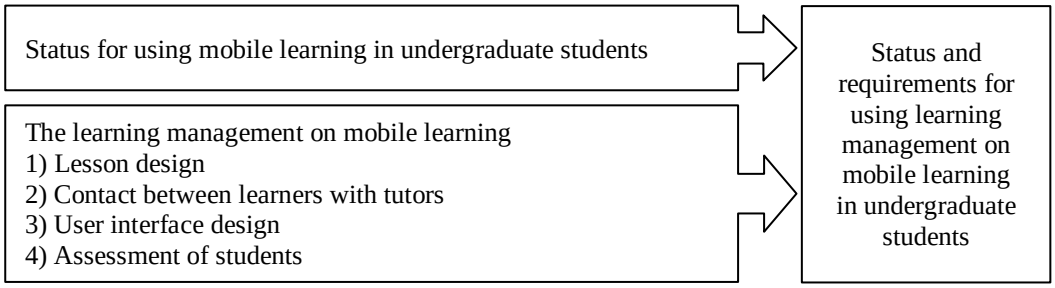


**Fig. 1.** Conceptual Framework: Researchers have studied the concept. Theories and principles related to the status and requirements for using learning management on mobile learning in undergraduate students to define a conceptual framework for research.

## FINDINGS

### 1. Status of respondents

Most respondents were female (57.14%). Most students were from the Department of Education Technology and Communication (26.19%), and most of students were second year student (31.55%).

### 2. Using of mobile devices

Most respondents used smartphones (39.88%), as mobile devices in education on a regular basis and use iOS operating system (54.46%), in WIFI (56.25%), at the University (52.68%), during 09.00 a.m. to 12.00 a.m. (27.08%), every day. Most students did not have obstacles in learning through mobile devices.

### 3. Requirements of learning management on mobile learning

Most students were interested in subject "Design and Production of Printed Media" (21.13%), because mobile devices were able to displayed animation and multimedia effectively. The learning management on mobile learning were as follows: 1) Lesson design, 2) Contact between learners and tutors, 3) User interface design, and 4) Assessment of students.

| Requirements of learning management on Mobile Learning | $\bar{x}$ | S.D. | level |
|---|---|---|---|
| 1. Lesson design | 4.48 | 0.64 | high |
| 2. Contact between learners with tutors | 4.41 | 0.75 | high |
| 3. User interface design | 4.39 | 0.78 | high |
| 4. Assessment of learners | 4.19 | 0.76 | high |
| **Overall** | **4.37** | **0.73** | **high** |

From the table, the requirements of learning management on mobile learning for overall requirements was at a 'high' level ($\bar{x}$= 4.37, S.D.= 0.73). Likewise, Lesson design ($\bar{x}$= 4.48, S.D.= 0.64), Contact between learners with tutors ($\bar{x}$= 4.41, S.D.= 0.75), User interface design ($\bar{x}$= 4.39, S.D.= 0.78), and Assessment of learners ($\bar{x}$= 4.19, S.D.= 0.76) were at 'high' level.

## CONCLUSIONS

### 1. Status of respondents

Most students have found that mobile devices are part of their everyday life, because they are easy, quick and convenient to use. This is the main reason for most students to reply that they had no obstacle in using mobile devices. This finding is in agreement with Mantana Khongeid (2008), who studied the status, and requirements for using the mobile learning network model (m-learning) in Silpakorn University's students. All students used

  

mobile phones in education and they accepted educational service through the mobile telephone network in promoting efficiency of education.

**2. Using of mobile devices**

Most students were interested in subject "Design and Production of Printed Media". This subject is dealing with multimedia design which were suitable for mobile learning, because the vivid display animations, videos and sound stimulated active learning. As well, this finding was in accordance with Thongchai Keawkiriya (2015), who reported that data communication via mobile smart phones can display presentations, animations, and multimedia efficiently.

**3) Requirements of learning management on mobile learning**

Most students are familiar with the usage of Social Media, because it is a channel that can communicate with each other easily, convenient, fast and able to learn anywhere at anytime. In addition, students played attention to video from YouTube rather than classical teaching in the classroom. This finding was corresponding to the Jakkrapong Waree (2010), who studied M-learning instructional model in Surindra Rajabhat University's students. The study found that students and teaching by using social media regularly has been accepted by students, lecturers, and administrators. M-learning was useful, because learners can learn at any time and any place and promoted opportunity in education.

## SUGGESTIONS

**1. Suggestions for research application**

1.1 The basic data can be used as a basis for future research related to mobile learning or the other related matters.

1.2 Learning management on the mobile learning should consider in supporting presentations, animations and multimedia, which can be applied to the context of the other courses.

**2. Suggestions for future research**

2.1 The study of learning management on mobile learning at all levels is able to connect and create cognitive learning.

2.2 Future study should focus on selecting appropriate application for mobile learning, because the application is a tool that convey knowledge to learners.

2.3 Factors associated with learning management on mobile learning should be concentrated and use as a guideline in developing learning management on mobile learning effectively.

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# STILL DESIGNING TEXTBOOKS FOR OPEN AND DISTANCE LEARNING

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## I. INTRODUCTION

As an interdisciplinary field, open and distance learning aims to overcome the limitations arising from geographical division between learners, teachers and learning resources through constantly improving and innovating technologies. Having created the opportunity for millions of people to pursue studies in higher education for over thirty years with a policy "to offer equal opportunities in education for all" in the name of overcoming the educational problems of the Turkish Higher Education system, the Open and Distance Learning System of Anadolu University has been employing constantly improving and innovating technologies in the functioning of the teaching-learning process.

Since the year 1982, when the Open and Distance Learning System of Anadolu University was born, textbooks have been the primary learning materials within the system. The system has also been supplemented with television programs, face-to-face academic counseling services and e-learning applications prepared in accordance with the content presented in textbooks. As a response to the development of information and communication technologies, the e-learning services, which were launched in 1994, activated the e-learning portal in 2005 in order to support learners' self-study process. The aim of this portal is to ensure that learners can easily access e-learning services via a single platform. Consisting of several e-learning services, this application includes components such as e-books, e-television, e-exercises, e-counseling, e-audio books, e-support and e-seminar. Learners can benefit from these applications wherever they are free of charge and twenty-four seven (Hakan et al., 2013). To sum up, all the traditional learning materials or media initially used in the system have been moved to electronic media with the development of the Internet and internet-based technology.

As the primary learning material in the Open and Distance Learning System of Anadolu University, printed textbooks have been moved to electronic media. Each unit in the textbooks is supplemented with videos summarizing lectures and sample multiple-choice practice questions so that learners are offered a different learning option in their self-learning process. Although the system has been made more flexible and delivers different learning options to learners with such rich learning environments, the majority of learners still prefer to study for their lessons with printed textbooks. The Open and Distance Learning System of Anadolu University is composed of three faculties: Open Education Faculty, Faculty of Economics and Faculty of Business Administration. As of 2014-2015 academic year, there are a total of 1.383.493 active learners studying different majors at Open Education Faculty, Faculty of Economics and Faculty of Business Administration. In a study on these students' overall views of the services available in the system (2015), 95.3% of 9557 students who participated in the survey still received the printed textbooks sent to them and 71% made use of the printed textbooks as their primary study material of choice. Although 83% of the students used e-learning services, the learners still preferred traditional textbooks to study in their learning process.

Since the early 2000s, the dominant influence of the Internet and web-based technologies on effectively and efficiently meeting individuals' social and educational needs has led to the emergence of alternative learning materials such as e-books. Now, electronic textbooks will clearly cause a major paradigm shift in learners' reading and learning. However, just like the results from the study conducted in the Open Education System of Anadolu University, other research also showed that learners tended to prefer traditional printed course materials (Rockinson-Szapkiw et al., 2013; Ditmyer et al., 2012; Woody et al., 2010; McGowan et al., 2009; Annand, 2008; Walton, 2007).

Electronic textbooks clearly have some advantages over printed ones. For example, electronic textbooks are extraordinarily flexible and accessible (Coleman, 2004; Long, 2003), more cost-effective and easy to update. Nevertheless, evidence shows no significant difference made by either type of textbooks in terms of learning

  

effectiveness (Woody, 2010; Rockinson-Szapkiw et al., 2013; Annand, 2008) or content comprehension (Aust et al., 1993).

On the other hand, while preference of electronic textbooks does not make a difference in terms of learning effectiveness or content comprehension, research revealed that there were some differences in learners' preferences of printed or electronic textbooks in their learning processes in terms of demographic variables. For example, McGowen et al. (2009) found that gender caused a difference in the choice of textbook type; although both women and men in general preferred to study printed textbooks, male students preferred electronic books more often than women; college graduates, who were normally 21 years old or older preferred electronic books more than younger students or those who continued on higher education did in order to advance in their educational career; and, however, printed textbooks offered learners more ease of reading (82.1%) than electronic textbooks.

Despite the ease of access and use offered by electronic textbooks obviously due to technology, there may be different factors involved in printed textbooks' popularity over electronic textbooks in learning process. These may be arising from our present study habits that are rooted in our cultural norms (Ditmyer et al., 2012), failure to ensure adaptation and adoption of an innovation by learners (Walton, 2007) or unawareness of such an innovation. In the light of these, the aim of this study was to explore the reasons why the students studying at the Open and Distance Learning System of Anadolu University currently preferred printed textbooks in their learning processes based on demographic variables.

## 2. METHODOLOGY

The main goal of this study was to identify the primary study material of choice of the students in the Open Education System of Anadolu University and to discuss the results in association with demographic data about the respondents. As a part of this overall objective, we tried to determine what the learners' primary study material of choice was and whether they preferred printed or electronic textbooks while studying for their lessons with textbooks. In other words, we focused on the learners' preferences of study material with respect to demographic data such as their genders, ages, faculties and years of study.

This study is a the descriptive survey one, a research approach aiming to describe a past or present situation as it takes place (Karasar, 2007). The research data were collected through an online survey, developed by the researchers and administered to Anadolu University Open Education Faculty students who were willing to participate in the survey. A total of 413 learners from different parts of Turkey voluntarily participated in the survey. However, 370 out of the total included into the analysis due to the fact that others weret incomplete.

The first part of the survey focused on demographic data about the students such as their genders, ages, faculties and years of study. The students were then asked to indicate their choice of primary study materials and he reasons for their preferences. Finally, after finding out which media they preferred while studying with their textbooks, we tried to determine the possible relationships between the learners' preferred study materials and their demographic data. Data were collected with a questionnaire and analyzed using the SPSS 17.0 program.

## 3. RESULTS

**Table 1.** Characteristics of the Participants

| | | **Frequency** | **Percentage** | **Cumulative%** |
|---|---|---|---|---|
| Gender | | | | |
| | Female | 234 | 45.7 | 45.8 |
| | Male | 277 | 54.1 | 100 |
| | Missing | 1 | 0.2 | |
| | **Total** | **511** | **100** | |
| Age | 18-25 | 324 | 63.3 | 64.2 |
| | 26-33 | 119 | 23.2 | 87.7 |
| | 34-41 | 33 | 6.4 | 94.3 |
| | 42-49 | 23 | 4.5 | 98.8 |
| | 50 or older | 6 | 1.2 | 100 |
| | Missing | 7 | 1.4 | |
| | **Total** | **512** | **100** | |

  

| | | | | |
|---|---|---|---|---|
| Faculty | Economics | 127 | 24.8 | 26.3 |
| | Business Administration | 145 | 28.3 | 56.4 |
| | Open Education | 210 | 41 | 100 |
| | Missing | 30 | | |
| | **Total** | **512** | **100** | |
| Year of Study | 1 | 186 | 36.3 | 38 |
| | 2 | 197 | 38.5 | 78.3 |
| | 3 | 59 | 11.5 | 90.4 |
| | 4 | 47 | 9.2 | 100 |
| | Missing | 23 | 4.5 | |
| | **Total** | **512** | **100** | |

As can be seen in Table 1, approximately 46% of the participants were female while 56% were male. Next, 63.3% of the participants were in the 18-25 age group, 23.2% were in the 26-33 age group, 6.4% were in the 34-41 age group, 4.5% were in the 42-49 age group, and 1.2% were in the 50-or-older age group. In terms of faculties they studied, 24.8% of the participants were Economics students, 28.3% were Business Administration students and 41% were students doing a two-year associate degree. Finally, 36.3% of the participants were first year students, 38.5% were second year students, 11.5% were third year students and 9.2% were fourth year students.

**Table 2.** Choice of Primary Study Material

| | **Frequency** | **Percentage** | **Cumulative%** |
|---|---|---|---|
| Textbooks | 387 | 75.4 | 77.9 |
| e-learning | 69 | 13.3 | 91.4 |
| Interactive Textbooks | 23 | 4.3 | 95.8 |
| TV | 4 | 0.6 | 96.4 |
| Academic Counseling Services | 19 | 3.5 | 100 |
| Missing | 10 | 2.9 | |
| **Total** | **512** | **100** | |

One of the research questions of this study dealt with identifying the participants' primary study material of choice. Table 2 shows the participants' responses to this question. As can be seen in the table, in order to study for their lessons, 75.4% of the participants used their textbooks, 13.3% used e-learning materials, 4.3% used interactive textbooks, 0.6% used television programs, and 3.5% used academic counseling services.

**Table 3.** Other Materials Used While Studying with a Textbook

| | **Frequency** | **Percentage** | **Cumulative%** |
|---|---|---|---|
| Printed Textbooks | 425 | 83 | 84.7 |
| Electronic Textbooks | 77 | 15 | 100 |
| Missing | 10 | 2 | |
| **Total** | **512** | **100** | |

Table 3 shows the participants' responses to the question about their media preferences while studying with a textbook. As can be seen in the table, 83% of the participants used their printed textbooks while 15% studied for their lessons using their textbooks in PDF format

**Table 4.** Analysis of the Learners' Primary Study Material of Choice Based on Their Demographic Data

| | | Textbooks | | e-Learning Material | | Interactive Textbooks | | TV | | Academic Counseling | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | F | % | F | % | F | % | F | % | F | % |
| Gender | Female | 188 | 82.1 | 25 | 10.9 | 8 | 3.5 | 1 | 0.4 | 7 | 3.1 |
| | Male | 198 | 72.8 | 44 | 16.2 | 15 | 5.5 | 3 | 1.1 | 12 | 4.4 |
| Age | 18-25 | 244 | 76.2 | 43 | 13.4 | 17 | 5.3 | 3 | 0.9 | 13 | 4.1 |
| | 26-33 | 87 | 75.7 | 21 | 18.3 | 3 | 2.6 | 0 | 0 | 4 | 3.5 |
| | 34-41 | 26 | 78.8 | 4 | 12.1 | 2 | 6.1 | 1 | 3.0 | 0 | 0 |
| | 42-49 | 18 | 85.7 | 1 | 4.8 | 1 | 4.8 | 0 | 0 | 1 | 4.8 |
| | 50 or older | 5 | 83.3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 16.7 |

  

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Faculty | Economics | 90 | 70.9 | 24 | 18.9 | 9 | 7.1 | 0 | 0 | 4 | 3.1 |
| | Business Administration | 100 | 70.9 | 21 | 14.9 | 6 | 4.3 | 4 | 2.8 | 10 | 7.1 |
| | Open Education | 174 | 84.9 | 19 | 9.3 | 8 | 3.9 | 0 | 0 | 4 | 0.8 |
| Year of Study | 1 | 147 | 81.2 | 22 | 12.2 | 7 | 3.9 | 0 | 0 | 5 | 2.8 |
| | 2 | 143 | 73.7 | 33 | 17.0 | 8 | 4.1 | 2 | 1.0 | 8 | 4.1 |
| | 3 | 44 | 75.9 | 7 | 12.1 | 3 | 5.2 | 1 | 1.7 | 3 | 5.2 |
| | 4 | 33 | 71.7 | 6 | 13.0 | 3 | 6.5 | 1 | 2.2 | 3 | 6.5 |

Table 4 shows the participants' primary study material of choice with respect to their genders, ages, faculties and years of study variables. As can be seen in the table, 82.1 % of the female respondents preferred textbooks while they benefited from television programs least by %4. Similarly, 72.8% of the male participants used the textbooks whereas only 1.1% watched television programs to study for their lessons. If we look at the learners' primary study materials of choice according to the age groups, we can see that textbooks were used as the primary study material by more than 70% in all the age groups in the study. On the other hand, television programs were the least popular medium in all the age groups. Analysis of the learners' preferences for study materials based on their faculties showed that around 70% of the participants in all the three faculties used textbooks. Television programs were again the least used study material for all the three faculties. With respect to the participants' years of study, more than 70% of the students in all four separate years of study preferred textbooks while television was again the least popular media in this aspect. To sum up, analysis of the participants' primary study material of choice according to their genders, ages, faculties and years of study variables showed that the learners benefited most from textbooks, followed by e-learning materials, interactive books, academic counseling and television programs in descending order. On the other hand, those participants who were 50 years old or older merely used textbooks and academic counseling services. We could suggest that, in general, the attitudes and skills of the young about the concept of technology are different from those of older people at a certain age. In fact, we could further suggest that the learners of the Open Education System who were 50 years old or older in this study still held their past learning habits to the present. Therefore, they preferred textbooks and face-to-face academic counseling services.

**Table 5.** Analysis of the Participants' Media of Choice for Studying Textbooks Based on Their Demographic Data

| | | Printed Textbooks | | Electronic Textbooks | |
|---|---|---|---|---|---|
| | | F | % | F | % |
| Gender | Female | 206 | 89.2 | 25 | 10.8 |
| | Male | 218 | 80.7 | 52 | 19.3 |
| Age | 18-25 | 264 | 83.3 | 53 | 16.7 |
| | 26-33 | 99 | 83.9 | 19 | 16.1 |
| | 34-41 | 31 | 93.9 | 2 | 6.1 |
| | 42-49 | 19 | 86.4 | 3 | 13.6 |
| | 50 or older | 6 | 100 | 0 | 0 |
| Faculty | Economics | 106 | 84.8 | 19 | 15.2 |
| | Business Administration | 112 | 78.3 | 31 | 21.7 |
| | Open Education Faculty | 182 | 89.2 | 22 | 10.8 |
| Year of Study | 1 | 160 | 87.0 | 24 | 13.0 |
| | 2 | 161 | 83.9 | 31 | 16.1 |
| | 3 | 46 | 80.7 | 11 | 19.3 |
| | 4 | 38 | 84.6 | 8 | 17.4 |

Table 5 shows the analysis of the participants' media of choice for studying textbooks according to their demographic data. The results showed that more than 80% of the learners studied for their lessons using printed textbooks. Nevertheless, printed textbooks were used slightly more by the female participants. The participants also preferred printed textbooks to study for their lessons by more than 80% in all the age groups in the study. It is noteworthy that the learners' preference for printed textbooks to study for their lessons went up with increasing age among the participants. Similarly, approximately 70% of the participants in all the three faculties

  

preferred printed textbooks. On the other hand, out of the three faculties, students in Open Education Faculty preferred printed textbooks to study for their lessons slightly more (89.2%) than the other two faculties. Finally, more than 80% of the students in all four separate years of study preferred printed textbooks to study for their lessons.

As can be seen in Table 6, 111 respondents stated that their primary study material of choice was textbooks. Popular reasons given by the learners for textbooks as their primary study material of choice included that textbooks were easy to reach (f=19), they found the information in the textbooks more useful (f=19), and they learnt more easily that way (f=18). Among the other reasons stated by the learners were that they were accustomed to textbooks (f=8) and textbooks provided more detailed information on the topics (f=8).

**Table 6.** Learners' Views on the Reasons for Their Primary Study Material of Choice

| **My primary study material of choice is textbooks because** | **Frequency** |
|---|---|
| They are easy to reach | 19 |
| I find the information in the textbooks more useful | 19 |
| I learn more easily this way | 18 |
| I am accustomed to them | 8 |
| They provide more detailed information on the topics | 8 |
| They are more effective | 7 |
| The exams are based on the textbooks | 7 |
| The end-of-unit questions are useful | 5 |
| They are more explanatory | 5 |
| Their summaries are useful | 5 |
| I can study by taking notes | 4 |
| I love reading books | 1 |
| They are more reliable | 1 |
| Computers tire eyes | 1 |
| I like to study by myself | 1 |
| They are concise | 1 |
| Computers can have technical difficulties | 1 |
| **Total** | **111** |
| **My primary study material of choice is e-learning materials because** | |
| I can reach them easily | 6 |
| They are instant and clear | 4 |
| They are concise | 1 |
| Textbook font sizes are too small | 1 |
| I do not like taking textbooks with me | 1 |
| **Total** | **13** |
| **My primary study material of choice is academic counseling because** | |
| I understand topics better face-to-face | 8 |
| **My primary study material of choice is interactive e-books because** | |
| I can concentrate more easily | 2 |

Table 7 shows the participants' responses about the question whether they preferred to study textbooks in printed media or in PDF format in e-media. As can be seen in the table, 397 respondents stated that they preferred to study using printed textbooks while 66 respondents preferred to study textbooks in electronic media. Popular reasons given in a descending order by those who preferred printed textbooks included that they understood the topics better while studying with a printed material (f=68), it was easy to study this with printed textbooks (f=57), and being able to take notes on printed textbooks facilitated comprehension (f=50). Among the other reasons stated by the learners were that textbooks were easy to reach (f=38), textbooks provided more detailed information on the topics (f=28) and they were accustomed to studying with printed materials.

On the other hand, the reason given by the majority of the respondents who preferred to study textbooks in PDF format was that the learners could reach them easily (f=27). Other popular reasons included that materials in electronic media were clearer (f=12) and easier to use (f=8).

  

**Table 7.** Learners' Views on Their Media of Choice for Studying Textbooks

| I prefer to study textbooks in printed media because | Frequency |
|---|---|
| I understand the topics better | 68 |
| It is easy to study this way | 57 |
| I can take notes on them | 50 |
| They are easy to reach | 38 |
| They provide more detailed information on the topics | 28 |
| I am accustomed to them | 24 |
| I think they are more useful than other forms of media | 20 |
| They are better for exam preparation | 15 |
| The examples in printed textbooks facilitate learning | 13 |
| I do not have access to computers | 13 |
| I study with their summary and examples | 8 |
| Printed textbooks are adequate | 8 |
| They are reliable | 7 |
| Computers are distracting | 7 |
| Computers tire eyes | 7 |
| It is enjoyable to read printed textbooks | 6 |
| They can be easily reviewed | 6 |
| I find the questions in them very useful | 5 |
| I can experience technical problems while working on computers | 4 |
| In the exams, we are responsible for what is in the textbooks | 4 |
| I believe they are the main source of information | 3 |
| I have not examined the e-media | 2 |
| People around me suggested | 2 |
| They are up-to-date | 2 |
| **Total** | **397** |

| I prefer to study textbooks in PDF format because | Frequency |
|---|---|
| I can access them more easily | 27 |
| They are clearer | 12 |
| They are easy to use | 8 |
| I have a job | 5 |
| They are more comfortable to read | 4 |
| They are content-rich | 2 |
| They offer sufficient visual content | 2 |
| They are motivating | 2 |
| The videos are useful | 2 |
| **Total** | **66** |

## 4. CONCLUSION

With the transformative power it possesses today, technology has begun to adapt both individuals and social structures to itself. One of the social structures where developments in technology are reflected is education. Being reflected in individuals' daily life practices and changing their communication habits, technology has been one of the driving dynamics of the changes occurring in both the teaching-learning process and learning materials used in this process. In parallel to these developments, individual and learner-centered learning materials have been developed in both traditional and open and distance learning applications.

Integrating new technologies into its system, the Open and Distance Learning System of Anadolu University is one of the leading institutions in Turkey in this sense. However, although the system offers a wide range of innovations, textbooks continue to be the primary source of information in the teaching-learning process. The system also hosts a lot of different media designed to supplement or enrich the information in textbooks. In addition to textbooks, learners are offered many media such as television programs, face-to-face academic counseling services, e-learning services, textbooks in electronic format and virtual classroom applications.

The aim of this study was to explore Anadolu University Open Education Faculty students' study media of choice among all the media offered, to investigate the factors involved, and to discuss these preferences based on age, gender, faculty and year of study variables. As a part of this overall objective, we asked the participants what their primary study materials of choice were and why they preferred those materials. The results showed that the vast majority of the respondents preferred textbooks as their primary study material. Textbooks were followed by e-learning applications, interactive books, academic counseling services and TV programs. This

order did not change according to the participants' genders, ages, faculties and years of study. Similarly, other results in the literature (Daniel&Baker, 2010; Shanbani, Naderikharaji & Abedi, 2011; Weisberg, 2011; Sandberg, 2011; MvGowan, 2009; Shepperd et.al., 2008; McFall, 2005) showed that learners preferred printed textbooks as their primary learning material.

We also asked our respondents to indicate their reasons for choosing a specific material as their primary study material. The most popular reasons given by our participants regarding textbooks were that textbooks were easy to reach, they found the information in the textbooks more useful and they learnt more easily this way. Apart from presenting knowledge in an effective way, textbooks help learners assess themselves and offer content that is enriched with sample questions they can encounter in exams. In addition, another reason mentioned by the participants was the fact that they were responsible for what was in the textbooks in the exams. Students of the Open and Distance System of Anadolu University are normally supposed to take scheduled central exams by studying printed textbooks delivered to them. In this sense, it is only natural that learners are likely to prefer textbooks to study because textbooks are easy to reach and exams are based on textbooks. On the other hand, some of the participants stated that studying for their lessons with textbooks was a learning habit of theirs. What is more, textbooks' popularity as the primary learning material among our participants would be an expected result when we consider the structure of our education as a system based on textbooks and the role of textbooks as the primary learning material used in teaching-learning process beginning from elementary school.

It is noteworthy that the majority of the participants preferred to study printed textbooks despite the increased use of computer technology in both everyday life and education. Research showed that printed textbooks were preferred by learners for reasons such as their usability in any media without any additional presentation tool, their ease of use and their portability (Shariza et.al., 2007; Liu & Huang, 2008; Liu, 2008). On the other hand, effectiveness of learning through printed material depends largely on the material's design. The textbooks of the Open and Distance Learning System seem to have been designed to offer various features to help learners achieve their own individual learning. In other words, the system is based on the principle that learners can learn at their own pace using the content of textbooks.

The respondents were then asked whether they preferred to study printed textbooks or textbooks in electronic media. They were also asked to indicate the reasons for their choice. The learners' preferences were analyzed based on their genders, ages, faculties and years of study. The results showed that both female and female participants preferred to study for their lessons with printed textbooks. Similarly, this was the case with all the age groups, all the three faculties and all the years of study in our research. Nevertheless, printed textbooks were used slightly more by the female participants. In fact, evidence revealed that female students tended to prefer to use printed materials while male students tend to prefer electronic materials and this difference may be attributed to men's higher level of self-efficacy and skills in using technology (McGovan, 2009). However, there are also results in the literature suggesting that gender was a significant variable in media preference, but it was not a strong determinant of preference (Shanbani et.al., 2011).

The participants in all of the age groups preferred to study for their lessons using printed media. On the other hand, the age averages of those respondents opting for electronic books showed that the use of electronic media is inversely proportional to increasing age. According to the Information and Communication Technology Usage Survey on Households and Individuals by Turkish Statistical Institute (2015), individuals' use of computer and the Internet decreased with increasing averages of age. In order for individuals to adapt to new technologies and to understand and benefit from the opportunities they offer, they need to acquire the necessary knowledge, skills, attitudes and habits. In this sense, this result will not come as a surprise when we consider the younger generation's skills in using objects that can be instantly consumed and are located in digital media and most of their time passing in digital media.

The participants in all of the faculties and years of study also preferred to study for their lessons using printed media. Research showed that students of social sciences tended to prefer printed textbooks to study for their lessons (Shahriza, et.al., 2007; Hoseth & McLure, 20212; Shanbani et.al., 2011). Our respondents studied majors in social sciences and, in this sense, this result is consistent with research in the literature.

When the respondents were asked to indicate the reasons why they preferred to study printed textbooks, they indicated that they understood better while using printed textbooks, it was easier to study printed textbooks and studying by taking notes on printed textbooks facilitated comprehension. Other reasons indicated by the students were that printed textbooks were easy to reach, printed textbooks presented more detailed content, they found printed textbooks more useful than the other forms of media and printed textbooks were better for exam preparation. On the other hand, some of the participants stated that studying for their lessons with printed textbooks was a learning habit of theirs. According to a study conducted by Open Education Faculty in 2015,

  

71% of the learners received the textbooks sent to OEF offices and they held highly positive views of the instructional qualities of textbooks.

Research on students' media of choice for studying textbooks identified similar reasons given by students such as printed textbooks' ease of use and portability, and learning facilitated by means of taking notes on printed textbooks. Research also showed that the purpose of reading, or selective reading, was another determinant of the preferred media, and electronic media were more likely to be preferred if readers intended to make an overall scanning while printed materials were more likely to chosen if readers were to read for longer durations or need deeper reading and comprehension (Abdullah&Gibb, 2008; Wu & Chen, 2011). In this sense, open and distance students' obligation to take central exams cause them to spend most of their time on printed textbooks to study for their lessons.

The respondents in our study stated their concerns about reading textbooks in electronic media by indicating that reading electronic books tired their eyes, they distracted their attention and they could experience technical problems while studying these books. In fact, research identified technical issues and problems experienced with electronic materials that were usually developed as a component of an instructional media as a limitation because this situation affected users' preferences (Chu, 2003; Kropman et.el., 2010; Lam et.al., 2009; King, 2002; Tüzün, 2006).

All in all, the Open Education System adopts an approach and functioning that focuses on individual learning. Although the system employs different technologies, textbooks still continues to be the primary instructional medium of the system and an individual study strategy based on these textbooks continues to be the primary instructional approach. This situation could be attributed mainly to the system structure and the general profile of learners. In addition, the fact that the textbooks have a design that facilitates individual learning acts as a significant determinant of learner preferences.

First of all, the Open Education System has a structure in which learner achievement is assessed through central exams. In these exams, the learners are responsible for what is covered in the textbooks and, therefore, this may be the reason why the respondents opted for printed textbooks as their primary study material. Moreover, although technology is more accessible and available today, there are also learners today who live in rural areas, cannot easily access technology and are at a certain old age. Textbooks are still the most accessible learning materials for this type of students. In addition, some of the respondents stated that they were accustomed to studying for their lessons with textbooks. In the light of these, this result, printed textbooks' popularity among our participants, could be associated with the learning culture that Turkish national education system nourished in learners till the higher education. What is more, the Open and Distance Learning System textbooks have a design of content arranged in accordance with the principles of instructional design that promotes individual learning. The contents are presented with various warm-up activities so as to attract learners' attention. The topics are supplemented with real life examples in order to ensure permanent learning. Learners are offered self-assessment opportunity by means of the questions within and at the end of each unit. The content is enriched by visuals to facilitate learning. Having these qualities, the textbooks of the system are not merely books, but they also act as individual learning materials. Therefore, we could suggest that the design of the textbooks was another determinant of the learners' preference of textbooks as their primary study material.

The Open and Distance Learning System activated an e-learning portal long ago in order to aid learning processes. The system continues to integrate new approaches and developments in the fields of technology and learning into its structure. A recent example of this vision is the AKADEMA application offered to the learners. Targeted at the lifelong learning needs of every individual at all ages and educational backgrounds, this project serves as an innovative learning platform that is capable of effectively meeting the changing learning needs by expanding the knowledge and experience of Anadolu University to larger groups of population.

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# STIMULATING YOUNG MINDS BY HANDS ON ACTIVITIES IN PHYSICS

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LEARNING OBJECTIVES:

To explain the phenomenon of surface tension, force on moving charged particle in magnetic field, scattering of light, Diffraction of light , Electric circuits using atta wire, Temperature effect on the strength of magnets & Formation of opposite poles on breaking the magnet etc

Brief on innovation:

***ABSTRACT:***

Teaching and learning physics has always been difficult and using innovative technology, especially at the introductory level, has not been particularly successful. Moreover, research in physics education has shown that at the introductory level, traditional methods do not help the majority of our students achieve the most basic and elementary goals we have for them.

***I hear and I forget***
***I see and I remember***
***I do and I understand***

Keeping the above sentences in mind *and to develop scientific temperament in students, I have chosen the* Topic
***'Stimulating Young minds by Hands on Activities in Physics '***

Students in a hands-on science program will remember the material better, feel a sense of accomplishment when the task is completed, and be able to transfer that experience easier to other learning situations. When more than one method of learning is accessed as in hands-on learning, the information has a better chance of being stored in the memory for useful retrieval. Students who have difficulty in the learning arena for various reasons can be found to be on task more often because they are *part of* the learning process and not just spectators.

Two of the most important observations are:

1. If students have mental models that differ from the teacher's, they may not interpret the presented material in the desired way.
2. If the activity in question can be performed without engaging the student's mental model, the learning that takes place will be disconnected and superficial.

These observations suggest that it is very important that Hands on activities is the only way the engaging the students in the class room and to make the science concepts easier. ***My Paper is on Hands on activities which are very useful in teaching science.***

Hands on activities empower a young child to acquire knowledge and lay the foundation for a lifelong love for learning. Our nation needs young scientific minds, their creativity, as no technology can develop without advancement in science.

It is rightly said that ***"Children acquire scientific knowledge by construction and not by instruction"***. When a student works with his own hands, he gains a confidence and an insight into fundamentals that stay with him for whole life.

  

***"The teachers were focused on helping these students. The students benefited from hands-on teaching and a faculty who cared about them and their success in life and soon the students began to believe in themselves and the reality that they could make something of their lives***."

Michael N. Castle

Keeping in mind all above things this research work was undertaken to examine how hands on activities can be used to increase student motivation to learn science. The first step in this project was to gather information about the effect of hands on activities in motivating students to learn. Two groups of twenty and twenty five students of class 12 and 11 grade students at Amity International School, Mayur Vihar,Delhi were asked to complete academic interest surveys. Many students indicated that hands-on activities could be used to increase their interest in a physics. The second part of the project was to examine the effect of hands-on activities on student understanding and learning process in physics.

Introduction

- ***Science and Technology are two faces of a coin. Teaching Science is a big challenge today.***
- ***Examinations are arranged to pass the maximum number of students. We are focusing our attention to prepare students who do not think, but do repetitive task as per given guidelines.***
- ***Hands on Activities and Demonstrations play a very important role. They are most valuable tools in the hands of a innovative teacher to inspire the fertile mind of a student. No teaching is complete without a live demonstration. Students really enjoy doing something with their own hands.***

***Hands on Activities Low Cost Experiments vs. Traditional or Routine Experiments:***

| **TRADITIONAL EXPERIMENTS** | **HANDS-ON EXPERIMENTS** |
|---|---|
| Traditional Experiments are performed with a set of instructions under the guidance of a teacher with specially designed apparatus, they are part of curriculum.<br><br>Traditional experiments are cognition oriented i.e.<br><br>supporting knowledge. | Hands on Experiments are motivation oriented. They do not require any special apparatus<br><br>Materials required are low cost, easily available, no specific instructions are required and can be performed easily. |

**Research Methodology**

- ***Designing low cost experiments in laboratory by attending several workshops, seminars and science fairs.***

  

- ***Designing low cost experiments of activities mentioned in NCERT Text Book, lab manual and various websites.***
- ***Transformation of some simple numerical problems into experiments and designing their apparatus.***
- ***Designing apparatus of science activities shared by interacting with students and other teachers.***

***Hands-on Activities***

***I have designed many hands on activities using low cost materials, their apparatus and manual covering topics like :***

***Mechanics, Properties of Matter Optics, Sound, Electricity, Magnetism, Heat and Electronics. In my paper I will be demonstrating and explaining the details of the few activities.***

**Activity 1: To demonstrate law of conservation of momentum & kinetic energy:**

**Apparatus: Marbles of equal sizes and 2 Plastic scales of equal sizes.**

**Theory: If net force on the system is zero then the total momentum is constant**

**Figure 1 : Apparatus of conservation of Momentum and Kinetic energy**

**Procedure:**

**1. Take two plastic scales of equal sizes and placed them diametrically opposite.**

**2. Take marbles of equal sizes and place them in gap between the two scales.**

**3. Now when you hit one marble, one will move, if we hit two marbles two will move and so on.**

**4. Repeat the activity by hitting three or four marbles and record the observations**

- **Conclusion:**
- **Due to conservation of momentum, the number of marbles which move ahead is equal to no. hit and kinetic energy is also conserved. thin papers or Tissue paper ( a roll )**

  

**Activity 2: To observe the red colour of rising and setting sun by torch light and papers.**

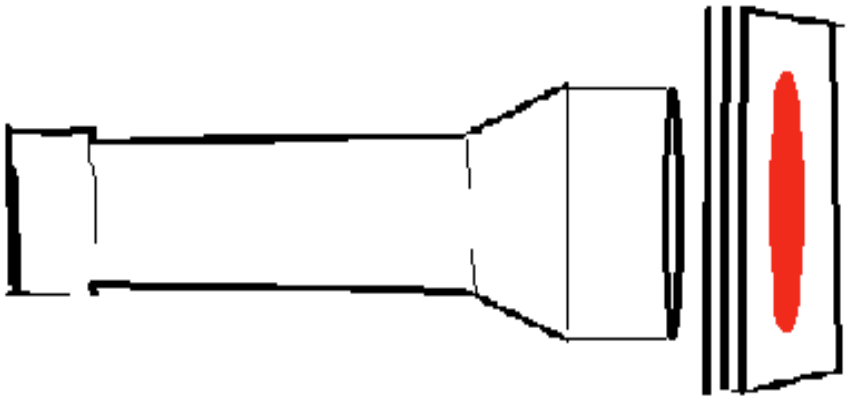

**Figure 2: Demonstration of scattering of light**

- **Materials needed:**

**A strong filament Torch, About 10 sheets of thin papers or Tissue paper ( a roll )**

**Method:**

- **Send the torch light through a single sheet of paper. Gradually increase the no of sheets and at the same time look from the other side the colour of light.**

**Observations: We observe that colour of light keeps of changing as we increase the number of sheets. The colour of light changes from violet to red on the other side**

**Explaination :It is due to the scattering of light through paper. The scattering increases with increase in the number of sheets and according to rayleigh's law intensity of scattered light is inversely proportional to fourth power of wave length of light. As the scattering increases almost all the blue and violet colours get scattered and redish part of light left behind.**

**Activity 3**

**Apparatus: Laser light and hair**

**Method : Tell someone to hold the hair tightly. Use laser light to fall the beam on the hair and observe the pattern on the wall behind the hair.**

**ACTIVITY 3 : To observe the diffraction of light**

  

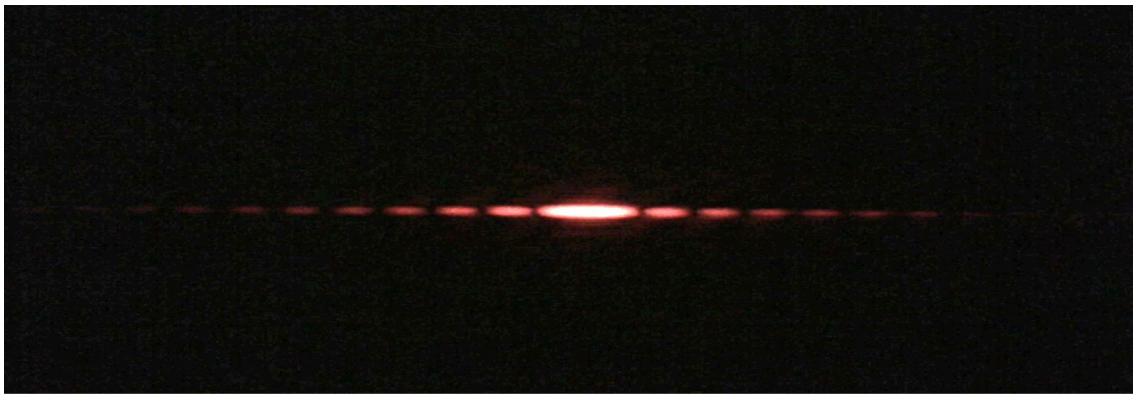

**Figure 3: Diffraction pattern**

- **Explanation : For diffraction of light the size of obstacle should be comparable to the wavelength of light so laser beam which is monochromatic, gets diffracted through thin hair.**

**ACTIVITY 4 : TO MEASURE REACTION TIME**

- **When a situation demands our immediate action, it takes some time before we really respond. Reaction time is the time a person takes to observe, think and act. For example: if a person is driving and suddenly a boy appears on the road, then time elapsed before he applies brakes is called reaction time. It depends on situation and on individual. Take a ruler and ask your friend to drop it vertically through the gap between your thumb and forefinger. After you catch it, find the distance travelled by the ruler (h).Reaction Time $t = (2h/g)^{1/2}$**
-

**Figure 4: Student performing activity of reaction time.**

  

**ACTIVITY 5: To study the effect of refraction by disappearing coin experiment**

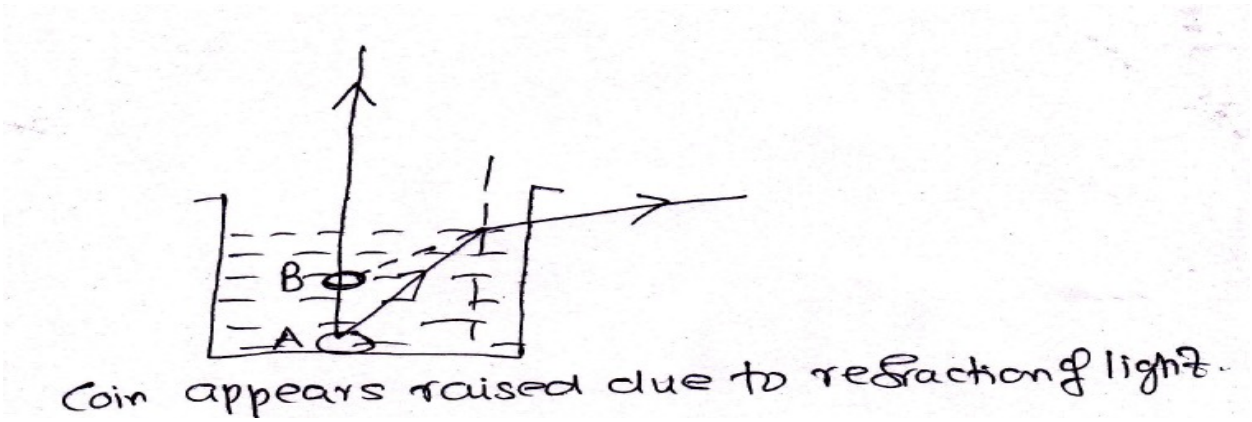


**Figure 5:coin appears raised after filing water due to refraction.**

**Procedure:**

**Place a coin in a cup and move backwards so that coin just disappears from your sight. Then ask someone to pour water into the cup, carefully without disturbing position of coin. The coin will be visible again.**

**Explanation: Light rays bend when travel from one medium to another.**

**Activity 6: Two demonstrate the Lorenz force.**

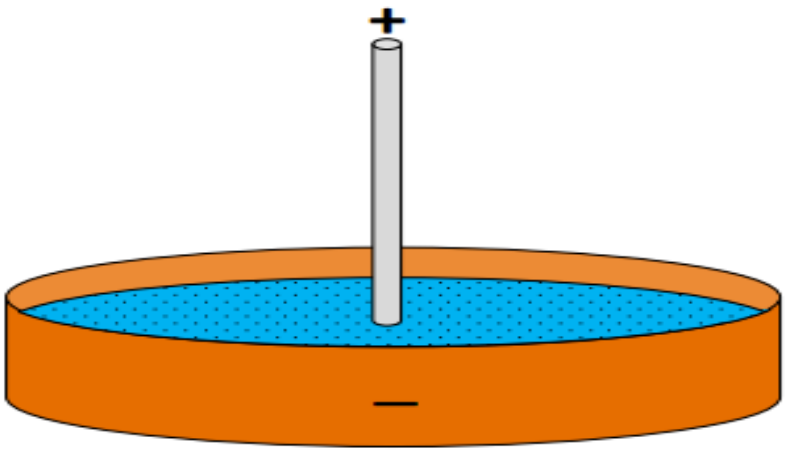


**Figure 6: Demonstration of Lorentz force.**

**Apparatus: Ring magnet, Petri dish, Aluminum foil, Water, salt and DC supply**

- **Theory: A moving charged particle experiences a force in the magnetic field.**
- **Procedure:**

  

- **1. Take a petri dish and put the aluminum foil. Around its periphery.**
- **2. Fill the water in the petri dish and put some salt in it .**
- **3. Place the petri dish over the ring magnet and connect the aluminum foil with one end of battery and another end of battery is put at the centre of petri dish.**
- **Observation: As we switch on the battery the salt particles start moving on the circular path.**

**Explanation**

**Lorentz Force**

**The salt particles form the ions in water. As we pass the current , the charged particles start moving in the circular path due to perpendicular magnetic field.**

**ACTIVITY 7: Formation of opposite poles on breaking the magnet.**

**Apparatus : Small magnets**

**Figure 7: small magnets joined together**

**Procedure: Place all magnets together so that opposite polls face each other and they stick together.**

**Explanation: As the number of magnets joint together to form a single magnet similarly in a solenoid or in bar magnet large number of current carrying loop or dipoles are placed together to form a single magnet. When we break the magnet ,Opposite poles are formed as we obtain in case of long magnet formed by small magnets.**

**CONCLUSION: Students can add further suggestions in these experiments. Hands on activities will surely help to ignite the minds of the students, develop interest in science among the students and invoke scientific ideas in them to bring the best students in science. These students with scientific minds will help in the growth of technology which will help in the advancement of nation. Students will enjoy learning science and the activities which they do on their own, provides them with new challenges, exercises their skills and develops a confidence in them to give an insight into the fundamentals which stays within them lifelong.**

  

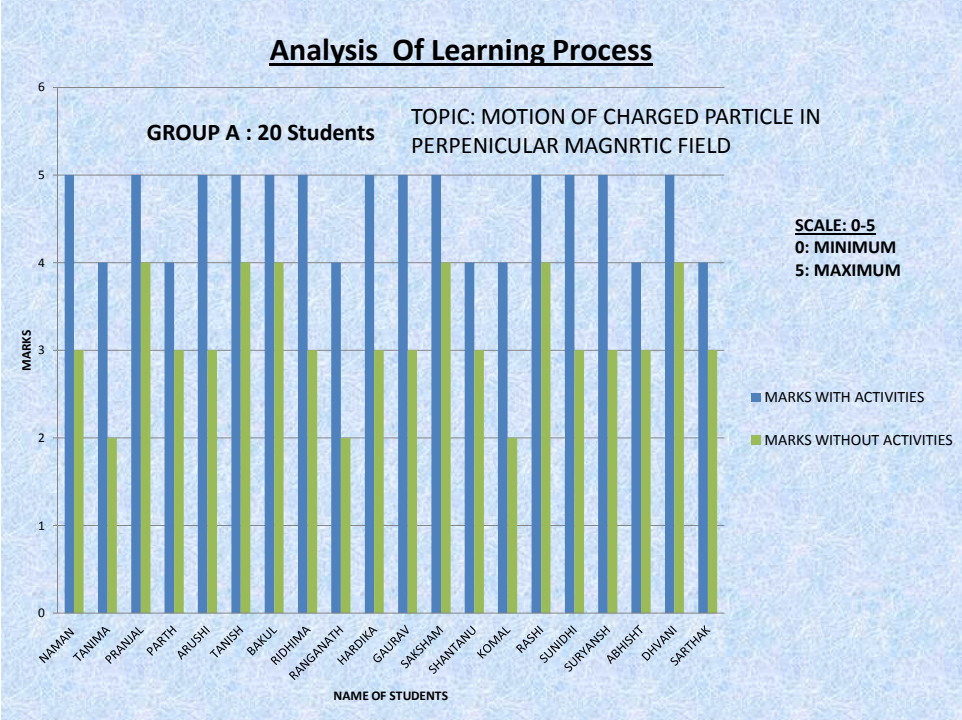


**Figure 8: Based on survey done on 20 students of class 12 after showing hands on activities of Lorentz force.**

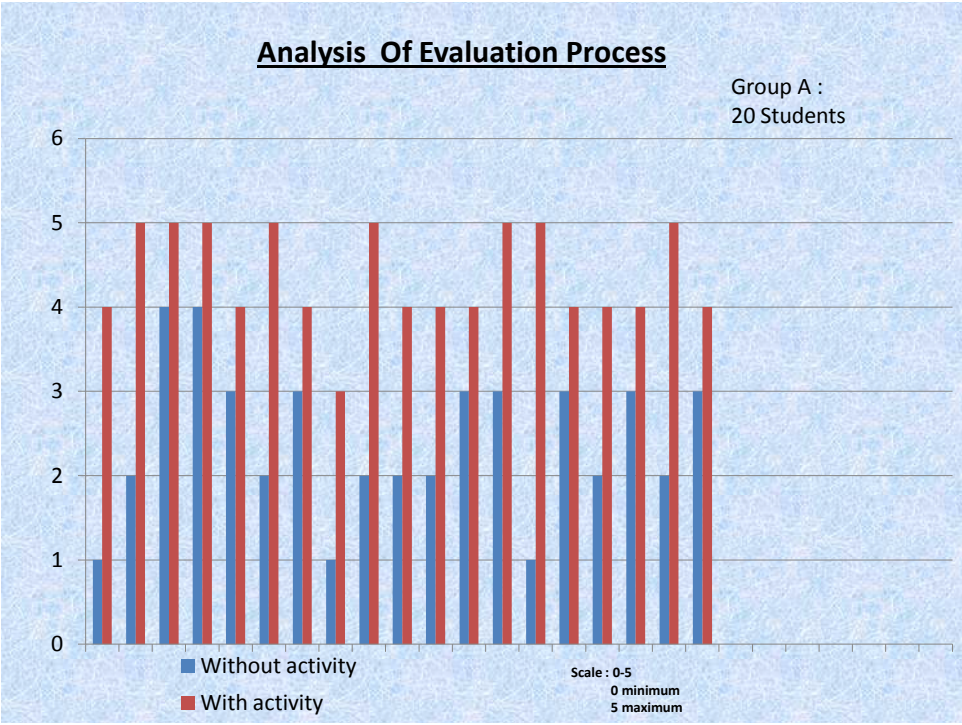


Figure 9: Based on test conducted after showing hands on activities to group of 20 students of class 12.

  

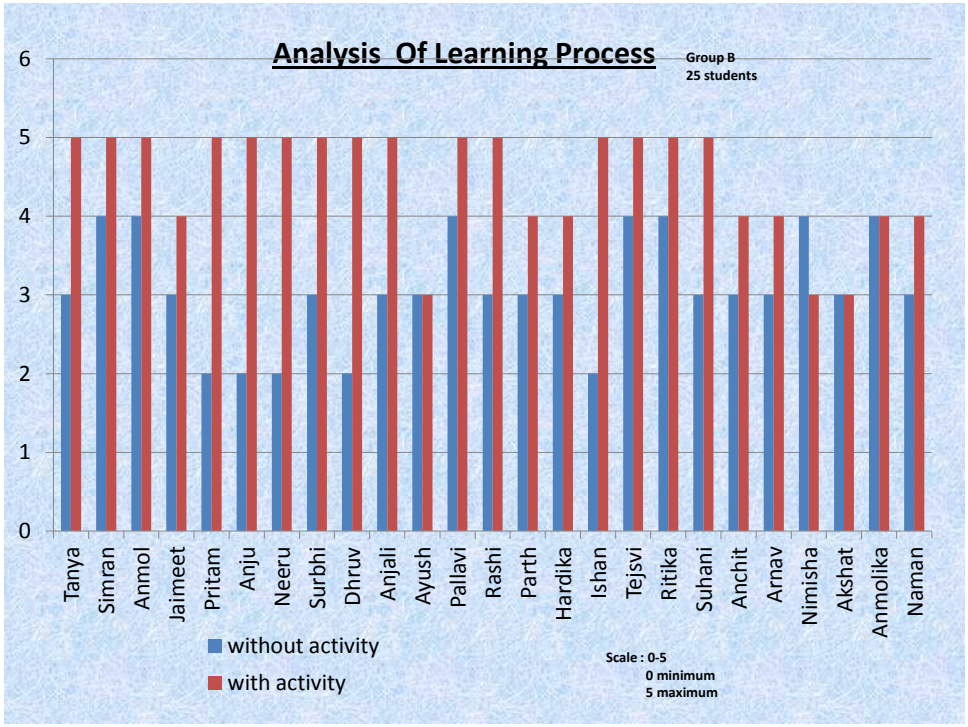


**Figure 10: Based on survey done on 25 students of class 11 after showing hands on activities.**

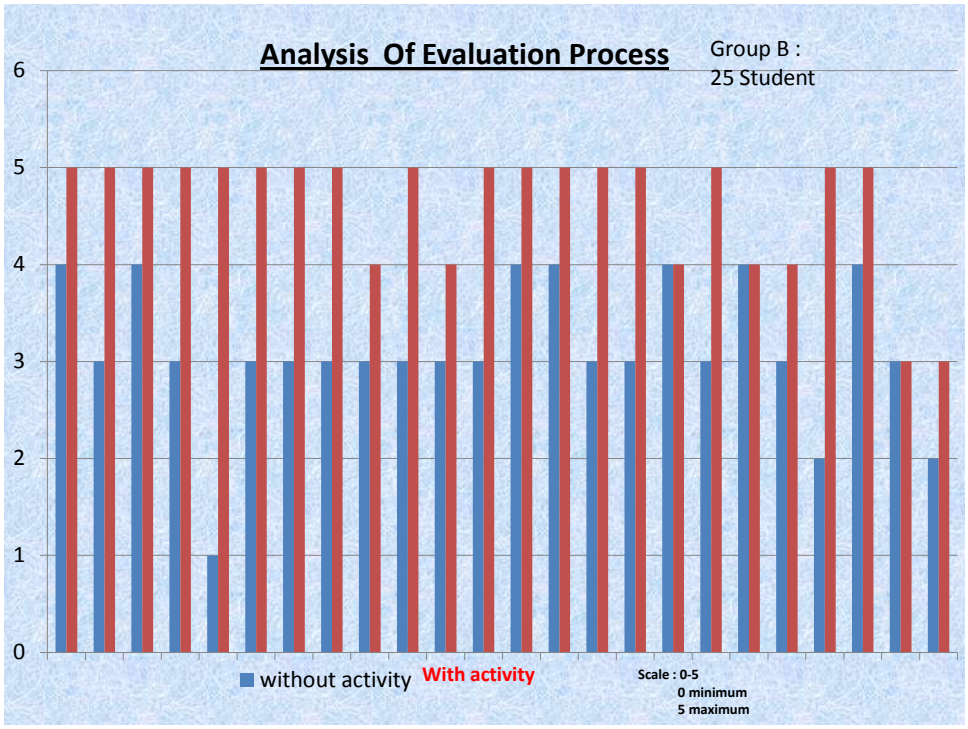


Figure 11. Based on test conducted after showing hands on activities to group of 25 students of class 12.

  

**Result: The surveys done on two groups of class 11 and 12 shows that their learning process increases after showing hands on activities. The result of tests given to two groups also shows that their understanding of topic increases after showing hands on activities.**

**SCOPE FOR FUTURE WORK:**

**Most of the experiments have open ended questions which arouses curiosity in the minds of students. The students would try to perform these experiments on their own in order to find the answers. These experiments require materials which are easily available and cost-effective. By studying these simple experiments, they will get an idea how to develop some more new experiments.**

**ACKNOWLEDGEMENT:**

**I would like to acknowledge Prof. H.C.Verma under whose guidance; I have learnt to develop hands on activities by attending NWUPT workshops at IIT Kanpur. I am an active member of Utsahi Group of Physics Teachers. I would also like to acknowledge Dr.B.N.Das and Prof. Bagchi for their support. I would also acknowledge support of my chairperson Ma'am, principal, vice principal Ma'am and fellow teachers. Last but not the least I would like to thank my mother, wife and my children for their continuous motivation and support.**

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- **NWUPT 2013 ( IIT Kanpur )**
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- **NCERT Physics { class XI-XII}**
- **Science NCERT { class VIII-X}**
- **CBSE Science Fairs**
- **Quest (Bagchi Sir)**

  

# STRUGGLE TO BECOME A TEACHER

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**ABSTRACT**
The contribution is a part of the research project "Teacher's belief about the pedagogical use of children's preconceptions." The contribution builds on the previous paper: Beliefs of student of teaching: a case study. The text presents the partial result of the research, on which the author has been working for one year. I therefore regards the second part of a pilot research strategy. The main aim of the research was to understand the motives to study and then to carry out the teaching profession and to identify the key factors that influence this role. Qualitative research design was chosen in the research and the main research method, which was used, is an interview. The analysis of primarily collected data is a view of a student teacher´s structure of thinking, his motives to the teaching profession and exposing his momentary belief in the teaching profession. The research is now continuing with pilot interviews of other participants - student teachers. This text is deeply engaged in one semantic category that was found in analyzing of the data. The key finding was an influence of the teacher practice and "disappointment".
The study provides the partial results of research which is still currently being worked on with the support of an IGA grant project under the number FHS/2016/01. The project will be completed in 2018.

**INTRODUCTION**
Today's teachers have to face increasing requirements, imposed on them by the society. They should be experts in the field of education and promote the development of pupil's personality. Kyriacou (1991) argues that the effectiveness of the teacher's job depends on the quality of their teaching skills, whose basics are acquired by a future teacher when preparing for their profession. The attention must be paid to the education of future teachers says Bendl et al. (2011, p. 11): "Hand in hand with the increasing demands on the teaching profession the attention should be paid to the initial teacher education and actions that would facilitate their transition to the employment."

Educational Dictionary defines undergraduate studies as a "university study usually to obtain a bachelor's degree (Průcha et al., 2008, p. 177). The postgraduate study is understoodany study carried out in a doctoral program. However, English-speaking countries understand postgraduate studies as any higher studies after completion of the bachelor degree, including Master degree (Průcha et al., 2008). The undergraduate study in the text means both: a bachelor's and master's degree. We see it as a preparatory of teacher education for a qualification for the teaching profession. The undergraduate teacher education should primarily "result in the achievement of a minimum professional standard of absolvent, which is necessary for the fulfillment of basic teaching activities, which are expected from the young teachers at boarding workplace expectations and create the conditions for further professional development of teachers" (Šimoník, 2005, p. 5).

Why do some people choose to study teaching? Motives can be different. Some teachers state that they were influenced by their teacher during school years. The individuals then trie to identify with their idols. Generally, it is obvious which motives should be decisive in choosing to study at university. Individuals should choose the field of study depending what their likes are. Hupková, Petlák state that "the right motivation is primarily love for the teaching profession and love for children" (Hupková, Petlák, 2004, p. 20). In reality, this is unfortunately often not the case. Vast majority of students entered the pedagogical faculty becasase they were not accepted at the fakulty they wished to study. (Fiser, 1968).

Currently, it is possible to become a teacher, it means to obtain the necessary qualifications to pursue the profession, in many different ways. This is due to the autonomy of universities and faculties preparing future teachers. Each faculty can also select the content of the pregradual preparation, as well as the form and the amount of teaching practice. Of course these ways to reach their teaching qualifications are defined in the Act on pedagogic workers, which defines what education must include: "The teacher education must include four

  

components: the subject, pedagogical-psychological, practical and comprehensive basis" (Coufalová & Vaňková In Coufalová, 2010).

**THE STUDY**

The main aim of the research was to understand the motives to study and then to carry out the teaching profession and to identify the key factors that influence this role. In research was chosen as design qualitative research design and the main research method is the interview. The main aim of entering the field was to ascertain motivations for study and then for the profession of a teacher, and to identify key factors which affect this role.

According to Švaříček, Šeďová those researchers who have a personal relationship with researchers have the easiest entrance into the research field. It is recommended such environment that will not only open, but is also willing to share information. The way of entering the field might affect the author's access to research data obtained (Švaříček & Šeďová, 2014). That is why the author chose as the first participants research student teacher, whom she knows personally and who volunteered to participate in the research.

The research was undertaken using a narrative interview conducted by the author with a student named Petr, with the author striving to elicit trust and a feeling of safety, which are an important precondition for the validity of its findings (Dvořák et al., 2011).

Narrative interview we specific a form of interview, when an individual is prompted to talk freely talked about a subject, about life events, experience, story and so on. well. His narrative builds the information segments at each other meaningfully linked either chronologically, content or otherwise and therefore these statements about everyday personal lives, they have a constant and general structures. It is believed that the free narration reveals subjective experience, which by means of direct questioning not (Reichel, 2009).
This method is based on the above assumption that the experience is naturally organized in the stories. Thus, if the person examined is stimulated to narrative, we get experience in their natural form. Structured here - rather than the interviewer's activities - from the very form of narrative (Hendl, 1977).

*Research participant*

Student of teaching, Petr[1]

Faculty of Education student Petr, 24 years old, studies Special Education for the upper level of elementary schools and for secondary schools in combination with Foundations of Technical Sciences and Information Technology for Education. Petr studied at a secondary school for the hearing impaired, although he is not hearing impaired himself. Petr is now in the first year of his master's degree, following on from his bachelor's study.

The research participant talked about his experience, situations he went through and his feelings. In the same interview there were only two questions, the first and the last. The first was to capture his memories and the final to evaluate the actual interview by the research participant himself. The interview lasted for about an hour, while there was an inpout and output of the interview, which was informal in nature (not to enter the voice recorder), but its role in research has its important place. This period lasted for another half an hour.
The enter into any interview is always associated with the introduction of why we are going to talk. That was also the case here. The next phase was to obtain the permission to confer with their personal observations, opinions and to describe a "piece" of his life. The output of the interview is also an important part.

After the implementation of the interview, transcripts encoding followed. The analysis was processed on the principle of grounded theory, which means that We were looking for the statements semantic categories to the individual elements. They were subsequently attributed to the category of a higher order. It was therefore open for encoding.

[1] In the standard sense of the phrase, student of teaching describes a higher education student preparing to work in the teaching profession.

  

**FINDINGS**

Four categories were reconstructed from the recorded and analysed narrative interview with Petr, given the working titles Why study (personal preference, family, faith in God, experience from secondary school), Getting to university (regional preference, lack of belief in his abilities, teaching as a way out, communication with people), I am a student (personal disappointment, efforts to succeed, not wanting to disappoint parents, difficult practice), What next (preference to work with hearing impaired, the desire to return, practice vs. the academic environment).

The following is an overview of the categories which most governed Petr's acts and his explanatory comments.

a. Why study

In this category, important phenomena were perceived to be: a) personal preference, b) family, c) faith in God, d) experience from secondary school

In his narrative, Petr often noted the influence of family on his decision. Hlaďo (2012) discusses the part parents play in deciding on a future career, noting that parents are the first and most important consultants in this decision. Petr also spoke of his interests, which crystallised during his studies at secondary school and likewise on the strong influence of his Catholic upbringing. Since Petr went to a secondary school for the hearing impaired, he saw a certain way forward in focusing on special education and linking it up with his interest in computing.

b. Getting to university

We chose 'Getting to university' as the second category, in which Petr spoke of his motivations and path to admission to teaching. The selected codes are: a) regional preference, b) lack of belief in his abilities, c) teaching as a way out, d) communication with people.

Again, Petr demonstrated a strong bond to his family and home. Likewise, it was demonstrated that studying teaching for him was a kind of way out, as he did not particularly believe in his capability of getting to a different university, so he was particularly happy (he says) to get into the teaching degree.

Blatný (2010) discusses ambitions in regard to further study, where he mentions the link between further education and the socio-economic status of the family. The level of parental support and an individual's demands on himself have an impact.

c. I am a student

In this category, phenomena perceived were: a) personal disappointment, b) efforts to succeed, c) not wanting to disappoint parents, d) difficult practice

This category proved to be of most importance. Petr spoke most about this, and described his experiences most strongly, which got the code personal disappointment. In his narrative, Petr spoke of the very difficult practice, which was very hard, but which he also considers the deciding factor of when he stopped feeling like a pupil but rather like a teacher. We can term this event a watershed event (Lukas, 2007).

The first conflict of images of the student teacher with real learning occurs during teaching practice at the college. The beginning teachers evaluate it retrospectively with criticism. The experience, they gain, are insufficient for them and brings them many doubts arising from insufficient time allocated to teaching practice and the lack of feedback on their own teaching. These doubts are then referenced to the beginnings of the profession (Steffy et al, 2000).

*"the first week (of practice), that was totally crazy"*

*"Now, after three weeks of practice, which was a walk through hell, I can say I can imagine being a teacher, "*

*"The terrible experience has changed me, I'm not afraid of being a teacher in the future."*

*"I knew I could not force the kids to do what I wanted them to do."*

As reported Dytrtová and Krhutová (2009, p. 73): "The aim of pedagogical practice is to gradually change the attitude of the student to the teacher's attitude." In the context of teaching experience at the university or training school a student receives the first real experience with school practice in the role of teacher. A practice teacher has an important role in the acquisition of first experience with the school environment, to which the student is

  

assigned. It can be motivating for a trainee or conversely discouraging factor in deciding of the profession in the future (Dytrtová & Krhutová, 2009).

*"In other lessons it went well, I got a lot of good advice. "*

Šimoník (1994) points out that beginning teachers are mostly prepared to explain a new material, to organize independent work of pupils, to evaluate and to assess etc. - It is rather an acquisition of theoretical knowledge.

According Švec (1999), teacher training,is based only on theory disciplines, theory of teaching these disciplines and the psychological and pedagogical theory, butfor the profession itself is inadequate and can not adequately prepare teachers for their demanding profession. Contents of pedagogical training does not correspond with the needs of today's schools. "The faculties preparing future teachers of the pedagogical and psychological subjects only limited account the real pedagogical problems and situations faced by the teacher." (švec, 1999, p. 12).

This problem is still current, adds Švec (2006, p. 100), "the purpose of teacher preparation should be the promotion of educational condition of student teachers and not only the adoption of a set of theoretical and practical knowledge."

*"The Bachelor's program is all theoretical, though I think it should not be like that at the faculty of education."*

d. What next

We determined these codes in this final category: a) preference to work with hearing impaired, b) the desire to return, c) practice vs. the academic environment.

Petr speaks of his future as if he would like to make use of his experience of secondary school and would like to return to his secondary school. Again, the connection to his family is clear. Petr often said he no longer wanted to be a student, but rather than seeing himself as a future teacher he appears to be looking forward to independence, a salary and employment.

**CONCLUSIONS**

If we accept the fact that undergraduate training is an important socialization phase into the teaching profession, it is necessary to consider the question, what is the impact on the professional development of teachers. Ward showed that teachers with a sense of uncertainty and lack of confidence, are not successful regardless of the quality of their preparation (Ward in Volkmann, Anderson, 1998).

Kaganová (1992) draws attention to the many teachers who go into practice, and teaching them self from undergraduate training has changed. Or we can say that the way a novice teacher thinks about himself, about his profession, what they believe, what are the values and attitudes, all have an impact on how they will decide on as a teacher.

With some simplification, it can be stated that the typical approach for the undergraduate teacher preparatory study is a gradual development and maturation of the teacher's personality, which transforms through continuous reflection on their teaching activities – from student to teacher, an expert on learning and developing other people. All models presented share a socio-constructivist basis which consider the teaching student as a 'subject under construction' (Kosová et al., 2012).

Kenžina (2006) argues that the process leading to the formation of future teachers´ pedagogical self-image does not come only in teaching practice. He points out that if the university education of future teachers is to contribute to the development of their professional self, their training at universities should focus on increasing knowledge and gaining experience with methods of creative activity; getting emotional and value relation to these activities; directing students to reflective, creative and research activities; creating opportunities for communication of student teacher with other participants in the educational process; focusing on value attitude to the teaching profession and the development of a conscious, positive motivation for teaching; creating a favorable climate of the educational process and the emphasis on psychological well-being of the student.

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# STUDENT MOBILE DEVICE USE AND ITS INCLUSION INTO THE CLASSROOM: A PRELIMINARY INVESTIGATION

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**ABSTRACT**
A survey was conducted to investigate mobile device usage habits and openness to incorporating mobile device use within the classroom environment, in a higher education setting. In this study mobile devices were considered to be any portable internet-enabled device; which included smartphones, tablets and netbooks. Participants were second year psychology students ($N$ = 38), aged between 18 – 24 years old. A 10-item questionnaire was developed for the study. Results demonstrated that majority of participants were Android users; who in private settings frequently accessed the internet using their mobile internet-enabled devices to search for information, primarily when they were "bored with nothing to do". In the classroom environment, participants reported accessing their mobile devices to view PowerPoint presentations and to check dictionaries. Participants reported wanting to include mobile device use for both independent and in-class work. Approximately 84% of participants favoured the use of internet-enabled mobile devices in learning environments within higher education. These results suggest that mobile devices can be introduced as a new tool to stimulate classroom learning. However, in light of the challenges of educator readiness and the limitations of infrastructure implementation would need to be introduced gradually.

## INTRODUCTION

The inspiration for this piece of action research came out of an incident during an in-class group activity approximately a year ago. Students were tasked to discuss myths or superstitious practices of Asian pregnant women based on their own knowledge or experiences. Prior to the incident, the activity had been successfully conducted in previous semesters since the introduction of the subject. The group discussion was typically planned after a brief 30 minute lecture session. The students were first year undergraduates pursuing a psychology degree at Sunway University. Instructions for the activity were identical to those given in previous semesters. However, this new cohort of students did something unusual: A small group of students took out their smartphones to search for information related to the assigned group activity. The immediate response from the instructor was to inform the students that it was intended for students to share their own personal myths and experiences about the topic. However, a spontaneous decision was made and a subsequent announcement for the entire class to use their smartphones or whatever portable device they had, to find answers to address the discussion. At the conclusion of the discussion, the breath of facts and information sources located by the students using their devices had enhanced the quality of the discussion, particularly compared to previous sessions when use of portable devices was not permitted. This experience suggested that perhaps mobile devices can have a useful place in Malaysian higher education classroom settings.

In the modern world, for the vast majority of the population, having internet access is considered as essential as having water and electricity. A global mobile sample and research provider, On Device Research, reported in 2014 that in Malaysia the internet penetration is approximately 66% amongst a population of 29 million people; with 70% living in urban areas. The World Bank (2015; as cited in e27, 2014) projected that the mobile penetration in Malaysia alone was approximately 140%; with 47% of Malaysians owning more than one mobile phone. As a developing country, the smart phone ownership is comparable to the United Kingdom (a developed nation), which reported a 61% adult ownership in 2014 (Ofcom; as cited in MOA, n.d). A survey by the Malaysian Communications and Multimedia Commission (MCMC) in 2012 gives an additional insight that young Malaysians aged between 15 – 24 years old are the highest hand phone consumers (28.7%; $N$ = 2401) when compared to other age groups. The statistics depict the high consumption of internet and mobile devices in a small developing country like Malaysia. Therefore, it is unsurprising that a typical Malaysian student pursuing education in a private higher education institution like Sunway University is likely to come to class with a small internet-enabled device.

## LITERATURE REVIEW

As the idea to implement the use of mobile devices in the classroom emerged accidentally, the aim of the following literature review will be to report on studies involving the perceptions of mobile devices in the classroom, rather than the effectiveness of mobile devices as a learning tool.

At present some American studies conducted with undergraduates generally report positive perceptions towards the incorporation of mobile devices into the learning context. For example, Educause Centre for Applied Research's (ECAR) 2012 Study of Undergraduate Students and Information Technology report suggested greater incorporation of technology into the higher education learning environment (Dahlstrom, 2012). This call emerged because the researchers found their participants were already habitually bringing their devices to the campus and many reported having a positive perception "about how technology is being used and how it benefits them in the academic environment". The ECAR reported that students used their mobile devices to obtain academic progress information and course materials.

High ownership of mobile devices was also reported in Chen and Denoyelles's (2013) study with university students in the University of Central Florida, America. Their study found tablets were the most popular devices chosen by participants to use for academic purposes. Additionally, mobile learning appeared to take place outside of the classroom and students needed minimal guidance from their academic instructors on how to use their devices effectively.

Using a different approach, Gikas and Grant (2013) conducted focus group interviews to study how teaching and learning were impacted when mobile computing devices were implemented in a higher education setting. Despite, a small sample size (N = 9), they found that the students perceived many advantages of mobile devices in their learning. The authors grouped the advantages into four categories; namely: (a) accessing information quickly, (b) communication and content collaboration, (c) variety of ways to learn, and (d) situated learning (meaning allowing interactions with course content and other course mates in a contextualised way).

Despite the positive perceptions and reported benefits by the participants, there are some challenges in the incorporation of mobile devices into the academic setting. Chen and Denoyelles (2013) cautioned that in order to improve the adoption of mobile learning effectiveness, both students and instructors need help to develop effective learning and teaching practices. Additionally, Gikas and Grant's (2013) interviews also reported that the students complained of three main issues with the mobile device adoption in learning. These issues were (a) anti-technology instructors in other classes, (b) device challenges, and (c) devices as a distraction.

Contrary to the generally positive findings (Dahlstrom (2012); Chen & Denoyelle (2013); Gikas & Grant (2013), Campbell (2006) reported that his participants in Western American college classrooms, generally had negative attitudes about mobile phones. In his survey, both students and faculty members regarded ringing during class as a serious problem. The ringing phones were a source of distraction and irritation especially among females surveyed. Faculty members and older students were more likely to support policies restricting mobile phones in college classrooms.

Rossing and colleagues (2012) also found both positive and negative perceptions. In an exploration of student perceptions of learning and engagement using iPads the authors found that while students generally perceived iPads conducive for accessing research and obtaining information to solve real-world problems, the same accessibility could also be a distraction because many participants reported constantly checking emails, Facebook, playing with apps and searching the web rather than focusing on lecture content. Additionally, participants who were not familiar with iPads complained of the iPads making the classroom experience particularly challenging for them. These students reported being confused with the device and spending a lot of time mastering the apps and failing to concentrate in class. Some students also commented on the iPad design being a hindrance to learning.

In a mobile language learning study, Kim and colleagues (2013) also found mixed results when they incorporated mobile devices into outside class projects. Their participants generally reported that mobile learning had a lot of potential in language learning. When the authors used simple activities for mobile learning such as watching a YouTube video, perceptions among the students were positive as the experience was more personal and convenient. However, as a learning tool, participants preferred to use their laptop > netbooks > Apple iPhones > Android phones > tablets when activities were more challenging and involved sharing and creating content. The authors also similarly cautioned that academicians should "not assume all students have access to all new technologies".

In summary, these few studies demonstrate that the types of mobile devices used by students are very diverse. Some studies (Chen & Denoyelles, 2013; Dahlstrom, 2012; Gikas & Grant, 2013) found that university students generally have positive perceptions towards mobile device use within the learning environment; while others found perceptions to be less favourable (Campbell, 2006; Kim et al., 2013; Rossing et al., 2012). Chen and

Denoyelles (2013) and Gikas and Grant (2013) highlighted some implementation issues with its incorporation, while the findings from Kim et al. (2013) and Rossing et al. (2012) serve as a reminder to never assume all students are familiar with all new technologies.

Despite the high internet penetration in urban cities in Malaysia, the incorporation of mobile devices into the classroom context is not a norm, especially in the setting of the current study, Sunway University, Malaysia. Therefore this study aimed to: (1) provide a preliminary exploration into mobile use habits of the undergraduate students; (2) investigate the openness of these students to the idea of incorporating mobile device use into the higher education learning environment, and (3) explore the perceptions of students towards their instructors' mobile device use. In this study, a mobile device is operationally defined as any portable internet-enabled device. This includes smartphones, tablets and netbooks. The sample was students pursuing a psychology degree in a small private university in Selangor, Malaysia.

**THE STUDY**

Participants comprised of 38 second year psychology undergraduate students. All were full time students. Among the participants 81.6% were females and the age ranged from 18 to 24 years ($M$ = 20.5 years, $SD$ = 1.0) and 95% were Malaysians.

A self-report questionnaire was developed to collect information for this study (Appendix A). The questionnaire contained 10 items with items 1 – 4 assessing the mobile device ownership and habits (e.g., *Which of the following Internet-enabled mobile devices do you currently use?*) and items 5 – 10 assessing the usage of mobile device in learning (e.g., *How do you want mobile devices to be used?*). Item 7 assessed the students' perception of their lecturer's mobile device use (i.e., *Do your teachers use mobile devices? What for?)*.

The questionnaire was distributed in class and the purpose of the data collection was explained. All participants were invited to participate and were reassured that the information would not in any way effect their grades. Completion of the questionnaire was optional. Participants took approximately 15 minutes depending on individual reading time and completed questionnaires were collected at the end of the session. No compensation was given for participation but students were informed that their participation was most welcome to improve teaching methods in the department and the university.

**FINDINGS**

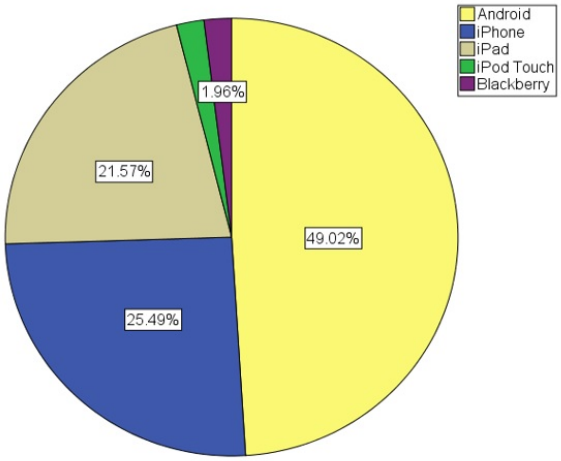
The results were separated into three themes: (1) Student mobile device usage, (2) Mobile device for Learning, and (3) Lecturer mobile device usage.

**Student Mobile Device Usage**

Among the most common electronic equipment owned, 97% of participants (n = 37) already owned or intended to purchase an internet mobile device (e.g., smartphone or tablet) within the next 3 months. The next most common electronic equipment reported was laptop (86.6%), followed by printer (53.6%). Participants could choose multiple responses. With respect to type of internet-enabled mobile device currently used, participants reported that the top three devices in descending order were Android (e.g., Samsung, Nexus etc.), iPhone and iPad (Figure 1).

**Figure 1**: Five types of internet enabled mobile device currently used, percentage of individuals ($N$ = 38) who indicated the type of device used




Participants were asked to rate how they used their mobile devices against a list of 11 activities. Participants responded using a 5-point Likert scale from 1 (never) to 5 (always). Participants reported the main activities were for searching for information, social networking and text messaging (Table 1). Twenty-one percent of participants reported that they accessed their mobile devices "all the time"; with 26.3% accessed in a private (e.g., bedroom, home) and another 23.7% accessed in a public setting (e.g., school, shopping mall, restaurant). The likelihood of going online increased when the participants were bored (21%) rather than urgent school work situations (7.9%).

**Table 1**: Mean Responses to Survey Question "To What Degree Do You Use Your Internet Enabled Mobile Device For The Following Activities?"

| Activities | *M* | *SD* |
|---|---|---|
| Searching for Information | 4.63 | .59 |
| Social Networking | 4.55 | .76 |
| Text Messaging | 4.50 | .86 |
| Listening to Music or Watching Videos | 4.34 | .88 |
| Accessing Email | 3.92 | .97 |
| Getting Directions | 3.92 | 1.24 |
| Reading Content | 3.87 | .74 |
| Uploading Content | 3.58 | 1.06 |
| Completing Coursework or Participating in Lectures | 3.53 | 1.13 |
| Getting News Alerts | 3.39 | 1.18 |
| Playing Games | 3.24 | 1.03 |

Note. Scale from 1 (never) to 5 (always)

**Mobile Devices for Learning**

The majority (68.4%) of participants reported employing their mobile devices in learning activities on a daily basis, with the remaining 31.6% reporting a frequency of 'a few times a week'. Participants were most likely to report using their mobile devices to access PowerPoint presentations in class (84.2%). However, a small number of participants (n = 6, 15.8%) reported not using any mobile tools for classroom learning. This suggests that this smaller group prefers to use conventional means such as desktop computers and even hard copy printouts, to obtain classroom materials and learning contents (Table 2).

**Table 2**: Responses to Survey Question "What Tools Do You Use in Class?"

| Tools | n | % |
|---|---|---|
| Power point presentations | 32 | 84.2 |
| Camera | 13 | 34.2 |
| Dictionaries | 9 | 23.7 |

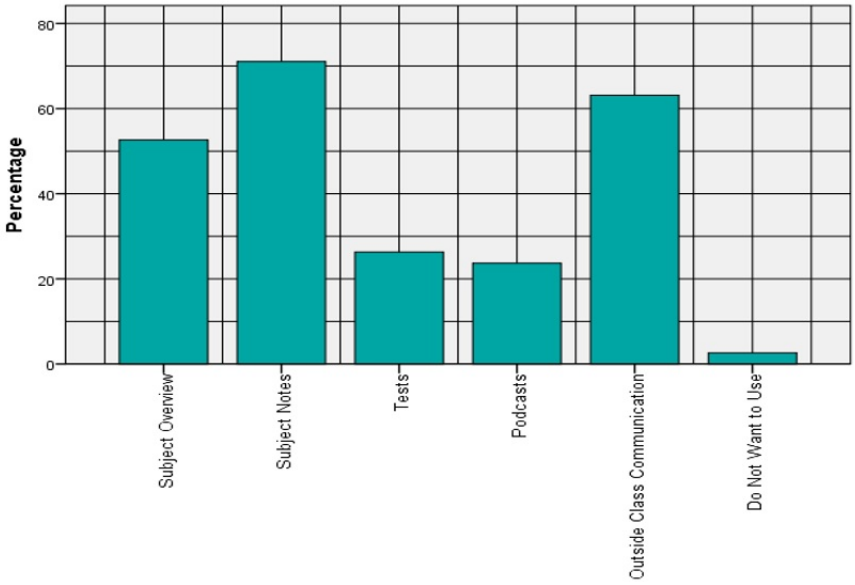
  

| | | |
|---|---|---|
| Online Exercises | 8 | 21.1 |
| Encyclopaedias | 6 | 15.8 |
| Voice Recorder | 4 | 10.5 |
| Do not use mobile tools | 6 | 15.8 |

Note. Total percentage is greater than 100 because participants could choose more than one response.

In response to the question on the potential of using mobile devices in class, 23 participants (73.7%) reported wanting devices applied in both autonomous (individual/ independent) and in class work settings. Participants welcomed mobile device use in disseminating subject relevant notes (71%) and subject overviews (52.6%). A majority (63.2%) also reported that they would like outside class communications to be accessible via mobile devices. This implies that students would like to communicate with their subject lecturers via mobile apps and emails using their mobile devices (Figure 2).

**Figure 2**: How Mobile Devices Are To Be Used In Class




Note. Participants can choose more than one response

In summary, the majority (84.2%) of participants reported being open to regular mobile device use in classroom learning.

**Lecturer Mobile Device Usage**

In terms of students' perception of their lecturer's mobile usage, the majority reported that their lecturers used mobile devices to share materials (65.8%) and access PowerPoint presentations (63.2%). A small group of participants (13.2%) did not think their lecturers' used mobile devices at all.

**DISCUSSION**

This study aimed to provide a preliminary investigation into the mobile use habits and openness for their incorporation into the learning environment, among undergraduate students in a private higher education institution. The idea for the study came from a class incident wherein students spontaneously used their mobile devices to prepare for a class discussion exercise. Despite the small sample size the current study provides some potentially useful findings.

The results for mobile device ownership were consistent with those reported by Chen and Denoyelles (2013) in that tablets were also found to be as popular among this small sample as with the graduates sampled by their study. The ownership trends found in this study clearly imply that these undergraduates own a variety of mobile devices and when using them for teaching purposes the processing speed and different applications available could be very diverse. These differences may impact on the educational tasks and activities planned.

These results showed an almost equal proportion of students accessed their devices in a private setting (e.g., home, bedroom, washroom, car) when compared to public settings (e.g., classroom, campus, shopping mall, restaurants, cafes, social gatherings). As expected, the main activities performed on mobile devices were locating information, followed closely by social networking and text messaging. Gikas and Grant (2013) have also previously reported that the two main group of activities reported by undergraduate students to be accessing information quickly and communication. These findings are consistent with the common perception that a mobile device is a personal and private tool. Additionally, current use of mobile devices for coursework and lectures is still irregular. One possible reason for this could be due to the preference of lecturers still preferring conventional teaching methods in their curriculum. Secondly, the policies on mobile device use within the classroom are not formally drafted and typically use is banned by most lecturers in the classroom and/or research setting. Therefore the irregular use of mobile devices as a learning tool may be because such use has been systematically discouraged in the past.

The results also highlighted that students increase their connectivity when they are bored. Educators may be able to use this as a behavioural indicator in the classroom to inform them about the effectiveness of the teaching approach used in their lessons. If many students start tuning into their phones in the classroom, the instructor could call for a short break, switch the method of instruction (e.g., have an activity such as a game or pop quiz), or use some other method to re-engage the students in learning.

In terms of openness to mobile device use in learning, the results of this study show that the majority of students typically download PowerPoint lecture materials, check dictionaries and use online exercises for learning purposes. This suggests that the students are already using their devices like a mini portable desktop computer when they need instant learning materials. Educators can use this finding to improve student learning options by having their teaching materials available in soft copy and posting them online for students to access. This would inevitably reduce the need to print lecture notes or PowerPoint slides and assist in making the teaching activities more environmentally friendly by reducing paper use.

Despite the readiness of students to incorporate mobile device use into their learning activities, a finding which is consistent with Dahlstrom's ECAR report in 2012, a small group do not think their instructors are receptive or sophisticated enough to use such technology. Perhaps this is because of a generation gap; a common misconception that the older generation do not feel comfortable with technology (Campbell, 2006; Gikas & Grant, 2013). To a certain extent the students' observations may be valid. The students of today are what Prensky (2001) would call "Digital Natives" while their lecturers would be labelled as "Digital Immigrants". Despite Digital Immigrants adopting new technology many are far more comfortable with familiar teaching methodologies. For example, if at present lecturers/ Digital Immigrants are slow in adopting a platform such as Blackboard, the lecturers would be even less interested in designing activities and content for mobile devices. However, the reluctance of lecturers to adopt the use of mobile devices in the classroom and/or even completely ban such devices from the classroom is not completely unjustified. Recent studies (Beland & Murphy, 2015; Fryer, 2013) report that, despite favourable student perceptions of mobile device use in learning, students performed better (as evident from summative exam scores) when mobile phones were left out of the classrooms.

However, is mobile learning suitable for every lecturer? Informal discussions with other colleagues of other departments within Sunway University have been sporadic and irregular regarding the use of mobile learning. A few young and student-centred colleagues report exploring Padlet, Facebook, and Blackboard in engaging students and providing lecture notes. These staff seem to be adopting mobile learning mainly for communicative purposes (posting announcements, allowing students to contact outside classroom hours, leaving lecture notes) rather than using the technology as a teaching tool (conducting in-class activities, etc.). Only one colleague reported to be presently experimenting with Socrates to conduct real time surveys at the end of his lecture as a means to gather feedback from students. It appears that many academics are still hesitant to adopt or explore the mobile learning territory.

Institutional support is also just as important to encourage the adoption of mobile technology into student learning. For mobile learning to work, investments into suitable infrastructure must first be made to ensure stability and availability of internet connections.

Lastly, there will always be a small group of students who will not like or appreciate mobile learning. Perhaps they might be "afraid of the unknown" or unable to see the relevance and connection of the teaching method with their own learning. It is already well established that some students struggle with in-class discussion; they fail to appreciate the conversations and are unable to take notes from the discussion activities. Therefore, to

incorporate mobile learning with these students, suitable explanations for adopting this approach and providing clear instructions for mobile use is needed to reassure this resistant minority group and provide an inclusive classroom environment.

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# STUDENTS' AND TEACHERS' PERCEPTION ON THE LEARNING OF QIN AND JIANGNAN SCHOOL *ERHU* PERFORMANCE STYLES

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**ABSTRACT**
The *Qin* and *Jiangnan Pai* schools of *erhu* playing reveal two different performing styles, each with its own unique skills and requirements. In past literature, some scholars looked into each school of *erhu* playing. However, there is a lack of research on the teaching the *Qin* and *Jiangnan Pai* schools of *erhu* playing especially in terms of how much the students are able to manage the various musical parameter. This research examined the perception of both students and teachers in the learning of *Qin* and *Jiangnan Pai* schools of *erhu*. How students perceived the various musical elements necessary in executing both styles of *erhu* playing was investigated. Teachers' perception on teaching both *erhu* styles of playing was also investigated. The outcome of this research shows the level of understanding among students in terms of the various musical parameters discussed, and a comparison to teachers' feedback.

## INTRODUCTION

The teaching of traditional instruments at a contemporary institution in many countries over the world faced various challenges due to the westernized curriculum setting. Most studies such as Yang and Welch (2014), Grant (2015) and Han and Leung (2015) looked into the attitudes of learning traditional music in contemporary institutions. Grant (2015) explains the situation of traditional music learning in Cambodia surviving the issues of transmission, social and economic changes. Yang and Welch (2014) studied the formal and informal learning of traditional music in China. Han and Leung (2015) examined how teachers perceived the value of the music and textbooks used. Students' values, motivation and utility value were also surveyed. The authors found issues with the westernized curriculum and depreciation of the value in traditional music as part of the curriculum. Similar to Han and Leung (2015), Cox and Stevens (2011) who gave an example of the Japanese music institutions and curriculum stated that western musically-trained teachers with a lack of background in traditional music learning is another limitation even though the government encourages the learning of traditional music.

On the other hand, in China, some of the composition and teaching of traditional instruments went through changes due to western influence from 1840 onwards. Important figures such as Xiao Youmei who graduated from the Leipzig Conservatory, promoted the Western approach in Chinese education (Ho, 2011). Another example, Liu Tianhua composed new *erhu* and *pipa* pieces and his music and teaching approaches shows heavy Western influence. Traditional Chinese music instruments and music that were once transmitted orally become just a secondary reference and modern composers and performers use Western staff or cipher notation (Wu, 1998).

The *erhu* is considered one of the most popular traditional Chinese instruments. It has a long history first recorded in the treatise *Yueshu* in 1601. The development of the instrument and its repertoire went through immense changes especially along the May Fourth Movement when Liu Tianhua took on the westernized influence in *erhu* composition (Randel, 2003). A huge influence from Western violin playing technique became a common practice among Chinese composers working on new repertoire on the *erhu* (Zhang, 2006). Literature concerning *erhu* performance practice includes scholars such as Stock (1992; 1993), Feng (1993) and Huehns (2001; 2003). These scholars discussed *erhu* repertory from traditional to contemporary composition, and Zhang (2006) examined in detail how contemporary repertoire features *erhu* techniques borrowed from the Western violin. Huehns (2000) studied the *Qin pai* schools of *erhu* tradition and discussed its history and development,

  

and performing skills. However, there is a lack of reference regarding how teachers and students perceived the challenges in delivering the two styles in *erhu* performance.

The differences in the performance practice of *Qin* and *Jiangnan Pai erhu* playing may be audible to an insider, however, to a cultural outsider, there are many specific requirements in both styles in terms of musical elements such as ornamentation, special technique, bowing and dynamic. Thus, this forms the main research question as in how the students perceive the various differences between the two styles. In addition to this, how teachers perceive the learning of the students when facing the various musical elements required in these two distinctive styles was investigated.

**METHOD**

In this study, teachers' and students' perception over the learning of two *erhu* performing styles, the *Qin* and *Jiangnan Pai* were examined. Both quantitative and quantitative data were collected in a mixed method approach. A survey and semi-structured interview questions were used as the research instruments.

85 students major in *erhu* and 6 *erhu* lecturers from five universities in China responded to the survey after contacts were made. The participating respondents are from Shaanxi Normal University (陕西师范大学), Henan Normal University (河南师范大学), Henan Polytechnic University (河南理工大学), Xi'an University of Arts and Science (西安文理学院), and Northwest University for Nationalities (西北民族大学). The questionnaire for students consists of two parts: a) demographic information such as age, gender, years of experience in *erhu* learning and qualification, and b) awareness and perception of the differences between the *Qin* and *Jiangnan Pai erhu* performance styles. The students were asked to rate the level of difference between the two *erhu* performance practices based on various musical elements such as melody, bowing, fingering, pressure and dynamic, special technique and ornamentation. The questionnaire for teachers similarly includes two parts, one on demographic data and the other on how they perceived the students' learning in terms of different musical elements in differentiating the two *erhu* performance styles. A pilot survey was carried out prior to the study and text used in the questionnaire that may cause confusion to the respondents in terms of *erhu* playing was revised.

In terms of qualitative data collection, a semi-structured interview question was asked where student respondents provided answers as to what way they perceived as the best learning approach in differentiating the *Qin* and *Jiangnan Pai erhu* performance styles. Teachers were asked about the efficiency of different teaching approaches and challenges faced when teaching students in differentiating both *erhu* performance practice.

**FINDINGS**

In the survey, *erhu* major students were asked to rate the level of differences between the *Qin* and *Jiangnan* school of playing on the given musical parameters with a rating of 1–5: 1) totally disagree, 2) disagree, 3) neutral, 4) agree and 5) totally agree. The students also rated the challenges faced in performing the two styles on the *erhu* by looking at the same musical parameters. Results gathered from the survey reveal a majority of students perceived the biggest difference between the *Qin* and *Jiangnan* school of *erhu* playing is the melody (M = 4.87; SD = 0.43) followed by special technique (M = 4.81; SD = 0.52) and dynamic (M = 4.51; SD = 0.67). Most respondents also rated the same musical parameters: melody (M = 4.75; SD = 0.58) followed by special technique (M = 4.91; SD = 0.32) and ornamentation (M = 4.31; SD = 0.71), as the most challenging element when performing the two different styles.

**Table 1**: Students' survey over their awareness and challenges faced towards the two schools of *erhu* playing.

| | Awareness of the two *erhu* styles | | Challenges faced in performing the two *erhu* styles | |
|---|---|---|---|---|
| Variables | *M* | *SD* | *M* | *SD* |
| Melody | 4.87 | .43 | 4.75 | .58 |
| Bowing | 3.89 | .79 | 3.86 | .85 |
| Fingering | 4.02 | .84 | 4.04 | .87 |
| Dynamic | 4.51 | .67 | 4.29 | .75 |
| Special Technique | 4.81 | .52 | 4.91 | .33 |
| Ornamentation | 4.48 | .75 | 4.31 | .71 |

  

Bowing appears to be the lowest rated element when it comes to differentiating the two schools of playing (M = 3.89; SD = 0.79) and also as the least challenging one (M = 3.86; SD = 0.85). Results gathered from a survey of the teachers conform to the outcome from the students' feedback. Teachers rated bowing as the highest achievable element by students (M = 4.33; SD = 0.52). This reveals that students were most capable of attaining the bowing skills necessary in differentiating between the *Qin* and *Jiangnan* schools of *erhu* playing.

At the same time, special technique (M = 2.33; SD = 0.52) was rated lowest as in the students' capacity of presenting the two different styles and this conforms to the students' high rating of the same element as the most challenging. The second lowest element ornament (M = 3.17; SD = 0.98) rated by the teacher in students' achievement is ornamentation which also conforms to the students' rating where ornamentation was rated as the third most challenging one in execution. When asked about which element remains the most challenging in delivery, teachers rated special technique (M = 5.00; SD = . 00) and ornamentation (M = 4.67; SD = .52) followed by dynamic (M = 4.17; SD = . 98).

**Table 2**: Teachers' survey in teaching the two schools of *erhu* playing.

| | Evaluation of students' achievement | | Challenges faced in Teaching | |
|---|---|---|---|---|
| Variables | *M* | *SD* | *M* | *SD* |
| Melody | 4.17 | .75 | 3.17 | .41 |
| Bowing | 4.33 | .52 | 3.17 | .41 |
| Fingering | 3.67 | .82 | 3.33 | .52 |
| Dynamic | 3.67 | .82 | 4.17 | .98 |
| Special Technique | 2.33 | .52 | 5.00 | .00 |
| Ornamentation | 3.17 | .98 | 4.67 | .52 |

The *Qin* and *Jiangnan* schools of *erhu* playing reveal differences in terms of character, ornamentation, melodic contour, bowing and dynamic that form its stylistic feature. Taking an example such as *Qinfeng* and *Jiangnan Chunse*, the melody of the former reveals larger interval leaps and a passionate character, while the latter has smaller intervals that demand a graceful character (see Xi and Loo, 2016). In terms of ornamentation, bowing, and fingering, the *Qin* school may differ in stronger pressure in bowing and emphasis of ornamentation on a weaker beat, a larger contrast in pressure and relaxation that makes it very contrasting to the gentle, tranquil and smooth *Jiangnan* style. Both styles reflect very much the local art tradition such as its operatic and folk genre.

During the interview carried out in this study, 35 out of 85 students expressed that the most effective way of improving their playing in differentiating the two *erhu* playing styles is via analysis and an understanding of the cultural background of *Qin* and *Jiangnan* style. In addition, 21 students mentioned listening to performances and recordings as a useful approach while 17 students agreed that analysing the melodic contour and special techniques help in improving playing. The remaining students mentioned discussion between the tutor and student, more practice, and following teacher's advice as important ways of learning.

On the other hand, data from interviewing the teachers reveal that listening is the most effective way of improving students' playing and understanding of the performance practice between the two styles. Emphasis was marked in listening to local *xiqu* and folk song that reflects the local *Qin* and *Jiangnan* tradition. Other listening media such as recording and performance by *erhu* artist and demonstration by tutor were mentioned. An understanding via analysis of local *xiqu* and folk song was deemed as an important step by most teachers as an approach prior to learning to play the two different styles, thus, conforming to the students' answer where they commented that an understanding of the cultural background of both styles is important.

Most of the teachers commented that the problem faced in teaching students in differentiating between the two styles of playing is that most students only regard that the dynamic and melodic contour are important and neglect the special technique required in achieving the stylistic requirement of *Qin* and *Jiangnan* school. This

  

especially points to the left hand special technique and execution of the higher register on the *erhu* in *Qin* and the requirement of ornamentation in *Jiangnan* style. In addition, most of the teachers mentioned that students should also pay more attention to the bowing and pressure required in differentiating between the two styles.

In terms of teaching and learning, the outcome of the survey and interview reveals that an understanding of the local *xiqu* and folk songs and their character is important in delivering the special stylistic features of the two schools of *erhu* playing. Probably a lack of awareness in this area result in the low rating of teachers' evaluation over students' achievement in terms of special technique in presenting the local musical characteristics required in differentiating the two styles of playing. In addition, the teachers faced a bigger challenge in teaching ornamentation and special technique.

## CONCLUSION

As a summary of the findings and discussion, it is gathered that in performing the *Qin* and *Jiangnan* schools of *erhu* playing, special technique, ornamentation, and bowing appear to be the most challenging area in teaching and learning. This relates back to Zhang's finding where a combination of western conservatory practice in violin technique and traditional Chinese *erhu* technique is employed in contemporary *erhu* repertoire (2006). Moreover, there is an emphasis by both teachers and students that an understanding of local musical tradition such as operatic and folk music genre is very important in the performance of the two schools of *erhu* playing. As gathered from the outcome of this study, prior engagement in listening and analysis that forms an awareness of the various musical parameters and characteristics of local *xiqu* and folk song helps students in achieving a better grasp of bowing pressure, ornamentation, melodic contour and especially the special technique required in forming the stylistic feature of the *Qin* and *Jiangnan* styles.

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# STUDY OF AUGMENTED REALITY TECHNOLOGY IN THE TEACHING OF SECONDARY SCHOOL

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**ABSTRACT**
The study objectives are 1) To study deployment of augmented reality technology in teaching/learning activities in secondary schools 2) To study factors influencing deployment of augmented reality technology in teaching/learning activities. Samples comprise 56 secondary school teachers who answer questionnaires and the collected data are computed to find frequencies, percentage, mean, standard deviation, and T-test. The results reveal that ICT and computer usage on the whole is at a high level. Most teachers have confidence in iOS/Mac OS and Android OS. Factors influencing AR technology deployment in teaching/learning activities on the whole are at high level (mean = 4.08, S.D.=0.70), and the most influential factor is 3D presentation (mean = 4.63, S.D.=0.59), followed by social media (mean = 4.57, S.D.=0.66). The study recommends before AR technology deployment, teachers and students must have necessary ICT skills.

**Keywords:** Augmented reality (AR) technology

## INTRODUCTION

Nowadays, information and communication technology (ICT) is used in learner-centric interactive environment whereby instructor has changed from using technology to support lecture to employing technology to create interactive learning environment to cater for much larger information available outside than existing in textbooks and lecture. Interactive learning environment is so highly flexible that instructor can adapt teaching/learning activities to changes in technology (Sessoms, 2008: 86). The outstanding ICT attribute is the ability to display multi-media information and news whether text, picture, animation, voice and video that learners can interact with (Phannipha, Sornprapha, Assavirak, 2007: 5-6). Coupled with declining prices, ICT is increasingly playing a greater role in daily life and learning activities.

ICT role in education has been steadily supported by the government: Information Technology Framework (2001-2010), Information and Communication Technology Framework (2011-2020), which have generated several researches under the two frameworks. One project is One Tablet Per Child (OTPC) clearly shows the government's determination to raise quality and opportunity of education through E-Learning, emphasizing learners as the center which would promote life-long learning (Anek Ratpiyaphaphorn, 2012: 3).

ICT coupled with tablets can be used for interactive learning, featuring augmented reality which helps learners to experience new things, excitement and fun. Tablets and ICT integrate cyber world into augmented reality using hardware and software, creating learner-centric interactive environment and can bring new experiences that learners cannot or have a chance to see in reality such as geographic topology, human's inside organs as well as simulating various experiments. AR technology promotes learners/instructor interaction and among learners themselves, helping creativity development. The technology can be used in several fields including training doctors, mechanical engineering drawing and architecture design (Steve, Gallayanee & Erik, 2011: 126-127)

## OBJECTIVES

1. To study deployment of augmented reality technology in teaching/learning activities in secondary schools.
2. To study factors influencing deployment of augmented reality technology in teaching/learning activities.

  

**STUDY FRAMEWORK**

Study data comprise:

1. Primary source (survey, non-participation observation)
2. Secondary source including articles such as Theories of Education Technology Learning and Teaching, How to Apply Information Technology for Teaching/Learning.

**METHOD**

Population in this study comprise 65 teachers in secondary schools in Education Region 11, working in 2015, of which 56 samples group (random sampling) is derived via Taro Yamene method at 95% reliability with no more than 5% deviation.

Research tool is a questionnaire comprising:

1. General, 5 items.
2. Digital device choice and Internet duration usage, 36 items (Likert's rating scale).
3. Augmented reality technology usage in teaching/learning activities, 9 items (Likert's rating scale).
4. One open-end item.

All questions are verified by thesis adviser and experts. Index of consistency (IOC) of 29 items = 1.00, 14 items = 0.67, and 9 items = 0.60. The tryout yields reliability index at 0.73.

**DATA COLLECTION AND ANALYSIS**

The researcher contacted secondary school directors of Education Region 11 for permission to personally distribute and collect questionnaires to/from 56 sampled teachers, all of whom answered and returned the questionnaires (100%).

Collected data are verified for completion and then subjected to statistical analysis:

1. General data are computed to find mean and standard deviation.
2. Digital device choice and Internet duration usage data are computed to find frequencies and percentage.
3. Augmented reality technology usage in teaching/learning activities data are computed to find mean and standard deviation.

**RESULTS**

The results yield:

1. General: Most sampled teachers are female with a few males, the majority have 1-5 years' teaching experiences, followed by 6-10 years while the least number having more than 15 years. Most graduate with Bachelor degree, followed by Master degree, least number PhD. Most samples are expert teachers, followed by teacher assistants, and teachers of special expertise. The majority teach in medium-size schools (500-1,499 students), followed by large-size schools (1,500-2499 students), and small schools (<500 students).
2. Digital device choice and Internet duration usage: Most respondents select and have most confidence on iOS/Mac OS, followed by Android OS, BlackBerry OS, Windows Mobile OS, and the least Symbian OS. The most popular digital device to access Internet is smartphone, followed by laptop PC, tablet PC, and the least desktop PC. Most Internet access duration is >1 hour, followed by <1 hour, 2 hours, the least 3 hours.
3. ICT and computer usage on the whole is at a very high level. Looking into details, the highest usage is for editing movies and animation, followed by communication, file/document management, and the least video online chat.
4. ICT and Internet access problems on the whole are at a very high level. Looking into details, the highest problem is inadequately provided PCs, out-of-date PCs, and the least problem Internet usage manual.
5. AR technology usage in teaching/learning activities: Most respondents know about AR technology and very few don't know. However, the majority don't actually have AR experience while a few do. Most respondents believe that AR technology deployment in teaching/learning activities should not pose any problem. Some respondents are not sure while the least number think that there would be problems.

  

**Table 1** Factors influencing deployment of AR technology in teaching/learning activities.

| Factors influencing deployment of AR technology in teaching/learning activities. | *Mean* | S.D. | Rating scale |
|---|---|---|---|
| 1. Interesting | 3.63 | 0.98 | high |
| 2. Modern | 3.71 | 0.76 | high |
| 3. Support iOS and Android | 4.27 | 0.62 | high |
| 4. Allow user participation | 3.68 | 0.61 | high |
| 5. 3D presentation | 4.63 | 0.59 | very high |
| 6. Support social media | 4.57 | 0.66 | very high |
| **Total** | **4.08** | **0.70** | **high** |

From table 1, Factors influencing deployment of AR technology in teaching/learning activities on the whole is high (mean= 4.08, S.D.=0.70). Looking into details, the most influential factor is 3D presentation (mean= 4.63, S.D.=0.59), followed by social media (mean= 4.57, S.D.=0.66), the least influential factor is "interesting" (mean= 3.63, S.D.=0.98).

## DISCUSSION

The study of deployment of AR technology in teaching/learning activities in secondary schools can be discussed thus:

1. On general items, the fact that the majority of teachers in Thai schools are female, it is inevitable that most respondents are female. Most have 1-5 years' teaching experiences, are Bachelor degree holders, expert teachers, and teach in medium-size schools (500-1,499 students). Most teachers on average access Internet about 1 hour/week due to heavy teaching load (20-25 hours/week) as well as performing other duties, thus don't have enough time to access the Net, and when they do it is usually during teaching breaks. Another factor for low Internet access is due to inadequate PCs/tablets in schools and those are usually installed in computer lab and there are usually no Internet-access PCs freely available for teachers to use during their breaks. This study is in accord with Mahatphol Arunsawat (1996) study that most teachers access Internet 1-2 times/week and one hour/session due to heavy teaching loads and extra duties and they access the Net during breaks.
2. On factors influencing deployment of augmented reality technology in teaching/learning activities, most respondents who teach in medium-size schools know AR technology and accept this technology if it is deployed in class. The reasons are AR technology can display 3D content and social media, and AR technology is interesting. This finding agrees with Markus, Wang & Lee (2012) study of primary school students (Sungsan School in South Korea) who have access to iPad that AR technology is accepted by students who can learn things in a new manner and the technology allows user interaction, making for better learning environment than previously.

## RECOMMENDATIONS

1. If schools decide to deploy AR technology in teaching/learning activities, they must make sure to have necessary infrastructure and equipment in place. Teachers and students must also have necessary ICT skills in using the Net access devices.
2. Teachers must be change-agents, accept and adapt themselves to globalization, learning new technology together with students, and support good learning environment by deploying appropriate technology.

## FURTHER STUDY RECOMMENDATION

Study the actual deployment of augmented reality technology in teaching/learning activities, the results of which can be used to further refine tools for learning activities.

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# SURVEY OF CHILDREN'S NOVELS IN TERMS OF INTERPERSONAL COMMUNICATION CONFLICTS*

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**ABSTRACT**
Interpersonal communication conflicts seen in children's novels have been addressed in terms of Harary and Batell's conflict classification inspired by the graph analysis. In this conflict classification, there are eight basic types of interpersonal communication conflicts: effective conflict, passive conflict, conflict of existence, overall rejection, prejudicial conflict, conflict of density, partial conflict and alteration. The method of this study is document review. Within the scope of the study, three randomly chosen children's novels have been described in terms of interpersonal communication conflicts. The results have been digitized as much as possible and presented by being supported with a chart. The conclusions extrapolated from the results have been discussed with the literature and suggestions have been offered to those concerned.
**Keywords:** Interaction, communication, conflict, alteration.

## INTRODUCTION

Children's literature is the general name of works that enrich the worlds of children's emotions and thoughts with artistically qualified linguistic and visual messages according to their linguistic development and perception capacity and improve their taste levels at the stage starting from early childhood and including adolescence (Sever, 2012:17). The way in which children perceive reality and the world is different from adults. This difference necessitates the emergence of children's literature. Children's novels that address children's reality in a sensitive way are the books with an artistic value that can get children adopt reading habit and love of reading and can make them qualified readers (Dilidüzgün, 2003:18). Children's literature works affect the processes of children's linguistic development, cognitive development, personality development, social development, etc. In children's novels, the author should appeal to children's imagination, use a simple language, embrace issues to which children can show interest, nourish children emotionally and mentally and should not build a complex fiction and plot. Children's literature works describe human, environment, society and events instead of an idealized world. Literary works written for children should choose their subjects among the possible problems of children's world such as family, educational institutions, diseases, poverty, non-communication, etc. (Dahrendorf, 1997:26 40; Dilidüzgün,1997:41-45). According to Sever (2012:27), in children's novels, writers fictionalize an event using their creativity. In children's literature, the events that have been fictionalized and the quality of the conflict that causes these events are the determinants that cause readers to be caught in the sphere of influence of the work. Conflict comes out with two or more contrast motives affecting the person at the same time (Cüceoğlu, 1994:282). In children's novels, communication conflicts that create a tension and keep reader's interest alive during the course of events can be seen in different forms in the plane of expression (Lukens, 2007:103), such as person vs. person conflict, person's inner conflict, person vs. nature conflict and person vs. society conflict.

Communication is a process in which participants create and send information/symbol to each other and try to understand and interpret them (Dökmen, 2015:349). In communication, information flow is supposed to be bilateral (Acar, 2012:13). In the process of communication, the sender wants to impress the receiver by sending him his purposive message (Başkan, 2003:28). Communication is studied under four headings in the commonly used psychological classification: person-inner world communication, interpersonal communication, inter-organizational communication, mass communication.

Among mathematical subjects, graph theory is used since the 16th century until now in different fields of science and application areas. In Harary and Batell's classification, there are eight basic types of interpersonal communication conflict: effective conflict, passive conflict, conflict of existence, overall rejection, prejudicial conflict, conflict of density, partial conflict and alteration. The brief information about Harary and Batell's communication conflict classification that benefited from this theory has been presented below (Dökmen, 2015; Harary & Batell, 1981):

In case people who come across do not like or get angry at each other, effective conflict emerges. When effective conflict examples are examined, reasons such as dislike/getting angry, negative experiences, dislike of

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appearance and reflecting one's own characteristics are confronted with. Effective conflict is reflected on another person with non-verbal communication/sight, stance, gesture, and mimics.

In passive conflict, people do not communicate with each other as they are shy or offended to each other for some reason. When passive conflict examples are examined, reasons such as dislike/getting angry, negative experiences, dislike of appearance, reflecting one's own characteristics, inner conflict, etc. are faced with in its origins. Passive conflict is externalized in the shape of hesitating, being angry, depriving, ignoring/turning away, taking a deep breath, elders not speaking to juniors, sighing, making a noise/beating/hitting, acting as if nothing has happened and repressing the anger.

If someone misunderstands the words of the opponent or sends a message irrelevant to his/her words, this case is called a conflict of existence. In the origins of the conflict of existence, there are a misunderstanding of the opponent's words, living one's own existence, acting egocentric, being closed to the message from the environment, assuming that the opponent knows (the subject), person vs. society conflict, cultural conflict, and message's being undelivered. The conflict of existence is reflected on other people in the shape of an irrelevant answer, indirect communication, and implicative conflict.

If a person completely rejects the message sent to him/her and supports just the opposite view, he/she happens to show overall rejection. When overall rejection examples are examined, there are the total rejection of the message/supporting the opposite of the message, one's perceiving his/her life as totally negative, not thinking through/not going into details, rejecting unquestioningly, and rejecting one's strengths and weaknesses in its origins. The conflict of overall rejection is externalized in the shape of being obstinate, such as "it is the only way…" and "it is the greatest…".

In prejudicial communication conflict, before starting to discuss a particular subject people have a bias/prejudgment about it. During the discussion, they insistently support these prejudgments. The discussion does not affect the decision they have taken at the beginning in any way. When prejudicial communication conflict examples are examined, there are prejudice and bias in its origins. Prejudical conflict is reflected on other people in the shape of "not being affected by discussion", "I have already made up my mind" and prejudice's not being tested.

In case the views of two people partially correspond, the conflict of density comes into question. If a person perceives some of the messages sent to him/her from the source across him/her and does not perceive the rest of them, it means that "partial perception" has emerged. In the alteration conflict, a person totally understands the message coming to him/her from the source, however, he/she cannot transmit it to the third person correctly. Among the conflicts of content, "density", "partial" and "alteration" are caused by direct message. In the conflict of density, there are partial corresponding between people and total disapprobation of the message. The conflict of density is reflected with the expressions such as "however", "yet" and "but". In the partial conflict, there are perceiving/not perceiving some of the messages sent.

Conflict types in Harary and Batell's classification can be gathered in two major clusters (Dökmen, 2015). It is possible to classify effective, passive and existential conflicts as the "orientation conflict"; and overall rejection, prejudicial, density, partial and alteration conflicts as the "conflict of content". Orientation conflict is caused by people and the conflict of content is caused by the message.

Güneyli and Konedrali (2008) analyzed a compiling tale selected from Cyprus Turkish literature in terms of interpersonal communication conflicts in their studies entitled "İncircinin Dediği Adlı Kıbrıs Türk Masalının Kişilerarası İletişim Çatışmaları Açısından Çözümlenmesi" ("The Analysis of the Cyprus Turkish Tale Entitled "What the Figman Said" in terms of Interpersonal Commnication Conflicts"). The conflicts of the characters in the tale in the process of communication are evaluated in accordance with the Graph analysis and transactional analysis theories. Aslan (2006) analyzed child-adult conflicts with the examples from Turkish children's literature and according to the principle of child-centeredness in his study entitled "Türk Çocuk Yazınında Çocuk-Yetişkin Çatışmasının Yer Aldığı Kimi Yapıtların İncelenmesi" ("The Analysis of Some Works in Turkish Children's Literature in which Child-Adult Conflict Takes Place"). In this study, the child-adult conflict is addressed. Çevirme and Hatunoğlu (2004) examined communication conflicts in "Kurnaz Köylü Masalı" ("The Tale of Sly Peasant") in the article entitled "Kurnaz Köylü Masalında İletişim Çatışmaları" ("Communication Conflicts in the Tale of Sly Peasant"). The characters of the tale have been examined according to three ego states. These three ego states are the ego states of parent, adult, and child. It has been concluded that the tale is a Turkish tale reacting to the excessively individualized mind and misuse of it. In this study, interpersonal communication conflicts seen in children's novels have been addressed in terms of Harary

  

and Batell's conflict classification inspired by the Graph analysis. The interpersonal communication conflict examples seen in children's novels, their percentage distribution and the reasons are emphasized.

## METHODS

The method of this study is document review. The main objective of the document review is to analyze written materials which include information about the case or cases aimed in the study. Deciding which documents are important and can be used as a data source is closely associated with the problem of the study. Documents are important sources of information which must be effectively used in qualitative studies (Bilgin, 2006:1; Yıldırım and Şimşek, 2011: 188). Within the scope of the study, three randomly chosen contemporary children's novels, one representing Turkish children's literature and two representing Western children's literature, have been described in terms of interpersonal communication conflicts. Information about the children's novels which have been examined in the study is as follows:

Härtling, P.(2012). *Büyükbaba Taşınıyor (Grandfather is Moving).* (Transl.: N. Neydim). Istanbul: Günışığı.
Nöstlinger, C.(2003). *Kim Takar Salatalık Kral'ı (Who Cares Cucumber King).* (Transl.: S. Dilidüzgün). Istanbul: Günışığı.
Sertbarut, M. (2005). *Sisin Sakladıkları (What the Mist Hides).* Izmir: TUDEM.

Interpersonal conflict types identified in children's novels are grouped according to the determined criteria and findings obtained in this way have been digitalized as much as possible and supported with tables. The results that have been obtained based on findings are discussed with the literature and suggestions have been offered to those concerned.

## FINDINGS

Table 1. Types of Interpersonal Conflicts in Children's Novels and Their Distribution.

| Interpersonal Communication Conflicts (Graph analysis) | Effective Conflict | | Passive Conflict | | Conflict of Existence | | Overall Rejection | | Prejudicial Conflict | | Partial Conflict | | Conflict of Density | | Alteration | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | f | % | f | % | f | % | f | % | f | % | f | % | f | % | f | % |
| Büyükbaba Taşınıyor (Grandfather is Moving) | 47 | 38 | 35 | 29 | 20 | 16 | 11 | 9 | 4 | 3 | 3 | 2 | 1 | 1 | 2 | 2 |
| Kim Takar Salatalık Kralı (Who Cares Cucumber King) | 52 | 39 | 43 | 32 | 16 | 12 | 15 | 11 | 5 | 4 | 3 | 3 | - | - | - | - |
| Sisin Sakladıkları (What the Mist Hides) | 33 | 37 | 21 | 25 | 17 | 19 | 7 | 8 | 3 | 3 | 4 | 4 | 1 | 1 | 3 | 3 |

Upon examining Table 1, among interpersonal communication conflicts identified in children's novels, the percentage distribution of effective conflict is 38% for Büyükbaba Taşınıyor (Grandfather is Moving), 39% for Kim Takar Salatalık Kralı (Who Cares Cucumber King) and 37% for Sisin Sakladıkları (What the Mist Hides). The percentage distribution of effective conflict is pretty much the same for all three children's novels.

In the children's novel called "Büyükbaba Taşınıyor" ("Grandfather is Moving"), old John lives together with his daughter Irene's family. Old John occasionally has communication conflicts with his daughter Irene, his son-in-law Thomas, and his grandchildren Laura and Jacob in terms of his emotions, views, and lifestyle. During the dinner, old John moves from right to left on his chair as if there were ants in his pants. His son-in-law Thomas warns him by saying "Can you sit more calmly, please?" Old John asks him "Am I a child that you warn me like this?" and gets angry at him (Härtling, 2012:56). Thomas utters that he does not act like a child, but he is disturbed by his wriggling.

  

Among interpersonal communication conflicts, the percentage distribution of passive conflict seen in children's novels is 29% for Büyükbaba Taşınıyor (Grandfather is Moving), 32% for Kim Takar Salatalık Kralı (Who Cares Cucumber King) and 25% for Sisin Sakladıkları (What the Mist Hides). The percentage distribution of passive conflict among these three children's novels is higher in Kim Takar Salatalık Kralı (Who Cares Cucumber King).

Father Hogelmann, Kumri-Ori takes care of Cucumber King and his little son Nick helps him. Mother Hogelmann, grandfather, Martina and Wolfgang, on the other hand, argue against this. Mr. Hogelmann takes the car out of the garage in such a way that he sweeps both the roses and the dwarf sculpture with his left front tire (Nöstlinger, 2003:37). In passive conflict, people do not communicate with each other as they are shy or offended to each other for any reason. Upon examining the example, it is seen that Mr. Hogelmann externalizes his anger to the other family members in the form of becoming offended, depriving, ignoring, not speaking to juniors, making a noise/hitting and beating.

When Table 1 is examined, among interpersonal communication conflicts identified in children's novels, the percentage distribution of the conflict of existence is 16% for Büyükbaba Taşınıyor (Grandfather is Moving), 12% for Kim Takar Salatalık Kralı (Who Cares Cucumber King) and 19% for Sisin Sakladıkları (What the Mist Hides). Among these three children's novels, there is a significant difference in terms of the percentage distribution of the conflict of existence on behalf of Sisin Sakladıkları (What the Mist Hides).

Lady Nilgün describes İlay's going to her aunt Lady Kutsiye as a good change and says "besides, the air in the country is clean and away from noise". İlay misunderstands her mother's words, lives her own existence and behaves egoistically, she is closed to the message from the environment, she replies her mother irrelevantly, she says "I know, mom, tarhana soup and fields reaching out to eternity." However, her mother continues living her own existence: delicious blackberries, ice-cold water flowing from springs, delicious clabbered milk and heartily people (Sertbarut, 2005:15). The conflict of existence between Lady Nilgün and İlay in the example is in the form of the irrelevant answer, indirect communication, and implicative conflict.

Among interpersonal communication conflicts, the percentage distribution of the overall rejection conflict seen in children's novels is 9% for Büyükbaba Taşınıyor (Grandfather is Moving), 11% for Kim Takar Salatalık Kralı (Who Cares Cucumber King) and 8% for Sisin Sakladıkları (What the Mist Hides). The percentage distribution of the overall rejection conflict is higher in Kim Takar Salatalık Kralı (Who Cares Cucumber King) among these three children's novels.

According to mother, Kumi-Ori Cucumber King must get out of the house no matter how, she does not want him in the house and rejects the message directed to her entirely. Mr. Hogelmann, on the other hand, says that he will not get Kumi-Ori Cucumber King off no matter what happens, that mother and children should get used to it and he shows the overall rejection conflict by supporting just the opposite idea. On the contrary, mother yells that although children needed animals he did not let them have a cat, dog, mouse and goldfish, but now he himself wants cucumber-zucchini in the house (Nöstlinger, 2003: 44).

When Table 1 is examined, the percentage distribution of prejudicial conflict among interpersonal communication conflicts identified in children's novels is 3% for Büyükbaba Taşınıyor (Grandfather is Moving), 4% for Kim Takar Salatalık Kralı (Who Cares Cucumber King) and 3% for Sisin Sakladıkları (What the Mist Hides). There is not a significant difference in the distribution of prejudicial conflict among these three children's novels.

Whenever there is a fuss, father Hogelmann says "Nick, stop it!" (Nöstlinger, 2003:15). Hogelmann adopts a bias/prejudgment about it; he insistently supports this prejudgment. The fact that Nick has not made the noise does not affect the decision he has taken at the beginning in any way.

Among interpersonal communication conflicts, the percentage distribution of partial conflict seen in children's novels is 2% for Büyükbaba Taşınıyor (Grandfather is Moving), 3% for Kim Takar Salatalık Kralı (Who Cares Cucumber King) and 4% for Sisin Sakladıkları (What the Mist Hides). There is not a significant difference in the distribution of partial conflict among these three children's novels.

İlay's mother Lady Nilgün tells her that she does not have to go to aunt Kutsiye if she does not really want it, that she forced her into going to aunt Kutsiye and that her (İlay's) thoughts on this issue are also important. Her father Mr. Semih also advises İlay that she should listen to her mom, she may experience compliance problems there, she may not find the comfort she has been looking for and she may regret. He perceives some part of the problem (Sertbarut, 2005:44). However, İlay wants to move away from there and rest her head.

  

When Table 1 is examined, the percentage distribution of the conflict of density among interpersonal communication conflicts identified in children's novels is 1% for Büyükbaba Taşınıyor (Grandfather is Moving) and 1% for Sisin Sakladıkları (What the Mist Hides). The examples of the conflict of density are observed in children's novels called Büyükbaba Taşınıyor (Grandfather is Moving) and Sisin Sakladıkları (What the Mist Hides), however, they could not be determined in the children's novel called Kim Takar Salatalık Kralı (Who Cares Cucumber King).

Among interpersonal communication conflicts, the percentage distribution of alteration conflict seen in children's novels is 2% for Büyükbaba Taşınıyor (Grandfather is Moving), and 3% for Sisin Sakladıkları (What the Mist Hides). The examples of the alteration conflict are seen in the children's novels entitled Büyükbaba Taşınıyor (Grandfather is Moving*)* and Sisin Sakladıkları (What the Mist Hides), however, they could not be determined in the children's novel entitled Kim Takar Salatalık Kralı (Who Cares Cucumber King).

Among interpersonal communication conflicts, the percentage distribution of effective, passive conflicts and the conflict of existence seen in children's novels is more intense when compared to overall rejection, prejudicial, density, partial and alteration conflicts. Furthermore, in the children's novel called "Sisin Sakladıkları" ("What the Mist Hides") representing Turkish children's literature, the examples of both the "orientation conflict" caused by people and the "conflict of content" caused by the message are encountered; in children's novels called "Büyükbaba Taşınıyor" ("Grandfather is Moving") and "Kim Takar Salatalık Kralı" ("Who Cares Cucumber King") which represent the Western children's literature, the examples of the "orientation conflict" are included in the sufficient amount, however, the examples of the "conflict of content" are rarely encountered.

## CONCLUSION

Conflict occurs in all types of relationship (Jackson-Dwyer, 2014:140). Communication conflict is a process which occurs in or among social beings such family members, friends, teachers and students, employees etc. and is caused by dissension, inconsistency, and requirements' being interfered (Yavuzer, 1997:49; Mayer, 2000:4; Wilmot & Hocker, 2011:11). This process of interaction are the reactions exhibited by a person in the form of confronting, fear, anger, hopelessness or sadness, understanding or thought that his/her needs, wishes, and interests do not comply with other people.

Interpersonal conflict is a dynamic process that occurs between interdependent parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals. According to this definition, the interpersonal conflict exists only when all of its three components (i.e., disagreement, interference, and negative emotion) are present in a situation. Cases of pure disagreement, pure interference, pure emotion, or cases combining only two of these components, are not considered to be instances of interpersonal conflict (Barki & Hartwick, 2004).

According to Kavcar (2009), literary works influence people deeply and this power must absolutely be benefited from in the interest of education. In children's books, depending on the quality of the subject and the choice of the author, communication conflicts can be used in the story fiction. Reader's interest can be kept alive by appealing to his/her sense of wonder with various communication conflicts in the works (Sever, 2013:136). When child readers interact with texts like that, there can be a change in their behaviors. Furthermore, interpersonal communication conflicts can be the source of many innovations and creativity. Communication conflict, which is the origin of social and cognitive change from one aspect, also fulfills the function of revealing the positive change (trans. from Lulofs & Cahn: Şahin, Basım & Çetin, 2009). Many innovations and developments accomplished in science, art, and social life emerged as a result of the conflict with the old (Yörükoğlu, 1988:289).

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# TARİH ÖĞRETMENLERİNİN ÖZEL ALAN VE GENEL MESLEKİ YETERLİKLERİNE İLİŞKİN KENDİLERİNİN VE ÖĞRENCİLERİN GÖRÜŞLERİ:ELAZIĞ İLİ ÖRNEĞİ

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## ÖZET

Bu çalışmanın amacı, ortaöğretim kurumlarında görev yapan Tarih öğretmenlerinin özel alan ve genel mesleki yeterliklerini gerçekleştirme düzeylerine ilişkin kendi görüşlerini ve öğrencilerin görüşlerini belirlemektir. Betimsel tarama modeli kullanılarak yapılan çalışmanın evrenini 2014-2015 eğitim-öğretim yılında Elazığ il merkezinde bulunan liselerde görev yapan toplam 92 tarih öğretmeni 8850 öğrenci oluşturmaktadır. Bu okullardan tesadüfî örnekleme yöntemiyle belirlenen 456 öğrenciye ve bütün öğretmenlere veri toplama aracı dağıtılmıştır. Ancak 384 öğrenciye ve 54 öğretmene ait veri toplama aracı değerlendirmeye alınmıştır. Veri toplama aracı üç bölümden oluşmaktadır. Birinci bölümde olgusal sorular, ikinci bölümde tarih öğretmenlerinin özel alan yeterlikleri ve üçüncü bölümde de mesleki genel yeterlikleri bulunmaktadır. Araştırma sonucuna göre uzman öğretmenlerin görüşlerinin düzeyi öğretmenlere göre, lisans üstü mezunu olan öğretmenlerin görüşlerinin düzeyi de lisans mezunlarına göre daha yüksektir. Anadolu meslek liselerinde ve anadolu liselerinde görev yapan tarih öğretmenlerinin görüşlerinin düzeyi, sosyal bilimler liselerinde görev yapanlardan daha olumludur. Sosyal bilimler lisesi öğrencilerinin, görüşlerinin düzeyi ise, Anadolu ve Anadolu meslek lisesi öğrencilerinin görüşlerinin düzeyinden daha olumludur.

**Anahtar Kelimeler:** Tarih öğretmeni, özel alan yeterlikleri, mesleki yeterlikler

## GİRİŞ

Tarih; bütün hareketlerimizde bize ışık tutan ve ilerisini daha iyi görmemize yardım eden bir bilim dalıdır (Baştav:1964;86). Mimoğlu (1955)'na göre; tarih, insanoğlunun hayat akışına ait hadiseleri zaman, yer, isim bildirerek, özellikle bunların meydana gelişiyle, yok oluşlarını objektif sebep ve kanunları açıklayarak anlatan bilim dalıdır. Genelde insanlığın özelde ise milletin hafızası olarak nitelendirilen tarihin önemi, geleceği kuşatan gençliğin yönlendirilmesi konusunda da karşımıza çıkar. Milletin hafızası olan tarihle geleceğini temsi1 eden "gençlik" arasındaki ilişkinin sağlıklı olması hayatı bir değer taşımaktadır (Ulusoy, 2009:417). Fransa'da 1897 yılında yapılan olgunluk sınavında öğrencilere sorulan "Tarih dersi ne işe yarar?" sorusuna öğrencilerin %80'i "Vatanseverliği coşturmaya yarar" cevabını vermişlerdir (Langlois ve Seignobos:1937; 320). Tobin, Tippins ve Gallard (1994)'e göre; çağımızda tarih dersinin artık bir ezber değil, düşünce dersi olarak algılanması ve öğrencilerden çeşitli olaylarla ilgili yorum ve fikirlerinin alınması gerekmektedir. Bu doğrultuda derste uygulanacak olan öğretim yöntemleri, derse karşı olan tutumun olumlu yönde değişmesinde etkili olacaktır. Öğretmenlerin derste uyguladıkları yöntemlerde genellikle kendi öğrenme yöntemlerine uygun olarak öğretim yaptıkları görülmüştür.

Tarihe duyarlı ve tarih bilincine sahip insan yetiştirmek tarih dersi öğretim programın temel amaçları arasındadır. Öğretmenlik mesleğinin niteliğinin yükseltilmesi, öncelikle öğretmenlerin sahip olması gereken genel ve özel alan yeterliklerin bilinmesi, daha sonra, bu yeterliklerin, hizmet öncesi ve hizmet içi eğitim programlarıyla, öğretmen adaylarına ve öğretmenlere kazandırılması ile mümkündür. Eğitim ve öğretimin bütün boyutlarıyla dinamik bir yapıya sahip olması, bu süreçte önemli bir rol üstlenen öğretmenlerin görevlerinin ve bu görevlerin gerektirdiği niteliklerin sürekli sorgulanmasını ve geliştirilmesini gerekli kılmaktadır. Bunun içindir ki, Millî Eğitim Bakanlığı'nın Üniversitelerle iş birliği yaparak, öğretmen yeterlikleri üzerine yürüttüğü çalışmalar süreklilik göstermektedir. 1739 sayılı Milli Eğitim Temel Kanununun 45' inci maddesi hükümleri kapsamında, öğretmen yeterliklerinin belirlenmesine yönelik bir dizi çalışma yapılmış olup bunlardan Temel Eğitime Destek Projesi, Avrupa Birliği Komisyonu ile Hükümet arasında 8 Şubat 2000 tarihinde imzalanan Finansman Anlaşmasıyla yürürlüğe girmiştir. Projenin genel amacını; "Yoksulluğu azaltma perspektifinde, eğitim seviyesini artırarak, eğitim kalitesini ve eğitime erişimi iyileştirmek, en dezavantajlı kırsal, şehirsel bölgeler ve gecekondularda nüfusun hayat şartlarını geliştirmek, eğitim dışında kalan çocukların, gençlerin ve yetişkinlerin temel eğitim kapsamına alınması ve öğretmen arzının iyileştirilmesini desteklemek" oluşturmaktadır. Proje

  

faaliyetlerine 2002 yılı Eylül ayında başlanılmıştır. Temel Eğitime Destek Projesi (TEDP); Öğretmen Eğitimi, Eğitimin Kalitesi, Yönetim ve Organizasyon, Yaygın Eğitim, ve İletişim olmak üzere 5 bileşenden oluşmaktadır. Öğretmen yeterliklerine ait taslağın oluşturulması için 13- 16 Nisan 2004 tarihleri arasında Ankara'da bütüncül ve sistematik bir yaklaşımla, Öğretmen Yeterlikleri ile ilgili ülkemizde Millî Eğitimi Geliştirme Projesi kapsamında YÖK-MEB, Öğretmen Yetiştirme ve Eğitimi Genel Müdürlüğü ve EARGED tarafından daha önce hazırlanan çalışmaların tümü ile 5 ülkeye (Ingiltere, ABD, Seyşel Adaları, Avustralya ve İrlanda) ait yeterlik dökümanları incelenerek konuya ilişkin kavram ve terimler üzerinde ortak bir anlayış oluşturulmaya çalışılmıştır. Ayrıca, bu çalışmada 21. yy. da öğretimin niteliği nasıl olmalıdır? Hangi nitelikte öğrenci ve öğretmen istiyoruz? gibi sorulara yanıt aranmıştır. Bu çalıştaylar sonucunda öğretmenlik mesleği genel yeterlikleri; Kişisel ve Meslekî Değerler - Meslekî Gelişim, Öğrenciyi Tanıma, Öğrenme ve Öğretme Süreci, Öğrenmeyi, Gelişimi İzleme ve Değerlendirme, Okul-Aile ve Toplum İlişkileri, Program ve İçerik Bilgisi, olmak üzere 6 ana yeterlik alanı, bu yeterliklere ilişkin 31 alt yeterlik ve 221 performans göstergesi şeklinde belirlenmiştir. Ortaöğretim öğretmenlerine yönelik Özel Alan Yeterlikleri ve bu yeterliklere dayalı Performans Yönetim Süreci çalışmaları ise, OÖP (Ortaöğretim projesi) kapsamında başlatılmıştır. Özel alan yeterlikleri de; alan bilgisi (27 performans göstergesi), alan eğitimi bilgisi (51 performans göstergesi), tutum ve değerler (20 performans göstergesi) olarak belirlenmiştir.

Öğretmenlerin öğretim becerileri ve sahip oldukları niteliklerle öğrenci başarısını inceleyen araştırmalarda öğretmenlerin etkililiği ve mesleki deneyimleri ile öğrenci başarısı arasında bir ilişki çıkmıştır. Ancak bu ilişki, her zaman doğrusal değildir. Bu araştırmalardan bazılarında özellikle mesleki deneyime bağlı olarak öğretmenlerin öğretim nitelikleri, daha az deneyimli olan öğretmenlere oranla öğrencilerin başarıları üzerinde daha çok olumlu etki yapmaktadır (Darling Hammond, 2000: 9). Konuyla ilgili yapılan diğer araştırmalarda öğretmenlerin yirmi birinci yüzyıldaki yeterlik ve niteliklerinde önemli değişimler yaşandığı, buna bağlı olarak ta mesleğin profesyonelleşme konusunda hayli yol kat ettiği dile getirilmektedir. Bunun sebebi olarak ta, toplumsal yasamdaki değişim ve bilginin yayılma hızı gösterilmektedir (Darling Hammond ve Berry, 1988: 7; Özer ve Gelen, 2008:45).

Bu çalışmada, özel alan yeterlikleri kapsamında toplam 98 olan performans göstergesinden 28'i ve 221 olan öğretmenlik mesleği genel yeterliklerine ilişkin performans göstergelerinden ise, 32'si alınmış ve Tarih öğretmenlerinin özel alan ve mesleki genel yeterliklerine dayalı performans göstergelerinin düzeyi saptanmaya çalışılmıştır. Madde sayısının çokluğundan dolayı katılımcıların yorgunluğa bağlı olarak düşünmeden cevap verme olasılığının olması, cevaplamaya ilişkinin güdülerinin azalmaması, zaman sorununa neden olmaması, ilişkili maddelerin olması gibi nedenlerden dolayı geçerli ve güvenilir cevapların toplanmasını engellememek için madde sayısı düşük tutulmuştur.

**Amaç**

Bu araştırma, ortaöğretim kurumlarında görev yapan tarih öğretmenlerinin özel alan ve genel mesleki yeterlik düzeylerini belirlemek amacıyla yapılmış ve aşağıdaki sorulara cevap aranmıştır.

1. Tarih öğretmenlerinin özel alan ve genel mesleki yeterliklerini gerçekleştirmelerine ilişkin kendi görüşlerinin ve öğrencilerin görüşlerinin düzeyi nedir?
2. Tarih öğretmenlerinin özel alan ve genel mesleki yeterliklerinin düzeyi kariyerlerine, çalıştıkları okula, cinsiyetlerine, mesleki kıdemlerine ve eğitim seviyelerine göre değişmekte midir?
3. Öğrencilerin görüşlerine göre, tarih öğretmenlerinin özel alan ve genel mesleki yeterliklerinin düzeyi, sınıf düzeylerine, okulun türüne ve cinsiyetlerine göre değişmekte midir?

# YÖNTEM

Bu araştırma tarama modelindedir. Tarama modelleri, geçmişte ya da halen var olan bir durumu var olduğu şekliyle betimlemeyi amaçlar. Araştırmaya konu olan olay, birey ya da nesne, kendi koşulları içinde ve olduğu gibi tanımlanmaya çalışılır (Karasar, 2009:77).

**Evren ve Örneklem**

Araştırmanın evrenini, 2014-2015 eğitim-öğretim yılında Elazığ il merkezinde bulunan liselerde görev yapan toplam 92 tarih öğretmeni 8850 öğrenci oluşturmaktadır. Bu okullardan tesadüfî örnekleme yöntemiyle belirlenen 456 öğrenciye ve bütün öğretmenlere veri toplama aracı dağıtılmıştır. Ancak 384 öğrenciye ve 54 öğretmene ait veri toplama aracı değerlendirmeye alınmıştır. Örneklemin büyüklüğünü saptamak için farklı büyüklükteki evrenler için kuramsal örneklem büyüklükleri çizelgesinden yararlanılmıştır. Çizelgede 100 kişinin bulunduğu evrende %95 güven düzeyi için gerekli olan örneklem büyüklüğü 79 kişi olarak belirtilmiştir (Anderson, 1990:202; Balcı, 2009:102). Ancak bu çalışmada, öğretmenlerin okuldaki sayılarının az olması, ders programları gereği okulda her gün bulunamayışları ve gönülsüz olmaları gibi nedenlerden dolayı bu sayıya ulaşılamamıştır.

  

**Veri Toplama Aracı**

Çalışmada kullanılan ölçme aracı, öğretmenlerim mesleki genel ve özel alan yeterliklerine ilişkin olarak saptanan performans göstergelerinden yararlanılarak araştırmacı tarafından oluşturulmuştur. Öğretmenler ve öğrenciler için hazırlanan veri toplama aracı üç bölümden oluşmaktadır. Birinci bölümde cevaplayıcıların demografik özelliklerini betimlemeye yönelik olgusal sorular, ikinci bölümde tarih öğretmenlerinin özel alan yeterlikleri (28 madde) ve üçüncü bölümde de tarih öğretmenlerinin mesleki genel yeterlikleri (32 madde) bulunmaktadır. Veri toplama aracı; "tamamen katılıyorum" (1), "katılıyorum" (2), "kararsızım" (3), "katılmıyorum" (4), "hiç katılmıyorum" (5) şeklinde derecelendirilmiştir. Veri toplama aracının aralıkları 4/5= .80'dir. Veri toplama aracının yapı geçerliğini sağlamak için açıklayıcı faktör analizi yapılmıştır. Faktör analizi, aynı yapıyı ya da niteliği ölçen değişkenleri bir araya toplayarak ölçmeyi az sayıda faktör ile açıklamayı amaçlayan bir istatistiksel tekniktir (Büyüköztürk, 2009:123). Verilerin faktör analizine uygunluğu Kaiser-Meyer-Olkin (KMO) ve Barlett testi ile sınanmıştır. Bartlett Testi = 1734,241 ve geçerlik katsayısı KMO =.896, p=.000'dır. Veriler üzerinde faktör analizi yapılabilmesi için minimum KMO değeri 0.60 olarak önerilmektedir (Pullant, 2001). Bu sonuçlara göre verilerin faktör analizi için uygun olduğu belirlenmiştir. Öğretmenlerin görüşlerine göre, özel alan yeterliklerine ait maddelerin faktör yük değerleri 0.30 ile 0.82 arasında değişmektedir. Hiç bir madde ölçekten çıkarılmamıştır. Ölçek tek faktörden oluşmaktadır. Tek faktörlü ölçeğin açıklanan varyansı %66.90'dır. Ölçeğin güvenirlik katsayısı Alpha =.981'dir. Öğretmenlerin genel mesleki yeterliklerine ait maddelerin faktör yük değerleri ise 0.43-0.87 arasında değişmektedir. Hiç bir madde ölçekten çıkarılmamıştır. Ölçek tek faktörden oluşmaktadır. Tek faktörlü ölçeğin açıklanan varyansı %69.97'dir. Ölçeğin güvenirlik katsayısı Alpha =.986'dır. Öğrencilerin görüşlerine göre, öğretmenlerin özel alan yeterliklerine ait 9. maddenin faktör yükü iki farklı faktörde de yüksek olduğundan ve binişik bir madde olarak tanımlandığından, faktör yük değerleri arasındaki farkın da en az .10 olması önerildiğinden (Büyüköztürk, 2009:125) ve bu kuralı taşımadığından ölçekten çıkarılmıştır. Ölçek maddelerinin faktör yük değerleri 0.38 ile 0.64 arasında değişmektedir. Varimax döndürme yapılarak bakılan temel bileşenler faktör analizi sonuçlarına göre maddelerin iki alt faktör altında toplandığı saptanmıştır. "Tarih metodolojisini kullanabilme" alt boyutunda 9 madde bulunmaktadır ve bu boyutun Cronbach Alpha güvenirlik değeri .89'dur. "Öğretim programının uygulanması" alt boyutunda ise 18 madde bulunmaktadır. Bu boyutun Cronbach Alpha güvenirlik değeri .93'tür. İki faktörlü ölçeğin açıkladığı varyans %50.79'dur. Ölçeğin Bartlett Testi=5701,191 ve geçerlik katsayısı KMO =.952, p=.000'dır. Öğrencilerin görüşlerine göre, öğretmenlerin genel mesleki yeterliklerine ait 4. madde yukarıda belirtilen gerekçeler nedeniyle ölçekten çıkartılmıştır. Ölçek 31 maddeden ve tek faktörden oluşmaktadır. Tek faktörlü ölçeğin açıklanan varyansı %49.58'dir. Ölçeğin güvenirlik katsayısı Alpha =.96'dır.

**Verilerin çözümü**

Veriler, SPSS for Windows 21 programı kullanılarak analiz edilmiştir. Öğretmenlerin demografik özelliklerini (cinsiyet, kariyer, mesleki kıdem, çalışılan okul ve eğitim seviyeleri) belirlemek için frekans ve yüzde değerleri kullanılmıştır. Öğretmenlerin ve öğrencilerin görüşlerinin düzeylerini belirlemek için aritmetik ortalama ve standart sapma teknikleri kullanılmıştır. Cinsiyet, kariyer ve eğitim seviyesi değişkenleri açısından belirtilen görüşler arasında anlamlı bir farklılık olup olmadığını belirlemek için bağımsız gruplar t-Testi yapılmıştır. Ayrıca çalıştıkları okul türü değişkeni açısından belirtilen görüşler arasında anlamlı bir farklılık olup olmadığını belirlemek için Tek Yönlü Varyans Analizi (ANOVA) ve mesleki kıdem değişkeni açısından da veri sayısının az olması nedeniyle parametrik bir test olan ve varyans analizinin alternatifi sayılabilecek, parametrik olmayan bir karşılaştırma testi olan Kruskal- Wallis testiyle, grupların ortalamaları arasında fark olup olmadığı sınanmıştır. Uygulanan testlerin anlamlılık düzeyi .05 olarak alınmıştır.

# BULGULAR

Bu bölümde, öğretmenlerin ve öğrencilerin demografik özelliklerine göre dağılımlarına, öğretmenlerin ve öğrencilerin görüşlerine göre öğretmenlerin özel alan ve genel mesleki yeterlikleri kapsamındaki performans göstergeleri boyutlarına ait bulgulara ve yorumlara yer verilmiştir.

Çalışmaya katılan öğretmenlerin demografik özellikleri incelendiğinde; katılımcıların %24,1'inin kadın (13 kişi), % 75,9'unun erkek (41 kişi) olduğu; %72,2'sinin öğretmen (39 kişi), %27,8'inin uzman öğretmen (15 kişi) olduğu; %48,1'inin Anadolu lisesinde (26 kişi), %38,9'unun meslek lisesinde (21 kişi) ve %13'ünün de sosyal bilimler lisesinde (7 kişi) görev yaptığı; %5,6'sının (3 kişi) 1-5 yıllık, %5,6'sının (3 kişi) 6-10 yıllık, %22,2'sinin (12 kişi) 11-15 yıllık, %46,3'ünün (25 kişi) 16-20 yıllık ve %20,4'ünün de (11 kişi) 21 yıl ve üstü kıdeme sahip olduğu; %63,0'ünün (34 kişi) lisans mezunu ve %37,0'sinin de (20 kişi) lisansüstü mezunu olduğu tespit edilmiştir. Çalışmaya katılan öğrencilerin demografik özellikleri incelendiğinde; %58,3'ünün (224 kişi)

  

bayan ve % 41,7'sinin (160 kişi) erkek olduğu; %35,7'sinin (137 kişi) Anadolu Lisesi, %57,6'sını (221 kişi) Anadolu Meslek Lisesi ve %6,8'inin de (26 kişi) Sosyal Bilimler Lisesi öğrencisi olduğu; %29,4'ünün (113 kişi) 9. Sınıf, %34,4'ünün (132 kişi) 10. sınıf, %20,1'inin (77 kişi) 11. Sınıf ve %16,1'inin ise (62 kişi) 12. sınıf öğrencisi olduğu belirlenmiştir.

**1. Öğrencilerin ve Tarih öğretmenlerinin görüşlerine göre, özel alan ve mesleki yeterlik boyutları ve alt boyutlarına ilişkin aritmetik ortalama ve standart sapma sonuçları Tablo 1'de verilmiştir.**

**Tablo 1.** Öğretmenlerin ve öğrencilerin görüşlerine göre özel alan ve mesleki yeterlik boyutlarına ve alt boyutlarına ilişkin aritmetik ortalama ve standart sapma sonuçları

| **Boyutlar ve alt boyutlar** | $\bar{X}$ | SS |
|---|---|---|
| 1.Öğretmenlerin görüşlerine göre özel alan yeterlikleri | 4,28 | ,79 |
| 2.Öğretmenlerin görüşlerine genel mesleki yeterlikleri | 4,35 | ,77 |
| 3.Tamamı | 4,32 | ,77 |
| 1.Öğrencilerin görüşlerine göre öğretmenlerin özel alan yeterlikleri | 3,73 | ,84 |
| a.Tarih metodolojisini kullanabilme yeterlikleri | 3,84 | ,88 |
| b.Öğretim programının uygulanmasına ilişkin yeterlikler | 3,67 | ,90 |
| 2. Öğrencilerin görüşlerine göre öğretmenlerin genel mesleki yeterlikleri | 3,78 | ,90 |

Tablo 1'de de görüldüğü gibi, öğretmenler kendilerini her iki boyutta ve ölçeğin tamamında "tamamen katılıyorum" düzeyinde yeterli görürken; öğrencilerin, tarih öğretmenlerini her iki boyutta, özel alan yeterlikleri alt boyutlarında ve ölçeğin tamamında "katılıyorum" düzeyinde yeterli buldukları görülmektedir.

**2. Tarih öğretmenlerinin özel alan ve mesleki yeterliklerinin düzeyi kariyerlerine, cinsiyetlerine ve eğitim seviyelerine göre değişmekte midir? Alt problemine ilişkin bulgular Tablo 2'de verilmiştir.**

**Tablo 2.** Tarih öğretmenlerinin özel alan ve mesleki yeterlikleri boyutlarının kariyer, cinsiyet ve eğitim seviyesi değişkenlerine göre T- Testi sonuçları

| **Boyutlar** | **Değişkenler** | N | $\bar{X}$ | SS | LEVENE | | t | p |
|---|---|---|---|---|---|---|---|---|
| | | | | | F | p | | |
| 1.Özel alan yeterlikleri | Öğretmen | 39 | 4,27 | ,75 | ,147 | ,703 | -,154 | ,879 |
| | Uzman Öğretmen | 15 | 4,31 | ,92 | | | | |
| **2.** Genel mesleki yeterlikler | Öğretmen | 39 | 4,36 | ,73 | ,065 | ,800 | ,017 | ,987 |
| | Uzman Öğretmen | 15 | 4,35 | ,90 | | | | |
| 3. Tamamı | Öğretmen | 39 | 4,31 | ,72 | ,080 | ,779 | -,065 | ,949 |
| | Uzman Öğretmen | 15 | 4,33 | ,90 | | | | |
| 1.Özel alan yeterlikleri | Kadın | 13 | 4,46 | ,28 | 3,516 | ,066 | 1,502 | ,139 |
| | Erkek | 41 | 4,22 | ,89 | | | | |
| 2. Genel mesleki yeterlikler | Kadın | 13 | 4,48 | ,29 | 3,031 | ,088 | 1,046 | ,300 |
| | Erkek | 41 | 4,31 | ,87 | | | | |
| 3. Tamamı | Kadın | 13 | 4,47 | ,27 | 2,990 | ,090 | 1,292 | ,202 |
| | Erkek | 41 | 4,27 | ,87 | | | | |
| 1.Özel alan yeterlikleri | Lisans | 34 | 4,21 | ,96 | 3,146 | ,082 | -1,014 | ,316 |
| | Lisans Üstü | 20 | 4,40 | ,36 | | | | |
| 2. Genel mesleki yeterlikler | Lisans | 34 | 4,23 | ,93 | 5,369 | ,024 | -1,974 | ,055 |
| | Lisans Üstü | 20 | 4,57 | ,27 | | | | |
| 3. Tamamı | Lisans | 34 | 4,22 | ,93 | 4,614 | ,036 | -1,546 | ,130 |
| | Lisans Üstü | 20 | 4,49 | ,29 | | | | |

Tablo 2'de görüldüğü gibi, yapılan t testi sonuçlarına göre, öğretmenlerin özel alan ve genel mesleki yeterlik boyutları ile ölçeğin tamamına yönelik görüşleri arasında kariyer, cinsiyet ve eğitim seviyesi değişkenlerine göre herhangi bir fark bulunmamaktadır. Ancak, uzman öğretmenlerin görüşlerinin düzeyi öğretmenlere göre; kadın öğretmenlerin görüşlerinin düzeyi erkeklere göre ve lisans üstü mezunu olan öğretmenlerin görüşlerinin düzeyi de lisans mezunlarına göre daha yüksektir.

  

**3. Tarih öğretmenlerinin özel alan ve mesleki yeterliklerinin düzeyi çalıştıkları okul türüne göre değişmekte midir? Alt problemine ilişkin bulgular Tablo 3'te verilmiştir.**

**Tablo 3 .** Tarih öğretmenlerinin özel alan ve mesleki yeterlikleri ölçekleri puanlarının çalıştıkları okul türüne göre ANOVA sonuçları

| **Boyutlar** | **Okul türü** | N | $\bar{X}$ | Varyansın kaynağı | Kareler Toplamı | sd | Kareler Ortalaması | F | P | Fark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.Özel alan yeterlikleri | Anadolu lisesi | 26 | 4,40 | Gruplararası | 10,434 | 2 | 5,217 | 11,524 | ,000 | 3-1,2 |
| | And. Mes. Lis. | 21 | 4,51 | Gruplariçi | 23,087 | 51 | ,453 | | | |
| | Sosyal Bil. Lis. | 7 | 3,15 | Toplam | 33,520 | 53 | | | | |
| 2. Genel mesleki yeterlikler | Anadolu lisesi | 26 | 4,44 | Gruplararası | 8,376 | 2 | 4,188 | 9,066 | ,000 | 3-1,2 |
| | And. Mes. Lis. | 21 | 4,58 | Gruplariçi | 23,559 | 51 | ,462 | | | |
| | Sosyal Bil. Lis. | 7 | 3,35 | Toplam | 31,935 | 53 | | | | |
| 3. Tamamı | Anadolu lisesi | 26 | 4,42 | Gruplararası | 9,302 | 2 | 4,651 | 10,641 | ,000 | 3-1,2 |
| | And. Mes. Lis. | 21 | 4,55 | Gruplariçi | 22,292 | 51 | ,437 | | | |
| | Sosyal Bil. Lis. | 7 | 3,25 | Toplam | 31,594 | 53 | | | | |

Analiz sonuçları, öğretmenlerin özel alan ve genel mesleki yeterlikleri ölçekleri puanları arasında görev yapılan okul türü bakımından anlamlı bir fark olduğunu göstermektedir. Özel alan yeterlikleri ölçeği, F (2, 151)=11,524, p<.05. Genel mesleki yeterlikleri ölçeği F (2,51)=9,066, P<.05. Tamamı F(2, 51)=10,641, p<.05. Başka bir deyişle tarih öğretmenlerinin özel ve genel mesleki yeterliklerinin, görev yapılan okulun türüne bağlı olarak anlamlı bir şekilde değişmektedir. Birimler arasındaki farkların hangi gruplar arasında olduğunu bulmak amacıyla yapılan Scheffe testinin sonuçlarına göre, Anadolu meslek liselerinde ($\bar{X}$=4,51, S=,30) ve anadolu liselerinde ($\bar{X}$=4,40, s=,27) görev yapan tarih öğretmenlerinin özel alan yeterliklerine ilişkin görüşlerinin düzeyinin sosyal bilimler liselerinde ($\bar{X}$=3,15, S=1,75) görev yapanlardan daha olumlu olduğu belirlenmiştir. Aynı betimsel istatistikler dikkate alındığında tarih öğretmenlerinin genel mesleki yeterliklerine ilişkin görüşlerinin de benzer olduğu görülmektedir.

**4. Tarih öğretmenlerinin özel alan ve mesleki yeterliklerinin düzeyi mesleki kıdemlerine göre değişmekte midir? Alt problemine ilişkin bulgular aşağıda verilmiştir.**

Mesleki kıdem gruplarında yer alan Tarih öğretmenlerinin sayılarının az olması, puanların gruplarda normal dağılımını engellemektedir. Bu nedenle grupların ortalamaları arasındaki karşılaştırmalar, normallik varsayımını gerektirmeyen Kruskal Wallis H testi kullanılarak gerçekleştirilmiştir.

**Tablo 4.** Özel alan yeterlik boyutlarının mesleki kıdeme göre Kruskal Wallis Testi Sonucu

| Boyut | Kıdem | n | Sıra ortalaması | sd | $\chi^2$ | p | Anlamlı MWU | fark |
|---|---|---|---|---|---|---|---|---|
| Özel alan yeterliliği | 1-5 yıldır | 3 | 16,00 | 4 | 11,031 | ,026 | Fark yok | |
| | 6-10 yıldır | 3 | 34,83 | | | | | |
| | 11-15 yıldır | 12 | 21,00 | | | | | |
| | 16-20 yıldır | 25 | 34,20 | | | | | |
| | 21 yıl ve üstü | 11 | 20,50 | | | | | |

Grupları sıra ortalamaları dikkate alındığında, uygulama sonrasında en yüksek özel alan yeterliliğine 6-10 yıl kıdemdekilerin sahip olduğu, bunu 16-20 yıl, 21 yıl ve üstü, 11-15 yıl ve 1-5 yıl olanların izlediği görülmektedir. Gruplararası gözlenen anlamlı farkın, hangi gruplar arasındaki anlamlı farklara bağlı olarak ortaya çıktığını belirlemek için ikili kombinasyonlarda kullanılan Mann Whitney U testi uygulanarak farkın kaynağı araştırılmıştır. Ancak ikili gruplar arasında anlamlı farkın olmadığı görülmüştür. Fakat sıralar ortalamalar incelendiğinde ise 6-10 yıllık kıdeme sahip tarih öğretmenlerinin özel alan yeterlik düzeyinin diğer kıdem gruplarındaki öğretmenlere göre daha yüksek olduğu görülmüştür.

  

**Tablo 5.** Özel alan yeterlik boyutunun mesleki kıdeme göre Kruskal Wallis Testi Sonucu

| Boyut | Kıdem | n | Sıra ortalaması | sd | $\chi^2$ | p | Anlamlı fark MWU |
|---|---|---|---|---|---|---|---|
| Özel alan yeterliliği | 6-10 yıldır | 3 | 31,83 | 3 | 8,987 | ,029 | Fark yok |
| | 11-15 yıldır | 12 | 19,63 | | | | |
| | 16-20 yıldır | 25 | 31,62 | | | | |
| | 21 yıl ve üstü | 11 | 18,59 | | | | |

İkili gruplar arasında anlamlı farkın olmadığı görülmüştür. Fakat sıralar ortalamalar incelendiğinde ise 6-10 yıllık kıdeme sahip tarih öğretmenlerinin özel alan yeterlik düzeyinin diğer kıdem gruplarındaki öğretmenlere göre daha yüksek olduğu görülmüştür.

**Tablo 6.** Özel alan yeterlik boyutunun mesleki kıdeme göre Kruskal Wallis Testi Sonucu

| Boyut | Kıdem | n | Sıra ortalaması | sd | $\chi^2$ | p | Anlamlı fark |
|---|---|---|---|---|---|---|---|
| Özel alan yeterliliği | 11-15 yıldır | 12 | 13,46 | 1 | 4,663 | ,031 | 3-4 MWU=83,500 |
| | 16-20 yıldır | 25 | 21,66 | | | | |

İkili gruplar arasında anlamlı farkın olduğu görülmüştür. Sıralar ortalamalar incelendiğinde, bu farklılığın 11-15 yıl (sıralar ort.=13,46) kıdeme sahip tarih öğretmenleri ile 16-20 yıl (sıralar ort.=21,66) kıdeme sahip tarih öğretmenleri arasında olduğu ve 16-20 yıl kıdeme sahip öğretmenlerin 11-15 yıl kıdeme sahip öğretmenlere göre daha yüksek özel alan yeterliklerine sahip olduğu görülmüştür.

**Tablo 7.** Özel alan yeterlik boyutunun mesleki kıdeme göre Kruskal Wallis Testi Sonucu

| Boyut | Kıdem | n | Sıra ortalaması | sd | $\chi^2$ | p | Anlamlı fark MWU |
|---|---|---|---|---|---|---|---|
| Özel alan yeterliliği | 11-15 yıldır | 12 | 18,88 | 2 | 8,140 | ,017 | Fark yok |
| | 16-20 yıldır | 25 | 30,02 | | | | |
| | 21 yıl ve üstü | 11 | 18,09 | | | | |

İkili gruplar arasında anlamlı farkın olmadığı görülmüştür. Fakat sıralar ortalamalar incelendiğinde ise 16-20 yıl kıdeme sahip tarih öğretmenlerinin özel alan yeterlik düzeyinin diğer kıdem gruplarındaki öğretmenlere göre daha yüksek olduğu görülmüştür.

**Tablo 8.** Özel alan yeterlik boyutunun mesleki kıdeme göre Kruskal Wallis Testi Sonucu

| Boyut | Kıdem | n | Sıra ortalaması | sd | $\chi^2$ | p | Anlamlı fark |
|---|---|---|---|---|---|---|---|
| Özel alan yeterliliği | 16-20 yıldır | 25 | 21,36 | 1 | 6,040 | ,014 | 4-5 MWU=66,000 |
| | 21 yıl ve üstü | 11 | 12,00 | | | | |

İkili gruplar arasında anlamlı farkın olduğu görülmüştür. Sıralar ortalamalar incelendiğinde, bu farklılığın 16-20 yıl (sıralar ort.=21,36) kıdeme sahip tarih öğretmenleri ile 21 yıl ve üstü yıl (sıralar ort.=12,00) kıdeme sahip tarih öğretmenleri arasında olduğu ve 16-20 yıl kıdeme sahip öğretmenlerin 21 yıl ve üstü yıl kıdeme sahip öğretmenlere göre daha yüksek özel alan yeterliklerine sahip olduğu görülmüştür.

  

**5. Öğrencilerin görüşlerine göre, tarih öğretmenlerinin özel alan ve mesleki yeterliklerinin düzeyi, cinsiyetlerine göre değişmekte midir? Alt problemine ilişkin bulgular Tablo 9'da verilmiştir.**

**Tablo 9.** Öğrencilerin görüşlerine göre Tarih öğretmenlerinin özel alan ve mesleki yeterlikleri boyutlarının cinsiyet değişkenine göre T- Testi sonuçları

| Boyutlar/Altboyutlar | Değişken | N | $\bar{X}$ | SS | Levene F | Levene p | t | p |
|---|---|---|---|---|---|---|---|---|
| 1.Özel alan yeterlikleri | Kadın | 224 | 3,74 | ,83 | ,006 | ,940 | ,355 | ,723 |
| | Erkek | 160 | 3,71 | ,86 | | | | |
| a. Tarih metodolojisini kullanabilme yeterlikleri | Kadın | 224 | 3,84 | ,86 | ,153 | ,696 | -,194 | ,846 |
| | Erkek | 160 | 3,85 | ,91 | | | | |
| b. Öğretim programının uygulanmasına ilişkin yeterlikler | Kadın | 224 | 3,69 | ,90 | ,065 | ,799 | ,595 | ,552 |
| | Erkek | 160 | 3,64 | ,91 | | | | |
| 2. Genel mesleki yeterlikler | Kadın | 224 | 3,81 | ,90 | ,021 | ,886 | ,836 | ,404 |
| | Erkek | 160 | 3,73 | ,90 | | | | |

Cinsiyet değişkeni dikkate alınarak yapılan t- testi sonuçlarına göre, öğrencilerin Tarih öğretmenlerinin özel alan ve mesleki yeterlikleri boyutlarına yönelik görüşleri arasında anlamlı bir farklılık çıkmamıştır.

**6. Öğrencilerin görüşlerine göre, tarih öğretmenlerinin özel alan ve mesleki yeterliklerinin düzeyi sınıf düzeylerine göre değişmekte midir? Alt problemine ilişkin bulgular Tablo 10'da verilmiştir.**

**Tablo 10.** Öğrencilerin görüşlerine göre Tarih öğretmenlerinin özel alan ve genel mesleki yeterlikleri boyutları puanlarının sınıf düzeylerine göre ANOVA sonuçları

| **Boyutlar** | **Okul türü** | N | $\bar{X}$ | Varyansın kaynağı | Kareler Toplamı | sd | Kareler Ortalaması | F | P | Fark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.Özel alan yeterlikleri | 9. sınıf | 113 | 3,51 | Gruplararası | 11,052 | 3 | 3,684 | 5,295 | ,001 | 1-2 |
| | 10. sınıf | 132 | 3,94 | Gruplariçi | 264,368 | 380 | ,696 | | | |
| | 11. sınıf | 77 | 3,70 | Toplam | 275,419 | 383 | | | | |
| | 12. sınıf | 62 | 3,71 | | | | | | | |
| **a. Tarih metodolojisini kullanabilme** | 9. sınıf | 113 | 3,65 | Gruplararası | 10,217 | 3 | 3,406 | 4,420 | ,005 | 1-2 |
| | 10. sınıf | 132 | 4,05 | Gruplariçi | 292,789 | 380 | ,770 | | | |
| | 11. sınıf | 77 | 3,83 | Toplam | 303,006 | 383 | | | | |
| | 12. sınıf | 62 | 3,76 | | | | | | | |
| **b.Öğretim programının uygulanması** | 9. sınıf | 113 | 3,44 | Gruplararası | 11,726 | 3 | 3,909 | 4,865 | ,002 | 1-2 |
| | 10. sınıf | 132 | 3,88 | Gruplariçi | 305,311 | 380 | ,803 | | | |
| | 11. sınıf | 77 | 3,64 | Toplam | 317,037 | 383 | | | | |
| | 12. sınıf | 62 | 3,69 | | | | | | | |
| 2. Genel mesleki yeterlikler | 9. sınıf | 113 | 3,51 | Gruplararası | 17,915 | 3 | 5,972 | 7,655 | ,000 | 1-2 |
| | 10. sınıf | 132 | 4,05 | Gruplariçi | 296,424 | 380 | ,780 | | | |
| | 11. sınıf | 77 | 3,77 | Toplam | 314,339 | 383 | | | | |
| | 12. sınıf | 62 | 3,70 | | | | | | | |

Analiz sonuçları, öğrencilerin görüşlerine göre, öğretmenlerin özel alan ve genel mesleki yeterlikleri boyutları puanları arasında sınıf düzeyleri bakımından anlamlı bir fark olduğunu göstermektedir. Özel alan yeterlikleri boyutu, F (3, 380)=5,295, p<.05. Tarih metodolojisini kullanabilme yeterlikleri boyutu F(3,380)=4,420, P<.05. Öğretim programının uygulanması yeterlikleri boyutu F (3,380)=4,865, P<.05. Genel mesleki yeterlikler boyutu tamamı F(3, 380)=7,655, p<.05. Başka bir deyişle öğrencilerin görüşlerine göre, tarih öğretmenlerinin özel alan ve genel mesleki yeterlikleri, sınıf düzeylerine bağlı olarak anlamlı bir şekilde değişmektedir. Birimler arasındaki farkların hangi gruplar arasında olduğunu bulmak amacıyla yapılan Scheffe testinin sonuçlarına göre, dokuzuncu sınıf öğrencilerinin öğretmenlerinin özel alan yeterliklerine ilişkin görüşlerinin düzeyinin ($\bar{X}$=3,51,

  

S=,90) onuncu sınıf öğrencilerinin ($\bar{X}$ =3,94, S=,65) görüşlerinin düzeyinden daha olumsuz olduğu belirlenmiştir. Aynı betimsel istatistikler dikkate alındığında öğrencilerin tarih öğretmenlerinin hem özel alan yeterlikleri alt boyutlarındaki görüşlerinin hem de genel mesleki yeterliklere ilişkin görüşlerinin de benzer olduğu görülmektedir.

**7. Öğrencilerin görüşlerine göre, tarih öğretmenlerinin özel alan ve mesleki yeterliklerinin düzeyi okulun türüne göre değişmekte midir? Alt problemine ilişkin bulgular Tablo 11'de verilmiştir.**

**Tablo 11.** Öğrencilerin görüşlerine göre Tarih öğretmenlerinin özel alan ve genel mesleki yeterlikleri boyutları puanlarının okul türüne göre ANOVA sonuçları

| **Boyutlar** | **Okul türü** | N | $\bar{X}$ | Varyansın kaynağı | Kareler Toplamı | sd | Kareler Ortalaması | F | P | Fark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.Özel alan yeterlikleri | Anadolu Lisesi | 137 | 3,75 | Gruplararası | 10,047 | 2 | 5,024 | 7,212 | ,001 | |
| | And. Mes. Lis. | 221 | 3,65 | Gruplariçi | 265,372 | 381 | ,697 | | | 3-1,2 |
| | Sosyal Bil. Lis. | 26 | 4,30 | Toplam | 275,419 | 383 | | | | |
| a. Tarih metodolojisini kullanabilme | Anadolu Lis. | 137 | 3,82 | Gruplararası | 6,034 | 2 | 3,017 | 3,871 | ,022 | 3-1,2 |
| | And. Mes. Lis. | 221 | 3,80 | Gruplariçi | 296,972 | 381 | ,779 | | | |
| | Sosyal Bil. Lis. | 26 | 4,31 | Toplam | 303,006 | 383 | | | | |
| b. Öğretim programının uygulanması | Anadolu Lis. | 137 | 3,71 | Gruplararası | 12,750 | 2 | 6,375 | 7,982 | ,000 | 3-1,2 |
| | And. Mes. Lis. | 221 | 3,57 | Gruplariçi | 304,287 | 381 | ,799 | | | |
| | Sosyal Bil. Lis. | 26 | 4,30 | Toplam | 317,037 | 383 | | | | |
| 2. Genel mesleki yeterlikler | Anadolu Lis. | 137 | 3,83 | Gruplararası | 13,172 | 2 | 6,586 | 8,332 | ,000 | |
| | And. Mes. Lis. | 221 | 3,68 | Gruplariçi | 301,167 | 381 | ,790 | | | 3-1,2 |
| | Sosyal Bil. Lis. | 26 | 4,41 | Toplam | 314,339 | 383 | | | | |

Analiz sonuçları, öğrencilerin görüşlerine göre, öğretmenlerin özel alan ve genel mesleki yeterlikleri boyutları puanları arasında görev yaptıkları okul türü bakımından anlamlı bir fark olduğunu göstermektedir. Özel alan yeterlikleri boyutu, F(2, 381)=7,212, p<.05. Tarih metodolojisini kullanabilme yeterlikleri alt boyutu F (2, 381)=3,871, P<.05. Öğretim programının uygulanması yeterlikleri alt boyutu F (2, 381)=7,982, P<.05. Genel mesleki yeterlikler boyutu tamamı F(2, 381)=8,332, p<.05. Başka bir deyişle öğrencilerin görüşlerine göre, tarih öğretmenlerinin özel alan ve genel mesleki yeterlikleri, görev yaptıkları okul türüne bağlı olarak anlamlı bir şekilde değişmektedir. Birimler arasındaki farkların hangi gruplar arasında olduğunu bulmak amacıyla yapılan Scheffe testinin sonuçlarına göre, sosyal bilimler lisesi öğrencilerinin öğretmenlerinin özel alan yeterliklerine ilişkin görüşlerinin düzeyinin ($\bar{X}$ =4,30, S=,64) Anadolu ve Anadolu meslek lisesi öğrencilerinin sırasıyla ($\bar{X}$ =3,75, S=,82; $\bar{X}$ =3,65, S=,85) görüşlerinin düzeyinden daha olumlu olduğu belirlenmiştir. Aynı betimsel istatistikler dikkate alındığında öğrencilerin tarih öğretmenlerinin hem özel alan yeterlikleri alt boyutlarındaki görüşlerinin hem de genel mesleki yeterliklere ilişkin görüşlerinin de benzer olduğu görülmektedir.

## TARTIŞMA VE SONUÇ

Ortaöğretim kurumlarında görev yapan Tarih öğretmenlerinin özel alan ve genel mesleki yeterliklerini gerçekleştirme düzeylerine ilişkin kendilerinin ve öğrencilerin görüşlerinin belirlendiği bu araştırmada öğretmenler, genel mesleki ve özel alan yeterlikleri konusunda kendilerini *tamamen katılıyorum* düzeyinde yeterli görmektedirler. Özer ve Gelen (2008) tarafından yapılan araştırma sonucuna göre, öğretmenler anketin geneli için *katılıyorum* düzeyinde görüş bildirmişleridir. Sonuçlar örtüşmemektedir. Özer ve Gelen (2008) tarafından yapılan aynı araştırma sonucuna göre, öğretmen adaylarının hem genel olarak hem de altı alt başlık altındaki (Kişisel ve Meslekî Değerler - Meslekî Gelişim, Öğrenciyi Tanıma, Öğrenme ve Öğretme Süreci, Öğrenmeyi, Gelişimi İzleme ve Değerlendirme, Okul-Aile ve Toplum İlişkileri, Program ve İçerik Bilgisi) yeterliklere ilişkin görüşleri değerlendirildiğinde, öğretmenlere oranla daha yüksek derecede mesleğin gerektirdiği yeterliklere sahip olduklarını düşündükleri ortaya çıkmıştır. Bu sonucu, Özbek, Kâhyaoğlu ve

  

Özgen'in (2007) yılında Siirt Eğitim Fakültesi öğrencileri üzerinde yapmış oldukları araştırmanın sonuçları da desteklemektedir. Yazar tarafından yapılan bu araştırmanın problemi ve diğer değişkenler değerlendirildiğinde bilimsel olarak sonuçlar karşılaştırılamamıştır. Ancak bu araştırma kapsamındaki öğretmenler kendilerini hem özel alan yeterlikleri hem de genel mesleki yeterlikler boyutlarında *tamamen katılıyorum* düzeyinde yeterli görürken; lise öğrencileri, tarih öğretmenlerini her iki boyutta da *katılıyorum* düzeyinde yeterli görmektedirler.

Öğretmenlerin özel alan ve genel mesleki yeterlik boyutları ile ölçeğin tamamına yönelik görüşleri arasında kariyer, cinsiyet ve eğitim seviyesi değişkenlerine göre herhangi bir fark yoktur. Ancak, uzman öğretmenlerin görüşlerinin düzeyi öğretmenlere göre; kadın öğretmenlerin görüşlerinin düzeyi erkeklere göre ve lisans üstü mezunu olan öğretmenlerin görüşlerinin düzeyi de lisans mezunlarına göre daha yüksektir. Yeterlik konusu üzerinde Saracaloğlu, Kumral ve Kanmaz (2009) tarafından yapılan "Ortaöğretim kurumlarında görev alacak olan öğretmen adaylarının öğretmenlik mesleğine yönelik olarak mesleki yeterlik algıları" adlı çalışmanın bulgularına göre, cinsiyet değişkenine göre gruplar arasında istatistiksel olarak anlamlı bir fark olduğu ve bu farklılığın da kız öğrencilerin lehine olduğu görülmüştür. Bu çalışmada anlamlı bir farklılık olmasa da hem özel alan yeterlikleri hem de genel mesleki yeterlikleri boyutlarında kadın tarih öğretmenlerinin görüşleri erkek öğretmenlerin görüşlerine göre daha olumludur.

Anadolu meslek liselerinde ve anadolu liselerinde görev yapan tarih öğretmenlerinin hem özel alan hem de genel mesleki yeterliklerine ilişkin görüşlerinin düzeyi, sosyal bilimler liselerinde görev yapanlardan daha olumludur. Kıdem değişkenine göre, 16-20 yıl kıdeme sahip öğretmenler 11-15 yıl kıdeme sahip öğretmenlere göre daha yüksek özel alan yeterliklerine sahiptir. Öğrencilerin Tarih öğretmenlerinin özel alan ve mesleki yeterlikleri boyutlarına yönelik görüşleri arasında anlamlı farklılık yoktur. Dokuzuncu sınıf öğrencilerinin, öğretmenlerinin özel alan yeterlikleri boyutu ve alt boyutları ile genel mesleki yeterlikleri boyutuna ilişkin görüşlerinin düzeyi onuncu sınıf öğrencilerinin görüşlerinin düzeyinden daha olumsuzdur. Sosyal bilimler lisesi öğrencilerinin, öğretmenlerinin özel alan yeterlikleri boyutu ve alt boyutları ile genel mesleki yeterlikleri boyutuna ilişkin görüşlerinin düzeyi, Anadolu ve Anadolu meslek lisesi öğrencilerinin görüşlerinin düzeyinden daha olumludur.

Özden ve Özden (2010) tarafından yapılan araştırmada elde edilen sonuçlara göre, çalışma grubundaki öğretmen adayları öğretmenlik meslek bilgisi yeterliklerini "yeterli" düzeyde kazandıkları görüşündedirler. Öğretmen adaylarının öğretmenlik meslek bilgisi yeterliklerini kazanma düzeyleri arasında cinsiyet ve yaş değişkenleri açısından anlamlı bir farklılık bulunmamıştır. Öğretmen adaylarının yeterlik algılarının cinsiyete göre farklılık göstermediğine ilişkin araştırma sonucu, benzer araştırmalar yapan diğer araştırmacıların sonuçlarıyla da (Saka, Titrek ve Saka, 2005; Çakır, Kan ve Sünbül, 2006; Kâhyaoğlu ve Yangın, 2007) örtüşmektedir. Kahyaoğlu ve Yangın (2007) tarafından yapılan araştırmada mesleki yeterliklere ilişkin ilköğretim öğretmen adaylarının kendilerini oldukça yeterli düzeyde gördükleri, Yeşil (2008) tarafından yapılan araştırmada, aday öğretmenlerin, ders sürecinin farklı aşamalarında öğrenme-öğretme ilkelerini uygulama yeterlikleri ilkelerini "yeterli" düzeyde uygulayabildikleri, Yeşil (2009) tarafından yapılan diğer bir araştırmada aday öğretmenlerin, belirlenen alt boyutlarda "yeterli" düzeyde öğretim becerilerine sahip oldukları belirlenmiştir. Gelen ve Özer tarafından (2008) yapılan araştırmada ise öğretmen adayları anketin geneline "kesinlikle evet" şeklinde görüş bildirmiştir. Yeşil (2009) tarafından yapılan araştırma sonuçlarına göre, aday öğretmenler öğretim araçlarından sınıf içerisinde yararlanma yeterlikleri yönüyle genel olarak "kısmen yeterli" düzeyde performans göstermişlerdir. Aday öğretmenler gibi, öğretmenlerin de araç-gereç ve materyal kullanımı konusunda yetersiz kaldıklarını ortaya koyan araştırma sonuçları da bulunmaktadır (Budak ve Demirel, 2003; Emiroğlu, 2002). Örneğin Yeşil (2006), öğretim becerileri üzerinde yaptığı bir araştırma sonunda, sosyal bilgiler öğretmenlerinin araç-gereç ve materyal kullanımı konusunda kısmen yeterli olduklarını, özellikle farklı araçlardan yararlanma becerisinde ise "yetersiz" olduklarını belirlemiştir. Bu sonuç, Emiroğlu (2002)'nun araştırma sonuçları ile de tutarlık göstermektedir. Ulusoy (2009) tarafından yapılan araştırma sonuçlarına göre, öğrenciler tarih dersinin sıkıcılıktan, ezberden, tek düzelikten kurtarılmasını; dersin daha akıcı, kendilerinin daha aktif olduğu ve öğretim materyallerini daha fazla kullanabildikleri bir ortamın olmasını istemişlerdir. Bu araştırmada da öğrenciler; öğretmenlerin tartışma yöntemini nesnel olarak yürütmeleri, öğretim teknolojilerinden yararlanmaları, zaman yönetimi ile ilgili stratejileri bilmeleri ve uygulamaları, öğrencilerin kendilerini ifade edebilecekleri fırsatları sunmaları gibi yeterliklerle ilgili olarak çok farklı düşünmektedirler. Bu faktörler sınıf yönetimini etkileyen önemli yeterlikler arasındadır. Bu yeterliklere ilişkin görüşlerin farklılaşması öğretmenlerin sınıf ortamında farklı bilgi, beceri, davranışlar ve tutumlar içerisinde olduklarının göstergesi olabilir. Bu da öğrencilerin öğretimsel ortamı ve dersi sıkıcı bulmalarına, öğrencilerin de kendilerini pasif hissetmelerine neden olabilir.

Araştırmanın sonuçlarına yönelik öneriler şunlardır:
1. Araştırma sonucuna göre uzman öğretmenlerin görüşlerinin düzeyi öğretmenlere göre, lisans üstü mezunu olan öğretmenlerin görüşlerinin düzeyi de lisans mezunlarına göre daha yüksektir. Bu nedenle öğretmenlerimizin

  

kendilerini yetiştirebilmeleri için meslek içinde kariyer yapmalarına ve eğitim sevilerini yükseltmelerine önem verilmeli ve destekleyici mevzuat düzenlemeleri yapılmalıdır.

2. Anadolu meslek liselerinde ve anadolu liselerinde görev yapan tarih öğretmenlerinin hem özel alan hem de genel mesleki yeterliklerine ilişkin görüşlerinin düzeyi, sosyal bilimler liselerinde görev yapanlardan daha olumludur. Lise türleri arasındaki bu farklılığın nedenleri değişik araştırma türleri ile araştırılabilir. Öğretmenler kendilerini gerçekten mi yeterli görmektedirler, yoksa yetkin olmadıkları halde kendilerindeki yetersizliğin boyutunu görememekte midirler?

3. Sosyal bilimler lisesi öğrencilerinin, öğretmenlerinin özel alan yeterlikleri boyutu ve alt boyutları ile genel mesleki yeterlikleri boyutuna ilişkin görüşlerinin düzeyi, Anadolu ve Anadolu meslek lisesi öğrencilerinin görüşlerinin düzeyinden daha olumludur. Bu sonuç öğretmenlerin görüşlerinin tam tersidir. Öğretmenler yetkin olmadıkları halde kendilerindeki yetersizliğin boyutunu görememekte midirler? Sorusunun cevabı Bakanlığın politikaları ve uygulamaları dikkate alınarak araştırılabilir.

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# TEACHER COMPETENCE DEVELOPMENT CONSIDERING THE CLASS DIVERSITY ACCEPTANCE THROUGH THE PRISM OF PEDAGOGICAL PRACTICE IN SLOVAKIA

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**ABSTRACT**
It is obvious that the demands on pedagogical work of teachers in nowadays society are increasing. The presented scientific study gives information about teachers competence development as a result of the research investigation carried out in the field of teaching practice in the Slovak Republic. The heterogeneity among pupils is thus becoming an essential feature of inclusive schools. The author deals with issues of identifying the factors that influence the development of teacher competencies in terms of diversity in the Slovak education system. The work reveals methods of evaluating the factors, possibilities of their development in the education process with a possible reduction of indicated obstacles.

## INTRODUCTION

Every school needs the competent teachers who are passionate about their work, they constantly improve, wider their knowledge area and accomplish their functions and tasks to the maximum possible extent. The school in this way can expand into dimensions that should be supported by up to date innovations. A key source of these transformations is then a competent teacher, a professional, looking for new ways for achieving the highest education process effectiveness. Each teacher should find his own way how to develop his/her own skills and apply his/her competences; because as we know, there is no universal guidance how to achieve the competence. The teacher should definitely not follow the stereotypical approach, because for virtuous and effective educational process it is necessary to exceed the limited ideas about its benefits. We consider the teacher competence an up to date problem that needs to be put in correlation with the educational process and the class diversity; therefore, we aim to create an accurate picture of the concerned problems.

## THE THEORETICAL BACKROUND

The professional quality of teaching performance is an important determinant of pupils' success and it is the teacher that initiates the changes in education process. For successful development of pupils' competence, the teacher himself/herself must obtain the necessary pedagogical competencies. According to the author Z. Helus (2009, p. 259-260), the way we see the pupil, the attitudes we apply and what we require is a decisive factor in his or her development, and sometimes even with lifelong consequences. The teacher's approach should be based on the fact that the in each pupil there is present the inherently natural tendency to develop his/her own personality who urgently needs a teacher who understands, is really interested, helps in an appropriate manner and supports and gives advice.

In Slovak legislation, the Act. 245/2008 (§ 2), the Education Act, for the purposes of this Act, the basic concept of competence is determined as ability to use knowledge, skills, attitudes, value orientation and other capabilities to carry out the functions and performance according to stated standards at work, studying, personal and professional development of individuals, with their active social participation, future work and non-work application and for his/her further education.

Ch. Kyriacou (2004, p. 20) defines the pedagogical competences as particular logically consecutive teacher's activities that support pupil's learning. They are practical and purposeful actions designed to solve various education situations and problems. These competencies include three elements:

- Knowledge that includes the teacher's professional knowledge, knowing the students, curriculum and teaching methods and all the factors that may affect the education process.
- Deciding which involves thinking and decision-making during the preparation of the education process but also during and after the teaching, focused to achieve the best results in teaching.
- The activity which is manifested by activity and behaviour of the teacher whose aim is to help pupils.

The diversity in nowadays classes requires the teacher considers various possibilities how to organize the lesson so that every pupil with individual needs achieves the desired educational performance following his/her personal development (more information in the publications of Polakovičová, R., 2015; Komora, J., Polakovičová, R., 2013[1,2]; Lehocká, I., Polakovičová, R., 2014).

The idea of diversity reveals a number of benefits that make the situation more complex. The diversity of the school environment is increasing every year, regardless of the wishes of teachers. Due to the approaches

  

particularly taking into account the homogeneity, the unmet needs will be increasing by still growing number of pupils. Acceptance of diversity facilitates the work of teachers as well as pupils in these areas:

- Increased diversity means that students are increasingly confronted with different situations and environments which results in increasing of their understanding of various types of processes and skills.
- The emphasis on diversity leads us to the fact that there is nothing like an exemplary pupil, because if students are not forced to meet the abstract idea of homogeneity they are deprived of certain stress. Pupils do not need to be constantly confronted with what is presented as a desirable level of what they should know and how to behave.
- It is easier to recognize individual performance achieved in an individual way what creates opportunities for pupils' positive self-assessment, improving the skills, receive benefits of cooperation with other pupils and prevent the occurrence of such feelings as failure and loss (Lauberová, L., Kalinová, M., Weiss, P., et al., 2005, p. 51-53).

Due to the above mentioned, the topic is addressed and foreign authors in the international context, such as B. S. Billingsley, M. T. Brownell, M. Israel, M. L. Kamman (2013), N. Hunt, K. Marshall (2012), C. Meijer, V. Soriano, A. Watkins (2003), D. Stevens-Smith, M. Warner, M. Padilla (2014) etc.
A natural consequence of the educational standard criteria modernization according to P. Seidler, E. Žovinec (2008) is an acceptance of heterogeneity within the class, for each student is individual and unique in his/her cognitive and emotional abilities. We believe that diversity takes an important place not only in the interaction between teachers and pupils, but also among all the participants within the education process.
An optimal solution we see in creating of a class community that would be characterized by a high degree of cohesion, it would support the development of each pupil, create opportunities for the pupil's participation on forming of the positive atmosphere and increasing the class life standard.

**THE STUDY**
When drawing up the research problem and the main objective of the research we relied on an analysis of previous research, the study of literature and previous empirical findings. Based on acquired knowledge we have established the following research problem, as amended:

"What is the correlation between the perception of competence development in view of the class diversity by teachers and teachers' competence development in terms of diversity in the class in teaching practice?,,

The main objective of the research investigation was to determine which are the key competencies in terms of diversity of the class and what hierarchy is typical for these competencies. Based on the above, we have set the following research hypotheses whose validity we verified in the research:

- H 1 We assume that the age of the teacher determines the area of teacher competence development respecting the class diversity.
- H 2 We assume that we will find significant differences among the teachers' gender, according to which the competence development should vary among male and female teachers.
- H 3 We assume that there is a relation between the length of teaching experience and attributing importance of teacher competence development in view of the class diversity.
- H 4 We assume that the achieved level of education of teachers will be reflected in the application and development of competencies in terms of class diversity.
- H 5 We assume that a type of a class in which the educational process is carried out does not affect the competence of teachers.
- H 6 We assume that there will be no statistically significant difference between the assessment of teachers' competences considered at present as the most recent and the competences preferred by teachers in their pedagogical practice.
- H 7 We assume that with increasing of the school type teachers' competencies in education respecting the class diversity will be growing and developed subsequently.

The research sample consisted of general-education subjects teachers with different length of teaching experience gained at random from the Banská Bystrica, Bratislava, Nitra, Košice, Trenčín and Žilina regions through which our research was carried out. They were the teachers of kindergarten, primary and secondary schools providing pre-primary education, primary education, lower secondary and upper secondary education. The research sample covered various school subjects in order to obtain a broader view of the problem.

Descriptions of the research sample:

**a)** By Age

  

Differentiation of our research group was given by the age structure. The minimum age of teachers is 20 years, the maximum reached age is 64 years and the arithmetic average variance of teachers' age is 39 years.

**b)** By gender

The sample consisted of 465 teachers in total, out of which there were less men than women, particularly it was the 67 men (14.4%) and 398 women (85.6%).

**c)** The practice

In our research, there were teachers with different length of teaching experience included. As we have mentioned above, the female teachers formed a significant majority. They all had a university degree. Teachers had at least 1 year teaching experience and more than 44 years teaching experience, the average length of teaching experience of the teachers then was 14 years.

**d)** According to the city

The following Table 1 offers the set (of teachers) description according to the city and region from which the survey sample came from.

Tab. 1
OVERVIEW OF TEACHERS ACCORDING TO CITY AND COUNTRY

| CITY - REGION | N | % |
|---|---|---|
| Vráble<br>Nitra region | 21 | 4,5 |
| Topoľčany<br>Nitra region | 10 | 2,2 |
| Nitra<br>Nitra region | 114 | 24,5 |
| Lučenec<br>Banská Bystrica region | 44 | 9,5 |
| Levice<br>Nitra region | 78 | 16,8 |
| Košice<br>Košice region | 16 | 3,4 |
| Komárno<br>Nitra region | 17 | 3,7 |
| Geča<br>Košice region | 23 | 4,9 |
| Bratislava<br>Bratislava region | 52 | 11,2 |
| Ružomberok<br>Žilina region | 8 | 1,7 |
| Dobšiná<br>Košice region | 20 | 4,3 |
| Prievidza<br>Trenčín region | 38 | 8,2 |
| Kláštor pod Znievom<br>Žilina region | 7 | 1,5 |
| Bánovce nad Bebravou<br>Trenčín region | 5 | 1,1 |
| Martin<br>Žilina region | 12 | 2,6 |

In the table we can see that the most extensively represented was Nitra region, specifically the city of Nitra (N = 114; 24.5%). The smallest part of the research sample represented the teachers coming from Bánovce nad Bebravou (N = 5; 1.1%) of Trenčín region. If we evaluate the representation frequency of teachers by individual regions, from the largest to the smallest occurrence, they would be sorted in this order: Nitra Region, Košice Region, Bratislava Region, Banská Bystrica Region, Trenčín and Žilina Region.

**e)** The education

The research sample by level of education represented 378 (81.3%) of teachers with a university degree Mgr. (2nd degree) that created the biggest part of the sample, teachers with PaedDr. Title (2nd degree) were 44 (9.5%), and as last group, by the minimum difference, was represented by 43 (9.2%) teachers with a university degree Bc. Neither of the teachers reached the third level of higher education, the PhD. degree.

**f)** The stage

The characteristics of the research group according to the type of school shows that the largest number of 164 (35.3%) in research involved respondents teach at the second stage of primary schools, with the number of 131 (28.2%), there were secondary school teachers, 122 (26.2%) teached the first level pupils of primary schools and finally, there were the teachers in kindergartens, in number of 48 (10.3%).

**g)** The Class

The sample, in our research consisted of teachers, by the type of classes (see Table 2), where the educational process is implemented, consisted of 310 (66.7%) respondents that teach in regular classrooms in regular schools, less than a half, 118 (25.4%) teached in regular classrooms with an

  

individually integrated pupil/pupils and finally, the smallest part of the research sample consisted of 37 (8%) respondents that teach in special classes at regular schools.

Tab. 2
SET CHARACTERISTICS ACCORDING TO THE TYPE OF CLASSES

| TYPE OF A CLASS | N | % |
|---|---|---|
| regular classes in mainstream schools | 310 | 66,7 |
| regular classes with individually integrated pupils / students | 118 | 25,4 |
| a special class in a mainstream school | 37 | 8,0 |
| Together | 465 | 100,0 |

## METHODS

When choosing research methods, the selection was made with regard to research objectives and research hypotheses. For good orientation in research problems we used literary method and comparative analysis. To gain information we used techniques aimed at gathering new empirical data which covers the following methods: semi-structured interviews and non-standardized Questionnaire for teachers working in practice - Competence - Development - Teacher.

- Quantitative methods:
  - Average - The arithmetic mean, median, mode.
  - The degree of variation - the variation margin, variance, the standard deviation, descriptive statistics, the percentage calculation.

The following statistical tests were selected with regard to the hypotheses formulation. The results we obtained from questionnaires were statistically evaluated and analyzed using computer programs MS Excel 2007 and the special statistical 8.0 SPSS software using these statistical methods for analyzing metric values: Pearson's correlation coefficient, Student's t-test, ANOVA test.

- Qualitative methods - besides quantitative statistics methods used in the collected data processing, we also used qualitative methods: Logical analysis and synthesis, induction and deduction, comparison, generalization.

## RESULTS

We asked the teachers, "Do some of the stated factors influence the competence and professional development of teachers?" Particular findings are listed in the Table 3.

From the replies of teachers about which factors affect the development of teachers' professional competences we learned that the most decisive factor is literature self-study what was indicated by 422 (90.8%) teachers. Right at the second position, there was relationship between the teacher and his students (N = 398; 85.6%) and the length of teaching practice (N = 392; 84.3%). As factor with the least impact, 138 (29.7%) teachers mentioned gender and age of teachers (N = 334, 71.8%) and professional qualification (N = 381; 81.9%).

The reversed evaluation showed that the most of the teachers, 326 (70.1%) do not consider gender of a teacher an important factor in the development of teachers' competences. 127 (27.3%) teachers refused the class size as an influential factor in the development of their own competence and 121 (26%) of teachers denied the impact of the pupils' results. At least 42 (9%) teachers said the literature self-study is not a factor operating in development of the competence of teachers. Next, there were least 66 times (14.2%) mentioned relationship between the teachers and pupils and the length of teaching experience (N = 72; 15.5%).

Tab. 3
FACTORS INFLUENCING THE DEVELOPMENT OF TEACHER COMPETENCE

| FACTORS | Yes (N) | Yes (%) | No (N) | No (%) |
|---|---|---|---|---|
| age of a teacher | 334 | 71,8 | 130 | 28,0 |
| gender of a teacher | 138 | 29,7 | 326 | 70,1 |
| teacher's qualification | 381 | 81,9 | 83 | 17,8 |
| the length of teaching experience | 392 | 84,3 | 72 | 15,5 |
| teacher's job satisfaction | 389 | 83,7 | 75 | 16,1 |
| the relationship between the teacher and his/her students/pupils | 398 | 85,6 | 66 | 14,2 |
| number of the pupils/students in the class | 337 | 72,5 | 127 | 27,3 |
| the students' skills | 343 | 73,8 | 121 | 26,0 |
| self-study literature | 422 | 90,8 | 42 | 9,0 |

**A.** The GENDER criterion of a teacher

  

Differences among teachers by gender (see Table 4) were verified by Student's t-test which allows comparing the average of the two groups.

Tab. 4
THE DIFFERENCES BETWEEN MEN AND WOMEN IN VARIOUS DIMENSIONS

| Variable | Gender | AM | SD | t | df | Sig. |
|---|---|---|---|---|---|---|
| Knowledge | Ž (N=398) | 12,4020 | 3,0945 | -3,237 | 463 | 0,001 |
| | M (N=67) | 13,7612 | 3,6477 | | | |
| Realization | Ž (N=398) | 13,2387 | 3,2527 | -1,500 | 463 | 0,134 |
| | M (N=67) | 13,8955 | 3,6727 | | | |
| Development | Ž (N=398) | 14,5980 | 3,7731 | -2,234 | 463 | 0,026 |
| | M (N=67) | 15,7164 | 3,8995 | | | |

Explanation:
AM - arithmetic mean, SD - standard deviation, t - test criterion, df - degrees of freedom, sig. - Reaching Significance (> 0.05 insignificant; * significant ≤ 0.05, ≤ 0.01 ** highly significant; ≤ 0.001 very highly significant ***) Statistically significant results are highlighted.

The table below provides data obtained by statistical calculations of the Student's t-test for two independent variables. Based on the results of t-test, we can say that it was confirmed that there is a differentiation between men and women. We observed significant differences among them in only two dimensions.
Between men and women, there is a statistically significant difference in the evaluation of two dimensions. The dimension of Knowledge mean score was significantly higher in men - AM = 13.67 (SD = 3.65) than in women - AM = 12.40 (SD = 3.09). The entry is at the significant level of 0.000 (≤ 0.001), what indicates that this is a highly significant variable. For this reason we can talk about a high degree of the statistical significance. The other dimension Development shows that the mean score was also significantly higher in men - AM = 15.72 (SD = 3.90) than women - AM = 14.60 (SD = 3.77). This dimension is at the significance level of 0.026 (≤ 0.05), that means that this variable is significant.
The value of Implementing dimension is not considered as statistically significant, in which men and women did not differ significantly.
Conclusion: The above results showed that in case of the male and female the respondents involved in research there is a statistically significant difference in the dimensions of Knowledge and Development.

**B.** The teacher's AGE criterion
To verify the relationship between age of teachers and the score values of the individual dimensions we used the method of Pearson correlation coefficient r.

Tab. 5
THE CORRELATION COEFFICIENT FOR THE AGE OF THE TEACHER AND VARIOUS DIMENSIONS

| | Age | Knowledge | Realization | Development |
|---|---|---|---|---|
| Age | 1,000 | -0,166** | -0,113* | -0,157** |
| Knowledge | -0,166** | 1,000 | 0,765** | 0,714** |
| Realization | -0,113* | 0,765** | 1,000 | 0,758** |
| Development | -0,157** | 0,714** | 0,758** | 1,000 |

Explanation:
* Correlation is significant at the level ≤ 0.05
** Correlation is significant at the level ≤ 0.01.
*** Correlation is significant at the level ≤ 0.001
Statistically significant results are highlighted.

We wondered whether there is a relationship between age of teachers and dimensions of Knowledge - Implementing - Development- of the teachers' competence.
We have noticed that there is a statistically significant relationship between age and teachers in all of the dimensions, Knowledge, Implementation and Development.
Based on the data we can say that, as the Table 5 above shows, there are statistically significant results between variables at level of -0.166 and -0.157 correlation, which is highly significant at the level ≤ 0.01. At level -0.113 there is a significant correlation and that is statistically significant.
These correlations have acquired the negative value and are closer to -1. This means that between the compared variables, in this case a teacher's age and the dimensions of Knowledge, Implementation and Development, there is a close relationship. The negative correlation coefficient indicates that the variables that are compared are in the opposite relations, i.e. the high value of one variable is equivalent to a lower value of the second variable and vice versa.
Conclusion: We have identified a significant relation between a teacher's age and the value of scores in all three dimensions, Knowledge, Implementation and Development, while score decreases with increasing of a teacher's age.

  

**C.** The teaching PRACTICE Criterion

To verify the relationship between teaching practice and the score values of the individual dimensions we used the method of Pearson correlation coefficient r. The indicated results are shown in Table 6 below.

Tab. 6
THE CORRELATION COEFFICIENTS FOR THE PRACTICE OF TEACHING AND THE VARIOUS DIMENSIONS

| | Practice | Knowledge | Realization | Development |
|---|---|---|---|---|
| Practice | 1,000 | -0,169** | -0,107* | -0,153** |
| Knowledge | -0,169** | 1,000 | 0,765** | 0,714** |
| Realization | -0,107* | 0,765** | 1,000 | 0,758** |
| Development | -0,153** | 0,714** | 0,758** | 1,000 |

Explanation:
* Correlation is significant at the level ≤ 0.05
** Correlation is significant at the level ≤ 0.01,
*** Correlation is significant at the level ≤ 0.001
Statistically significant results are highlighted.

In further verification of the relations, we wanted to find out whether there is a relationship between teaching experience and individual dimensions of Knowledge, Implementation and Development.

Using the Pearson correlation coefficient method we have identified a significant relation between teaching practice and all the surveyed dimensions.

Based on the obtained data, we can state that we found statistically significant results between two variables at three levels. Particularly, the level of correlation of -0.169 with a highly significant at the level ≤ 0.01, thus confirming the results statistical significance and importance of the relation between teacher's experience and the dimension of Knowledge.

Statistically significant results were revealed on the second level of correlation of -0.153 as similarly highly significant at the level ≤ 0.01. A statistically significant results of the relation between teacher's experience and the dimension of Development were proved.

On the level of -0.107 the significant correlation at the level ≤ 0.05, we have also noticed statistically significant results. Thus we have confirmed that there is a statistically significant relation between teacher's experience and the dimension of Implemented.

These all mentioned the Pearson product-moment correlation coefficients acquired a negative value and are close to -1, which indicates that the compared variables, i.e. the years of teaching experience and values of dimension of Knowledge, Implementation and Development are in a closer relation. The negative correlation coefficient indicates that the variables that are compared are in the opposite relations, i.e. the high value of one variable is equivalent to a lower value of the second variable and vice versa.

As we have noticed, the results for the age of teachers and the teaching practice are very similar. We believe that the practice is directly related to age.

Conclusion: We have identified a significant relationship between teacher's experience and the score values in all three dimensions - with the growing practice the score is on decline.

**D.** The teacher's EDUCATION Criterion

The difference among teachers according to education (see Table 7) was verified by ANOVA test which allowed us to compare the average of three or more groups.

Tab. 7
DIFFERENCES AMONG TEACHERS BY EDUCATION

| Variable | Education | AM | SD | F | sig. |
|---|---|---|---|---|---|
| Knowledge | Bc. (N=43) | 12,9070 | 3,8533 | 0,932 | 0,394 |
| | Mgr. (N=378) | 12,5026 | 3,1667 | | |
| | PaedDr., PhD. (N=44) | 13,1136 | 2,9032 | | |
| Realization | Bc. (N=43) | 13,0000 | 4,2258 | 2,676 | 0,070 |
| | Mgr. (N=378) | 13,2460 | 3,2081 | | |
| | PaedDr., PhD. (N=44) | 14,4091 | 3,1499 | | |
| Development | Bc. (N=43) | 15,7442 | 4,9043 | 2,336 | 0,098 |
| | Mgr. (N=378) | 14,5820 | 3,7727 | | |
| | PaedDr., PhD. (N=44) | 15,3182 | 2,5679 | | |

Explanation:
AM - arithmetic mean, SD - standard deviation, F - test criterion sig. – Significance was achieved (> 0.05 insignificant; * significant ≤ 0.05, 0.01 ≤ high ** significant; ≤ 0.001 *** very highly significant)
Statistically significant results are highlighted.

The above table presents the differences between the level of education of teachers, it shows the data obtained by ANOVA test statistical calculation comparing the three or more independent variables. The table presents the different items with the levels of education, arithmetic averages and standard deviations. The three levels of

  

comparison of the three files are always shown alongside the calculated value of t-test and the statistical significance. Because the description of the research results we focused our attention to the statistically significant data with the error probability of $p < 0.05$. However, we must say that we have not noticed statistically significant results in any of the variables at level of the teachers' education.
Conclusion: Among the teachers, there are not significant differences considering their education.

**E.** The TYPE OF SCHOOL Criterion

Differences among teachers by type of school (see Table 8) we have verified by already mentioned ANOVA test, which allowed us to compare the average of three or more groups.

Tab. 8
DIFFERENCES AMONG TEACHERS BY TYPE OF SCHOOL

| Variable | Level | AM | SD | F | sig. |
|---|---|---|---|---|---|
| Knowledge | 0 (N=48) | 12,6875 | 3,8213 | 2,250 | 0,082 |
| | 1 (N=122) | 12,0574 | 2,7732 | | |
| | 2 (N=164) | 12,5732 | 3,3140 | | |
| | 3 (N=131) | 13,0992 | 3,1741 | | |
| Realization | 0 (N=48) | 13,3958 | 4,3454 | 3,883 | 0,009 |
| | 1 (N=122) | 12,5410 | 2,8201 | | |
| | 2 (N=164) | 13,4207 | 3,4835 | | |
| | 3 (N=131) | 13,9389 | 2,9891 | | |
| Development | 0 (N=48) | 16,3958 | 5,9671 | 5,166 | 0,002 |
| | 1 (N=122) | 13,9426 | 3,0323 | | |
| | 2 (N=164) | 14,6890 | 3,6881 | | |
| | 3 (N=131) | 15,0076 | 3,4025 | | |

Explanation:
AM - arithmetic mean, SD - standard deviation, F - test criterion sig. - Reaching Significance (> 0.05 insignificant; * significant ≤ 0.05, ≤ 0.01 ** highly significant; ≤ 0.001 *** very highly significant); 0 - kindergarten, 1 - 1st stage of primary school, 2 - 2nd stage of primary school 3 - secondary school
Statistically significant results are highlighted.

Statistically significant results among teachers in terms of the type of school were noticed in the dimensions Implementation and Development.
The high degree of reliability by the monitored dimensions that are present in all types of schools, i.e. in kindergarten, 1st and 2nd stage of primary schools and secondary schools, appears in case of two variables. One of them is Implementation, at level of 0.009 (≤ 0.01 ** highly significant), the other is Development, at the level of 0,002 (≤ 0.01 ** highly significant).
The dimensions revealed only one opposite effect - the only dimension where the highest average score in secondary schools occurs is Implementation. The mentioned item had a statistically very highly significant score - of AM = 13.94 (SD = 2.99), while the Development dimension's highest average occurred in kindergartens - AM = 16.40 (SD = 5.97) with also statistically very highly significant result.
The statistically significant dimension of Implementation, at level of 0,009 of a very high significance, we identified at the 1st stage of primary education the lowest average values (minimum frequency), where the lowest average score is - AM = 12.54 (SD = 2.82). By the dimension of Development we found statistically significant results, at a level of 0.002 with a very high significance we identified at the stage of primary education, as well as in the dimension of Implemented, the lowest average value with the lowest average score - AM = 13.95 (SD = 3.03).
The total score shows that among the school types the leading position belongs to the nursery school achieving the highest score average - AM = 16.40 (SD = 5.97), subsequently followed by secondary schools in average - AM = 15.01 (SD = 3.40). The last in this range is the 1st stage of primary schools with the lowest average score - AM = 12.54 (SD = 2.82). We reported highly statistically significant results at the significance level of 0.01.
In conclusion, we can state that among the kinds of schools we have identified significant differences in two dimensions. The significance values for the dimension of Knowledge were not considered as statistically significant results.
Conclusion: Among the teachers, in terms of the degree, there are statistically significant differences in the dimensions of Implementation and Development.

**F.** The CLASS TYPE Criterion

The differences among teachers according to the type of class were examined by using the ANOVA test, which allowed us to compare the average of three or more groups. The observed facts are presented in the Table 9.

  

Tab. 9
THE DIFFERENCES AMONG TEACHERS ACCORDING TO THE TYPE OF CLASS

| Variable | Class type | AM | SD | F | sig. |
|---|---|---|---|---|---|
| Knowledge | regular classes in mainstream school (N=310) | 12,5581 | 3,0764 | 0,071 | 0,931 |
| | regular classes with individually integrated pupils / students (N=118) | 12,6780 | 3,5031 | | |
| | special class in a mainstream school (N=37) | 12,6757 | 3,4323 | | |
| Realization | regular classes in mainstream school (N=310) | 13,2806 | 3,2534 | 0,712 | 0,491 |
| | regular classes with individually integrated pupils / students (N=118) | 13,6017 | 3,4866 | | |
| | special class in a mainstream school (N=37) | 12,9189 | 3,3614 | | |
| Development | regular classes in mainstream school (N=310) | 14,7452 | 3,9670 | 0,125 | 0,882 |
| | regular classes with individually integrated pupils / students (N=118) | 14,7034 | 3,5065 | | |
| | special class in a mainstream school (N=37) | 15,0541 | 3,4233 | | |

Explanation:
AM - arithmetic mean, SD - standard deviation, F - test criterion sig. - Reaching Significance (> 0.05 insignificant; * significant ≤ 0.05, ≤ 0.01 ** highly significant; ≤ 0.001 *** very highly significant)
Statistically significant results are highlighted.

Similarly, as we observed in case of the teacher's education criterion, we state that there were observed no statistically significant results by any of the variables according to the type of class, i.e. regular classes in regular schools, regular classes with individually integrated pupil/pupils and special classes in regular schools.
Conclusion: Among the teachers, there are not significant differences in terms of the type of class.

## DISCUSSIONS

The purpose of this scientific study was to show a correlation between the perception of competence development in view of diversity of the classroom by teachers and teachers ' competence development in terms of the classroom diversity in educational practice and present a comprehensive analysis of the teachers' competence state with the results showing which are the key competences are in terms of classroom diversity and what is the typical hierarchy for those teachers' competences within kindergartens, primary schools and secondary schools in the regions of Banska Bystrica, Bratislava, Nitra, Košice, Trenčín and Žilina.
Our research identified the factors determining the development of teachers' competences in terms of the classroom diversity and their impact on the assessment of teachers' competence development.
We stated the following hypotheses and their validity was verified in research using computer programs MS Excel 2007 and SPSS 8.0 statistical software for Windows, the Student's t-test, ANOVA test and Pearson correlation coefficient. The research revealed the following results:

- H 1 We assumed that the age of the teacher determines the area of teacher's competence development which respects the class diversity.

To verify the relationship between a teacher's age and the score values for the individual dimensions we used Pearson correlation coefficient r. Based on the obtained data we can say that we have found statistically significant results between variables at level -0.166 and -0.157 with the correlation that is highly significant at the level ≤ 0.01. At level -0.113, there is the significant correlation that is statistically significant. In verifying the relations between the theacher'a age and dimensions of Knowledge - Implementation - Development of teachers' competence we have identified that there is a statistically significant relationship between the theacher'a age and all three dimensions of Knowledge, Implementation and Development. Due to the fact that in these cases the negative correlation coefficients occurred, which indicates that the variables are in the opposite relations, i.e. a high level of one variable is equivalent to a lower value of the second variable, and vice versa, we can say that the at lower age teachers are, more attention they draw to the Cognition, Implementation and Development of their competence with respect to diversity in the classroom, compering to the older teachers subsequently. The research verification showed that H 1 hypothesis was confirmed.

- H 2 We assumed that we would find significant differences between teachers' gender, according to which the development of competence should vary among the male and female teacher.

Differences among teachers by gender were verified using the Student's t-test, which allows comparing the average of two groups. Based on the results of t-test, we can say that the differentiation between the male and female teachers were confirmed and in this case we found the statistically significant differences in only two dimensions. Between male and female teachers, there was the statistically significant difference in answers to questions relating to two dimensions. By the dimension of Knowledge the mean score was significantly higher at men - AM = 13.67 (SD = 3.65) than at women - AM = 12.40 (SD = 3.09). The Knowledge item is at the significance level of 0.000 (≤ 0.001), this means that it is a very highly significant variable. For this reason, we

  

attribute it a high degree of statistical significance. The Development dimension shows the average score that was significantly higher at men - AM = 15.72 (SD = 3.90) compared to women - AM = 14.60 (SD = 3.77), as well as in the dimension of Knowledge. The dimension was at a significance level of 0.026 (≤ 0.05), that means that this variable is significant. The measured values of significance for Implementation dimension were not considered as statistically significant where the male and female teachers did not significantly differ. In identifying the differences among teachers according to gender, the research results showed that in case of women involved in research, the dimensions of Knowledge and Development occurred more frequently in comparison to the male respondents. We noted that the gender criterion in the questionnaire score was not confirmed for the item of Implementation. We believe it is connected to some gender differences in the sense that women are generally more empathic, consistent, careful, compassionate, socially active and communicative compared to men who are better in orientation, risk taking, but worse in patience and expressing emotions. For the above mentioned reasons the differences between male and female teachers in the dimensions of Knowledge and Development of competences may be more beneficial for female teachers as for the male teachers. These results prove that between the male and female respondents involved to the research, there is a statistically significant difference in the dimensions of Knowledge and Development. It must be noted that the basis of gender in the questionnaire score was confirmed for these two items, except the dimension of Implementation. We state that by the men participating in the research it was the dimension of Knowledge and Development where there were observed the lower values in comparison to women. From the results obtained by the research investigation, we can conclude that the hypothesis H 2 confirmed.

- H 3 We assumed that there is a relationship between the length of teaching experience and attributing importance of teacher's competence development in view of the class diversity.

In verifying the relationship between teaching practice and the score values of the individual dimensions we used Pearson correlation coefficient r by which we have identified a significant relationship between teaching practice and all the surveyed dimensions of Knowledge, Implementation and Development. Referring to the obtained data, can say that we found statistically significant results between the two variables at three levels, at the level of correlation of -0.169 with a highly significant level of ≤ 0.01. It was confirmed that there is a statistically significant relationship between teacher's experience and the value scores in the dimension of Knowledge. Statistically significant results were also discovered on the second level of correlation of -0.153 as the correlation similarly highly significant at level of ≤ 0.01, which confirmed the statistically significant relationship between the teaching practice as well as the value of score in the dimension of Development. The existence of a significant relationship between the teacher's experience and a value score in Implementation dimension was confirmed at a negative level of -0.107 with a correlation significant at the level of ≤ 0.05. All the Pearson correlation coefficients acquired a negative value and were close to the value of -1, which indicates that between the compared variables, in particular the years of teaching experience and dimension values of Knowledge, Implementation and Development are in a closer relationship. The negative correlation coefficient indicates that the compared variables are in an inverse relationship, i.e. the high levels of one variable are equivalent to lower values of another variable and vice versa. As we observed, the results for the age of the teacher and the teaching experience are very similar. We believe that this has been caused by the direct link between the teaching practice and age of the teacher. The above mentioned indicates that the longer teacher's practice is, more decreasing rates in Knowledge, Implementation and Development of teachers' competence with respect to the diversity of the classroom it shows, in comparison to the teachers with shorter teaching experience. These findings were confirmed by the hypothesis H 3.

- H 4 We assumed that the achieved level of education of teachers will be reflected in the Implementation and Development of competences in terms of a class diversity.

Differences found in the questionnaire survey among teachers by education were verified by ANOVA test, that allows to compare the average of three or more groups. The individual items presented with the degree of education, arithmetic mean, standard deviation and t-test calculations have been guiding us to statistically significant data of the probability of error $p < 0.05$. But we must say that we have not noticed statistically significant results in any of the studied variables - Knowledge, Implementation, Development according to the level of teachers' education. Finally, we conclude that between the teachers, in terms of their level of education, there are no statistically significant differences. Based on the findings, we can conclude that the hypothesis H 4 was not confirmed.

- H 5 We assumed that type of class where the teachers implement the educational process does not affect the competence of teachers.

The differences among teachers according to the type of class were verified by ANOVA test, that allows to compare the average of three or more groups. Based on the test results of teachers by type of class they teach in, the questionnaire score stated that the differentiation was not confirmed and there were observed no statistically significant results in any of the variables according to the type of class, i.e. regular classes in regular schools, regular classes with individually integrated pupil/pupils and special classes in regular schools. For this reason,

  

we can say that in terms of the type of class there are no statistically significant differences among the teachers and for this reason we do not accept the hypothesis H 5.

- H 6 We assumed that there is not a statistically significant difference between the assessment of teachers' competences considered at present as the most recent and preferred in the pedagogical work of teachers.

We were interested which competence of teachers are considered as the most actual and are preferred in the work of teachers and whether the statements of teachers in these areas of competence are identical. Based on our findings, we say that the hypothesis H 6 was confirmed.

- H 7 We assumed that with increasing grade of school there are also growing and developing the teaching competences in terms of the class diversity.

Based on the complex findings, due to the testing of hypotheses we focus only on the statements characterizing the teachers' competence development that achieved the highest level of development according to the types of school. We found the following: in Kindergarten, mainly occurred the competence of Supporter (2.93), Assessor (2.48) and Inspiratory (2.18); 1st level of primary schools there were the competences of Supporter (2.24), Model (1.85) and Informer (1.79); in 2nd level of primary schools also dominated the competences of Supporter (2.36) and Model (2.12); in high schools it was also the competence of Supporter (2.30) Model (2.20) and Aspirator (2.16). Interesting was the finding that, on the contrary, the smallest occurrence in all types of schools (except for one outstanding competence of implementation) was observed by the competence of Knowledge, as Facilitator, Advisor, Promoter and Manager. From the above results we can state the reverse effect, the decreasing rate according to the type of school, which means that the hypothesis H 7 was not confirmed.

Our initial intention was to find out which of the competences the teachers in kindergartens, primary and secondary schools know, then which competences teachers apply in their pedagogical implementation and finally which competence appreciate for development in educational practice.
Using five initial open questions asked the teachers in the questionnaire, we obtained a broader choice of answers that suggest that the teachers know the nature of competences that also subsequently apply and develop in their educational practice. Mentioned items were evaluated qualitatively, because it is natural that the teachers did not reply using the same phrases, or not every teacher commented on the free part of the questionnaire. We evaluated the individual statements by categorization and further analysis for all schools altogether (Kindergarten, 1st and 2nd level of primary schools, secondary schools).
We focused on how teachers understand the key word competence, due to the fact that at present the issue of competence is elaborated quite extensively. According to the obtained responds, we have created the following order of importance of competences. We can be state that the most commonly term for defining the competence was: ability (32%), skills (24%) and craft (15%). Less occurred terms were: cognizance (10%), knowledge (6%), authorization (3%). Equally low (2%) were presented: disposition, knowledge, expertise, operation and efficiency. Here are some interesting examples of teachers' statements in defining the concept of competency - specifically to a particular question.

How do you understand the term competence:
- "A sum of knowledge, skills, abilities, expertise, attitudes and etc., which a teacher should use to implement his/her professional work effectively";
- "The ability to take responsibility in professional situations, the ability to positively influence the actual situations, to be "in "and not" out" ";
- "It is a kind of "obligatory equipment" of the individual – such as knowledge, skills, abilities, attitudes, opinions, professional activity, professional competence, the possibility to act (power), key capability";
- "Some "power" that the teaches has in his/her hands and it is up to the teacher how she/he will use it in terms of his/her students benefits";
- "The information mediation involving higher thought processes and emotions and make the educated subjects an individual and independent learner for the successful implementation of the teaching profession."

We can say that the teachers are aware of the importance of the teacher's competence (though we have to note that this concept is new and among teachers is not commonly used).
A part of the research was to find out the main reasons for the occurrence of the chosen competence of teachers in the educational process. Teachers reported reasons due to the competence and opinions for the specific area we have obtained in the research are presented in the percentage scale.
We can state adequate allocation of proportions in stating the reasons choosing a significant competences of a teacher, the highest (17%) was placed the Efficiency of learning process, next was the Education and Training (16%) and Developing pupils' personality (15%), all in close proximity. They were followed by Preparation for life (10%), Knowledge (9%), Goals achieving (7%) and three times occurred in the same proportion (6%) the Status of teachers, Development of creativity and an Impact on the pupils. The least frequently occurring reasons

  

were Innovation and Modernization of the educational process (4%) and Teaching the pupils how to learn (4%). Here are some examples of statements given by teachers explaining their reasons. The teachers responded to the following question:

The main reason for the significant position of teacher's competence in the education process is:
- "To manage educational process effectively it requires an adequate level of professional competence which the teacher should systematically develop and complement his/her education. The basic prerequisite for adequate development of pupils' competence is an adequate level of teacher competence";
- "Constant changes in the educational process, progress in the field of teaching techniques, higher and higher requirements on teachers from different perspectives";
- "Ability to make the teaching process interesting, effective, avoiding frontal teaching, ability to adapt to new trends in teaching, ability to use effective methods, the ability to motivate students and take into account their individuality";
- "The more competent the teacher is, the greater the benefit for himself, but especially for the student";
- "Raising of the quality among teachers and subsequently improvement of the educational process, and thus raising of the "quality" of a child and pupil in the future as "a human - individual personality"...";
- "The main reason is right in the teacher's personality, which should be complex, not only in the terms of knowledge, skills, but also in personal attitudes, abilities to successfully handle challenges and situations in life, school. When she/he is able to handle it him/herself, them it could be well passed to the others, e.g. the pupils";
- "That they assure teachers certain social status";
- "To be an expert in his/her profession and but also a human being".

We further drew our attention to the factors that may affect the competence of a teacher and their development. For a clearer insight they are presented in the following Table 10.

Tab. 10
A COMPARISON OF FACTORS AFFECTING THE DEVELOPMENT OF TEACHERS

| The most represented factors | Smallest representation agents |
|---|---|
| | YES |
| 1. Self-study literature | 1. Teacher's gender |
| 2. Relationship between teachers and pupils | 2. Age of the teacher |
| 3. Length of teaching experience | 3. Teacher's qualifications |
| | NO |
| 1. Teacher's gender | 1. Self-study literature |
| 2. Number of students in class | 2. Relationship between teachers and pupils |
| 3. The ability of pupils | 3. Length of teaching experience |

From table view it can be seen that the items assumption is confirmed in categories: literature self-study, the relationship between the teacher and his/her pupils, the length of teaching experience, teacher's gender, for the reason of the cross-testing and mutual-non-exclusion in opposite dimensions.

**CONCLUSIONS**

In conclusion we can say that teachers are familiar with the basic competence; however, in case of the newer teacher competencies concerning the class diversity the results are less satisfying. In spite of the fact that these competencies are applied randomly and unconsciously, it is not comparable to the situation when applied intentionally and purposefully. Demands on teachers are increasing, requiring the continuous development of their competence. Skills development, according to Ch. Kyriacoua (2004), could be understood as a process although being in an instant progress, its intensity varies depending on the situation and the actual context within which the teacher works.

To the above we add that the research concerning the question of searching for the essence of competence of a teacher in the context of the class diversity, showed that in order to be effective in educational process, it is essential that the teacher in the educational process applies several competences.

Our research highlighted a number of positive aspects in knowledge, in the process of implementing and developing the teachers' competences in terms of kindergartens, elementary and secondary schools. However, we also found some insuffiencies, so in order to their minimize or removing our recommendations are designed to improve the effectiveness of teaching process in the following areas.

We are aware that the results of our research investigation cannot be fully generalized. Based on the theoretical background and empirical research problem processing for the improvement of education theory, education practice and for further research in the field of education, we propose the following recommendations:

- By defining the basic terminology related to the issue of teachers' competence development unify and clarify the potentially ambiguous terminology.
- Used survey research method with its own designed research tool questionnaire for teachers working in practice - Competence - Development - The Teacher, may be helpful to teachers in an effort to reveal

  

the status of their own competence profile and support their competence development in view of the class diversity. Therefore, we propose it to be implemented in the education process.

- The results of the research can be an inspiring starting point in the application of other related studies or in comparison of new findings and results of other surveys. It is necessary to initiate similar investigations of the competences aimed not only to analyse, identify and describe the current situation, but also to examine the possibilities of educational intervention in their effective development. The motivation is the fact that on the basis of the research results it is possible to describe and classify the competence of teachers, but also to process the effective methods and strategies of their development.
- Due to the requirements mentioned above are, in our opinion, currently absent. Therefore it is required to create the methods of acquiring competences of teachers and, at the same time, their development in the context of the class diversity.
- Each school should have its own interest in creating a customized training programs to meet the needs of their teachers directly in schools through educational institutions (National Institute for Education, methodical centres and departments, the State Vocational Education Institute), as no less important is the participation of universities, institutions of further education of teachers, schools, education system management towards the international cooperation.
- We draw attention to the proposal that the competent school authorities consider the possibility of strengthening the didactic part of teachers' training with the competence which aim to increase the efficiency of the educational process. It would be appropriate to organize regular trainings for teachers, lectures, seminars or training courses, which would offer the latest knowledge in the field of teachers' competence development in terms of the diversity of the classroom.
- The activity and educational efforts of teachers should be developed on a broader educational area, involving all the participants on the education process, i.e. the school management, teachers, pupils, but also the parents.
- In order to maintain the flexibility of the educational process, it is essential that none of teacher's competence should stay at the same lever for longer time. It is therefore important for the teacher to constantly improve, extend and raise their skills in accordance with the latest knowledge, needs and requirements of teaching practice which requires a permanent, lifelong learning.
- The development of teachers thus not only involves the constant self-study, but also the self-reflection of the teacher's educational activities, i.e. a re-assessment of the teacher's own work and constant self-education. Only a teacher who continually assesses his/her performance, makes the self-reflection directly after the lesson, but also throughout all of his/her educational work and reflect his/her own pedagogical mastery, can continuously improve and innovate the educational process.

The outlined problem should be seen in a wider context. The draft of recommendations could contribute positively to the overall increasing of the achieved results in our kindergartens, primary and secondary schools by eliminating the possibility of failure of teachers in their pedagogical activities, and thus the pupils in their learning process. We believe that one of the arrangement should be informing of the wider professional and general public about the necessity of teachers' competence development. In defining the above mentioned recommendations, we took into consideration the fact that the theoretical processing of problems with the empirical results obtained in our research findings enrich the mentioned public knowledge.

In spite of the stated, the developing of the teachers' competences, is demanding, in terms of time, long-term and complex process, the implementation of which is associated with many problematic situations. We tried to draw some light to this problem in specified terms, and we express our belief that the awareness of the importance of teachers' competence development itself, will affect the education process. They are then the competences that represent an important aspect of the educational practice now and which are the subject of continual improvement. By applying the innovative trends and the gradual fulfilment of teaching competences we achieve the greater efficiency of educational process perspective.

Inevitably, we recognize the importance of focusing to the teacher's competences, notably from the perspective of the recent educational sciences development, because only with constant avid interest of teachers in knowing the teaching competences problem there might be a positive influence put on the improvement of the educational process.

**The research plan**
The presented results are partial output of the research solved within the project UGA *"Possibilities and Perspectives of Building an Inclusive Culture in Schools that Reflect the Determination of the Principles and Values of the Pupil / Student's Community Supporting the Chosen Attitudes"*, No. V/22/2015.

  

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# TEACHER'S CHARACTERISTICS AFFECTING SUCCESSFUL SCHOOL LIFE OF STUDENT

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**ABSTRACT**
This study focused on the findings of preceding studies that the maladjustment students from ordinary schools adjust well to commissioned alternative schools and examined the characteristics of teachers that affect the students' successful school life. For this purpose, a group of teachers from commissioned alternative schools were interviewed. The findings of this research proved that the characteristics of teachers affect the students' successful adjustment at commissioned alternative schools. This study derived the following characteristics of teachers as those that affect the students' adjustment to school life: 'high self-esteem.' 'mission and positive perception of sacrifice,' 'strong determination and efforts to help students,' 'no prejudice and discrimination,' 'love of a mother,' 'consistency with words and actions,' 'critical thinking about normal and abnormal,' 'clear boundaries of acceptance,' and 'trust and faith as the start point of education.' The findings manifest that Pestalozzi's classical principle of education where educational relationships should be based on love as with the parent-child relationship is still valid in today's schools that are dominated by technicality and efficiency. Further studies should be conducted to see whether the adjustment to school life based on these educational relationships can lead to social adjustment.

**KEYWORDS:** Maladjustment to School, Characteristics of Teachers, Adjustment to School, Commissioned Alternative Schools

## □ . Research Background

This study began from the following background: first, Korean students show good academic performance at PISA, but they are not satisfied with school education. In the 2011 OECD Educational Indicators, they showed the lowest level of interests and confidence in learning and their happiness index, which is one of the indicators of satisfaction with school life, was ranked 23rd place out of 23 nations (Kim, 2012). Students' satisfaction with school life is highly likely to be expressed as maladjustment to school, which is an experience that can cause the students to perceive themselves as losers, experience loss of hope, feel as failures of the society, and/or develop sociophobia to lose self-esteem. Having realized how serious this problem is, the Ministry of Education has introduced and implemented various policies to reduce students' maladjustment to school. Second, when we heard at an interview with the teachers at a high school, "A student who would often refuse to come to school at our school surprised us by recording full attendance for a month at a commissioned alternative school," we thought that a possible solution for maladjustment to an ordinary school may be found in a commissioned alternative school. Third, it was diagnosed based on the interview and teachers' experience that one of the problems of schools is that "Young teachers' academic skills are improving, but their skills to comprehend and guide (so-called problematic) students." Under these circumstances, it was assumed that commissioned alternative school teachers' characteristics would affect students' successful adjustment to commissioned alternative schools.

## □ . Research Question

What are the characteristics of teachers affecting successful school life of students in a commissioned alternative school?

## □ . Korea's Support System for Maladjustment Students and Commissioned Alternative Schools

### 1. Maladjustment Student Support System

Korea's systemized support for maladjustment students is provided through the 'Wee Project' which is an <integrated school safety management system>. The Wee (=We+education+emotion) Project operates an integrated safety network of schools-office of education-local community and has been available since January 2009 to prevent and support drop-outs and students in crisis. The Wee Project connects Wee Class-Wee Center-Wee School as shown on［Fig. 1 Wee project］ and operates the first, second, and third safety networks. Wee Class, Wee Center, and We School focus on different areas to provide students with services.

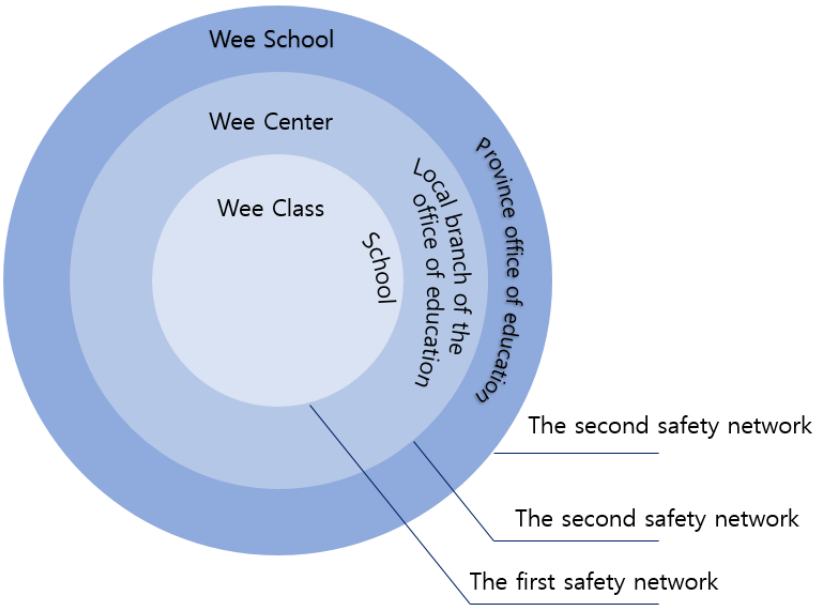
The purpose of 'Wee Class' is to install and operate a counseling center in each school to discover and prevent all students with maladjustment at an early stage and guide them to better adjustment. Wee Class helps students with potential problems to discover the possibility of problems. Wee Class arranges professional counseling teachers or counselors to operate programs to help with poor academic performance, maladjustment, school violence, poor interpersonal relationships, and media addiction.

'Wee Center' is installed at the local branches of the office of education to provide in-depth psychological diagnosis and professional counseling services involving evaluation-counseling-treatment for students who are exposed to major problems that are hard to guide or treat in schools or other students. Wee Center's professional staff members include professional counseling teachers, clinical psychologists, social welfare workers, youth counselors, psychiatrists, life-long educators, and learning therapists.

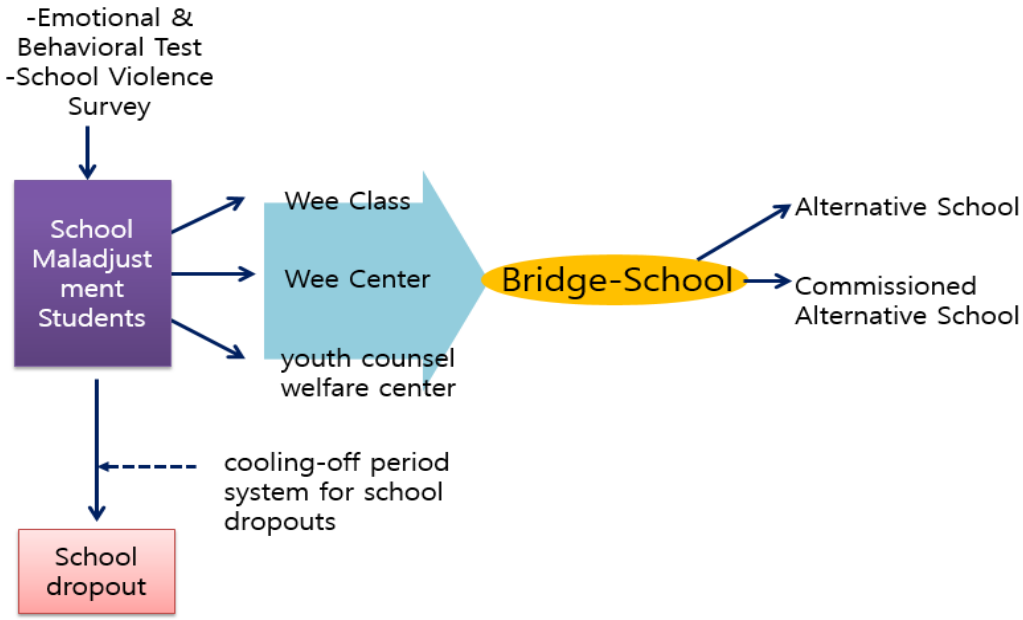
'Wee School' is a long-term commissioned educational institution (boarding/ non-boarding) for high-risk students who need long-term treatment and manages near drop-outs by providing professional counseling and academic education at the same time (Korean Educational Development Institute, 2011: 29). The students with maladjustment to school participate in 'Wee Class' and 'We Center' for counseling and treatment while taking regular classes at local schools; if they are still exposed to the risk of drop-out due to maladjustment nonetheless, a commissioned alternative school, which is a long-term commissioned educational institution, is contacted for commissioned education. In addition to that, there are educational welfare priority support project and drop-out reconsideration system as the major projects of the Ministry of Education and municipal/provincial offices of education to support maladjustment. The educational welfare priority support project aims at improving the quality of education and welfare services for the urban areas with low-income neighborhoods to bridge the educational divide. This project operates programs in various areas such as learning, emotional, culture, and welfare for the target students (Park, 2011: 200). Each participating school arranges one educational social worker for the project or the hub schools with the educational social workers operate programs to support other schools.

Drop-out reconsideration system prevents dropping out of school without careful consideration by providing counseling, career experience, sports and arts programs through schools and relevant community organizations (e.g., youth welfare counseling centers) under Article 54 of the Elementary and Secondary Education Act Enforcement Decrees for the students who have been absent for a long time or submitted application for voluntary withdrawal, and their parents. The reconsideration period can be between two weeks and 50 days per session considering each student's opinion and program (Ministry of Education, Incheon Office of Education, National Youth Policy Institute, 2014). According to the Ministry of Education's Basic Educational Statistics of 2015, 46,414 elementary/middle/high school students dropped out due to maladjustment and this takes 0.71% of all students (Ministry Of Education, 2014). See below［Fig.2］.




［Fig.1］ Wee Project




［Fig.2］ Korean Support System for maladjusted Student at School

## 2. Commissioned Alternative Schools

Commissioned alternative schools are a part of the educational system where students select a commissioned institute to receive alternative education to continue attending schools while being enrolled in their previous schools. In other words, it is a public alternative school system that combines the public education system with the curriculums and system of alternative education. Commissioned alternative schools are operated under the rules set by municipal/provincial offices of education based on the local circumstances and the municipal/provincial superintendents designate and operate the commissioned schools. Once a school is designated as a commissioned school, it receives administrative/financial support from the Ministry of Education, including scholarships and financial aids (Ministry Of Education & Human Resources Development,

2007).
The characteristics of commissioned alternative schools can be divided into two: first, it is the regulations about graduation. Students attending commissioned alternative schools are enrolled in previous schools, so they can earn the high school diploma from their schools after completing all required educational schedules. Upon the expiration of initial commission period, they can decide whether to return to the original school or continue receiving commissioned education. Second, it is about the educational programs. Commissioned alternative schools can offer various courses related to personality and career once the students complete 1/3 of the National Common Core Curriculums. Therefore, the courses of commissioned alternative schools assign a lot of hours for experience activities through electives and minimum hours for the common core courses. The electives include various interesting courses and can be selected as desired by each student. The students experience various things through the electives and seek help for career decisions. Also, school hours can be shortened by the principal's discretion considering the students' attentiveness (Son & Chung, 2015: 966).
According to the Ministry of Education's records, there are 199 commissioned alternative schools in operation nationwide as of February 2015 (Ministry Of Education, 2015). The following lists the distribution of schools in each city/province. In case of Incheon, which is the target area of research, seven commissioned alternative schools are being operated as of August 2016.

## 3. Research Method

**1) Selection of Subjects**
This study individually interviewed five students working for ㅇㅇ School, a commissioned alternative school in Incheon that offers various unique programs and alternative courses. After explaining to the subjects the objectives of this study, each subject had a chance to agree to participate in the study.

<Table 5> Demographics of Subjects

| Research Participant | Sex/Age | Homeroom & Subject | Experience in Alternative School | General Experience |
|---|---|---|---|---|
| A | Male/62 | 9th Grade/ Technology & Education (Vice Principal) | Over 4 years (3 years as dispatched vice principal & 8 month in operation) | 32 years in regular school, 1.5 year in Learning Guard, 6 months in local office of education's School Violence Division |
| B | Male/32 | 12th Grade/Social Studies (Alternative Curriculums Manager) | Less than 6 months | 5 years in coaching, special courses and counseling in career and learning |
| C | Male/31 | 11th Grade/ Mathematics (Research Division) | Less than 6 months | Teaching assistance at a graduate school |
| D | Male/31 | 10th Grade/ English (Student Guidance Division) | 1 year 3 months | 1 year of language training |
| E | Female/30 | 11th Grade/ Science | 5 years | Temporary teacher |

**2) Interviews**
The interviews took place for three days between May 13, 2015 and June 17, 2015 and the interview period took about an hour per person. The place was the lounge space on the first floor of the selected school. For rapport with the participating subjects, we discussed how they became teachers and their missions and complaints as teachers for an open conversation before the actual interviews. Also, other questions besides the ones prepared were exchanged for the flexibility of conversations.

**3) Analysis of Resources**
The interviews were recorded with the consent of subjects and transcribed on the same day. The transcribed resources were coded and categorized according to the continuous comparison method (Corbin et al., 2007). After reading the transcribed information and coding while taking notes, the transcribed information was reviewed repetitively and coding was completed through the process of separation and integration. Also, the

coded resources were categorized to review the correlation between the categories and extract the semantics and subtopics that were connected to the main topic. The authenticity and feasibility of the study were secured with the advice and discussion of fellow researchers.

## 4. Findings

As a result of analyzing the findings of interviews with the teachers of commissioned alternative schools, the characteristics of teachers that affect the students for successful adjustment and school life were as follows:

**1) High self-esteem**
Most subjects had high self-esteem and pride. They said that the self-esteem and pride that they are changing students who are difficult to guide in regular schools were rewarding as teachers.

> "I feel very proud. It is rewarding to teach the naughtiest players in Incheon. There is nothing special about the curriculums, but when I talk to the teachers in ordinary schools about guidance, it makes me proud that I am at a commissioned alternative school and helping the youth who are having a really hard time."(B)

**2) Mission and positive perception of sacrifice**
The subjects believed that the most important quality of teachers working for commissioned alternative schools is educational mission and sacrifice. This may also be true for the teachers at regular schools, but the teachers' mission and sacrifice are critical at commissioned alternative schools that need to educate maladjustment students and these factors lay the foundation to change the students.

> "Most teachers at alternative schools work for mission, not for compensations."(B)
> "I guide the students with mission and sense of calling."(C)
> "Commissioned alternative schools do not have as much workload, but they need a sense of mission because they need to hug and take care of students in the high-risk group."(D)

**3) Strong determination and efforts to help students**
The subjects were determined to help the students and showed ceaseless efforts to do something for them. For example, they were making efforts to diversify the teaching methods, contents, and counseling methods with their discretion.

> "As these students are not interested in learning, I can try out different things within the boundaries of given programs rather than simply teaching for exams or college entrance. New attempts... Although there is the given frame of education, but I am try to make my classes as fun and fruitful as possible and the students are willing to participate."(C)

**4) No prejudice and discrimination**
Most students at commissioned alternative schools come there because of maladjustment to the original schools and come with many stories in the school life records. The teachers are aware of this, but they try to see the students regardless of the previous records. They can see the true images of each student when they treat the students without any prejudices.

> "You shouldn't have any prejudice. When you receive the school life records when the students are transferred here, you get to know everything about the students in relation to violence, habitual absence, and disobedience. In this case, what makes the students difficult in regular schools is that all students turn their backs on them when one teacher does. Many students complain about this. The teachers at alternative schools should make efforts to see each student without any prejudice even though you know all about them."(E)

**5) Love of a mother**
Most students who make trouble in school or in the society are influenced by the problems with their families or parents. The subjects always remembered this to treat the students with the love of parents and friendly concerns.

> "These students don't talk much and have difficulties expressing themselves, so I often tell them how much I love them. I tell them, "I love you," when they go home and they do the same in

return after a while. They are so cute when they do. I also nag a lot like a mother because I'm a woman. You might think they won't like it, but they do eventually. Some students play naughty pranks and look down on me at first just because I'm a woman, but I try to mingle with them very intimately over time and they follow me in the end."(E)

**6) Mindset (effort) to understand the students as much as possible**

Understanding of others comes from your experience. It is obvious that you can understand others more deeply and truthfully when you have been in their shoes. This is what the subjects were most regretful about when educating the students. They wanted to share the agony and hardships with the students as much as possible, but they faced limitations and regrets when trying to understand the students because they had not have the same experience as the students.

"What is most difficult is when I find the students' concerns overwhelming..... Their lives have been more hard-knocking than I thought..... It is hard to bear when what they are going though is something I have not experienced and when there is nothing I can do, although I try to tell them many things. They are whining to be noticed, but their problems are just to big....."(C)

**7) Consistency with words and actions**

Some students at commissioned alternative schools ignore or look down on the teachers when they first come, and this is because they have strong district on teachers or adults. For these students, unconditional acceptance, inconsistency of speech and actions or inconsistency of responses are not appropriate methods of guidance. Above all, teachers' attitude with consistency was perceived important.

"Ceaseless efforts and consistency are very important."(B)
"Showing is teaching. In order to teach students, I have to set a good example. Students learn from what teachers show them."(C)
"Would it make sense when I tell the students to be nice when you do all kinds of bad things? Education is not about words. The students already know everything."(D)

**8) Critical thinking about 'normal' and 'abnormal'**

Most people perceive students at commissioned alternative schools as trouble-makers or 'abnormal' students. According to the subjects, the schools' regulations make the students 'abnormal.' They question the criteria for being 'normal' and 'abnormal' and say that we need to reconsider the categorization. Most students are 'normal' if you look at them with a more tolerant view. That view will help you see who they really are.

"There are many students who have good attendance and attitude in classes. Many students successfully adjust to school life here. They are all normal when you try to tolerate them a little. They are trouble-makers within the rule system of ordinary schools, but we actually need to reconsider that defines normal."(B)

**9) Clear boundaries of acceptance**

The researchers do not believe that unconditionally or unilaterally learner-centered education is not the best method for commissioned alternative schools. Such education would make it difficult for the students to be considerate or sacrificial for others in the community when the students should continue their lives with interpersonal relationships when they go out in the society. Therefore, they believe that teachers should set the boundary of acceptance and act with consistence.

"I wait sometimes and push other times... But I don't think just waiting for them, or mere learner-centered education, is always the best. It may work for grown-ups, youngsters need balance between leading and waiting. Good education should involve both."(B)
"The students test the teachers too much, so my biggest conflict is how much I should open to them. They always make me have conflicts, but I am trying to revolve those conflicts through conversations. I try to be as generous as I can, but I accept up to a certain point. I tell them I can't accept anything beyond that point. Ceaseless efforts and consistency are very important."(B)

**10) Trust and faith as the start point of education**

The researchers thought that faith and trust are most important for teacher-student relationships. What they could give as teachers to the students who have deeply rooted distrust in schools, parents, and society were endless waiting, ongoing attention and affection, and unwavering trust and faith. Minimizing the possibility of

conflicts should be done first.

> "Can you imagine how much acknowledgement they have sought in the previous schools? These so-called trouble-makers also seek acknowledgement and affection more than anything else... You will be amazed how much they can change with a little attention."(A)
> "Waiting and patience. Waiting is the most fundamental quality for teachers teaching high-risk students... You need to have trust in the students, especially in that they will do better in learning and as people. When you show trust in them, they will start to recognize you. Never say you have given up on them."(C)
> "It is patience. Because these students are in special situations, we need to be patient and understanding... If not, or if you can't, you can't discover their true selves beyond what is visible. You can earn their respect only when you discover the friendship, faith, and truthfulness in them. Restrain yourself once again and you will discover something different. That's why you must reflect on yourself every day."(D)

## 5. Discussion

This study has verified that the educational relationships between teachers and students is still the primary condition for students' successful school life. The alternative characteristics of commissioned alternative schools based on the findings of this study, which has focused on the teachers' characteristics, are the schools that give comfort and a sense of stability. This means that creating a 'cozy and comfortable' environment is critical for the human beings that have a strong desire for self-preservation, and good teacher-student relationships must be the center of it. Preceding studies have experienced changes in the students sent to commissioned alternative schools and shown that one of the major causes of their changes is the teachers' affection and love (Chung, 2007; Hwang, 2007; Lee, 2013; Son & Chung, 2015). These findings show that Pestalozzi's classical principle of education where educational relationships should be based on love as with the parent-child relationship is still valid in today's schools that are dominated by technicality and efficiency. Nevertheless, we should continue further studies as to whether adjustment to school life based on educational relationships can lead to social adjustment.

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# TEACHERS' OPINIONS REGARDING THE EFFECTIVENESS OF DYNED LANGUAGE EDUCATION SYSTEM IN ENGLISH LANGUAGE TEACHING

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**ABSTRACT**
As in many other fields, computers have a significant role in language teaching programs and there are various software products in this area. One of these products is DynEd Language Education System. The main purpose of this research is to investigate the contribution of DynEd to students' language skills in foreign language classes, the feasibility of the system and the difficulties while using it. The research was designed according to interview method which is a type of qualitative researches. The research was realized in 2015-2016 semester with 24 teachers, chosen by criterion sampling method, who use DynEd in their classes in Kahramanmaraş City Elbistan District. Semi-structured interview form was used to collect data. The collected data within the research was analyzed by using content analysis method. At the end of the study, it was found out that DynEd can't be used in classes effectively due its incompatibility with the curriculum, lack of feasibility for the substructure of system and both qualitative and quantitative specifications of devices. DynEd has little contribution to the students' language skills in a good manner.
**Keywords:** Language teaching programs, DynEd language education system, English education, teachers' opinions

## INTRODUCTION

Rapid scientific and technological improvements that we live in our information age enable several potentials for education applications by bringing flexibility to education. Thereby, computer is no longer a luxury and it has been required. Having an important place both in social life and in educational applications apart from traditional education system, the computer is an alternative for sensuousness. Especially in Turkey where students have problems and fail in foreign language education, foreign language education programs should be supported by several information technologies notably by computers in order to increase efficiency in language education and provide students with different opportunities (Kozikoğlu, 2013).

### Computer Assisted Foreign Language Learning

Computer Assisted Foreign Language Learning (CALL) may be defined as the search for and study of applications of the computer in language teaching and learning. The existence of CALL in the academic literature has been recognizable for about the last thirty years. Back in the late 80's and early 90's, CALL was breaking ground in the new technology frontier (Levy, 1997). Computers were becoming commonly used by larger numbers of people forcing developers to produce new hardware and software applications. English foreign language professionals began to notice how they might use this new technology in pedagogical settings. In response to the growing needs, language professionals and software designers joined forces to produce a cornucopia of software programs and packages that promised improvements in everything from pronunciation and intonation to listening, reading, writing, and even speaking (Bingham & Larson, 2006).

Nowadays, the tendency for benefitting from supremacy of information and communication technology in foreign language education comes across the period when the computers and Internet take place in life. With these improvements, accessing the needed hardware and software products easily has contributed positively to the changing world. The potentials that computer and Internet offer in foreign language education have been followed with great interest by foreign language educators and the researches in this field have concentrated in point of benefitting from information and communication technology (Kartal, 2002).

It is seen that computer technology is providing important opportunities for foreign language education. These opportunities include processing data very fast, having a large record capacity, offering different options for learning, questions and answers thanks to being interactive and ensuring possibilities about the type of exercise and difficulty level for the person in learning process. CALL has the potential to assist students to learn language efficiently and effectively and it is an excellent alternative to the traditional mode of instruction (Yılmaz, 2004).

  

Türker (1989) stated that, in CALL, a student who is in interaction with computer can't have a failure and as a reason he pointed out that learning a foreign language is dependent on learning speed and capacity. He expresses that CALL presents the required information at first and it demands on student's learning in a normal speed and if the student gives the wrong answer, it gives supplementary information. Thereby the learning process keeps on in this way.

Apparently, CALL plays an important role in foreign language education and some of the advantages of CALL are mentioned below (Özdemir, 2007):
1. CALL enables student to progress in his/her level and speed so it leads to individualized student centered learning environment.
2. As it provides interaction, it makes the topics more interesting even the most boring studies.
3. It comforts students since it gives direct feedback.
4. It provides individual learning environments for students thanks to analogies. Students have chance to open up to outer world through analogies.
5. Especially, the functions like saving, removing, and placement of chosen words in written expression studies make topics easier for students.

**DynEd Language Education System in Computer Assisted Foreign Language Education**
The name of DynEd derived from the combination of words "Dynamic" and "Education". DynEd is the first and one of the most efficient multimedia language education program which was designed by a team composed of language educators, computer programmers, neurologists, and artists. It aims to switch into automation position from comprehension skills in the light of neuro-scientific studies to store the information of English language to long term memory. DynEd is an education system which applies language education via computers and enables students to learn by themselves. DynEd users studying on the computer are observed and directed by the system and tutors. By this way, there can be more efficient classroom environment than conventional education system (Baz, 2010).

DynEd courseware is designed to help learners acquire the target language in a natural but accelerated mode of learning. It represents a significant advance over traditional English learning skills. As with any new set of tools, however, instructors and students alike need to develop techniques and strategies for using it most effectively. A study guide is given to the instructors to refer on how to utilize this courseware most effectively (Abdullah, Mahadi, Ahmad & Ahmad, 2009). DynEd courseware aims to help students develop pronunciation and oral fluency, listening and reading comprehension, structure of sentences and effective sequencing of ideas, oral presentation and summarization skills, ability to express abstract ideas and relationships and international English for global communication. It encompasses colourful graphics, animation, video and speech recognition activities and it is an interactive course involving several units which vary from beginning to advanced levels (Sarıcaoğlu, 2010).

DynEd was donated to Turkish Ministry of National Education within the campaign of 100% support to education (Önal, 2015). Application has been come into use in 4-8 grades in all public schools since 2008-2009 education years and in 9-12 high school grades since 2014-2015 education years. DynEd has the aim of promoting English lessons. Besides, it enables students to learn on their own via computers at home or schools and allows teachers to observe students' works and to guide them. The system is used by entering username and password after it is set up. Students' studies are recorded into DynEd servers thus teachers can observe and give feedback. During DynEd studies, students must connect to Internet. Studies are transferred to servers in 15 days. Besides, the system gives feedbacks to students about their studies by means of "tutor" software. By using DynEd software product, great contribution to students' learning process is provided. Learning will be permanent and meaningful by using these types of software products which are sensuous to different feelings within the frame of multiple intelligence theory. Also, DynEd doesn't focus on grammar but it concentrates on reading, writing, listening, and speaking. Thanks to this software product students' learning English language entirely is aimed. There are different courseware products appropriate for different level and age in DynEd (Coşkun, 2013).

When users first log in DynEd, they solve placement test on their computers. This test begins with beginner level questions and these questions are getting harder in accordance with the answers and when users come to a condition of not being able to answer the questions, the result is determined. As a result of the exam, appropriate courseware and level for students are identified. It is well sequenced as the activities build on one another in a gradual manner, and there is an increasing vocabulary as students move through each level. By this programme students are gradually introduced to new language as their level increases (DynEd, 2006). All the improvements of students are recorded in "Records Manager" which is the control and tracking system of all the educational

  

records of DynEd. Record Manager includes test scores, study time, frequency, learning path, and detailed information on students' use of DynEd (Çakmak, 2012).

When literature is reviewed, following researches are determined: In Redfield and Campell's (1999) study the effects of CALL on students' developments of language learning proficiencies were searched. Shimoyama (2005), in a research including upper class secondary school students, studied the contribution of CALL to learning. Ateş (2005) investigated the effects of CALL on high school preparatory class students. Bingham and Larson (2006) examined whether using DynEd's New Dynamic Education software product improves students' language skills or not. Baş and Kuzucu (2009) examined the effects of CALL and DynEd on students' success of the course and attitudes toward English lesson. Yusuf and Afolabi (2010) tested the effects of computer assisted learning on the performance of secondary school students in Biology lesson. In Ucur's (2010) study, students' opinions about the effectiveness of DynEd were determined in Safranbolu. In Altunbilek's (2010) study, DynEd was evaluated in terms of practicable criterions of educational software. Mantatova (2013) found qualitative and quantitative results of DynEd in English language teaching. Alresheed, Leask and Raiker (2015) made observations and interviews with teachers and administrators in Saudi Arabia about the integration of CALL to Saudi Arabian schools. Pi-hua (2015) examined the effects of computer-assisted pronunciation learning on Taiwan students' pronunciation skills. Önal (2015) studied user's cognitive loading condition for DynEd program and accordingly how it affects students' achievements. Özek and Pektaş (2016) tried to define 5-8 grades secondary school students' attitudes and motivations toward DynEd software product.

The studies mentioned above are mostly about the implementation of DynEd in classrooms, students' opinions and effects of CALL. Differently from these studies, in this study the opinions of teachers who use DynEd software product in their classes regarding the effectiveness of DynEd in a qualitative methodology are searched. In present study, it is tried to determine teachers' opinions from different perspectives. In this context, the problem of the study can be defined as "What are the teachers' opinions regarding the effectiveness of DynEd language education system in English language teaching?"

**Purpose Of The Study**

The main purpose of this study is to determine DynEd's contribution to student's language skills, applicability of the system, and difficulties encountered during application in English classrooms in terms of opinions of teachers who use DynEd in their courses. In accordance with this main purpose, following questions are answered:

1. Are technology and Internet substructures of the schools and number of devices (headphone, microphone, speakers) necessary for application of the system sufficient on behalf of using DynEd in schools?
2. Does DynEd make contribution to students' language skills?
3. Are students eager for using DynEd and do they have enough motivation for the use of DynEd?
4. Do the intensity of courses and exercises restrict implementation of DynEd?
5. Is DynEd compatible with current curriculum?

**METHOD**

In this section, model of study, sample, data collection tools, data collection process and analysis are given.

**Model of the Study**

This is a qualitative study in which interview method was used. It has a phenomenological design that focuses on phenomenon of which we are aware but we don't have detailed or in-depth information. Also, interview is a convenient research method in order to search the phenomenon that we can't make sense of its meaning exactly (Ekiz, 2003; Yıldırım & Şimşek, 2013).

**Sample**

24 teachers who work in primary, secondary, and high schools and are experienced about DynEd are participated in present study on a volunteer basis. The teachers were chosen by criterion sampling method which is one of the purposive sampling methods in qualitative research (Yıldırım & Şimşek, 2013). For this purpose, the criterion in this research is the selection of teachers who spread on effort to use DynEd language education system in English classrooms. All of the participants are English language teachers who range from 23 to 35 years of age, have working experiences between 1 to 16 years and 14 of them are females and 10 are males.

**Data Collection Tools**

In study, semi-structured interview form was used to collect teachers' opinions. Interview questions were prepared by researchers according to research questions and referred to an expert's opinion. Outline of the

interview form was practiced as a pilot scheme by two teachers. As a result of pilot practice, it was decided to correct and remove some of the statements and questions. Thus, interview form took its final form.

There are seven open-ended questions in interview form. These questions are given below:
1. Are technology and Internet substructures and number of devices necessary for application of the system sufficient on behalf of using the system in your schools?
2. Does DynEd language education system make contribution to students' speaking skills? If yes, at what level? If no, why doesn't it contribute?
3. Does DynEd language education system make contribution to students' listening skills? If yes, at what level? If no, why doesn't it contribute?
4. Do you motivate your students in order to make them use DynEd language education system? If yes, what do you do? / If no, why don't you need to motivate?
5. Do the intensity of courses and exercises restrict implementation of the system? Why?
6. Is DynEd language education system compatible with current curriculum? Why?
7. Do you have another opinion and suggestion about DynEd language education system?

**Data Collection Process and Analysis**
Data was collected from English language teachers through interview forms by note-taking method. As part of the study, interviews with teachers lasted between 15 and 20 minutes on average. The collected data within the research was analyzed by using content analysis method. Content analysis is a method for bringing meaningful data together and interpreting them comprehensibly and systematically (Yıldırım & Şimşek, 2013). In content analysis of findings, the related answers of the questions were read carefully, the words or statements were coded and the frequency of codes were determined, and remarkable sentences were selected for clearer presentation of findings.

## FINDINGS
In this section, the findings derived from the content analysis of data are given.

**Findings Regarding Qualitative and Quantitative Properties of Schools for the use of DynEd**
Findings related to teachers' opinions about qualitative and quantitative properties of schools' technology and Internet substructures and number of devices that are necessary for application of DynEd are given in Table 1.

**Table 1:** Teachers' opinions about qualitative and quantitative properties of schools' for the use of DynEd

| Codes | f |
|---|---|
| Insufficient | 18 |
| Lack of substructure | 12 |
| Sufficient | 1 |

As seen in Table 1, most of the teachers (18/24) think that technology and Internet substructures of the schools and number of devices necessary for application of the system are insufficient. Half of the teachers declare that there is lack of substructure and only one teacher finds the properties of the schools sufficient. Some of teacher's opinions about this subject are as follows:

*"There isn't a language class or laboratory at school, so use of DynEd is restricted." "There isn't computer laboratory in my school, only there are interactive white boards, but this condition doesn't provide enough opportunity for using DynEd."*
*"The school in which I work is insufficient for using DynEd effectively. The number of computers in computer laboratory isn't sufficient when compared to number of students. There are almost 550 students, 19 classes, but there are only 15 computers. Besides, there aren't devices necessary for the application such as headphone, microphone and speaker. There isn't Internet connection in classrooms so these conditions make using DynEd impossible."*
*"When computer lab was founded, the system was working properly but in the course of time, devices became worn out and unavailable to use."*

**Findings Concerning DynEd's Contribution to Students' Speaking Skills**
Findings related to teachers' views about DynEd's contribution to students' speaking skills are given in Table 2.

As shown in Table 2, most of the teachers (14/24) think that because DynEd isn't used in sufficient level, it doesn't make contribution to students' speaking skills. Six of 24 teachers think that DynEd provides little

  

improvement in student's speaking skills. Some of the teachers (4/24) point out that minimum contribution is made to especially students' pronunciation by DynEd.

**Table 2:** Teachers' opinions about DynEd's contribution to students' speaking skills

| Codes | f |
|---|---|
| No contribution | 14 |
| Minimum contribution | 6 |
| Contribution to pronunciation | 4 |

Some of teacher's opinions about language education system's contribution to students' speaking skills are as follows:

*"Although we can't use DynEd effectively in our school, we observed improvements in students who used the system in their homes even a little.*
*"At least, the system improves students' pronunciation skills."*
*"Because DynEd isn't used adequately, it doesn't make contribution to students' speaking skills."*
*"DynEd isn't used sufficiently because of substructure problems of schools and so it can't contribute to students."*
*"If DynEd is used regularly, and students allocate some time to use it, I think it makes contribution. Also, I observed that pronunciation and speaking activities of DynEd are very useful."*

**Findings Concerning DynEd's Contribution to Students' Listening Skills**
Findings related to teachers' views about DynEd's contribution to students' listening skills are given in Table 3.

**Table 3:** Teachers' opinions about DynEd's contribution to students' listening skills

| Codes | f |
|---|---|
| Improvement | 12 |
| Pronunciation via listening | 10 |
| Inefficient | 5 |

As seen in Table 3, half of the teachers expressed that DynEd improves students' listening skills. Less than half of the teachers (10/24) pointed out there are improvements in students' pronunciations via listening skills thanks to texts and vocabularies they listen from native speakers. It is seen that some of the teachers (5/24) declare that system has no effect to students' listening skills due to insufficient usage. Some of teacher's opinions about DynEd' contributions to students' listening skills are as follows:

*"Because DynEd isn't used adequately, it doesn't make contribution to students' listening skills."*
*"Yes, it makes contribution. I think this is the main purpose of the system."*
*"At least students listen to the sentences through native speakers and they learn correct pronunciations of the words via recordings."*
*"DynEd makes contribution to listening skills since it enables mutual communication. It helps students get the correct answer by a process of trial and error. Besides, the system gives audio-visual aids for unknown words and expressions."*

**Findings Concerning Motivating Students in order to Make Them Use DynEd**
Findings related to teachers' opinions about what they do to motivate students for the use of DynEd are given in Table 4.

**Table 4:** Teachers' opinions about what they do to motivate students for the use of DynEd

| Codes | f |
|---|---|
| Reward | 8 |
| Mark | 7 |
| No motivation | 6 |
| Guidance | 3 |

As demonstrated in Table 4, less than half of the teachers (8/24) pointed out they motivate students who use the system effectively and efficiently by giving rewards and several certificates of achievements. Some of the teachers (7/24) expressed they give extra marks and performance marks to students in order to make the use the system efficiently. Six of 24 teachers stated not all the students have computers and Internet connection at their

  

homes, so they don't do anything in order to motivate them. Three of the teachers pointed out they guide students by delivering installation CDs and giving information about how to install it. Some of teacher's opinions are as follows:

*"I introduced the system to students and showed them how to use it."*
*"Because not all the students have same opportunities, I don't do anything in order to motivate them."*
*"I motivate them by giving several rewards."*
*"Of course I motivate my students. I have delivered installation CDs and also student' studies are controlled constantly via DynEd's control panel."*

**Findings Regarding the Intensity of Courses and Exercises Restricting Implementation of DynEd**
Findings related to teachers' opinions about intensity of courses and exercises restricting implementation of DynEd are given in Table 5.

**Table 5:** Teachers' opinions about intensity of course and exercises restricting implementation of DynEd

| Codes | f |
|---|---|
| Intensive curriculum | 18 |
| Insufficient time | 16 |

As seen in Table 5, most of the teachers (18/24) expressed that intensive curriculum restricts the use of DynEd. More than half of the teachers (16/24) pointed out they can't allocate time because of insufficient time. Some of teacher's opinions are as follows:

*"Lesson subjects and activities don't enable us to use DynEd in classrooms. Especially, curriculum is very intense in fifth and sixth grades. Also, computer laboratory isn't available most of the time. I can't use the system because of these reasons."*
*"Yes, it restricts, because curriculum is very intense and also there is little time to use the system."*
*"Definitely it restricts. Our lesson time is enough only for theoretically implementation of the curriculum."*
*"If we implement the curriculum effectively, there isn't enough time for DynEd and students state that DynEd doesn't update itself for current curriculum."*

**Findings Concerning the Compatibility of DynEd with Current Curriculum**
Findings related to teachers' views about compatibility of DynEd with current curriculum are given in Table 6.

**Table 6:** Teachers' opinions about compatibility of DynEd with current curriculum

| Codes | f |
|---|---|
| Incompatible | 16 |
| Partly compatible | 6 |
| Compatible | 2 |

As seen in Table 6, most of the teachers (16/24) expressed that DynEd is incompatible with subjects and units of textbook. Some teachers (6/24) pointed out that DynEd is partly compatible. Only two of the teachers think that because DynEd is sensuous to different senses, the system is compatible with the curriculum. Some of teacher's opinions are as follows:

*"I think there is incompatibility between subjects and units of English textbook and DynEd."*
*"It is partly compatible, because content of DynEd is intense and it includes subjects for metacognition."*
*"I don't think it is exactly compatible, because DynEd includes basic concepts for English. It doesn't give specified content for the curriculum."*
*"I think it is compatible, because it appeals to different senses in terms of multiple intelligence theory."*
*"In my opinion it isn't much compatible. It should be arranged according to levels of students."*

**Findings Regarding Teachers' Opinions and Suggestions about DynEd**
Findings related to teachers' opinions and suggestions about DynEd are given in Table 7.

As shown in Table 7, most of the teachers (15/24) expressed that system substructure should be improved and number of devices that are necessary for application should be made suitable for the system. Similarly most of the teachers (15/24) think that the content of DynEd should be compatible with the current curriculum. Less than half of the teachers (8/24) declared that there should be additional and separate course hours in order to use the system efficiently. Only one teacher pointed out that DynEd should be implemented by formatter teachers.

  

**Table 7:** Teachers' opinions and suggestions about DynEd

| Codes | f |
|---|---|
| Improving substructure | 15 |
| Content | 15 |
| Additional and separate course hours | 8 |
| Formatter teacher | 1 |

Some of teacher's opinions and suggestions about DynEd are as follows:

*"As an English teacher who believes in the importance of using technology in language teaching, I think DynEd system will be more beneficial after the improvements."*
*"In order to use the system effectively and efficiently, there should be additional and separate course hours."*
*"It should be compatible with the current curriculum. Its content should be arranged according to units of English textbook. Also there should be activities appropriate for each class level."*
*"DynEd is a good and useful application but there are problems in terms of the implementation process, because we don't have language laboratories in our schools. Furthermore, our students don't have sufficient foreign language skills to use DynEd effectively."*
*"To me, first of all, students' English language levels should be determined and appropriate programs should be implemented for necessities and deficiencies."*

**RESULTS, DISCUSSION AND PROPOSALS**

According to the findings of research, following results are obtained:

- As a result of the analyses it is seen that schools' technology and Internet substructures and number and qualification of devices that are necessary for application of DynEd are insufficient.
- Because of the insufficient use of DynEd, it makes minimum contribution to students' speaking skills.
- Minimum contribution is made by DynEd to students' pronunciation.
- However, DynEd improves students' listening skills in some degree.
- Teachers try to motivate students by guiding and giving rewards, several certificates of achievement, and marks for extra performance.
- Some of the teachers can't motivate students to use DynEd because of the inequalities of students' opportunities.
- It is understood from teachers' expressions that the implementation of DynEd is restricted because of intensive curriculum and lack of time.
- English classes are three and four hour time a week in secondary schools and teachers use this time only for implementing the curriculum theoretically, so the time for DynEd is very limited.
- In consequence of the analyses it is seen that DynEd language education system is incompatible with current curriculum.

In the application of DynEd, some problems faced by teachers are determined. According to the teachers' views, technology and Internet substructures of the schools and number of devices that are necessary for application of the system are insufficient for DynEd, because language classes and laboratories are inadequate at schools. Lack of computers and software are among the reasons for failure of integration of DynEd. Besides, most of the computers in schools don't have microphones, earphones, and Internet access and schools have limited technological infrastructure. Similar problems faced by teachers while using DynEd were determined by Yiğit's (2012) study indicating the inadequacy of equipment, Internet connection problems, and lack of technical and administrative support. Supportively, technological problems of English courses are ascertained in Baş's (2010) study. Additionally in Alresheed, Leask and Raiker's (2015) study teachers mentioned that there were no suitable CALL English programs/software for students. In Coşkun's (2013) study it is stated that DynEd can be more effective when the conditions of the schools are developed.

As the teachers stated in the study, DynEd makes little contribution to students' speaking skills and also there is minimum improvement in students' pronunciation via DynEd as it isn't used in sufficient level. These findings are different from Bingham and Larson's (2006) finding which determines the contribution of CALL to students' speaking skills. Teachers pointed out that there are improvements in students' listening skills thanks to texts and vocabularies they listen from native speakers and so students learn correct pronunciations of the words via recordings. This is partly because DynEd system has the aim of improving users' English pronunciation. Also, DynEd courses help students develop vocabulary knowledge as well as provide students with practise their listening and speaking skills. According to Ucur's (2010) study, students consider DynEd as the most necessary factor to learn English, but they found the efficiency of DynEd and support for the use of DynEd inadequate.

  

Solak and Avcı (2015) found in their study that DynEd were evaluated as sufficient in presenting information, doing the exercises, giving feedback, and evaluating the achievement. On the other hand it was evaluated as partially sufficient in catching attention and providing sustainability, informing students about the course objectives, reminding the required information, and improving the transition. Baş (2010) indicates teachers' views regarding the positive effects of DynEd on students' development in English. Yusuf and Afolabi (2010) obtained a result asserting the contribution of computer assisted instruction on students' learning performance. On the contrary, Pi-hua (2015) didn't find any significant effect of computer assisted pronunciation training (CAPT) on students' pronunciation skills. Also, Baz (2010) indicated teachers' views asserting the partially adequate qualifications of DynEd.

According to teachers' declarations, they motivate students who use the system effectively and efficiently by giving rewards and several certificates of achievements. They assert that CALL products motivate students better than other materials since these sources are fun and interesting for students. As Skinner and Austin (1999) state, both students and teachers in such courses and environments feel less stressed and more confident than in other learning situations. Furthermore, it is expected that DynEd as a CALL method can motivate students than traditional language teaching methods. According to Özek and Pektaş (2016) students have high level of motivation and attitude toward DynEd while using it. Although Baş (2010) had positive observations during the application of DynEd, school principals' negative attitudes toward the use of DynEd were also determined. In Alresheed, Leask and Raiker's (2015) study, no motivation by the schools' principals to encourage teachers to use the technology was observed.

English curriculum is found very heavy in content by the teachers, so intensive curriculum restricts the use of DynEd. The time duration both for DynEd courses and English lessons is very limited, so teachers encounter problems while completing English lesson curriculum. As English lessons are four hours in a week, teachers are obliged to finish the curriculum and also try to apply DynEd courses so they are in a dilemma and have anxiety in terms of implementing the DynEd at schools. According to Solak and Avcı (2015), the duration of the courses in schools should be extended to improve the effectiveness of DynEd. Coşkun (2013) and Yiğit (2012) found out teachers' complaints about the intensive syllabus. This finding is also supported by Baş's (2010) findings pointing out the limited time for English courses.

In the light of the conclusions and methodology of present study, the following proposals may be put forward:

- As participants stated, schools' technology and Internet substructures are insufficient. So they should be in better condition and number of devices necessary for the application of DynEd such as computers, Internet access, microphone, and headphone can be increased and schools should be supplied by technological supports.
- It is understood that DynEd's content doesn't correlate with current English curriculum, because DynEd includes basic concepts for English and it doesn't give specified content for the curriculum. The content of DynEd should be revised for its compatibility with the current curriculum.
- Teachers complained about insufficient time to use the system effectively and efficiently, so there should be additional and separate course hours for DynEd.
- DynEd is used both at school and at home. Researchers can study parents' perceptions and opinions in a further study.
- The present study determined teachers' views about DynEd via qualitative methodology. In another study, their attitudes toward DynEd can be determined by using quantitative techniques.
- The sample of this study includes teachers who work in various schools. Students' views about DynEd can be researched in another study.

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# TEACHERS´ATTITUDES TOWARS EDUCATION OF GIFTED PUPILS

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**ABSTRACT**
The goal of the study was to find out what is the influence of theoretical, practical and personal experience of teachers on their attitudes supporting giftedness and education of gifted pupils. The research group was 973 teachers from primary schools and grammar schools from the whole Czech Republic. The research technique used was a questionnaire consisting of statements – attitudes towards giftedness which were evaluated on a 1-5-point scale. Statements were then subjected to factor analysis which resulted into F1 factor: Investment to giftedness and F2 factor: Education supporting gifted pupils. We are discovering that most of the teachers have positive attitudes in F1 factor rather than F2 factor. Positive attitudes of the pedagogues towards giftedness is positively influenced by personal experience with giftedness and the intensity of the contact with gifted pupils. The theoretical experience does not have an influence towards the attitudes of the teachers.

**Key Words:** Gifted pupil, teachers of gifted pupils, teacher attitudes, attitude predictors.

## INTRODUCTION

In recent years, we have witnessed the rise of professional and general public's interest about the issue of education of gifted pupils not only in the whole Europe. The gifted pupils are offered a rich selection of educational forms (acceleration, integration, segregation) which aim to seek for the optimal solution for each individual's development. The legislative framework is an important condition for the quality of education, however, the practice shows us that the final form of a specific educational measure is formed by pedagogical workers (Portešová et al, 2009).

According to Davis and Rimm (1998) the teachers' attitudes towards the gifted pupils are crucial in the process of deciding about the creation of educational program for the gifted. The teachers' attitudes towards the education of the gifted pupils have been professionally described for more than half a century. Although many researches have tried to define the creation of the specific attitudes towards giftedness and their consequences, we still do not have a clear image of their contents. Furthermore, more variables come into question after the society shift and it is therefore needed to re-discover the issue (McCoach & Siege, 2007). The aim of the study is to describe in detail the variables which have a significant influence on the forming of the Czech teachers' attitudes towards the education of the gifted pupils. We focus on the determinants connected to their personal, theoretical and practical experience with giftedness and gifted pupils.

## GIFTEDNESS AS A FACTOR IN THE DEVELOPMENT OF SPECIFIC ATTITUDES OF TEACHERS

If we try to define giftedness, it is most frequently described as an individual's ability in a particular area praised by the socio-cultural environment which is quantitatively and qualitatively more developed in comparison with their peers (Heward, 2013).

Gifted pupils show a number of typical characteristics and they are a part of the group of pupils with specific educational needs (Heward, 2013). These characteristics include specificity in the cognitive area, such as high intelligence, intense curiosity, abstract thinking, ability to transfer knowledge, creativity, generating original ideas, excellent memory, interest in philosophical topics (Clark, 2013). Social-emotional characteristics which are described by T. L. Gross (2011) include for example asynchronous personality development (contradiction between the level of intelligence and aspects such as motoric, verbal, and socio-emotional development), perfectionism, emotional sensitivity, multipotentiality, intensity and depth of experience. This specificity and also the contradiction between behavior manifestation of the gifted pupils may create very specific attitudes of teachers towards the education of the gifted pupils (Sak, 2011).

  

## TEACHERS' ATTITUDE TOWARDS GIFTEDNESS

Attitude expresses a particular state with a particular level of preference or refusal towards various social objects, in our case towards education of gifted pupils. The attitudes are very significant motivational agent which influence an individual's direction of behavior and represents their predisposition to look at the world in a particular way. The attitudes determine interactions between people while their realization is performed on the basis of the individuals' personal relationships and the social environment. (Bohner & Wänke, 2002)

In the classical theories, attitude consists of cognitive, affective and conative parts while each part has its determinants (Wood, 2000). The affective part of attitudes is formed using classical conditioning when the reaction to a phenomenon arises on the basis of the connection with an originally neutral stimulus. The cognitive part of attitudes is formed via cognitive learning and conative part of attitudes is formed using conscious instrumental learning. The attitudes are acquired on the basis of various types of experience via social learning or personal experience with objects. The teacher's attitudes are formed on the basis of direct experience with a pupil; they may be influenced vicariously, for example through information from other teachers or based on other, often unconscious impulses (Copenhaver & Mc Intyre, 1992).

Studies about teachers' attitudes towards giftedness are focused primarily on the impairment of the global attitude towards the gifted pupils and their education (positive and negative attitudes), the underpinning of basic preferences during the selection of educational models (e.g. in connection with integration segregation, acceleration) and the question of stability of attitudes detected and the analysis of basic factors which form the attitudes (so-called predictors) (McCoach & Siege, 2007). If we focus on the so-called predictors, Bégin and Gagné (1994) identified more than fifty variables influencing teachers' attitudes towards giftedness and education of gifted children during their analysis of tens of researches of this issue. Regarding the predictors which recur in more studies and in which their authors did not discover any serious methodological deficit, it is, firstly, person's self-perception as gifted. That means that teachers who perceive themselves as gifted have a more positive attitude towards giftedness. Among other variables which have a positive influence on relationship towards giftedness, we can find intense contact with gifted children, perceived advanced pedagogical skills in educating of the gifted, participation in educational program about the education of the gifted and socioeconomic status of the teacher (McCoach & Siege, 2007).

In our study, we decided to test some of these selected determinants of teachers' attitudes towards giftedness but in a different context. Our goal is to find out what is the influence of the personal theoretical and practical experience of the teachers on their attitudes towards giftedness and education of the gifted. Regarding personal experience as a factor positively influencing attitudes, it was verified by e.g. Bégin and Gagné (1994) who labeled this factor as contact with giftedness. Into this factor, they included independent variables such as a gifted individual in the family, contact with gifted pupils, person's self-perception as gifted. In our research, these variables are included as personal experience: environment considers me as gifted, I was considered as gifted as a child, and a gifted individual in the immediate family.

Into the theoretical experience variable, we included pedagogue's participation in a form of further education in the issue and closer encounter with the issue during university studies. We presume that the form of further education of pedagogical workers in the issue of giftedness will have the strongest influence on the positive attitude towards giftedness because it is often a type of voluntary education. Gross (2011) indicates that the lack of knowledge about the issue of giftedness often lead to the creation of negative attitudes towards the education of the gifted. The importance of future teachers' theoretical experience on their attitudes is mentioned also by Orosová (2010).

We conceived the practical experience rather with discovering what kind of gifted pupils does a teacher encounter during their practice (or what is the teacher's conception of attitude) and to what degree does the teacher encounter them. We assume that the best attitudes towards giftedness and education of the gifted will be found at teachers who teach at schools with gifted pupils diagnosed by a pedagogical-psychological center and who teach in a specialized group or class for the gifted. We assume to find slightly worse but still positive attitude at teachers who frequently educate gifted children in their classes even though most of the pupils did not undergo a pedagogical-psychological diagnosis. We assume to find a lower level of attitudes at teachers who teach diagnosed gifted children only occasionally and the lowest level at teachers who do not suppose there are any gifted pupils in their classes.

## THE STUDY

The main aim of the study is to discover what is the influence of the theoretical, practical, and personal experience of the teachers on their attitude supporting giftedness and education of gifted pupils. The research

  

group consisted of 973 teachers from primary schools and grammar schools from the whole Czech Republic, 177 men and 796 women. The professional practice of most pedagogues (59%) was longer than 21 years. Most of the teachers came from the Moravskoslezský and Středočeský region of the Czech Republic. 385 teachers taught in 1st to 5th grade of primary schools (ISCED 1) and 588 teachers taught in 6th to 9th class of a secondary school or the first four years of grammar school (ISCED 2).

The technique used in the research was the questionnaire consisting of statements – attitudes towards giftedness and education of gifted pupils. The creation of the statements was inspired by the questionnaire of the authors Gagné and Nadeau (in McCoach & Siege, 2007) and its subscale named Support. The statements describe the rate of support of education of gifted pupils. The individual statements were evaluated on the scale from 1 to 5, where 1 = disagree completely and 5 = agree completely (see table 1). In other words, the higher the number marked, the stronger the teacher's rate of tendency towards the myths about gifted pupils. There were also reverse items on the list which had their polarity subsequently reversed.

For the purpose of the creation of hypotheses, the questionnaire also included additional items describing the teachers' theoretical, practical, and personal experience with giftedness. The teacher's theoretical experience was determined using a questionnaire item which asked whether the teachers had participated in any form of education about the issue of giftedness and if so, whether it was a part of their university studies or a part of further education of pedagogical workers. The practical experience was determined using an item asking whether and how the teacher comes into contact with gifted pupils. Is the teacher able to perceive the existence of gifted pupils in his class? Does the teacher encounter gifted pupils only exceptionally or regularly? The personal experience was determined by three selections in the questionnaire which evaluated on a five-point scale. We discovered whether the teacher is perceived by his environment as gifted, whether they were perceived as gifted as a child and lastly, whether they have a person who could be considered as gifted in their immediate environment (family).

The evaluated statements underwent explorative factor analysis. The data fulfilled the basic requests for the conduction of this type of analysis (KMO = 0.741; statistically significant Bartlett's test of sphericity). Based on this analysis of the main components and Varimax rotation, the 6 statements were distributed into 2 factors F1 and F2. Using the partial statements in the individual factors, we named the factors: F1 – Investment into giftedness and F2 – Attention for gifted pupils. The reliability of the individual factors of the questionnaire according to Cronbach's alfa is as follows: F1 = 0.85; F2 = 0.47. The reliability of both indexes reaches the value of 0.73, which seems, with regard to the small amount of items present in each index, as an acceptable value.

**Table 1**: Distribution of items into factors and the names of the factors

| Name of the factor: | Statement: | Component: | | Respondents with a positive attitude: |
|---|---|---|---|---|
| | | F1 | F2 | |
| F1: Investment into giftedness | Giftedness is a rare commodity which must be supported by society. | 0,901 | | 92 % |
| | Using special means for education of gifted children is a useful investment into the future of our society. | 0,898 | | 89 % |
| | If we invest additional means into education of pupils with specific learning needs, we should support gifted pupils likewise. | 0,766 | | 89 % |
| F2: Education supporting gifted pupils | Gifted pupils in our schools are given a lot of attention right now. (reverse scored) | | 0,827 | 63 % |
| | Educational needs of gifted pupils are often neglected at schools. | | 0,702 | 56 % |
| | Gifted pupils will perform well at school in every case, there is no need to offer them special educational programs. (reverse scored) | | 0,479 | 69 % |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations. | | | | |

**FINDINGS**

We broke the main goal down into a number of partial goals. The first goal was to discover the percentage of the teachers whose answers support giftedness and education of gifted children. Answers with score 4 and 5 on the

  

scale (after conversion of the reverse items) were considered as positive and supporting. The last column of table 1 shows the number of respondents supporting giftedness in percent. We discovered that the highest percent of teachers, 89-92, support the positive statements about giftedness and education of gifted children in the F1 factor. Most of the participating teachers therefore realize the necessity to invest means, be it financial, personal, or organizational, into the care for gifted pupils. Lower percent of statements supporting giftedness and education of gifted pupils can be found in the whole F2 factor, 56-69 %. This factor describes rather the requirements for the specific changes in education supporting giftedness.

The requirements for the application (normality, homoscedasticity) of all the relationship analyses were inspected before their conduction. Firstly, we were discovering whether the teachers' attitudes supporting giftedness and education of gifted pupils vary in the individual factors. We defined the H1 hypothesis: Teachers' attitudes towards giftedness and education of gifted pupils vary in F1 and F2 factors. The analysis with the use of the paired t-test proved that the attitudes in both factors observed statistically vary ($p < 0.001$) in such a way that the respondents manifest more positive attitudes in F1 factor ($\bar{x} = 4.41$) in comparison with F2 ($\bar{x} = 3.54$)

Furthermore, we were discovering what is the influence of so-called theoretical experience of a teacher towards the attitudes supporting giftedness and education of gifted pupils. We stated the H2 hypothesis: Theoretical experience of a teacher with gifted pupils positively influences attitudes supporting giftedness and education of gifted pupils. The theoretical experience was observed separately for both forms of education (participating in thematically focused seminars at universities during Master's studies and form of further education of pedagogical workers). We also observed the connections separately for both F1 and F2 factors during the application of the ANOVA test. From the viewpoint of both factors, we did not find any statistically significant difference (F1: $p = 0.144$; F2: $p = 0.272$). The hypothesis was not accepted.

The next goal of the study was to discover what is the influence of the teacher's practical experience with gifted pupils, with giftedness, with attitudes supporting giftedness and education of gifted pupils. We stated the H3 hypothesis: Increasing intensity of the teacher's practical experience with giftedness positively influences the attitudes supporting giftedness and education of gifted pupils. By applying the ANOVA test, we did not find any differences in the F1 factor. However, on the level of the F2 factor, we found differences between the individual groups. Teachers who teach more diagnosed gifted pupils, i.e. teachers at whose schools there are groups or classes for the gifted, have more positive attitudes towards giftedness and education of gifted pupils than teachers who teach such diagnosed pupils only exceptionally ($p = 0.033$). Furthermore, we found out that teachers who work with gifted pupils without the diagnostics of their giftedness have more positive attitudes towards giftedness and education of gifted pupils than teachers who teach diagnosed gifted pupils only exceptionally ($p = 0.048$). The hypothesis was rejected in the F1 factor but accepted in the F2 factor within the selected groups of teachers.

The subsequent goal was to discover what is the influence of the teacher's personal experience on the attitudes supporting giftedness and education of gifted pupils. We stated the H4 hypothesis: Teacher's personal experience positively influences attitudes supporting giftedness and education of gifted pupils. The personal experience was evaluated on a five-point scale in items whether the teachers are considered as gifted by their environment, whether they were considered as gifted as a child, and whether they have gifted individuals in their family. All respondents were divided into those who have personal experience with giftedness in at least one item (i.e. score 4 or 5 on the scale) and those who do not have personal experience or do not know about it (i.e. score 1 to 3). The t-test was used for testing the hypotheses. Significant differences were confirmed in both factors, in F1 ($p < 0.001$) and F2 ($p = 0.003$) in such a way that those with personal experience have a more positive attitude supporting giftedness and education of gifted pupils.

## CONCLUSIONS

The main goal of the study was to discover what is the influence of the teacher's theoretical, practical and personal experience on their attitudes towards giftedness and education of gifted pupils. Firstly, we focused on the descriptive statistics and aimed at discovering the percentage of teachers whose answers support giftedness and education of gifted children. We discovered that most teachers declared positive attitudes towards giftedness and education of the gifted. This result matches the findings of Bégin & Gagné (1994) who, based on the analysis of results of a number of studies, generalize that most teachers have a positive attitude towards education of gifted pupils, not affected by prejudice and myths.

However, if we look at the results from the viewpoint of two factors, we discover that most teachers (89 - 92 %) really support positive statements in the F1 factor Investment into giftedness. We suppose that these statements are rather general and they reflect the state of today's society. If we focus on the statements in the F2 factor with

  

the name Education supporting gifted pupils, only 56 to 69 % of teachers declare positive attitudes in this case. Teachers probably imagine specific changes the authors of which they should be. We confirmed the differences between the factors during the relationship analysis (see the H1 hypothesis) where we discovered that F1 and F2 differ significantly in such a way that the respondents manifest more positive attitudes in the F1 factor. Furthermore, in connection with the main goal, we defined the H2 - H4 hypotheses the aim of which was to discover the influence of the teacher's theoretical, practical, and personal experience on their attitude supporting giftedness and education of gifted pupils. The results of the whole relationship analysis are summarized in table 2.

**Table 2**: Summary of hypothesis result

| Hypothesis: | Result of hypothesis: | Result: |
|---|---|---|
| H1: Teachers' attitudes towards giftedness and education of gifted pupils vary in F1 and F2 factors. | Hypothesis has been confirmed. | Respondents manifest more positive attitudes in F1 factor in comparison with F2. |
| H2: Theoretical experience of a teacher with gifted pupils positively influences attitudes supporting giftedness and education of gifted pupils. | Hypothesis has not been confirmed. | Teacher's theoretical experience with gifted pupils does not have an influence supporting giftedness and education of gifted pupils. |
| H3. Increasing intensity of the teacher's practical experience with giftedness positively influences the attitudes supporting giftedness and education of gifted pupils. | Hypothesis has been confirmed only for F2, within the selected groups of teachers. | Teachers who teach groups or classes of diagnosed gifted pupils at schools and teachers who work with gifted pupils without diagnosed giftedness have more positive attitudes towards education of gifted pupils than teachers who teach such diagnosed gifted pupils only exceptionally. |
| H4. Teacher's personal experience positively influences attitudes supporting giftedness and education of gifted pupils. | Hypothesis has been confirmed. | Teacher's personal experience positively influences attitudes supporting giftedness and education of gifted pupils. |

Firstly, we discovered an unexpected conclusion that theoretical experience does not have an influence on teachers' attitudes supporting giftedness and education of gifted pupils even though the specified theoretical basis indicates the opposite. The result may be given by the specificity of the education environment in the Czech Republic where there does not exist any general and more intensive education of pedagogues and future pedagogues in the issue of giftedness. The teachers from our probe were able to encounter our issue only marginally during their pre-gradual preparation or in the form of one-day courses of lifelong learning. As we can see, not only the theoretical equipment of teachers but also its intensity and depth play a role in the creation of the attitudes towards giftedness.

Furthermore, using H3 we discovered that on the level of the F1 factor Investment into giftedness, the connection between increasing intensity of practical experience and positive attitudes is not proved. It is probable that this factor shows general attitudes towards giftedness and belongs to the more stable attitudes which are not influenced by the variables we tested. However, in the F2 factor Education supporting gifted pupils, we discovered that more positive attitudes are manifested by both teachers of diagnosed gifted pupils working in specialized schools and teachers of pupils without a diagnosis at common integrated primary schools. Teachers who do teach these pupils only exceptionally have more negative attitudes. The intensity of the contact therefore positively influences more specifically specified attitudes of teachers towards education of gifted pupils.

Lastly, it was discovered what the influence of teacher's personal experience on attitudes supporting giftedness and education of gifted children is. In accordance with the theoretical basis, it was discovered that teachers who have personal experience with giftedness have more positive attitudes supporting giftedness and education of gifted pupils in both factors.

## CONCLUSION

Teachers' attitudes towards giftedness and education of gifted children are essential in the process of planning and conducting of a quality educational program for gifted pupils. Teachers with negative attitudes can hardly develop suitably the potential of their pupils. Teachers' attitudes may be positively influenced by their

  

experience with giftedness and gifted children. It is therefore necessary to introduce teachers closely to the theory of the issue of giftedness and have them encounter gifted children in their professional practice.

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# TEACHING AN UNDERGRADUATE THERMOCHEMISTRY LAB SESSION IN A SAFE AND EASY WAY: THE BOMB CALORIMETRY EXPERIMENT

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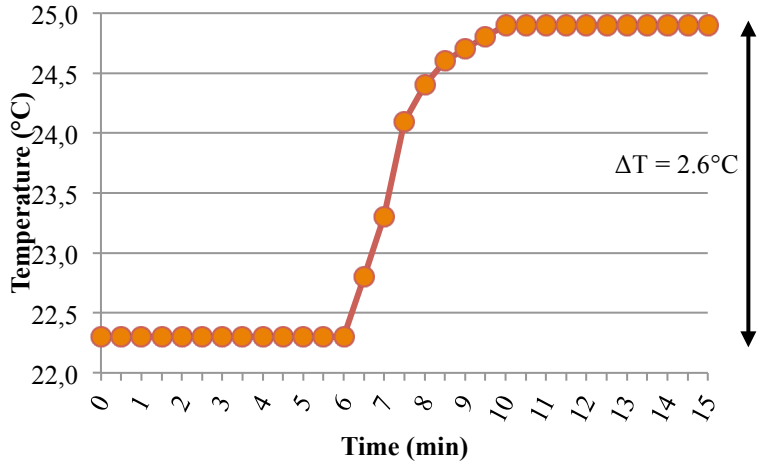
## ABSTRACT
This paper reports a hands-on, laboratory-based experience to tackle non-chemistry major engineering students' lack of motivation and understanding in thermochemistry. This approach consisted in devising and setting up a safe and feasible laboratory experiment dealing with bomb calorimetry, in such a way that any student can grasp the basic thermochemistry concepts introduced. Students' feedback as well as laboratory reports were appropriately collected and assessed to verify that the intended outcomes were achieved. Results were very promising as most of students declared that they managed and they observed an increase in their interest and motivation towards thermochemistry.

## INTRODUCTION
Topics in introductory thermodynamics, and thermochemistry in particular, are taught to most of our undergraduate science students in the framework of a General Chemistry course. The student population studied in this work is composed of undergraduate, non-chemistry major, engineering students.[1] These students are enrolled at Al Akhawayn University in Ifrane, a Moroccan university following a liberal arts education curriculum based on the American system.[2] As part of their curriculum, these students are required to take a one-semester General Chemistry I course followed by another semester of General Chemistry II that can be taken as science elective course. In both semesters aspects of thermochemistry are covered. Over the years it became evident that the motivation and interest of students for the subjects were not satisfactory. In this regard, many studies have been carried out and determined factors impacting teaching and learning of physical chemistry[3-6] and electrochemistry[7-8] at the university level. Towns *et al.*[3] concluded in their review that professors should take into consideration chemistry, physics, engineering, and mathematics when performing research on their student's performance in, and understanding of, thermodynamics. Finally, studies led independently by Sözbilir and Ouardaoui *et al.* identified several factors to be major problems experienced by students in either physical chemistry[9] or environmental chemistry,[10] two of which drew our attention and we focused upon: the abstract nature of concepts and the lack of student motivation.

## THE STUDY
In a dual attempt to promote student's interest for the subject and augment their understanding of thermochemistry topics studied in class, we took a hands-on approach by introducing a laboratory experiment dealing with calorimetry. Indeed, abstract concepts such as the first law, enthalpy, heat capacity and an adiabatic system could thanks to this experiment be made concrete to students, thus enabling a better integration of the material covered in lectures.
The experiment is titled "bomb calorimetry" and introduces various concepts covered in the classroom one week beforehand. These concepts are those of enthalpy of combustion, the first law of thermodynamics, an adiabatic system, and the heat capacity of a calorimeter among others. The purpose of the experiment is to determine experimentally the enthalpy of combustion of a refined vegetable oil, by using a Parr 1341 oxygen bomb calorimeter.
The experiment is made up of two parts; the first part consists in determining the heat capacity of the calorimeter, $C_{cal}$. This is done by placing a 1.00 g pellet of calorific grade benzoic acid in the sample cup of the bomb head. Next, a 10cm long fuse wire is attached to the two electrode terminals and bent sufficiently to be in near contact with the surface of the pellet. Then, the head is assembled into the bomb vessel to which was added 1mL of distilled water. Finally, it is sealed hand tight before being purged and loaded with medical grade oxygen

at a pressure of about 25 atm. The bomb vessel is then gently placed in a bucket containing 2000.00g of water. The jacket top is installed on top of the bucket, the stirrer is turned on and a digital thermometer with a precision of 0.1°C is immersed in the water bath. The system is allowed to equilibrate for a period of 5-10 minutes, until a stable temperature is reached. The bomb was fired after connecting to a 19V voltage source to the two external electrode leads which were plugged into the terminals on top of the bomb. For safety purposes, from this point, no one, students or professor alike, should stand over the calorimeter or approach the calorimeter within 1.5 meters until the end of the experiment. A rise in temperature, $\Delta T_1$, in the range of 2-3°C, should ensue from the firing of the bomb within 20 seconds. The temperature is monitored and recorded to the nearest 0.1°C in the lab report at 30 seconds intervals with a digital thermometer until five successive readings are exactly the same. Once the reaction completed, the bomb is gently removed from the bucket and combustion gases are vented over a period of one minute through the exhaust valve into the fume hood. Students are then required to determine the rise in temperature $\Delta T_1$ by plotting on graph paper the temperature recorded as a function of time. The typical graph obtained is shown in **Graph 1**.




**Graph 1: Temperature vs. time graph for the combustion of benzoic acid.**

A good estimate of $\Delta T_1$ is obtained by calculating the difference between the highest and lowest temperatures attained. The heat capacity of the calorimeter can then be calculated by using the formula:[11]

$$C_{cal}\ (kJ/°C) = -\Delta Hcomb_{benzoic\ acid}\ (kJ/g)) \times \frac{m_{sample}\ (g)}{\Delta T_1\ (°C)}$$

The second part of the experiment consists in reproducing the exact same procedure carried out in the first part, but with a sample of 1.00 g of refined vegetable oil instead of benzoic acid. A new rise in temperature $\Delta T_2$ is determined which allows students to calculate the molar enthalpy of combustion of the oil sample by using the following formula:[11]

$$\Delta Hcomb_{oil}\ (kJ/mol) = -C_{cal}\ (kJ/°C) \times \frac{\Delta T_2\ (°C)}{\left(\frac{m_{oil}\ (g)}{M_{oil}\ (g/mol)}\right)}$$

To keep the experiment simple and feasible with basic equipment, many approximations were made. The first one concerns ΔT since in a more rigorous procedure, a correction would have to be applied because of the fact that the calorimeter is not perfectly adiabatic. Similarly, other corrections would concern the heat of formation of $HNO_3$ and $H_2SO_4$ and the heat of combustion of the fuse wire. Moreover, only one trial is performed in each part of the experiment while it is recommended to perform 7 trials to get a representative mean value. However time constraints associated to the lab session (110 min) along with a willingness to keep the experiment within students's grasp, we deliberately omitted to apply the abovementioned corrections.

## FINDINGS

To assess the students' feedback on the newly devised calorimetry experiment, a survey questionnaire was administered to a sample of 31 students taking the General chemistry I course in the Spring 2016 semester. Students' written reports were collected at the end of the laboratory session. They were also kindly asked to fill in our online-based survey questionnaire[12] the same week. Reports and filled questionnaires[13] were then gathered

and analysed.
Lectures were taught by two Chemistry Professors. However, the data from the hands-on experiment were gathered by only one Professor who teaches the laboratory sessions as well. The students surveyed belonged to one of two lecture groups and to one of three laboratory sections. The collected data from the survey are given in **Table 1** below:

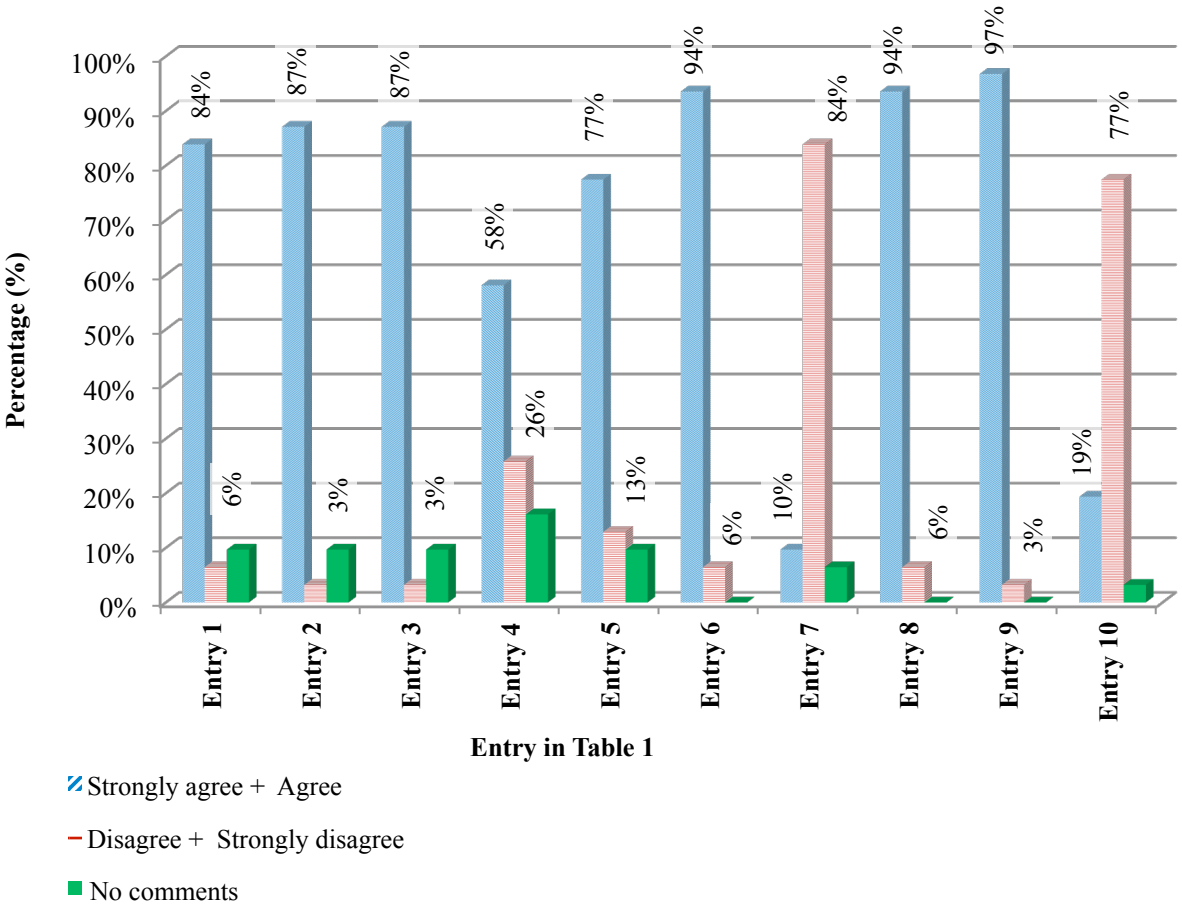
| Entry | Measurement | Strongly Agree | Agree | Disagree | Strongly disagree | No comments |
|---|---|---|---|---|---|---|
| **1** | I found this experiment interesting | 13 | 13 | 2 | 0 | 3 |
| **2** | This experiment has helped me to clear some ambiguities on thermochemistry concepts encountered in the lecture | 6 | 21 | 1 | 0 | 3 |
| **3** | I feel I have made some progress in my understanding of thermochemistry | 9 | 18 | 1 | 0 | 3 |
| **4** | My motivation to study thermochemistry has increased | 5 | 13 | 7 | 1 | 5 |
| **5** | I developed self-confidence and more interest in thermochemistry | 5 | 19 | 3 | 1 | 3 |
| **6** | I can see how the first law of thermodynamics applies to this bomb calorimetry experiment | 17 | 12 | 2 | 0 | 0 |
| **7** | I experienced some difficulties in calculating the heat of combustion | 1 | 2 | 14 | 12 | 2 |
| **8** | I understand now what an adiabatic calorimeter is | 20 | 9 | 2 | 0 | 0 |
| **9** | I know now how the heat of combustion of a material can be measured with an oxygen bomb calorimeter | 15 | 15 | 1 | 0 | 0 |
| **10** | I think this experiment is very unsafe and the student is put in jeopardy when performing it | 1 | 5 | 12 | 12 | 1 |

**Table 1: Results collected after probing 31 students who recently performed the bomb calorimetry experiment.**

The analysis of the survey questionnaires and students written reports clearly demonstrates that students benefited greatly from their newly devised laboratory experiment. Firstly, the great majority of respondents found the experiment interesting (**entry 1**) and developed thanks to it an interest for thermochemistry (**entry 5**). Similarly, most students found the experiment helpful in disambiguating concepts covered in class (**entry 2**). Likewise, a large portion of the respondents believed to have made progress and to be more self-confident in the subject (**entries 3 and 5**). As for motivation, only around one fourth of students reported to have no increase of motivation to study thermochemistry after performing the experiment (**entry 4**).

The results equally indicate that concepts such as the first law of thermodynamics (**entry 6**) and an adiabatic system (**entry 8**) were well comprehended by students. Unexpectedly, only 10% of the students conceded experiencing difficulties in calculating the heat of combustion (**entry 7**); this encouraging result is a sign that the associated lecture material was well integrated by students prior to perform the lab experiment. The result obtained in **entry 9** indicates that an overwhelming 97% of respondents responded they knew now how a bomb calorimeter can be used to determine a heat of combustion. **Graph 2** summarizes the results shown in **Table 1**.




**Graph 2: Summary of results shown in Table 1.**

It is worth mentioning that nearly four out of five respondents deemed the experiment to be fairly safe (**entry 10**); this is a very significant asset since students' safety in the laboratory is of paramount importance for professors as well as universities as a whole. As a matter of fact, this result was very comforting given that the entire experiment has been designed from the outset with safety in mind as a top priority. This is emphasized by the utilization of a digital thermometer instead of a glass calorimetric mercury thermometer. Indeed, with experience we quickly realized that using the high-precision mercury thermometer, originally supplied with the calorimeter, is highly risky for the user since it forces him/her to keep his/her head right above the calorimeter in order to monitor the temperature. Under those conditions, should an incident such as an explosion caused by a faulty valve occur, the consequences would be catastrophic. Note that such an explosion, which resulted in material damage but no casualty during a lab session, has already been reported at the University of California, Davis in 2012.[14] The advantage of using the probe of a digital thermometer instead of an analogic one is that it creates a safe distance of 1.50 meter between the bomb and the user.

## CONCLUSION

To conclude, this study has successfully proved that non-chemistry engineering students' lack of motivation and

understanding in thermochemistry can be boosted by taking appropriate actions. Our action consisted in exposing them to thermochemistry concepts initially addressed in the lecture, in a laboratory setting. Requiring them to perform this simple yet highly pedagogical bomb calorimetry experiment enabled them to overcome many of their weaknesses. According to their own feedback as well as their professor's evaluation of written reports, they increased their motivation, understanding, self-confidence, interest and knowledge related to thermochemistry. The experimental procedure of the bomb calorimetry experiment described herein was conceived with a student-centred mindset by focusing on providing a good level of clarity and simplicity. This approach turned out to be rewarding for both students and their professors.

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    (c) R. Chang, «*Physical chemistry for the chemical and biological sciences, 3rd ed.*», University Science Books, Sausalito, California, **2000**.
12. Link to the online-based survey questionnaire: https://docs.google.com/forms/d/1a6URd8hcmRHQJIQ6ZsNvqtMH1vdRdXhB09dw7yxPOVU/viewform?fbzx=-2274070907725030453
13. Link to students' responses to the online-based survey questionnaire: https://docs.google.com/spreadsheets/d/1AgFkWMByHw4uVLsKs-xTj6RerFbloB0f1MuQr3ygZRE/pubhtml?gid=0&single=true
14. http://cenblog.org/the-safety-zone/2012/02/to-avoid-an-exploding-calorimeter-maintain-it/


## APPENDICES

- Online survey questionnaire submitted to students: https://docs.google.com/forms/d/1a6URd8hcmRHQJIQ6ZsNvqtMH1vdRdXhB09dw7yxPOVU/viewform?fbzx=-2274070907725030453

- Students' responses to the online survey questionnaire submitted to students: https://docs.google.com/spreadsheets/d/1AgFkWMByHw4uVLsKs-xTj6RerFbloB0f1MuQr3ygZRE/pubhtml?gid=0&single=true

- "Bomb calorimetry" experiment

  

# TEACHING AND LEARNING LEADERSHIP IN SPORT MANAGEMENT STUDIES

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## ABSTRACT

This paper analyses, using the case study approach, the effectivity of the current structure of the Master Sport Management study programme and teaching and learning strategies that are applied in sports management studies in order to equip students with leadership skills. The students' assignments analysis using the Atlas .ti software with the purpose of identifying their perception of the leadership concept in sport management after completing the core subjects of sport management studies was supplemented by graduates' opinions with regard to the acquisition of leadership skills. Based on this analysis the reflection in terms of the appropriateness of the educational models currently used has been conducted. Findings indicate that the current structure of the study programme, as well as teaching and learning methods, should focus on the classification of different leadership situations and cases which are present in a variety of sport organizations (public, professional, non- profit) in the sport sector. The model for leading the changes in sport management programmes so to enhance the leadership spirit of students is suggested. The effectiveness of leadership education in sport can be also significantly improved by allowing students to spend sufficient time in elaborating the innovative approaches when resolving leadership issues, challenges and dilemmas.

## INTRODUCTION

Teaching and learning leadership poses a lot of dilemmas. As Warren Bennis (2009) stated: "The ingredients of leadership cannot be taught, however. They must be learned". This statement describes in short the teachers' roles in the education of future leaders. The core question heavily discussed in the academic community, as well as in practice, is related to the endeavour to suggest the best way of how to equip students with all knowledge and skills so to be able to fulfil their leadership role in the real world. This discussion is evolving since the emergence of a management theory and has led to the development of many leadership models that should serve to teach students in a simple framework about leadership. But there is a growing concern and also evidence that this approach is not sufficient for developing, enhancing and practicing the students' skills to apply these frameworks in a real context.

A valuable input into the discussion is represented by the work of Scott et al. (2012) Teaching Leadership: Advancing the Field. This Handbook collects contributions from international scholars in order to put forward a foundational reference for leadership training It is intended to be a foundational reference for educators who teach primarily in traditional classroom settings and who find themselves facing this increasingly important but daunting challenge. The authors stress that university educators can benefit from being a part of a larger community of academics responsible for shaping society's future leaders. For example, Leadership Education Member Interest Group (LEMIG) is a community for educators, professors, and teachers leading curricular or co – curricular programmes at primary, secondary, and higher education institutions that creates opportunities to share curricula, pedagogies, programmes, and research about teaching and learning. The valuable resources can be found in Journal of Leadership Education http://www.journalofleadershiped.org/ which is published in association with the Association of Leadership Educators. In addition, there is a lot of academic research produced dealing with the peculiarities of leadership education. Petriglieri and Petriglieri (2015 ) examined how and why business schools might be complicit in a growing disconnect between leaders, people who are supposed to follow them, and the institutions they are meant to serve. They propose ways to humanize leadership by posing questions about the meaning of leadership—its nature, function, and development—at the centre of scholarly and pedagogical efforts and revisiting theories and teaching methods. Johnson et al. (2012) examined the relationship between goal setting and transfer of training following leadership development measured on a 360-degree survey collected 3 months after a 5-day leadership development programme. Their findings present important implications for management leadership education in terms of the curricula content setting. Broucker (2015) studied the transfer of learning as a necessary step between learning and performance, to answer the question of what factors have to be dealt with primarily in order to enhance the transfer and thus effectiveness of management programmes in the public sector. Conger (2013) addresses three important gaps in leadership education: the reality gap, the skill intensive gap, and the application gap. The author illustrates how and why each gap creates barriers to the transfer of learning to individuals and to their work-lives. Hilliard and Talbert

  

(2011) discuss aspects and trends in school leadership in various areas i.e. leadership standards, leadership development and shared leadership.

Leadership in sport is primarily perceived in relation to sports leaders among players and coaches. David Scott (2004) described the leadership opportunities in sport organizational settings: competition, recreational and health–based activities, governance and administration and commercial and corporate. Commission on Sport Management Accreditation (COSMA), the accreditation agency for sport management academic programmes, included leadership as one of the competencies that sport management programmes need for accreditation approval and this led to the endeavour among sport management researches and teachers to approach this topic from an educational point of view.

Many sport management programmes included leadership development within their curricula seeking the opportunities to develop the leadership aspect of the student experience within their programmes. However, two questions emerge when discussing the teaching of leadership, namely, what do students need to know about the area, and how can the topic be most effectively taught? (Weese and Beard, 2012).

John F. Borland's (2015) book offers, for teaching and learning purposes, case studies, interviews with leaders in the sport industry, critical thinking questions, and rich content. Ian O'Boyle's (2015) book is the first textbook to examine sports leadership in the round, across both management and coaching environments covers various leadership issues including: facilitative leadership, strategic leadership leading effective change diversity in leadership communication and empathy motivation and performance. Key conceptual questions—the nature of leadership, its role in sport, styles of leadership, what constitutes ineffective leadership—and other contemporary issues are also explored to give students and practitioners the most complete and clear picture of contemporary leadership in sport. Both books use case studies as a core stone in the teaching and learning method in leadership education for sport settings. The role of the teaching case studies in sport management education is stressed by Nová (2013). The importance of this educational tool is discussed from the perspective of European qualification framework learning outcomes and professional standards and wider application of the case studies is underpinned by the concept of the generational theory which is influencing the mode of accepting and processing the information in the teaching process of current students. Williams and Parker (2016) examine the effectiveness of leadership development activities implemented in an experiential event management course and they emphasise that leadership development can occur within the classroom or in extra curricula activities such as sport management clubs, by organizing a sport event, working in teams. All this is in tune with the well-known Kolb's (1984) components of experiential learning: concrete experience; abstract conceptualization; reflective observation, and active experimentation. Crust and Lawrence (2006) provided a review of leadership in sport in terms of the principal models used in teaching and learning. Extejt and Smith (2009) investigated the relationship between organized sports team participation and leadership skills. Their findings showed that few differences exist between sports participants and non-participants regarding the measured leadership skills and that increased levels of participation are not associated with differing levels of leadership skills. Goslin and Kluka (2014) explored the leadership experiences of females in Malawi in sport and their findings suggest that completing the sport leadership education programme positively affected not only individual self-worth but also the collective voice of female sport leaders.

## THE STUDY

The case study (Yin, 2003) was conducted at a public university (Masaryk University, Faculty of Sport Studies) in Brno where the Sport Management study programme is offered. Details of the programme structure, integration of leadership activities and results of the assessments will be presented. Analysis of the current state of delivery will be realized by examination of the following elements: Philosophy of the structure of the current study programme: Leading theoretical framework; Students' assignment analysis; Graduates' opinions regarding the acquisition of leadership skills. In the analysis both qualitative and quantitative methods will be used, such as content analysis, qualitative analysis using thematic coding (Strauss and Corbin, 1998) and Atlas.ti software and quantitative analysis among graduates and employers)

## RESULTS

### Philosophy of the current study programme structure

The focus on leadership skills in place on MA level (Figure 1). MLE - three archetype model (Dover, P.A. and Dierk, U., 2010,) as presented in Figure 2, is a driving force for educating within the Sport Management programme.

  

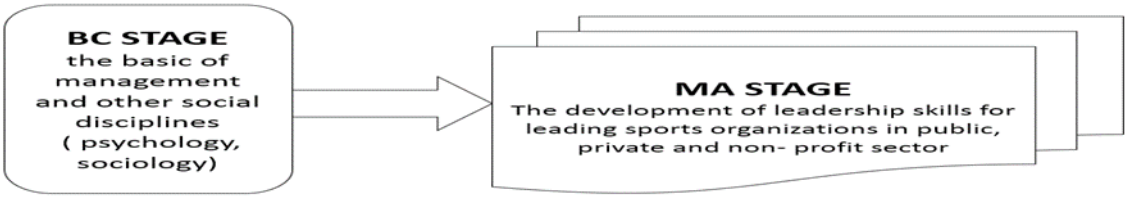


**Figure 1** The stages in providing the courses with elements of leadership

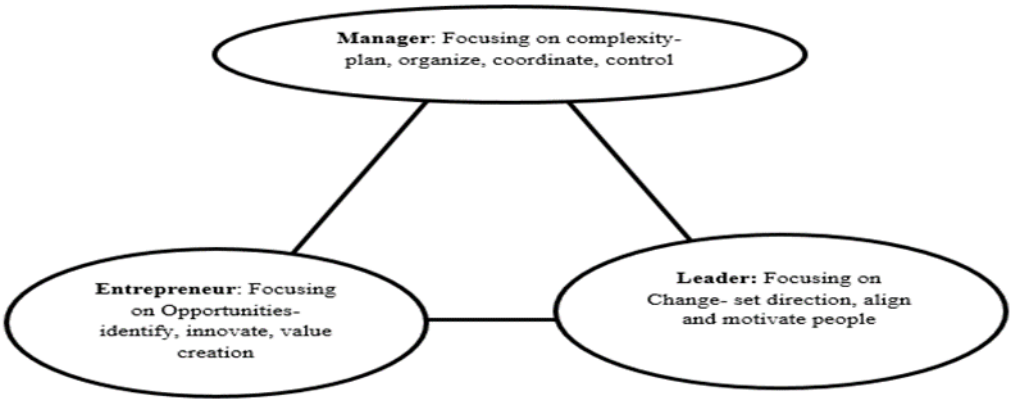


**Figure 2** MLE - three archetype model (adapted from Dover and Dierk, 2010)

The structure of the MA study programme covers many subjects (Table 1) and the programme is delivered in cooperation with the Faculty of Economics and Public Administration. Each subject provides the opportunity for inclusion of teaching, learning and practicing leadership skills.

**Table 1:** Current structure of MA Study Programme in Sport Management

| | |
|---|---|
| **First semester:**<br>Case studies in sport management<br>Management of sports activities in Tourism CR<br>Social psychology focused on sport<br>Sports Games III; Law and sport<br>Professional Practice III.<br>Examination of English language | **Second semester:**<br>Public finance 1; Economics of sport<br>The methodology of the thesis<br>Project management; Team Building Course<br>Professional Practice III. ; Fitness<br>Management sporting events (game) |
| **Third semester**:<br>Sport and EU; Public administration and sport<br>Psychology of Coaching for Managers<br>Examination of English; Outdoor sports<br>Publicity and Media; Philosophy and Ethics in kinanthropology<br>Professional Practice IV.; Thesis Seminar I | **Fourth semester**<br>Taxation system; Team Building<br>Compulsory sport; Ethics and Social Responsibility<br>Sports Games IV; Publicity and Media<br>Thesis Seminar II.<br>Publicity and Media |

**Teaching and learning strategies that are currently applied in sports management studies in order to equip students with leadership skills.**

In the course of individual subjects in the Master's programme the students are exposed to a series of alternative perspectives and levels of leadership in sport with the aim of achieving:

- their understanding of the key concepts of leadership in sport
- their ability to define elements of effective leadership and practices in sport

  

- fundamental understanding of how leadership theory guides practice
- Critical analysis of how theoretical concepts address real-world problems.

**With regard to the amount of subjects at the MA level of study, so far insufficient time is devoted to**:

- the careful consideration of these perspectives in different settings (three sector model of sport)
- action learning which would allow students to apply the leadership models and perspectives in order to build their awareness in terms of their personalized model of Leadership which they can then apply in the real world

**Teaching and Learnings methods** – The courses use a variety of different teaching and learning methods. Lectures and seminars with the key element which is a discussion of case studies and group presentations by the ongoing tasks. Individual preparation for the seminars - studying the case study of sport organizations, an active discussion so that the students develop and strengthen their understanding of the problems and enable sharing their ideas and learning process. Students have a structured reading, which forms the basis of seminar activities. This reading is based on the presentation of case studies in sports management and provides cross section of the strategic and leadership issues of various sports governing bodies, professional sports clubs and case studies of other organizations. Furthermore group exercises, problem discussions and self-study are used. The courses use a variety of supportive methods such as video presentations, participation in the conferences, visiting sporting events, visiting lecturers from abroad and from practice, student discussions and student-led seminars. The purpose is to maximize student involvement in the discussed themes to support the development of their critical thinking and innovative approach in solving various problems of practice in sport management. The course methods are always trying to encourage students to take advantage of the knowledge and skills acquired by previous study so as to strengthen the capacity of independent problem solving. This requires active participation in the seminar group, and therefore students' preparation for seminars studying the respective materials in advance.

**Professional Practice**

Experience in the field of sports management and tourism management is a unique tool for shaping the students' personality and development of their professional and leadership competencies in the course of their studies. It focuses on the practical application of knowledge and skills in management, marketing and other professional areas and at the same time provides plenty of opportunities for practicing leadership skills in a real context. Not only for this reason is specialized practice a very important component of the study, that prepares students for their future practice and has a direct impact not only on smooth and trouble-free entry into labour market, but also for their preparedness in their potential leadership roles.

**Assessment Categories:** Essays that include a case study, annotated bibliography; reports that include practical, field report; presentation that includes poster and seminar/group presentation; reflections that include journals, diaries, blogs; dissertations that include projects, theses; examination in the form of oral or test; portfolio of practice or work-based assessments; class test, virtually-based quizzes; individual project-critical analysis of the current topic related to topics covered in the course; active participation in the final workshops, which respond to the latest developments in the sports industry; development of self-assessment essay on the usefulness of the course for the personal development of the student; presentation of information obtained as the results of student placement in the sport club.

**Leading theoretical framework that is pursued in subjects of the MA sport management studies in terms of leadership skills development**

It is an attempt of one of the most famous authors in the field of sport management, P. Chelladurai, to synthesize all existing theories of leadership for use in sport. The model (Figure 3) describes three possible states and classifies the behaviour of the leader and the variables that determine the different behaviour of the leader (Table 2).

  

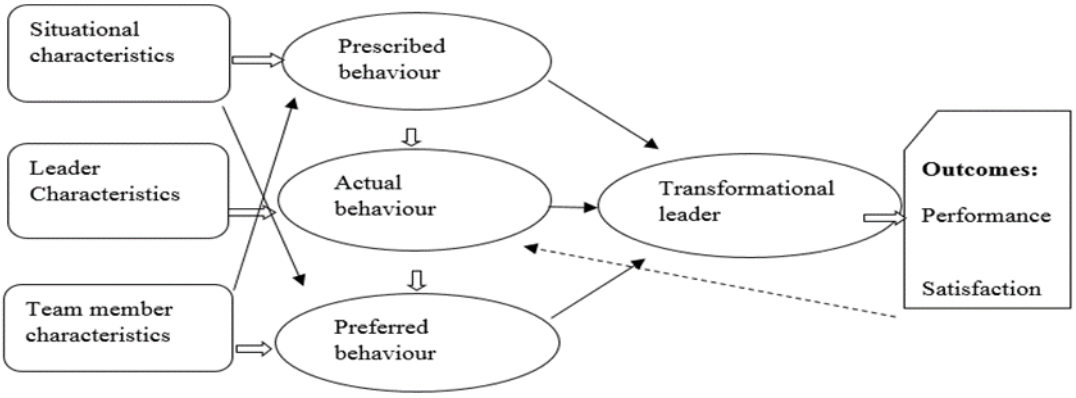


**Figure 3** Multidimensional model of leadership in sport (adapted from Chelladurai, 2006)

**Table 2:** Description of characteristics in a multidimensional model of leadership

| Characteristics | | |
|---|---|---|
| **Situational** | **Team members** | **Leader** |
| Objectives and Organizational Structure<br>Technology<br>Specificity of tasks | Dexterity and skill<br>Motivational profile<br>Position in organization<br>Personal qualities | Personality of leader (focused on tasks or relationships)<br>Competency of leader (technical, generic)<br>Management style (directive, participative)<br>The extent of the inherited need for power |

The preferred and required behaviour of a leader is determined by the situational characteristics, and characteristics of group members. The current behaviour of the leader is then determined by his/her personality and abilities, and in particular whether he/she is more adaptive (adapting to situations) or reactive (in response to the preferences of the group members). The overlap among the required, the current and the preferred leader's behaviour means that he/she is a transformational leader and the organization is achieving the desired results - performance and satisfaction of employees. The dotted line indicates the feedback and the need for the leader's flexibility in order to change leader behaviour according to changing conditions.

**Analysis of students' assignments**

Two types of assignment have been analyzed:

- Free topic touching critical situations in Sport Management (22 case studies, team work)
- Assign topic (requirement to describe the leader of the sport organization) – foreign exchange students (10) + sport management students after completion of the 1st year of study (29 undergraduate students who passed the Basics of Management and Sport Management courses)

Software used Atlas.ti, thematic coding applied and Word Cruncher function results presented as Network View Visual outputs, Figure 4. The results of the analysis showed that students were well aware of the leadership characteristic. But detailed analysis proved that students who were asked to identify and describe the leader of the sport organization were more focused on describing the leadership characteristics of the chosen leader using the theoretical leadership concepts. Students who could choose the topic of their assignment in fact identified and described a lot of leadership situations in a given context but failed to address the problematic situation by using leadership theories.

  


**Figure 4** Leadership vocabulary used in Students' assignment

**Graduates' opinions regard the acquisition of leadership skills**

In 2014 the faculty conducted a survey among the graduates of Sport Management study programme and among employers aimed at FSpS MUNI employability of graduates in the labour market and identification of the skills obtained in the course of the study. The survey was realized in the framework of Impact Project - The project Innovation and modernization of study programmes at the Faculty of Sports Studies (IMPACT – FSPS, registration number CZ.1.07/2.2.00/28.0221) realized from January 2012 to December 2014 which was financed within the Education for Competitiveness Operational Programme. The survey and final report was elaborated by Šímová et al., 2014. Knowledge and skills acquired in the study was rated by the alumni respondents in the questionnaire using a six-point scale rated the overall rate of utilization of acquired skills in practice, where 1 = no use, 6 = maximum utilization. The range was supplemented by an open question after specific knowledge and skills that graduates benefit the most or is missing. Graduates could also note the skill they do not use in practice. The general level of use of the skills acquired while studying among sport management students (n= 41) was rated at 2. 6. Graduates were also asked which of the skills and knowledge acquired during the course of their studies they consider the most beneficial. Generally, in practice graduates used especially those skills related to interpersonal communication and dealing with people or children. They often cited in particular the importance of practical experience gained during study. Sport management graduates felt that they are quite well prepared in most general skills. Especially in teamwork (90%), presentation skills (80%), social and communication (80%), management (79%) and independence in solving problems (79%) and generally in movement skills (73%). Recommendations for improvement in the study programme derived from graduates ( n=30) were most often related to the improvement of language teaching, the need for cooperation with entities from practice, for example companies, sports clubs, and non-profit organizations. The respondents' answers also showed interest in the greater orientation of the field of study toward economics (management, marketing, business) at the expense of teaching sports. Respondents also recommended engaging more experts in teaching, even from practice. Among sport management graduates there was a clear demand for the application of theoretical knowledge in practice and they suggested that more space should be given to working on real projects as well as the independent solving of organizational tasks and teamwork.

**FINDINGS**

The results of our analysis proved that the current study programme in Sport Management at MA level requires considerable changes in terms of curriculum design that would create space and allow for more a personalized teaching and learning process as well as customized assessment. The change should be led by the model as presented in Figure 5.

  

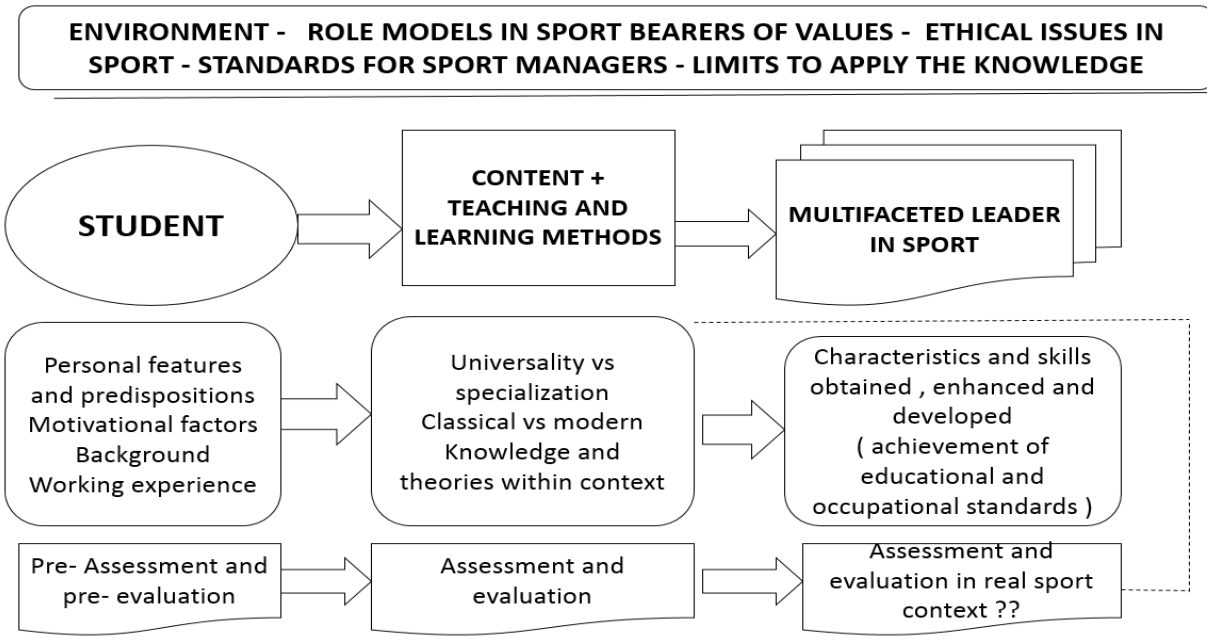


**Figure 5** Model that guides changes in MA Sport Management study programme to strengthen the teaching and learning of leadership competencies and skills

**Critical elements of change**

**Changes in content** - are driven by the need to provide the space for elements within the subjects that would focus on leadership in the sport context such as:

- Sustainability and Leadership for Sport Organizations
- Critically Reflective Leadership and Sport Management Practice
- Analyzing the Construction of Leadership for a Sport Context

**Changes in teaching and learning methods-**are driven by the need to provide an opportunity for**:**

- Self-development activities
- Learning in teams
- Reflective analysis from other lifewide learning (LWL) components (work, interest, hobbies tec.) - teaching strategy that involves real contexts and authentic settings ( Jackson , 2011)

Proposed structure of new MA Study Programme Sport Management (7 subjects instead of 31 in current curriculum+ elements within the subjects that would focus on leadership in a given subject area) as presented in Table 2 should allow for implementation of proposed changes.

**Table 2:** New structure of MA Sport Management Study Programme

| **Module Title** | **Credits** |
|---|---|
| **Strategic Management of Sport**<br>Leadership Issues in Strategic Management | **15** |
| **Global Economics and Finance of Sports**<br>Leadership challenges in Economics of Sport | **15** |
| **Entrepreneurship and CSR in Sport**<br>Innovative and Socially Responsible Leadership | **15** |
| **Human Resources in Sport Management**<br>Motivational Leadership | **15** |
| **Strategic Sport Marketing and Media in Sport**<br>Dilemmas of Ethical Leadership | **15** |
| **Sport Event and Facilities Management**<br>Sustainability and Leadership | **15** |
| **Researching Sport** | **15** |
| **Applied Sport Research – Dissertation** | **60** |

  

**CONCLUSIONS**

It has been well acknowledged that it is difficult to teach for the world of professional practice. It is particularly difficult to teach for the practice of leadership. (Parks, 2005). Our case study reflected the state of the art regarding the single study programme aimed at the development of managers/ leaders who will work in various sports organizations. The reflections were conducted in the light of the research studies that are discussed from different points of view on how to educate the leaders of the future. Special attention was paid to the literature which is available in the field of sport management education. As has been presented, leadership development can occur within the classroom or in extracurricular activities held outside the classical university environment. But it should be always accompanied by a sufficient time framework for critical thinking and analysis as well as for the reflections of the students about their self-development. Our results showed that this can be achieved in some instances at the expense of radical change i.e. by redesigning the current study programmes and by changing the teaching and learning methods or by their reinforcement in tune with the ultimate goal, which is related to the students' leadership knowledge and skills development. The case study can serve as an example for those scholars and teachers who are involved in the delivery of sport management study programmes but would like to enhance the leadership spirit of their students.

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# TEACHING CIVIL ENGINEERING IN ENGLISH AT GDANSK UNIVERSITY OF TECHNOLOGY

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**ABSTRACT**
The effects of globalization, as well as many possibilities of easy and cheap ways of travelling, have led to the increase in number of different types of university studies conducted in English. This paper describes advantages and disadvantages after seven years of experience of conducting three-semester MSc Studies in Civil Engineering in English at Gdansk University of Technology, Poland. The studies started in 2009 after a few years of preparations. Some new and attractive methods of teaching were introduced. They include advanced approaches to visualization of the material presented during lectures and some e-learning forms as a support to classical way of teaching. The total number of students enrolled in the programme within seven years is equal to 345, including 218 foreigners. The studies are nowadays recognized in Poland and abroad. They offer effective teaching programme with interesting lectures conducted by experienced staff members of the university. The number of applications increases nearly from year to year, including rapid increase in applications from outside EU in recent editions.

## INTRODUCTION

The effects of globalization, as well as many possibilities of easy and cheap ways of travelling, have led to the increase in number of different types of university studies conducted in English. The universities in various countries of Western Europe started such programmes many years ago. Meanwhile, the universities of Central and Eastern Europe had to wait much longer to offer such a possibility for students. This paper describes advantages and disadvantages after seven years of experience of conducting three-semester MSc Studies in Civil Engineering in English at Gdansk University of Technology, Poland (see Figure 1).

**Figure 1**: Main building of Gdansk University of Technology, Poland.

The studies were started in 2009 after a few years of preparations. They are conducted at the Faculty of Civil and Environmental Engineering which is the largest faculty at the university (more than 4500 students) offering studies in four fields: Civil Engineering, Environmental Engineering, Transportation, Geodesy and Cartography (Figure 2). The detailed programme of the MSc Studies in Civil Engineering in English is shown in Table 1. The recruitment procedure is conducted twice a year (January and September) what allows us to consider the applications of fledgling graduates from different countries of the word just after completing their BSc studies in civil engineering. This capacity is especially important from this point of view that different universities organize BSc studies lasting for six, seven or eight semesters and BSc students graduate normally in January, June or September.

  

Civil Engineering

Environmental Engineering

Transportation

Geodesy and Cartography

**Figure 2**: Four fields of study offered at the Faculty of Civil and Environmental Engineering.

**Table 1**: MSc Studies in Civil Engineering - study programme.

| | Lp. | Subject | Sem. I | | | | | Sem. II | | | | | | Sem. III | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | T | L | P | ECTS | L | T | L | P | S | ECTS | L | T | L | P | S | ECTS |
| Civil Engineering | 1 | Mathematics | 30 | 30 | | | 5 | | | | | | | | | | | | |
| | 2 | Theory of Elasticity and Plasticity | 30 | 30 | | | 5 | | | | | | | | | | | | |
| | 3 | Complex Concrete Structures* | 30 | 15 | | 15 | 4 | | | | | | | | | | | | |
| | 4 | Complex Steel Structures* | 30 | 15 | | 15 | 4 | | | | | | | | | | | | |
| | 5 | Construction Management | 30 | 15 | | 15 | 6 | | | | | | | | | | | | |
| | 6 | Advanced Foundations | 15 | | | 15 | 2 | | | | | | | | | | | | |
| | 7 | Hydro and Marine Civil Engineering | 30 | 15 | | | 2 | | | | | | | | | | | | |
| | 8 | Hydraulics and Hydrology | 15 | 15 | 15 | | 2 | | | | | | | | | | | | |
| | 9 | Finite Element Method | | | | | | 30 | | 30 | | | 4 | | | | | | |
| | 10 | Wind and Earthquake Engineering | | | | | | 30 | 15 | | | | 3 | | | | | | |
| | 11 | Engineering Surveying | | | | | | 15 | | | 15 | | 3 | | | | | | |
| | 12 | Reliability of Structures | | | | | | 30 | 15 | | | | 3 | | | | | | |
| | 13 | Bridge Structures | | | | | | 30 | | | 15 | | 3 | | | | | | |
| | 14 | Transportation Engineering | | | | | | 30 | | 30 | | | 3 | | | | | | |
| | 15 | Geotechnics | | | | | | 45 | | | 30 | | 5 | | | | | | |
| | 16 | Structural Dynamics | | | | | | 30 | 15 | | | | 3 | | | | | | |
| | 17 | Seminar on Civil Engineering | | | | | | | | | | 30 | 3 | | | | | | |
| | 18 | Finite Element Method - applications | | | | | | | | | | | | | | | | 30 | 3 |
| | 19 | Socio-humanistic subject | | | | | | | | | | | | 30 | | | | | 2 |
| | 20 | Geology and Hydrogeology | | | | | | | | | | | | 15 | | 15 | | | 2 |
| | 21 | Thesis Seminar | | | | | | | | | | | | | | | | 45 | 3 |
| | 22 | Thesis | | | | | | | | | | | | | | | | | 20 |
| | | Total number of hours/ECTS | 210 | 135 | 15 | 60 | 30 | 240 | 45 | 60 | 60 | 30 | 30 | 45 | 0 | 15 | 0 | 75 | 30 |
| | | Total number of hours: | 420 | | | | | 435 | | | | | | 135 | | | | | |
| | | * The subject includes team project | | | | | | | | exam | | | | | | | | | |

  

## REALIZATION OF THE PROGRAMME

The major problem at the beginning of the realization of the programme was related to the difficulty of attracting foreign students to be enrolled in the studies. It required from us appropriate advertising as well as introducing some new and attractive methods of teaching so as to gain some recognizability. Those methods include advanced approaches to visualization of the material presented during lectures and some e-learning forms as a support to classical way of teaching. It was also import to settle attractive rules of payment. Following the advantages of the common market in European Union (EU) we allow all students coming from EU countries to study for free. All of them come within the ERASMUS Programme having the possibility of obtaining the scholarship to cover the accommodation and transportation costs. Students represent such countries as: Spain, Portugal, Italy, Germany, Slovenia, Belgium, France, Hungary, Lithuania and Greece. On the other hand, foreign students from countries outside EU pay the relatively low tuition fee of 2000 Euros per semester. These students come from such counties as: India, Azerbaijan, Iran, Lebanon, Libya, Kazakhstan, Belarus and Ukraine. The details showing the number of students in different academic years are shown in Table 2. As it can be seen from the table, the total number of students enrolled in the programme within seven years of realization is equal to 345. It is however important to underline that there have been as many as 218 foreign students (185 have come from EU countries and 33 from outside EU).

**Table 2**: Number of students enrolled in the programme in different academic years.

| Academic year | Polish students | Foreign students from EU countries (ERASMUS Programme) | Foreign students from countries outside EU | Total no. of students |
|---|---|---|---|---|
| 2009/2010 | 25 | 7 | 0 | 32 |
| 2010/2011 | 20 | 13 | 0 | 33 |
| 2011/2012 | 11 | 20 | 2 | 33 |
| 2012/2013 | 8 | 30 | 3 | 41 |
| 2013/2014 | 30 | 40 | 7 | 77 |
| 2014/2015 | 20 | 33 | 5 | 58 |
| 2015/2016 | 11 | 42 | 16 | 69 |
| Total | 125 | 185 | 33 | 343 |

## INTERNATIONALIZATION OF SUBJECTS

In order to fulfil the requirement of internationalization of the studies, the contents of all subjects had to be prepared to be consistent with the expectations of foreign students. The best example of such activities concerns introducing in the programme the subject of Wind and Earthquake Engineering, especially its part related to earthquake engineering. In this point it should be mentioned that Poland is the country in which earthquakes are very rare events and their magnitudes are relatively low (see seismic hazard map for Europe at Figure 3). Therefore, the building standards do not impose the necessity of designing structures for seismic excitations and there is no need to teach Polish students the aspects of earthquake engineering. On the other hand, it is really important to include these aspects in the civil engineering programme for international students. This is due to the fact that earthquakes are considered in many countries of the word as the most devastating and, at the same time, the most unpredictable loads acting on civil engineering structures. Fortunately, the international experience as well as the current research activities of some staff members of Gdansk University of Technology (see, for example, Falborski et al., 2012, 2013, Jankowski, 2005, 2015, Mahmoud & Jankowski 2009, 2015, Naderpour et al., 2016, Sołtysik & Jankowski, 2013) made it possible to include earthquake engineering in the international programme of MSc Studies in Civil Engineering in English. The subject is conducted assuring high teaching standards and the contents includes such aspects as: nature of earthquakes, magnitude, intensity and other parameters of a ground motion, historical earthquakes, learning from earthquakes, general effects of earthquakes, types of structural damage due to ground motions, dynamics of structures under earthquake excitation, seismic resistant design, seismic hazard maps, response spectrum concept, experimental tests, numerical methods in earthquake engineering.

  

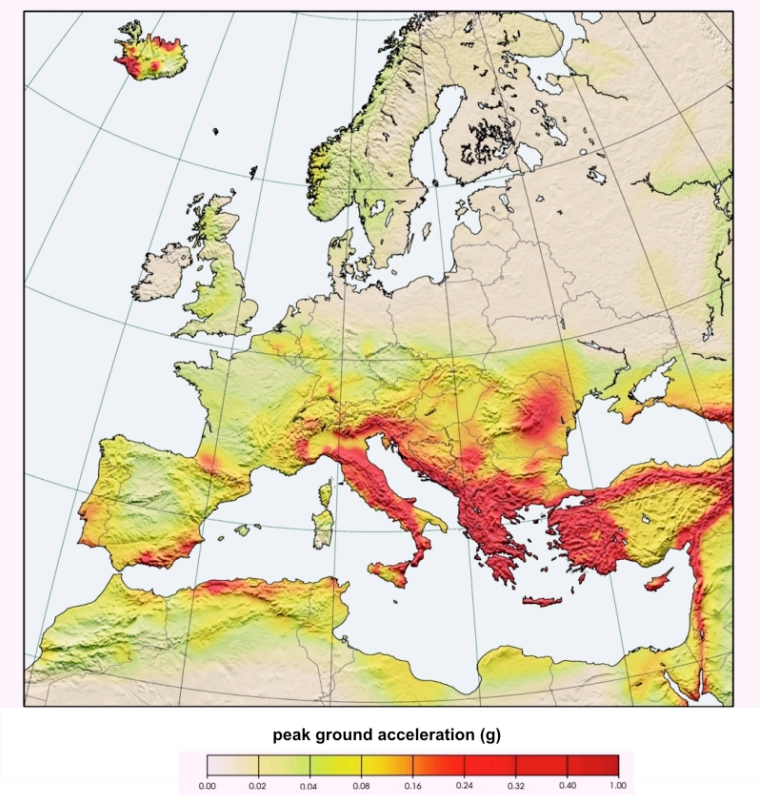


**Figure 3**: Seismic hazard map for Europe
(from http://www.gfz-potsdam.de)

## CONCLUSIONS

The three-semester MSc Studies in Civil Engineering in English at Gdansk University of Technology (Poland) have been conducted for seven years now. The total number of students enrolled in the programme is equal to 345, including 218 foreigners (185 from EU countries and 33 from outside EU). The studies are nowadays recognized in Poland and abroad. They offer effective teaching programme with interesting lectures conducted by experienced staff members of the university. The number of applications increases nearly from year to year, including rapid increase in applications from outside EU in recent editions.

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# TEACHING KAZAKH AS A FOREIGN LANGUAGE FOR TURKISH STUDENTS ON THE BASIS OF ICT

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**ABSTRACT**
The paper deals with application of multimedia in teaching Kazakh as a foreign language. It is proposed to use multimedia resources in teaching Kazakh language for Turkish students at Beginner and Elementary levels. Nowadays, our teaching experience is closely related to use of innovative technologies; so that their application should be theoretically grounded, focused and practically-oriented. On the other hand, use of those techniques is presupposed by evolution of the whole society and by specificity of the information age. Introduction of Information and Communication technologies (ICT) in educational process contributes to the quality of foreign language teaching and enhances the role of students' independent work.In the nearest future, we are planning to improve the existing multimedia and to work out a series of supplementary training materials which will comprise a standalone program, i.e. a computer version of the training manual on Kazakh language grammar (for Beginner and Elementary levels), Linguistic and Cultural trainer (including texts and videos); and we are also planning to create special training website for foreigners supplemented by Kazakh movies as an additional training resource.
**Keywords:** Kazakh as a Foreign Language, Information and Communication technologies (ICT), multimedia resources, Beginner level, Elementary level

## INTRODUCTION

The main aim of our research is to make contribution to application of multimedia in teaching Kazakh as a foreign language. The manual on Kazakh language we speak about is proposed for teaching Turkish students at the initial stage (i.e. for beginners and students of elementary level). There is no doubt that innovations in foreign language teaching are inevitable; at the same time, they should be theoretically grounded, focused and practically-oriented. Use of interaction on the basis of information and communication technologies (ICT) is determined by changes in society and by the process of the information age development.

Also, we made an attempt to take students' opinions and their requirements concerning significance of topics into account, as well as to develop communicative competences using a variety of techniques.

It is necessary to point out that analyzing competencies, skills and sub-skills in language, Canale and Swain (1980) proposed the following classification: linguistic competence; grammatical, lexical, semantic and phonological competence; discourse competence - the linguistic and meaning relationships within the discourse (cohesión, coherence, gesture...); socio-linguistic competence or the understanding of the functional aspects of communication (including role relationships, personal factors, social and cultural context...); strategic competence, referred to the coping strategies developed to solve the learning problems and to be autonomous (Canale and Swain, 1980). In our opinion (and we try to prove it), use of ICT have its positive impact on all of them.

As it was stated by N. Martirosyan, technological progress has a significant impact on all aspects of our life. Today computer is one of the technical devices, actively penetrating into all spheres of human activities, and most of computer programs are related to multimedia. So, it is able to perceive, reproduce and process different types of information; and wide application of modern information technologies in education changes its' quality both in terms of innovative forms of learning and new types of learning objectives. In our case, introduction of ICT in learning process contributes to the quality of teaching Kazakh as a foreign language and enhances the role of students' independent work.

Main innovative technologies in foreign language teaching are the following:

- information technologies aimed at increasing of teaching effectiveness (e.g. technologies based on the use of computers and various computer programs for training and monitoring);

- information teaching techniques aimed at the quality of education improvement;
- innovative forms of students' cognitive activity enhancing.

Modern information technologies expand the range of opportunities for learning and teaching Kazakh as a foreign language due to the following reasons:
- use of multimedia tools gives wide range of opportunities for effective presentation of teaching material;
- interactive learning objectives and training programs allow the instructors to work on all language skills improvement;
- access to a huge number of electronic resources allows us to combine texts, audio and video materials and enhances lingua-cultural competence of foreign students;
- remote access to educational resources gives the opportunity for establishing flexible and mobile training system with significantly individualized instructions, as well as with predominance of independent and creative students' work. Also, this factor strengthens the role of the teacher as a facilitator and coordinator of learning process.

Today, we treat education as a kind of technological process, and any technology needs to be constantly updated; so, it is necessary to use computers and various up-to-date information technologies in foreign language teaching (Martirosyan, 2010)

## MAIN PRINCIPLES OF THE TEXTBOOK

One of the innovative techniques of teaching Kazakh as a foreign language for Turkish students is the application of multimedia textbook "Kazakh language (for Beginner and Elementary levels)" elaborated at the University named after Suleyman Demirel. That textbook is intended at Turkish students' communicative competence improvement as well as at development of their skills in the the field of pronunciation, vocabulary and grammar. Some screen shots of the multimedia tutorials pages are represented below:

Figure 1. Peculiarities of Kazakh alphabet

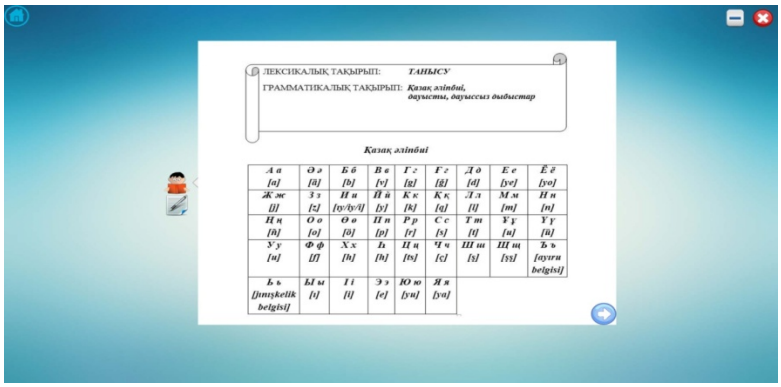



Figure 2. Matching parts of the dialogue

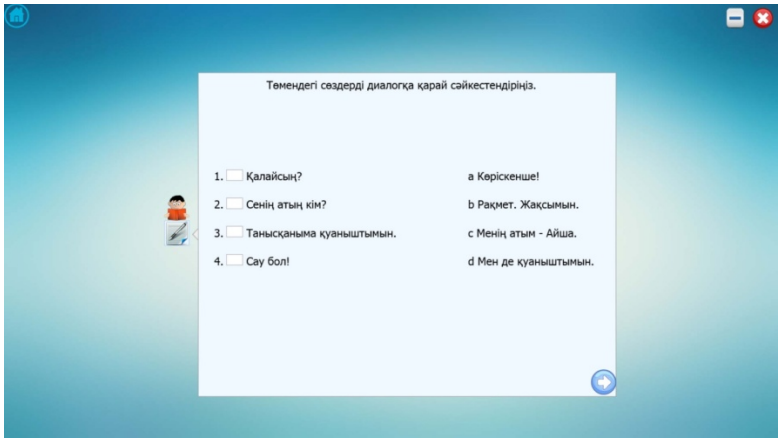



Figure 3. Initiation and response

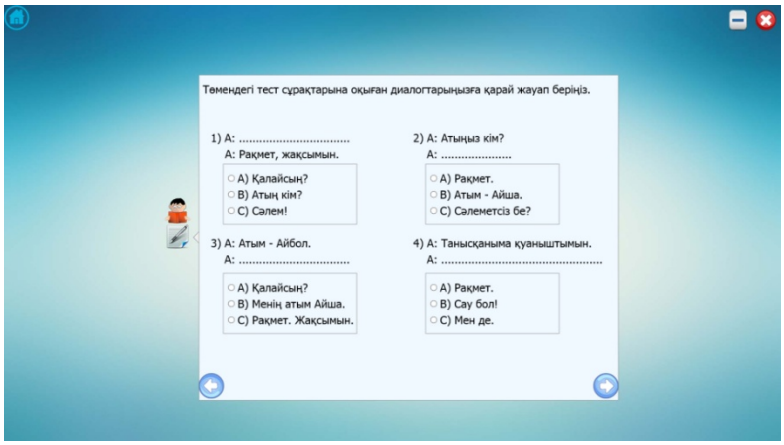



Figure 4. Dialogue completion

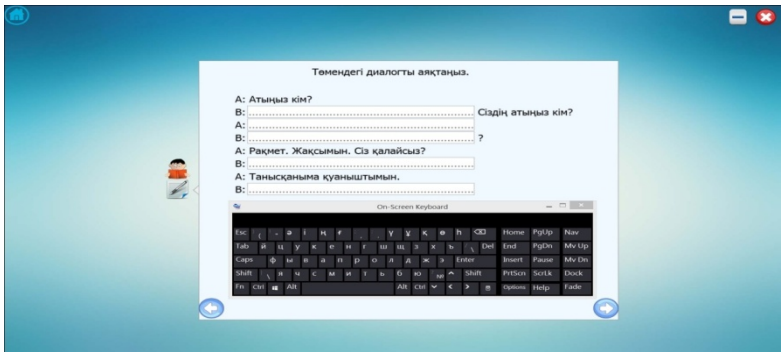
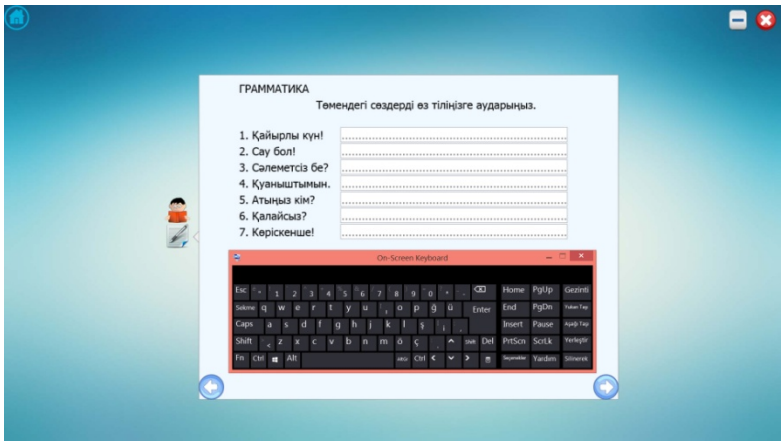



Figure 5. Communicative-based Grammar training




In accordance with the principle of complexity increase, multimedia textbook consists of 15 lexica-grammatical units. Selection of vocabulary was done on the basis of its thematic organization, because in the process of practical skills development functional principle is treated as the most important one. Matching this condition, vocabulary is grouped around fifteen communicative topics that are relevant for foreign students: "Tanysu/ Acquaintance ", "Bul ne? Ol kim? /What is this? Who is he/she?", "Ozim Turaly, "Menin otbasy/My family", "Menin uyim/ My house(flat)", "Uakyt/Time", "Dukende/ In the shop", "Aua-ray /The weather", "Menin Yelim / My motherland", "Kazakhsha soyleimin / I speak Kazakh", "Bizdin University / Our University", "Menin suyikti isim", "Menin mamandygym / My profession (specialty)", "Aurukhanada / At the hospital ", "Men hat zhaza alamin / I am writing

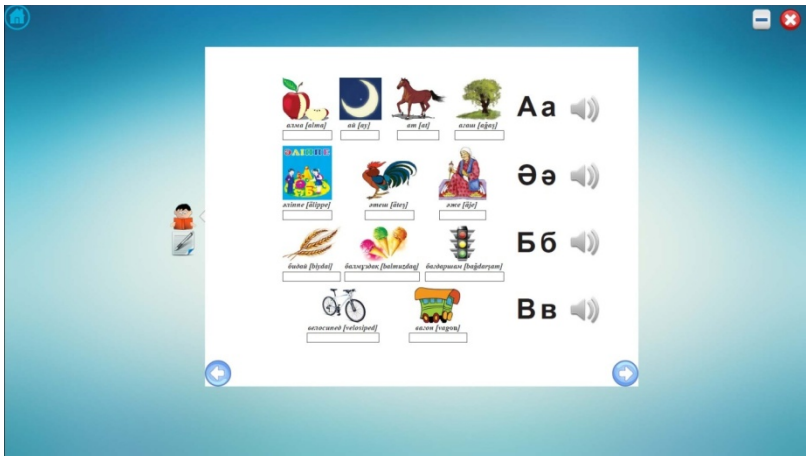
  

a letter". Taking into account both the results of questionnaire and main FLT traditions, we proposed major ways of solving certain tasks of everyday communication such as, e.g. establishing and maintaining contacts with other people. Also, various speech cliches used for greeting-farewell, apology, thanking, requests, suggestions, agreement or disagreement were represented here. All of them are reproduced in standard broadcasters' speech. Clicking repeatedly on the certain phrase, students can listen to it as many times as it is necessary until pronunciation and meaning will not be firmly fixed in their memory. There is no doubt that such procedure encourages the development of foreign students' communication culture and their practical mastery in the Kazakh language. The process of learning becomes captivating since visualization of teaching material makes it more understandable and accessible for students.

Figure 6. General structure of multimedia course


At the first lesson, instructor introduces Kazakh alphabet accompanied by illustrations and soundtracks, to the students.

Figure 7. Motivating elements of the course




Everybody who teaches Kazakh as a foreign language knows how difficult it is to work with Kazakh specific sounds in a group consisting of foreign students. So the sound of each letter produced by the speaker is really important. At the initial stage of learning Kazakh language visibility plays a crucial part. Our program has a lot of visualized teaching materials aimed at implementation of that important didactic principle; as it was stated before, they make process of teaching more interesting and emotional.

Every letter is accompanied by a specific set of words with the corresponding bright, colorful and cheerful pictures. There are also links between words and pictures available by clicking; in our opinion, such kind of visualization helps our students to establish cognitive associations between word and concept, word and its visual representation,

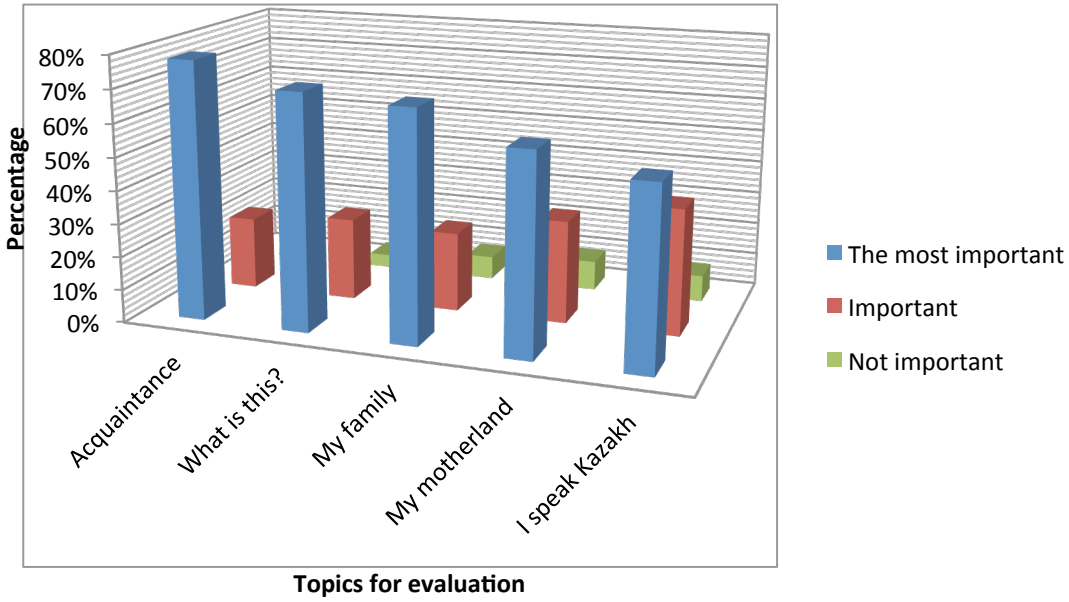
as well as between word and its pronunciation. In terms of the aforementioned computer based teaching program, students are able to learn about 1,000 Kazakh words.

This multimedia textbook represents the result of two years of fruitful work with Turkish students. At the first stage, we clarified the most important topics for oral communication (by means of survey of students' opinion and analysis of FLT traditional approaches); secondly, all topics were provided with the appropriate visual and sound supplementary materials.

## FINDINGS

In order to measure the motivational potential of multimedia use and to get a feedback, we conducted a survey among our students. The number of participants was 38; the level of language competence was similar for all of them (Beginner/Elementary). The purpose of our survey was to identify the relevancy of key topics represented in our multimedia course book, for the process of communication. The results of our survey are represented on the diagram below.

Figure 8. Students' opinion concerning topics relevance (survey results)




As it is shown on the diagram, the majority of our students considered topics *Acquaintance* and *What is this?* as the most important subjects for study. It is also necessary to take into account that there are no topics proposed in our multimedia course which were treated as not important for communicative skills improvement. At the first semester of this academic year, we started to use this multimedia course in preparatory groups; the level of students' language skills was A 1.

The search for optimal tools that can improve foreign students' language competence is one of priority problems of methodology of teaching Kazakh language for foreigners. Teachers never stop their experiments, use of new types of activities, methods of teaching, because every lesson of the Kazakh language for foreign students is a crossroad of cultures and the practice of intercultural communication. The success of communicative, linguistic and lingua-cultural competences development depends on many factors, and we should treat clear lesson structure and combination of different teaching techniques as the most important one.

## SOME PERSPECTIVES OF ICT IMPLEMENTATION

In the nearest future, we are planning to improve the existing multimedia and to work out a series of supplementary training materials which will comprise a standalone program, i.e. a computer version of the training manual on Kazakh language grammar (for Beginner and Elementary levels), Linguistic and Cultural trainer (including texts and videos); and we are also planning to create special training website for foreigners supplemented by the best Kazakh

movies as an additional training resource. The most important goal of those resources application is drilling and repetition of vocabulary and typical structures represented in interesting and motivating ways. Such system of training resources works as a facilitator in the process of vocabulary training and expansion, as well as in recognition of the word and its form, and linking certain form of noun or verb with the appropriate communicative situation.

Also, we are planning to elaborate logical computer game-application based on the Japanese Sudoku, for the development of lexical, grammatical, pronunciation skills of foreign students. In our viewpoint, classes in Kazakh as foreign language based on use of gaming technology, allow the instructor to reach the balance of emotional and rational learning style. In combination with other methods and techniques, complementing traditional way of teaching, linguistic computer games enhance effectiveness of teaching, make the teaching process more entertaining and multifaceted, contribute the successful mastering of learning material, facilitate overcoming learning difficulties. One of obvious benefits of those programs is the opportunity of separate fragments repetition done in various ways. The program is really flexible; so it can be adapted for different learning style. Moreover, student is able to pause the presentation wherever he needs to do it, and view it repeatedly up to the full understanding and grasp; also, he can repeat the rules to consolidate them virtually, using different structures.
It is planned to work out the appropriate video course in accordance with contextual, thematic and communicative principles on the basis of real stories about students' life of the CDS (about 50 stories). The authors would select typical situations, hot topics for foreign students, e.g. "Acquaintance with Philology Faculty" where Turkish students have their preparatory courses; "Dean's Office" where they solve various problems such as passing examinations and tests; they should be able to communicate with the Dean, Deputy Dean, and their advisors; "Hostel", where the students communicate with hostel manager, watchman, roommates, with representatives of other cultures and nationalities; "Polyclinic" etc. As it was stated by Syed Noor-Ul-Amin, "the adoption and use of ICTs in education have a positive impact on teaching, learning, and research. ICT can affect the delivery of education and enable wider access to the same. In addition, it will increase flexibility so that learners can access the education regardless of time and geographical barriers. It can influence the way students are taught and how they learn. It would provide the rich environment and motivation for teaching learning process which seems to have a profound impact on the process of learning in education by offering new possibilities for learners and teachers" (Noor-Ul-Amin, 2011).

## CONCLUSION

The structure and content of the course will enhance foreign students' communicative skills in listening and understanding Kazakh speech as well as their competences in tolerant interaction in multi-ethnic environment by means of Kazakh language. For that purpose, we also use some videos containing dialogues which are authentic and typical. That teaching material should be treated as a new opportunity to explore realias, cultural norms, rules, traditions and customs of the academic life of universities in Kazakhstan; moreover, the aforementioned approach facilitates the process of successful adaptation in educational, administrative, and social spheres.
The entire project consists of 5 parts: 1. Multimedia tutorial; 2. Grammar training material; 3. Lingua-cultural trainer; 4. Logical computer game-application; 5. Contextualized video course, intended to be used on the interactive whiteboard and mobile devices. Therefore, the project is implemented together with the students of Software Department.
These are the perspectives of foreign students training in the field of Kazakh language (levels A1, A2). As it was stated here, computer-based teaching Kazakh as foreign language should be considered as one of innovative teaching techniques, and the application of different parts of multimedia training complex allows us to create a system of intensive training, when the foreign students can select appropriate programs and learning technologies, i.e. the system is adapted to students' individual needs and abilities.

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# TEACHING OF DIFFERENTIAL CALCULUS AND COST THROUGH AN INTERACTIVE LEARNING OBJECT

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**ABSTRACT**
The purpose of this research is to explore the use of an interactive learning object (ILO) with the aim to improve the teaching of Differential Calculus and Cost curses. This is realized through an interactive object in the free software GeoGebra with the purposes of facilitating the teaching and learning processes in differential calculus and the appreciation of the applied and practical utility in this and others knowledge field by students. The relevant contribution of this paper are the generation of a tool for teachers and students where the can develop work outside of class, create new questions and have a good appropriation of the acquired theoretical knowledges in class through the heuristic interactions between teachers, students and the ILO.

**Keywords:** e learning, costs, technological education, differential calculus

## INTRODUCTION

Differential Calculus has different definitions, and in this article the most relevant is the representation of slope of a curve or function, since this is the derivative and shows the performance of a variable regarding other. Hence, derivative will be used as a way to management decision making based on fundamentals of Calculus.

The Information and Communication Technologies (ICTs) are fundamentals in knowledge transmission, because improve teaching strategies and student aims to improve his competences by know-how learning. The virtual tools as GeoGebra allows the interaction and exploration, where users, teachers and students achieve to understand and argue in a practical and constructionist way the academic contents in real problem situations.

When the derivative application topic is set out in Differential Calculus, the really importance of this subject covers different situations of real life. The problems of maximum and minimum are the most important issue of Differential Calculus. *"Think how often we hear or read maximum benefits, minimum cost, minimum time, maximum voltage, optimal size, minimum area, maximum intensity or distance" (Larson y Hostetler, 1989).*

In Management Sciences it must be used a teaching strategy, where it can be compared the theoretical knowledge and its practical used and usefulness.

## INTERACTIVE LEARNING OBJECT

Currently, the technology has advanced, and has thoroughly taken into account in educational process (Organista, 2010). Mir, Repáraz and Sobrino (2003: 7) set out that "Recently, is taken into account how

  

technology can improve the teaching-learning process" and how "many initiatives expect to explore these new possibilities that technology offers to us".

Given this significant event, is important to note that the use of technology involves a radical change, as it not only affects or influences the training methodology that is set out, but also in the guidelines has or it should have taken into account in the process of developing a training course completely on-line or mixed (combined with face-to-face classes) (González, 2005). The Information and Communication Technologies (ICTs) have contributed significantly on the educational process, achieving educational sector change (Pedraza, Farías, Lavín & Torres, 2013).

Virtual learning environments have been developed as a supplement to classroom teaching, promoting the use, control and evaluation of various training activities aimed the acquisition of skills. In this sense, the central element of those environments is the creation of various Learning Objects (LOs). The LOs used in class, all times guide the student in transit through virtual environments, stimulate his autonomy by managing his self-learning and facilitate the role of the teacher as a mentor, guide and evaluator of teaching-learning process (Montagud & Gandía, 2014). In this regard, digital tools assume a major role and impact on the educational process in various knowledge areas.

In recent years, demand for digital learning content has been increasing which has led to the use and/or adoption of Learning Object Repositories (Nascimento & Brandão, 2013), which are an essential component of the ecosystem of e-Learning and usually have the purpose of cataloging, storage, retrieval and delivery of learning objects to be used within applications of e-Learning. Some of the key features of these repositories are: to promote the dissemination of LO, reuse information, ease of digital content searches and enforce a standard meta-data classification (Dos Santos, Carrillo, Cechinel & Ochoa, 2014).

One of the areas where the use of technology has transcended is Mathematics, because with the creation of different mathematical software (some of them correspond to free software like GeoGebra, Descartes, among others) have become a growing interest in designing and implementing learning objects (LOs) to promote a better understanding of mathematical concepts and at the same time serve as a support class work and motivate students to independent study. According to Leung (2006), ICTs incorporation of mathematics teaching, is one of the most relevant topics in current Math teaching (Córdoba, Herrera & Restrepo, 2013).

In particular, a study with a series of activities using GeoGebra was carried out by the University of Valencia in Spain with students of 2nd year of high school. It was found that this educational software provided students a view of dynamic images, the understanding and integration of concepts, the creation of environments of greater participation and gaining a meaningful learning, because students could relate the new information with learned in previous sessions (Benedicto, 2012). Thus, it is observed the importance of integrating technology into the classroom, either through applications or devices, since these are part of a complex process that involves learning design, which allow customizing teaching through educational materials (Blanqueto, Cabañas & Dávalos, 2014).

According to Leung (2006), ICTs incorporation on Mathematics teaching, is one of the most relevant topics in current Math teaching (Córdoba, Herrera & Restrepo, 2013). The use of LOs maybe helpful in the educational context of the high school level and even more when it applies to complicated areas. Some researchers have suggested the high incidence of problems caused by the difficulty in teaching and learning subjects as difficult as Mathematics does (Organista, 2010). The teaching-learning process of this subject is extremely complex, so the society has been necessary to search alternatives to facilitate the teaching and learning of Mathematics. In this way, a variety of methodologies to achieve the effectiveness of this process have been developed. Thanks to the emergence and development of new technologies, particularly computers, a research field originates in terms of new learning environments and teaching methodologies, and taking advantage of the enormous potential of these electronic resources (Oteiza & Miranda, 2004).

Thus, if it starts from the premise that most high school level students have access to computer equipment and Internet services (whether at home, school or service providers such as Internet cafes), it is possible to use the Internet as a way to provide teaching aids and contribute to reducing the problem of low mathematical domain in this educational level (Organista, 2010).

  

Miramontes (2003) sets out a need to reform the upper secondary education and formulates policies to renew the traditional pedagogical approach, by redesigning teaching methods that would efficiently address their own content level (Organista, 2010). Thus, various studies to determine the implication of LO in the area of Mathematics have addressed. They have shown that the use of the web as a means of delivery of materials allows the inclusion of interactive segments and animations, generating a most dynamic content and therefore more students will be interested (Organista, 2010).

It is important to note that the implementation of LO in the educational process of Mathematics, has made that the interaction on learning this subject becomes a crucial aspect, as literature suggests that learning is done by the interaction learner with his environment (Oteiza & Miranda, 2004). In this sense, Alemán de Sánchez (2002) suggests the advantages of computer use in teaching Mathematics:

- Active student participation in the construction of his own learning.
- Interaction between student and computer
- The ability to give individual guidelines to the student.
- The ability to create micro-worlds that allow them to explore and conjecture.
- Student cognitive development.
- Control of time and sequence of learning by the student.
- Through the immediate and effective feedback, students can learn from their mistakes.

In Mathematics, it is common to use the electronic white-board linked to some software, which has been designed for educational purposes and not others, but all useful in the teaching Mathematics. Among others are the spreadsheets, Excel, Power Point and Equation Editor (Alemán De Sánchez, 2002).

These digital resources have made the simulation a vital part in the process of learning Mathematics in higher education, emphasizing that simulation of natural phenomena with computer use, make it in an important education element. Because such software support the discovery of learning, in mathematics are very often used to promote the establishment of rules and demonstration of propositions and theorems (Alemán De Sánchez, 2002).

In particular, in the area of Math and sciences, animations and simulations are useful for understanding, since the concepts are reinforced and also by the ICTS, it can create a range of charts and other graphical representations of concepts and processes that are not possible with traditional resources such as chalk and blackboard. In this regard, LOs become more than simple instrument mediators, which facilitate and promote learning and they can be reused to be applied in different courses (Córdoba, Herrera & Restrepo, 2013).

Due to the involvement of technology and/or digital educational resources in the area of Mathematics, the qualities that provides the use of LOs through different types of software and how increase the motivation of students based on trial and error learning have been studied, i.e. through animations or simulations the student can find things, that later will be confirmed as correct and were discovered by mathematicians some centuries ago. Thus, the LOs allow students to build a bridge between the intuitive ideas and formal concepts. In this way, simulations and teacher guidance, help students to set the concepts in their cognitive structure in a more natural way compared to how would be in traditional classes (Córdoba, Herrera & Restrepo, 2013).

Meanwhile, Lim (2007) suggests that the main motivation for the integration of ICTs in education, is that promotes in students a constructive thinking and allows them transcend their cognitive limitations, involving them in certain operations (cognitive) that with other means may not have been achieved. Thus it is favoring the development of higher skills such as design, decision making and problem solving that require analysis, evaluation, relationship between partners, imagination and synthesis fully integrated (Córdoba, Herrera & Restrepo, 2013).

However, in a study on the impact of using learning objects in performance on Mathematics, published in the on-line journal of the Universidad Católica del Norte, suggested that the technologies themselves and the training of teachers without a permanent support and a process of change in their practices do not generate a significant improvement in learning Mathematics that is reflected in the academic performance of students (Córdoba, Herrera & Restrepo, 2013), so a full training and knowledge about LOs involvement in the educational process of Mathematics, in order to make usable and effectively these educational digital tools is essential.

  

**METHODOLOGY**

The free software and dynamic GeoGebra can draw a relationship or function where the independent and dependent variables, and other parameters that can vary according our analysis needs, the graph will immediately change, bringing the student to draw conclusions and interact with the software to discovering new knowledge.

A problem situation where the importance of an optimization problem in Administrative Sciences will be set out, especially in the subject of Cost: "A food engineer who wants to build cylindrical cans to store jam, and depending on the cost of the bottoms and the side, you must find the dimensions of cylindrical cans so their price has to be the low as possible".

It is a problem where the Minimum Cost is optimized as small as possible.

This type of problem can work with Interactive Learning Objects (ILOs), where the data of the problem can be modified on windows Software: volume of the cylindrical cans, cost per $cm^2$ of the side and base of the cylindrical cans.

With the above mentioned, the student can self-assess solving a lot problems with the same statement.
About the different methodological designs involving how to model situations in order to maximize or minimize an amount, is the learning of Mathematics with a heuristic approach. For this, the student must use logical reasoning to achieve with the basic concepts and elements, in this case Mathematics as the subject with which he is working the problem situation and the concepts of costs. Thus, he achieves an aid for decision making.

Steps to solve maximum or minimum include: (1) Read the problem. Find the unknown variable according to the information given or sought. (2) Draw a drawing. Which are the important parts of the problem? (3) List the variables with all relationships of the drawing and make an equation or an algebraic expression. (4) Identify the unknown variable, write an equation for it. If it can, express it as a function of a single variable or in two equations with two unknown variables. (5) Make the test with critical points and endpoints.

**RESULTS**

It has the following problem situation, which will serve to show the teachability of Differential Calculus applied on Costs:

“A food engineer will manufacture cylindrical cans to store coconut jam with a capacity of "C" $cm^3$. Find the dimensions that will minimize the cost of required metal to make the can if the bottom cost is $ "Cb" / $cm^2$ and the cost of the side is $ "Cs" / $cm^2$”.

This type of problem can work with Interactive Learning Objects (ILOs), where the data of the problem can be modified on windows Software: volume of the cylindrical cans, cost per $cm^2$ of the side and base of the cylindrical cans.

The free software and dynamic GeoGebra can draw a relationship or function where the independent and dependent variables, and other parameters that can vary according our analysis needs, the graph will immediately change, bringing the student to draw conclusions and interact with the software to discovering new knowledge.

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To solve the problem, the first thing it should do is find a system of equations that relate all the variables involved. For the example, it has:

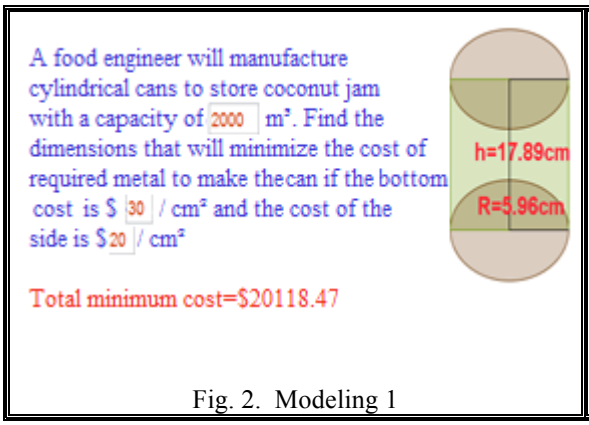



Fig. 2. Modeling 1

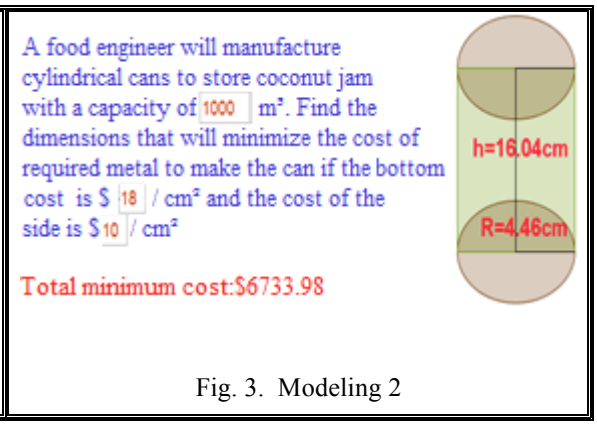



Fig. 3. Modeling 2

$$Ct = Cs + Cb;$$

Where:

$$Ct: total\ cost\ of\ the\ can.$$
$$Cs: side\ cost\ (side\ area * side\ cost).$$
$$Cb: cost\ of\ bottom\ and\ top\ (areas\ of\ bottom * cost\ of\ bottom).$$

For the first modeling (Fig. 2) the following data were introduced: capacity of "2000" cm3, bottom cost $ "30"/cm2 and side cost $ "20"/cm2. Immediately appeared: Total minimum cost= $20118.47, height = 17.89 cm, Radius = 5.96 cm.

For the second modeling (Fig. 3): capacity of "1000" cm3, bottom cost $"18"/cm2 and side cost $ "10"/cm2. Immediately appeared: Total minimum cost = $6733.98, height= 16.04 cm, Radius = 4.46 cm.

To this we must consider what is the side area of a cylinder and the area of the bottom (Fig. 3). Thus, the equation would be:

$$Ct = \underbrace{(2\pi Rh)cm^2}_{side\ area} * \frac{\$10}{\underbrace{cm^2}_{\frac{side\ area}{cm^2}}} + \underbrace{2(\pi R^2)cm^2}_{bottom\ area} * \frac{\$18}{\underbrace{cm^2}_{\frac{bottom\ cost}{cm^2}}} = \$20\pi Rh + \$36\pi R^2 \quad (1)$$

But this total cost is a function of two variables ("R" and "h") and it should only be based on a single variable to be able to derive and equal to "zero", with the aim of finding the value or critical values. Therefore, it should find another equation that relates these variables ("R" and "h") to find a function in function of the other and replacing it in the equation of the total cost and thus, is depending on a single variable. As the volume of cylindrical can it has (1000 cm3), then:

$$V = 1000cm^3 = \pi R^2 h \Rightarrow h = \frac{1000}{\pi R^2} \quad (2)$$

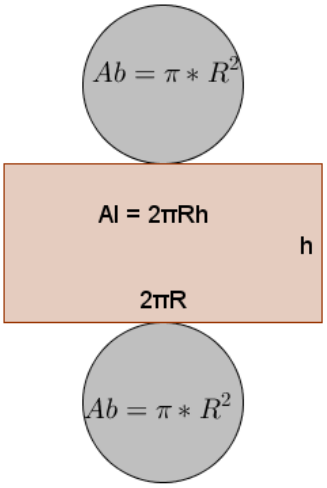



Fig. 1. Side and bottom areas

Replacing $(2)\ in\ (1)$: $Ct = 20\pi R * \frac{1000}{\pi R^2} + 36\pi R^2 \Rightarrow Ct = 20000R^{-1} + 36\pi R^2$

As it has the total cost (Ct) based on a single variable, it can be derived and equalized to zero and find the critical values or values: $Ct'(R) = -20000R^{-2} + 72\pi R = 0$

$\Rightarrow 72\pi R = \frac{20000}{R^2} \Rightarrow R^3 = \frac{20000}{72\pi} \Rightarrow R^3 = \frac{20000}{72\pi}$, $therefore: R = \sqrt[3]{\frac{20000}{72\pi}} = 4.46$ cm

To corroborate that is a minimum value, the second derivative is found and it is replaced in the critical value: $Ct''(R) = 40000R^{-3} + 72\pi \Rightarrow Ct''(R) = \frac{40000}{R^3} + 72\pi$

$\Rightarrow Ct''(4.46) = \frac{40000}{4.46^3} + 72\pi > 0 \Rightarrow$ R = 4.46 cm is minimum

To find the "h" value, it replaces R = 4.46 cm en (2): $h = \frac{1000}{\pi * 4.46^2} = 16.04\ cm$

To find the total minimum cost, it replaces R = 4.46 en $Ct(R)$:

$$Ct(R) = 20000R^{-1} + 36\pi R^2$$

$$Ct(4.46) = \frac{20000}{4.46} + 36 * \pi * 4.46^2 = \$6733.98$$

Here it will be described how, through the software GeoGebra, it can reach this solution of the problem. To solve the problem situation, two possible modeling in the GeoGebra software would be as follows

To illustrate the solution of the problem through software, the second modeling will be used. Of the equation (1), it has that:

$$Ct = \$20\pi Rh + \$36\pi R^2 \quad (1)$$

Of the equation (2):

$$h = \frac{1000}{\pi R^2} \quad (2)$$

Replacing (2) en (1) → $Ct(R) = \frac{20000}{R} + 36\pi R^2$ (3)

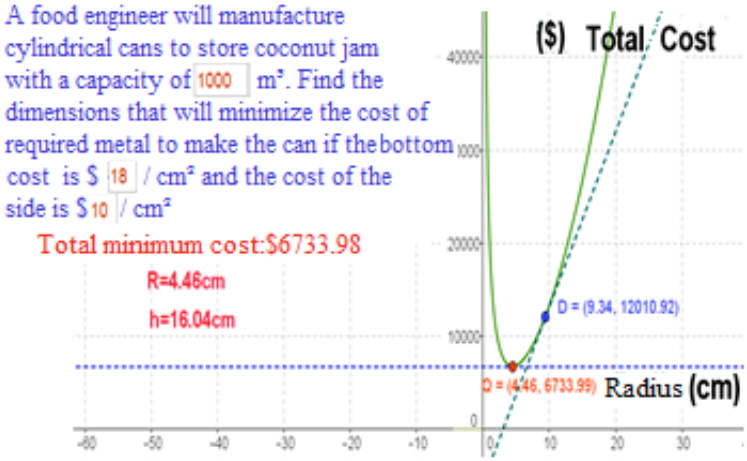



Fig. 4. Modeling 2. Curve of Total cost =f(R)

Figure 4 shows the graphic of this function. It is noted that R=0 is a vertical asymptote, that is, the radius can never be 0, and it is logical, because when the radius tends to 0, the height tends to infinity, and consequently total cost too.

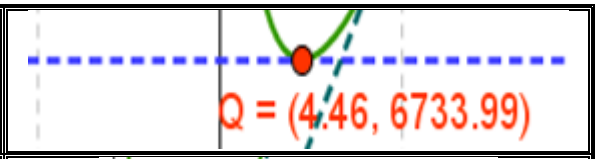
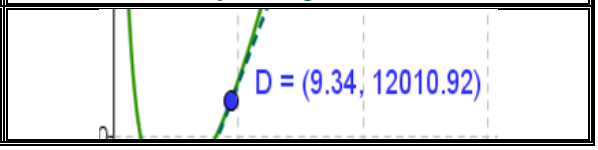
Of the equation (3) obtain while R decrease, $Ct$ increase, and when is derived

$$Ct'(R) = -20000R^{-2} + 72\pi R$$

It obtains the slope of the tangent curve $Ct(R) = \frac{20000}{R} + 36\pi R^2$ in any value of R. Equating this equation 0, the derivative:

$$Ct'(R) = -20000R^{-2} + 72\pi R = 0 \Longrightarrow R = 4.46$$

| | |
|---|---|
| i.e., when the tangent line is horizontal, its radius is 4.46 cm, where it is possible to obtain the lowest value for the total cost, as illustrated in Figure 4. |   |
| Figure 4 also shows that when R = 9.34 cm. The total cost is $12010,92 |   |

**DISCUSSION OF RESULTS**

With ILOs, students and teachers develop abilities and apply knowledge and skills to solve problems, because they apply conceptual contents and procedures in a given context and situation. (Pimienta, 2012, p. 137)

Furthermore, with ILOs simulation is developed, allowing students to face situations of workplace and develop prevention strategies and effective decision making. (Pimienta, 2012, p. 130)

Interactive Learning Objects promote innovative practices as simulations, transferring knowledge and skills from different areas, which favor an approach to reality and to the real professional life.

When the Interactive Learning Objects are brought into the classroom, they promote a high student participation, clarifying seen concepts and obtaining individual and group conclusions.

When questions are designed on Interactive Learning Objects (ILOs) that promote the understanding of different fields of knowledge. These become an instrument that strengthen and develop critical thinking in students and this is where the teacher must lead to situations questioned about the concepts and knowledge already seen.

**CONCLUSIONS**

The tools addressed by the ICTs, such as ILOs, have strengthened in the students' new forms and practices of knowledge, while closer and integrate various disciplines, such as Differential Calculus and Cost Accounting, bringing the software GeoGebra a great dynamic in the teaching process, to simulate designs with different applications in many areas of knowledge.

With the software GeoGebra the constructions and illustrations that support mathematical concepts are interpreted and analyzed better, visualizing the geometric performance of the different lines and curves. This situation is very useful for students whose visual predominant learning. It also highlights that GeoGebra has become one of the most important and friendly software for a wide range of disciplines of knowledge.

The university teachers are encouraged to improve their teaching process through the design of ILOs, working in GeoGebra Software, in the search for alternative methodologies that promote understanding of basic mathematical concepts for the planning and troubleshooting.

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# TEACHING OF VOCABULARY BY USING WORD CARDS AS A LEARNING STRATEGY IN GERMAN COURSES A SECOND FOREIGN LANGUAGE

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## ABSTRACT

Teaching of vocabulary has a significant role in teaching a foreign language as well as grammar, speaking, listening, reading and writing. Learning strategies used in foreign language courses are gravely important in terms of students' improving their all capabilities. The phenomenon to be handled in this study is supporting the teaching of vocabulary by the help of activities in German courses as a second language. Leaning should be reinforced and the data should be made catchy by means of various activities to be carried out with the students. Thus, in this study the contribution of using word cards as one of learning strategies in vocabulary teaching will be observed. In order to gather relevant data, in this study the activities carried out with the students in Aksaray University Tourism and Hotel Administration Department will be taken into consideration. These students should learn required words and patterns in communicating with the clients while they are working in hotels in vocational German courses. Therefore, using different methods for students in vocabulary teaching make them increase their motivation, reinforce what they learned and recall the words from their mental lexicon when necessary. By using word cards, as being the topic of this study, we transfer all words to be used in hotel's restaurant, reservation and room service departments. On the one side of the cards one word's German meaning is written while on the other side the Turkish version is written. As the students write the words on the board respectively, then, after mixing the cards, they put them in appropriate chief title envelopes By means of this method, words' levels of being remembered easily are increased and finally students learn while they are enjoying. Giving up classical methods in foreign language teaching and transferring data by using appropriate methods according to their age levels is very beneficiary in terms of students.

## ÖZET

Öğrenme stratejisi, bir öğrenme hedefine ulaşmak için, eylem planıdır. Öğrenme stratejilerinin yabancı dil derslerinde kullanımı öğrenme hedeflerine bilinçli şekilde ulaşmayı sağlar. Bu çalışmada ele alınacak olgu ise, mesleki yabancı dil derslerinde kullanılan terimlerin öğrencilere öğretilmesinde öğrenme stratejilerinden bir tanesi olan kelime grupları oluşturmanın öğrenmeye olan katkısıdır. Kelime grupları oluşturma çalışması öğrencilere verilen kelimelerin üst başlıklar kullanılarak ilgili kategorilere yerleştirilme çalışmasıdır. Bu etkinlik sayesinde öğrenciler kelimelerin anlamlarını ve ait oldukları üst başlıkları öğrenirken, öğrendikleri kelimeleri uygulamalı olarak kullanma becerilerini geliştirmektedirler.
Aksaray Üniversitesi Meslek Yüksekokulu Turizm ve Otel İşletmeciliği bölümünde öğrenim gören öğrencilerimiz ile yaptığımız yemek ve içecek isimlerini ilgili üst başlıklara yerleştirme çalışmalarında öğrencilerimizin motivasyonu yüksek bir şekilde ilgili etkinliğe katıldıklarını ve bu etkinlik sayesinde öğrendikleri kelimelerin daha yüksek oranda akılda kalıcılığı olduğunu tespit etmiş bulunmaktayız.

## GİRİŞ

Peter Bimmel ve Ute Rampillon, Lernerautonomie und Lernstrategien adlı çalışmalarında öğrenme stratejisini, öğrenme stratejisi, bir öğrenme hedefine ulaşmak için, eylem planıdır şeklinde tanımlamaktadır. (Bimmel/Rampillon 2000, 53) Öğrenme stratejisi ve öğrenme tekniği literatürde genellikle eş anlamlı olarak kullanılsa da, hedef (strateji) ve uygulama (teknik) arasında fark bulunmaktadır. Öğrenme tekniği, öğrenicilerin bir şeyi öğrenmek için kullanabildiği becerilerdir, örn; sözlüğe başvurabilme becerisi. Ute Rampillon, Lerntechniken im Fremdsprachenunterricht adlı çalışmasında öğrenme stratejisi için ‚öğrenici, öğrenme tekniği kullanıyorsa, bilinçli ve amaçlı bir hedefi varsa, öğrenme stratejisinden söz edilebilir, şeklinde ifade etmektedir. Öğrenme stratejisi, farklı öğrenme adımlarını ve öğrenme tekniklerini içeren, ve duruma göre değişen zihinsel bir plandır, tanımını kullanmaktadır. (Rampillon, 1996, S.20) Bimmel ve Rampillon, öğrenme stratejisi tanımının bazı sonuçları olduğunu ifade etmektedir. 1- Öğrenme stratejisi öğrenicinin bir planıdır. Planlar genelde bilinçli olduğu için, ders konusu yapılabilir. Yoğun alıştırma ve uygulamadan sonra yeni edinilen stratejiler otomatikleştirilir. 2- Öğrenicinin planı, belirli bir hedefe ulaşmak için hangi zihinsel eylemleri gerçekleştireceğini içerir. 3- Uygun stratejiyi hazırlamak için, öğrenici kendi öğrenme hedefi konusunda net olmalıdır. (Bimmel /Rampillon 2000, 53)

Öğrenme stratejilerinin formülü şu şekilde olmalıdır. Şayet … o zaman. Bu duruma uygun bir örnek vermek gerekirse, şayet bir dil öğrenicisi kelime öğrenmek için, sözlük alıştırması yapıyorsa, bu o öğrenicinin öğrenme stratejisidir. Hedefi (kelime öğrenmek) için, bu hedefe ulaşmak için ise, bir plan yapmıştır (zihinsel eylem).
Öğrenme stratejileri iki gruba ayrılmaktadır: birincisi dil öğrenme stratejileridir, öğreniciler dili öğrenmek için kullanırlar, ikincisi ise dil kullanım stratejileridir, bu strateji dil öğrenmek için, iletişimsel kullanım ve dili anlamak için kullanılır.
Dil stratejileri sadece cümleleri ve kelimeleri anlamak için kullanılan stratejiler değildir. Öğrenicilerin kendi öğrenmesini kontrol edebilmesi için planlama ve düzenleme, duygusal alan (örn. stres düşürülmesi) ve de sosyal alan (örn. başkalarıyla çalışma) gibi diğer alanları da kapsamaktadır. (Bimmel/Rampillon, 2000, 64)
Öğrenme stratejileri ise direk (bilişsel) ve direk olmayan stratejiler olmak üzere ikiye ayrılmaktadır. Direk (bilişsel) stratejiler , direk olarak öğrenme konusu ile ilgilenir, öğrenilen bilgiyi yapılandırma, işleme ve zihinde saklayıp gerektiğinde çağırabilmeyi sağlar. Direk olmayan stratejiler ise, öğrenmenin şekliyle, ne zaman, ne, nerede, nasıl gibi sorular ile ilgilenir. Öğrenme ile ilgili olan duygularla ilgilenir. Öğrenme konusu ile direk ilgisi yoktur fakat dolaylı yoldan etkili öğrenmek için koşulları sağlar.
Peter Bimmel ve Ute Rampillon, Lernerautonomie und Lernstrategien adlı çalışmalarında, öğrenme stratejileri ve dil kullanım stratejilerini aktaran detaylı bir tablo oluşturmuşlardır.

## ÖĞRENME STRATEJİLERİ

**Direk (Bilişsel) stratejiler**

**Zihin stratejileri**

| | Örnekler |
|---|---|
| Zihinsel bağlantılar oluşturma | - Kelime grupları oluşturma<br>- Ön bilgiyi çağrışım ile bağlantılandırma<br>- Bağlamlar oluşturma<br>- Kombin etme |
| Resim ve sesleri kullanma | - Resim kullanma<br>- Çağrışım şeması oluşturma<br>- Ara kelimeleri kullanma<br>- Ses akrabalıklarını kullanma |
| Düzenli ve planlı tekrar etme | - Kelime kartları kullanma |
| Eyleme dökme | - Kelimeleri ve ifadeleri teatral şekilde sunma |

**Dil işleme stratejileri**

| | |
|---|---|
| Yapılandırma | - İşaretleme<br>- Notlar alma<br>- Bölümlendirme yapmak<br>- Özetleme |
| Analiz etme ve kurallar kullanma | - Kelimeleri ve ifadeleri analiz etme<br>- Dilleri birbirleri ile kıyaslama<br>- Ana dilin bilgilerini kullanma<br>- Kuralları keşfetme<br>- Kuralları uygulama |
| Alıştırma yapmak | - Kalıplaşmış deyimleri tanıma ve kullanma<br>- Cümle örneğini tanıma ve kullanma<br>- Dili iletişimsel olarak kullanma |
| Yardımcı araçları kullanma | - Sözlük kullanma<br>- Dilbilgisine başvurma |

**Direk olmayan öğrenme stratejileri**

**Bireysel öğrenmeyi düzenleme stratejileri**

| | |
|---|---|
| Bireysel öğrenmeye konsantre olma | - Oryantasyon sağlama<br>- Rahatsız edici faktörleri devre dışı bırakma |
| Bireysel öğrenmeyi düzenleme ve planlama | - Bireysel öğrenme hedeflerini belirleme<br>- Bireysel amaçları netleştirme<br>- Nasıl öğrenilebileceğini aktarma<br>- Organize etme |
| Bireysel öğrenmeyi denetleme ve değerlendirme | - Öğrenme sürecini denetleme<br>- Öğrenme hedeflerine ulaşmayı kontrol etme<br>- Gelecekteki öğrenme için sonuç çıkarma |

**Duygusal öğrenme stratejileri**

| | |
|---|---|
| Duyguları kontrol etme ve ifade etme | - Vücut sinyallerini kayıt etme<br>- Kontrol listesi kullanma<br>- Öğrenme günlüğü tutma<br>- Duygular hakkında konuşma |
| Stresi azaltma | - Eğlenmek<br>- Müzik dinlemek<br>- Gülmek |
| Cesaretlendirme | - Cesaretlendirmeye ikna etmek<br>- Mantıklı risklere girmek<br>- Kendini ödüllendirmek |

**Sosyal öğrenme stratejileri**

| | |
|---|---|
| Soru sormak | - Açıklama istemek<br>- Dil ifadelerinin doğru olup olmadığını sormak<br>- Düzeltme rica etmek |
| Birlikte çalışma | - Sınıf arkadaşları ve öğrencilerle birlikte öğrenme<br>- Yeterli ana dil konuşucularından yardım isteme |
| Empati yapma | - Yabancı kültür için anlayış geliştirme<br>- Diğerlerinin duygu ve düşüncelerinin farkına varma |

**Dil kullanım stratejileri**

| | |
|---|---|
| Ön bilgiden faydalanma | - Hipotezler kurma ve kontrol etme<br>- Anlamları dilsel bilgiler nedeniyle tahmin etme<br>- Anlamları bağlamdan çıkarma |
| Mevcut tüm imkanları kullanma | - Ana dile dönüştürerek<br>- Yardım isteme<br>- Mimik ve jest kullanma<br>- Konuşma konularından kaçınmak<br>- Konu değiştirme<br>- Ne kast ettiğini yaklaşık olarak söyleme<br>- Kelime bulma<br>- "boş" kelimeler kullanma<br>- Açımlama ve eş anlamlılar |

(Bimmel/Rampillon, 2000, S.65)

Bimmel ve Rampillon'un bu tabloda belirttiği üzere öğrenme stratejileri ne için kullanılacağına göre çeşitlilik göstermektedir, ayrıca bu tablonun yabancı dil öğrencilerine ve yabancı dil öğretmenlerine en büyük katkısı, çeşitli alıştırmalar sunmasıdır. Öğrenci öğrenme stiline göre bu tablodan çeşitli alıştırmaları seçebilir, homojen öğrenme stili olmayan bir sınıfta ise, öğretmen bu tablodaki birçok alıştırmayı kullanabilir.
Öğrenme stratejileri, bilinçli bir dil öğrenicisinin hedefine yönelik etkili çalışması için uygulaması gereken bir yöntemdir. Öğrenme stilini bilen ve kendi öğrenme şekillerine bağlı olarak, uygun stratejileri kullanabilen bir dil öğrenicisi o dili en etkili şekilde öğrenebilir.
Fakat kendi öğrenme stilinin bilincinde olmayan öğrenciler için ise, öğretmenin desteği devreye girmelidir. Öğretmenlerin genellikle bireysel olarak ilgilenme imkanının olmadığı durumlarda, farklı stratejileri aktararak ve uygulayarak çalışma yönteminde her öğrenci kendi öğrenme stiline göre eylem hazırlayabilir ve uygulayabilir. Başarılı bir kelime öğrenimi sadece tekniklerin ve stratejilerin derste kullanımına bağlı değildir, aynı zamanda ders ve sınıf koşullarına da bağlıdır. Motivasyonsuz bir öğrenme ile tüm emekler boşa gidebilir. Öğrenilen kelimeleri akılda tutma, anlama ve yeri geldiğinde aktif bir şekilde kullanma, o dile karşı tutum, grubun sosyal durumu, öğrenme atmosferi gibi birçok koşula bağlıdır.

## ÇALIŞMA

Bizim çalışmamıza konu olan kelime grupları oluşturma aşamasını Bimmel ve Rampillon, direk (bilişsel) stratejilerde zihin stratejisi olarak aktarmıştır. Zihin stratejilerinden ise, zihinsel bağlantılar oluşturma alt başlığında örnek alıştırma olarak kelime grupları oluşturma örneğini vermiştir. Kelime grupları oluşturma çalışmasını ise şöyle açıklamaktadırlar; öğrenici, metinlerde ya da kelime listelerinde öğrendiği anlam akrabalığı olan kelimeleri, kelime grupları olarak düzenler. Örnek olarak verdikleri kelimeler ise şöyledir; Ulaşım araçları kelimesini üst başlık olarak seçerek, bu üst başlığa ait olan araba, uçak, tren, otobüs, bisiklet kelimelerini vermektedirler. (Bimmel/Rampillon, 2000, S.67)
Naxhi Selimi, Wortschatzarbeit konkret isimli çalışmasında, kelime grupları oluşturma ya da alt- üst kavram çalışmasının hedeflerini şöyle açıklamaktadır; kelime anlamlarını çıkarmak, çağrışım yapmak, düzenlemek/sıralamak, görselleştirmek, sistematize etmek, yeni anlam bağlantıları oluşturmak ve bunları yansıtmaktır. (Selimi, 2014, S.66)

## UYGULAMA 1

Aksaray Üniversitesi Turizm ve Otel İşletmeciliği bölümünde öğrenim gören öğrencilerimizle yaptığımız Mesleki Almanca derslerinde mesleki alanlarına yönelik kelime ve kalıplar üzerinde çalışmaktayız. Öğrencilerimizle yaptığımız sayısız alıştırmalardan bir tanesi ise, bu çalışmaya konu olan kelime grupları oluşturma çalışmasıdır.
Bu çalışmamızda öğrencilerimize öncelikle işleyeceğimiz konu ile ilgili metinler vermekteyiz. Metinlerimizi okuduktan, tercüme ettikten ve anlama çalışmasından sonra yaptığımız alıştırmalardan bir tanesi ise kelime grupları oluşturma çalışmasıdır. Bu çalışma öğrencilerimizin sıra dışı bir ders anlatım tekniği olduğu için ilgisini çekmektedir, bu çalışmaya katılımları ise motivasyonları yüksek bir şekilde gerçekleşmektedir. Birinci vereceğimiz örneğimiz kahvaltı konusudur.

## FRÜHSTÜCK

1.**Türkisch** 5,57 Euro
Omelett mit Käse, Tomaten, Gurken,Butter, Oliven und Brot.
2. **Italienisch** 7,50 Euro
Salami,Käse, Butter,Honig, Baguette, Wurst.
3. **Französisch** 4,20 Euro
Croissant,Butter,Honig und Marmelade.
4. **Englisch** 12,20 Euro
Speck,Spiegeleier, Weißbrot, Marmelade und Orangensaft
5.**Deutsch** 5,60 Euro
Brötchen,Käse,Ei,Marmelade, Kaffee, Wurst.
6.**Vegetarisch** 3,50 Euro
Butter,Obst,Brötchen,Joghurt und Milch.
7. **Müsli** 3 Euro
Mit Joghurt oder Milch, Obst und Honig.
Yukarıda bulunan metinde görüldüğü üzere öncelikle kahvaltı menüsü vermekteyiz. Farklı ülkelerin kahvaltı alışkanlıklarına göre düzenlenen bu kahvaltı menüsünde öğrencilerimiz öncelikle kahvaltı konusuna ait kelimeleri öğrenmektedirler. Daha sonra ise aşağıda yer alan metinde görüldüğü üzere kelime çalışması devam etmektedir.

**EXTRAS**

| | | | |
|---|---|---|---|
| **Croissant** | **1,20 €** | **Mineralwasser** | **1,20 €** |
| **Portion Butter** | **0,80 €** | **Tee** | **0,20 €** |
| **Portion Marmelade** | **0,80 €** | **Kaffee** | **0,50 €** |
| **Ei (hart,weich)** | **1,30 €** | **Glas Milch** | **1,20 €** |
| **Omelette** | **2,00 €** | **Orangensaft** | **0,50 €** |
| **Wurst** | **3,10 €** | **Tomatensaft** | **0,50 €** |
| **Toast** | **2,70 €** | **Kirschsaft** | **0,50 €** |

Sonrasında ise kahvaltı kelimelerine ait bir diyalog ile konuyu pekiştirmeye çalışıyoruz. Öncelikle sınıftan seçtiğimiz iki adet öğrenciden bu metni okumalarını istiyoruz. Basit düzeyde kelimeler içeren bu metni öğrencilerimiz genel olarak anlamaktadırlar, fakat birlikte çeviri çalışması yapmaktayız. Aşağıdaki diyalogda yukarıdaki menüye göre garson, müşterilerden siparişleri almaktadır. Birden fazla müşteriye garson teker teker siparişlerini sormaktadır.

- **Kellner**: Guten Morgen, was nehmen Sie?
  **Gast-1:** Ein Frühstück Nummer 3, bitte.
- **Kellner**: Mit Tee oder Kaffee?
  **Gast-1** : Ich trinke Tee.
- **Kellner**: Möchten Sie Milch oder Zitrone?
  **Gast-1** :Zitrone bitte.
- **Kellner**: Und was wünschen Sie?
  **Gast-2** :Ich nehme ein türkisches Frühstück mit Tee.
- **Kellner**: Was nehmt ihr?
  **Gast-3:** Ich möchte das Müsli mit Milch.
  **Gast-4** :Ich möchte das Frühstück Nummer 4 essen, aber ohne Orangensaft, mit Tomatensaft.
- **Kellner**: Also, einmal Nummer 3 mit Tee und Zitrone, ein türkisches Frühstück mit Tee, ein Müsli mit Milch und einmal Nummer 4 mit Tomatensaft. Kommt sofort. Und wie ist Ihre Zimmernummer?
  **Gast-1**: Wir haben das Zimmer 253.

Bu alıştırma ile birlikte kahvaltı konusuna ait olan genel kelime ve kalıpları öğrendikten sonra öğrencilerimiz ile birlikte kelime grupları çalışması yapmaktayız. Bu çalışmada öğrencilerimizden yemek ve içecekleri, fincanda, porsiyonda ya da bardakta sunumuna göre yer alan üst başlıkların altına, bizim verdiğimiz ilgili yiyecek ve içecekleri yerleştirmelerini istemekteyiz.

Milch,Orangensaft,Salami,Wurst,Käse,Tee,Kaffee,Milchkaffee,Marmelade,Honig,Wasser,To-maten.

| **Eine Tasse** | **Eine Portion** | **Ein Glas** |
|---|---|---|

Çözüm:

| **Eine Tasse** | **Eine Portion** | **Ein Glas** |
|---|---|---|
| Tee | Salami | Milch |
| Kaffee | Wurst | Orangensaft |
| Milchkaffee | Käse | Wasser |
| | Marmelade | |
| | Honig | |
| | Tomaten | |

Öğrencilerimiz bu alıştırmada, yemek ve yiyecekleri fincanda, porsiyonda ya da bardakta sunumuna göre alt başlıklarını yazmaktadırlar. Sınıfımızda sırasıyla öğrencilerimizden tahtaya gelerek birer kelime yazmalarını istemekteyiz. Genelde hatasız yapılan bu alıştırma sayesinde öğrenciler, yeni öğrendikleri kelimeleri farklı bir yöntemle tekrar etmiş olmaktadırlar. Bu eğlenceli alıştırma sayesinde, öğrencilerimizin kelimeleri akılda tutma oranı artmaktadır.

**UYGULAMA 2**

İkinci örneğimiz ise, kahvaltı konusunda da yer alan içecek konusundan oluşmaktadır. Öncelikle öğrencilerimiz bir içecek menüsünü incelemektedirler.

**GETRÄNKEKARTE**

| | |
|---|---|
| Bier | 3.00 € |
| Wein | 20.00 € |
| Orangensaft | 6.00 € |
| Milchkaffee | 5.00 € |
| Schwarztee | 4.00 € |
| Apfelsaft | 6.00 € |
| Espresso | 8.00 € |

Daha sonra ise içecek konusu ile ilgili bir diyalog ile çalışmaya devam etmekteyiz. Bu diyalogda garson müşterilerden içecek siparişlerini almaktadır. Öğrencilerimiz arasından seçtiğimiz 2 kişi bu diyalogu okumaktadırlar. Kelime ve kalıpların düzeyi basit olduğu için, diyalogu anlama noktasında sıkıntı yaşamayan öğrencilerimiz ile daha sonra birlikte bu diyalogun çevirisini yapmaktayız.

**Kellner**: Guten Tag, was möchten Sie trinken?
**Gast 1**: Ich möchte ein Bier trinken.
**Kellner**: Was möchten Sie trinken?
**Gast 2**: Ich möchte gerne ein Espresso trinken.
**Kellner**: Was möchten Sie trinken?
**Gast 3**: Ich möchte ein Milchkaffee trinken.

Daha sonra ise yine öğrencilerimizle kelime grupları oluşturma çalışması yapmaktayız. Bu çalışmada öğrencilerimiz meyve suyu, alkollü içecek, kahve ve çay üst başlıklarına öğrendikleri içecek isimlerini yazmaktadırlar.

Milchkaffee Schwarztee Bier Apfelsaft Espresso Pfefferminztee Wein Orangensaft

**GETRÄNKE**

| **SAFT** | **ALKOHOLIKA** | **KAFFEE** | **TEE** |
|---|---|---|---|

**Çözüm:**

| **SAFT** | **ALKOHOLIKA** | **KAFFEE** | **TEE** |
|---|---|---|---|
| Apfelsaft | Bier | Milchkaffee | Hagebuttentee |
| Orangensaft | Wein | Espresso | Pfefferminztee |

Öğrendikleri kelimeleri ilgili üst başlıklara yerleştirme çalışmasıyla, şimdiye kadar öncelikle kelime olarak, daha sonra ise diyalog içerisinde öğrendikleri kelimelerin anlamlarını bir kez daha pekiştirmişlerdir.

**UYGULAMA 3**

Bu uygulamamızda ise minibar ile ilgili bir diyalog üzerinden alkollü içecekler, karıştırmalık içecekler ve atıştırmalık yiyecek kelimelerini aktaracağız. Öncelikle öğrencilerimiz minibar diyalogu üzerinden çeşitli içecek ve yiyecek kelimelerini öğrenmektedirler. Bu diyalogumuzda oda servisi ile ilgilenen personeli arayan müşteri, odasındaki minibar için bazı içecek ve yiyecekleri istemektedir.

**DIE MINIBAR**

- Zimmerservice, kann ich Ihnen behilflich sein?
- Ja, in meiner Minibar gibt es keinen Wodka und Whisky mehr.
- Wie ist Ihre Zimmernımmer bitte?
- Mein Name ist Martin Kohl vom Zimmer 355.
- In Ordnung. Ich schicke Ihnen Wodka und Whisky auf Ihr Zimmer. Wie viele Flaschen möchten Sie?
- Drei Flaschen von jeder Art.
- Möchten Sie andere Getränke zum Mischen wie Cola, Sprite?
- Schicken Sie bitte drei Orangensaft und drei Mineralwasser.
- Wünschen Sie noch etwas? Nüsse, Kartoffelchips.
- Ja, bringen Sie bitte. Und wir brauchen auch noch Eis.
- Okay, Herr Kohl. Ich werde Ihnen drei Flaschen Wodka, drei Whisky, drei Orangensaft, drei Mineralwasser, Kartoffelchips und Eis auf Zimmer 355 schicken.

- Vielen Dank.

Yukarıda verilen diyalog üzerinde öğrencilerimiz bazı içecek ve yiyecek isimlerini öğrenmişlerdir. Daha sonra ise kelime grupları oluşturarak eğlenceli bir şekilde kelimeleri tekrar edeceklerdir. Yukarıdaki diyalogda yer almayan bazı kelimeleri ise bizler öğrencilerimize aktardık.

Gin, Wodka, Rakı, Whisky, Sekt, Bier, Kognac, Rotwein, Weiβwein, Tequila, Brauner Rum, Weiβer Rum, Champagner, Sprite, Coca-Cola, Diät-Coke, Tonic, Mineralwasser, Tomatensaft, Kirschsaft, Ice-Tee, Mandeln, Erdnüsse, Kürbiskerne, Grüne Oliven, Schwarze Oliven, Pistazien, Kartoffelchips, Schokolade

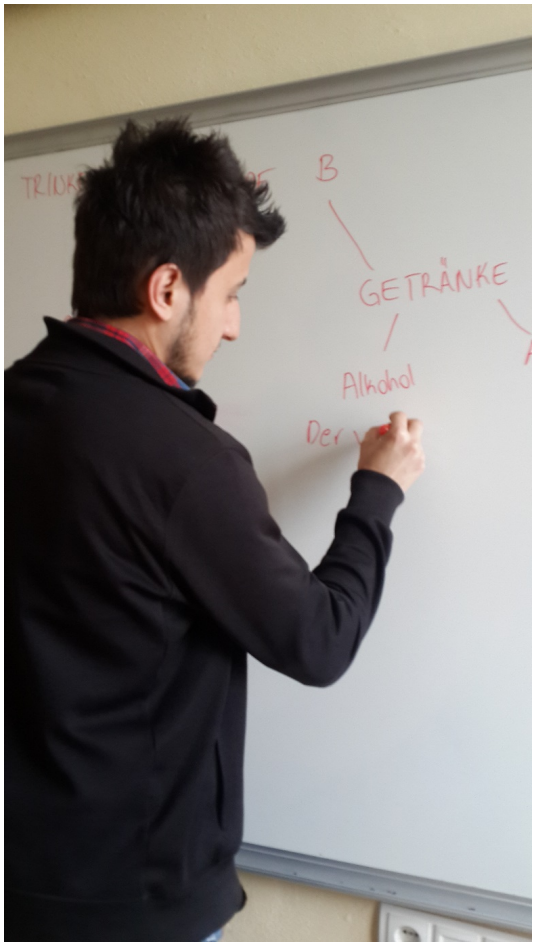
Öğrencilerimizden yukarıda verdiğimiz içecekleri alkollü içecekler, karıştırmalık içecekler ve atıştırmalıklar üst başlıklarına göre yerleştirmelerini istemekteyiz.

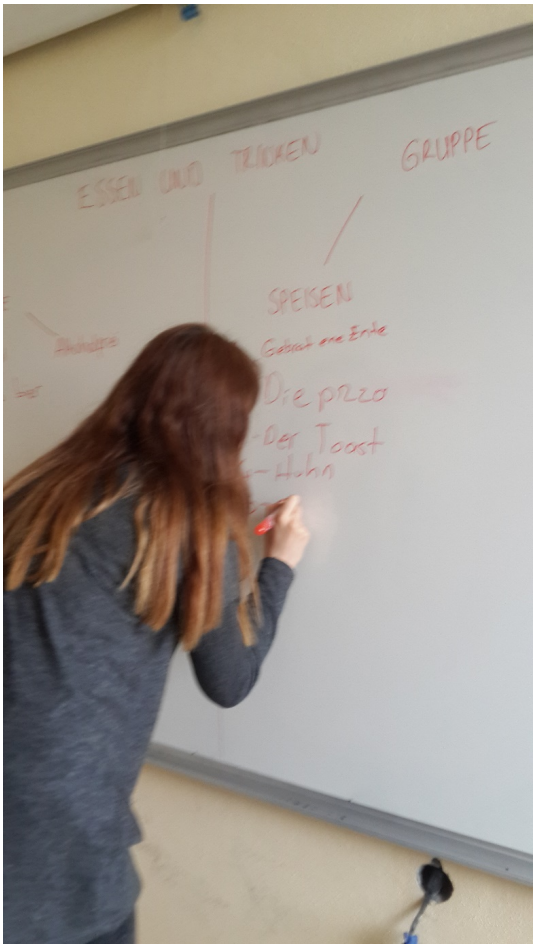
**ALKOHOLISCHE GETRÄNKE** **GETRÄNKE ZUM MISCHEN** **SNACKS**

**Çözüm:**

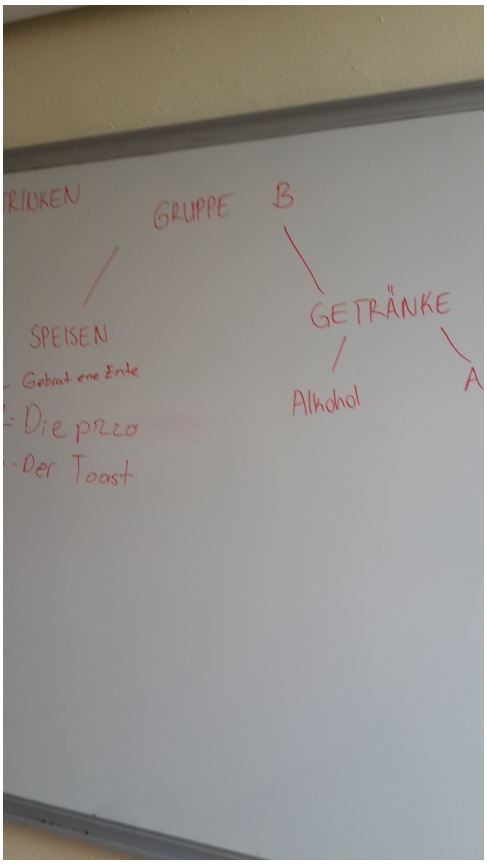
| **ALKOHOLISCHE GETRÄNKE** | | **GETRÄNKE ZUM MISCHEN** | **SNACKS** |
|---|---|---|---|
| Gin | Rakı | Sprite | Mandeln |
| Wodka | Whisky | Coca-Cola | Erdnüsse |
| Sekt | Bier | Diät-Coke | Kürbiskerne |
| Kognac | Rotwein | Tonic | Grüne Oliven |
| Weiβwein | Tequila | Mineralwasser | Schwarze Oliven |
| Brauner Rum | | Tomatensaft | Pistazien |
| Weiβer Rum | | Kirschsaft | Kartoffelchips |
| Champagner | | Ice-Tee | Schokolade |

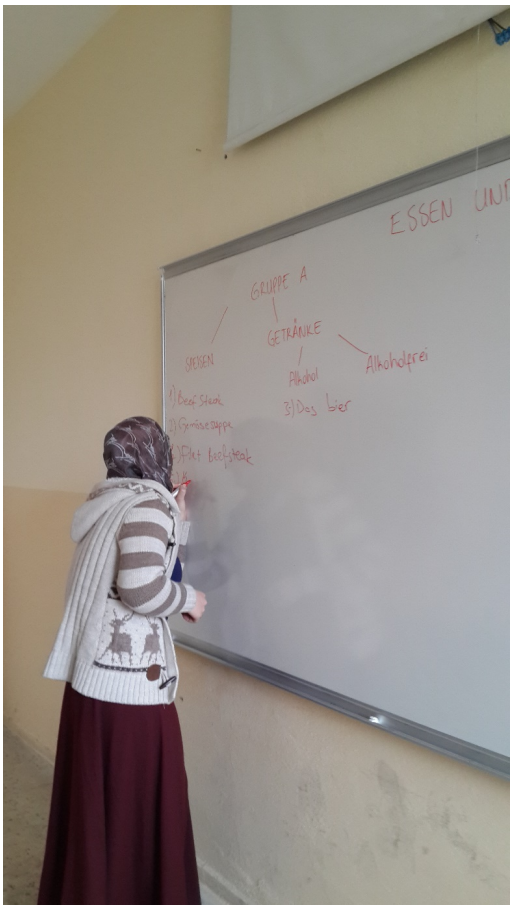
Yemek ve içecek kelime grupları oluşturma çalışmalarımızdan birkaç tane uygulama fotoğrafı:






**BULGULAR**

Bu alıştırmaların amacı, öğrencilerin sistematik düzenleme ile birlikte kelimeleri anlamlarına göre dizmeleridir. Bu çalışma hem analitik eğilimli öğrenici tipleri için, hem de görsel eğilimli öğrenici tipleri için uygundur. Çünkü çalışma hem görsel hem de mantıksal olarak düzenleme düzeyinde gerçekleşmektedir. Ayrıca bu çalışma sayesinde öğrenciler düzenledikleri kelimelerle bir metin oluşturabilirler. Metin oluşturma alıştırması ise, o kelimenin salt kelime olarak öğrenimini değil, cümle içinde kullanımı desteklemesi açısından önemlidir. Kelimelerin anlamlarını öğrenmek, sadece o kelimenin öğrenilmesi anlamına gelmemektedir. Öğrenilen kelimelerle anlamlı ve mantıklı cümle kurabilme yetisi, o kelimenin kullanım alanlarını görme açısından da önemlidir.

**SONUÇ**

Çalışmamızın kelime öğrenimi ve öğretimi konusuna getirdiği katkıları ise şöyle özetleyebiliriz; kelime öğretimi yabancı dil derslerinde son yıllarda önemi daha çok kavranan bir alandır. Dili kullanmak, kendimizi ifade etmek için kelimelere ihtiyaç vardır. Yabancı dil öğreniminde de kelimeler dilin temel taşlarını oluşturmaktadır. Çünkü kelimeler aynı zamanda duygu dünyasını dışa vurmak için gereken olgudur. Kelime öğretimi için sunulan sayısız yöntem, teknik, stratejilerden biri de bizim çalışmamıza konu olan kelime grupları oluşturma çalışmasıdır. Kelime grupları oluşturma çalışması ile öğrenciler tek düze kelime öğretiminden ziyade farklı bir alıştırma kullanarak kelime öğrenmektedirler. Zihinlerinde kelimeleri ilgili alt ve üst kategorilere yerleştirme becerisine sahip olmaktadırlar.

Günümüzde yabancı dil dersleri klasik metodlardan ziyade yenilikçi, eğlenceli, öğrencinin motivasyonunu yükseltecek şekilde planlanmaktadır. Derslere olan katılım ve ilgi, dersin ilgi çekiciliği ile orantılı olarak yükselmektedir. Bu nedenle kelime öğretiminde yapılabilecek bir alıştırma da bizim çalışmamıza konu olan bu alıştırmadır.

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# TEACHING PROFESSIONAL FRENCH COURSES WITH THE INTERNET

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**ABSTRACT**
Teaching French for Specific Purposes (FSP) enjoys a growing popularity because it meets the needs of globalization which has led to an increase in international trade and transactions. FSP is characterized by its utilitarian purpose and the fact that it is not aimed at students majoring in French but at learners from various professional fields: business, tourism, hospitality, health, technology, law, fashion. FSP therefore has the advantage of preparing students to enter the job market. However, FSP can be challenging for instructors who have been trained in French language and literature. This paper focuses on the teaching of FSP applied to the fields of business, tourism, and hospitality. Its objective is to explain how the use of the internet can help instructors to receive training, locate resources and materials, and even have access to ready-made classroom activities. A sample of classroom activities and complete units based on documents found on line appears in the Appendix to show how FSP can be taught with the internet.

## I. INTRODUCTION TO THE TEACHING OF FRENCH FOR SPECIFIC PURPOSES

Language teaching has evolved in recent decades. Until the 1950s and even 1960s, it was limited almost exclusively to the study of language and literature and was designed to train language majors who were prospective teachers for the most part. With the rise of globalization, which has led to an increase of exchanges in all fields, especially in trade and business, competence in foreign languages has become a major asset as it can broaden employment opportunities. But language teaching, as it used to be designed, no longer met the needs of the job market. Little by little, language teaching began to be considered not with the sole purpose of transmitting the acquisition of language in itself, but also with the objective of developing language as a means of communication in order to accomplish professional tasks. Thus was born what is now called Languages for Specific Purposes (LSP) whose goal is not geared primarily towards the interpretation of literature or culture, but towards the professional discipline of the learners.

Florence Mourlhon-Dallies (2008) has traced the historical development of Languages for Professional Purposes (LSP) and explained that French for Specific Purposes or FSP, which first appeared in the 1980s and 1990s, was inspired by the English model "English for Specific Purposes" or ESP described by Tom Hutchinson and Alan Waters (Hutchinson and Waters, 1987). Originally, this approach was defined as "business communication" and referred to a methodology focused on office communication—business correspondence, terminology, and telephone—allowing learners to be operational in the major services of any businesses context. Given the diversity of audiences, courses in LSP began to be developed: English for Specific Purposes (ESP), Geschäftsdeutsch or Business German, and French for Specific Purposes (FOS). This essay will focus on the teaching of professional French or French for specific purposes (FSP) and emphasize the use of the Internet as an essential medium for teacher training, resources, and classroom materials.

The first FSP instructors encountered two major obstacles: the lack of teaching materials available on the market and the need for training because they had gone through programs that concentrated on teaching language and literature and did not possess the adequate methodology for these types of courses. They also had to become familiar with specialized vocabulary and technical terms related to the fields of the courses they had to teach. The situation has greatly improved since those early days, and training is now provided by various entities, while textbooks for learners and instructional manuals for specialized courses are widely available. However, the cultural aspect proves to be of great importance in professional communication, and textbooks are not always updated quickly enough. Moreover, teachers do not always have the financial resources necessary for their training, whether it involves participation in internships or the purchase of documents, which is an additional obstacle.

Unlike traditional language courses, which cater to a general audience, FSP courses focus on the learners in order to develop a specific content with objectives and classroom activities corresponding to their needs (Yanru, 2008, pp. 50-52). Before teaching FSP courses, certain parameters should be established such as the profile of the target audiences (their needs, the skills required, and the difficulties that may be encountered), the teaching methodology, teacher training, as well as evaluation and assessment (Qotb, 2008, pp. 18-19). It is useful for FSP instructors to determine the exact needs of the learners, especially when the FSP course has never been taught or

  

is geared towards a particular audience. A survey questionnaire completed by learners will enable the instructor to determine their specific needs. Several models of such survey questionnaires have been proposed by Jordan (1997), Hutchinson and Waters (1987), and Lehmann (1993). The learners' needs analysis will provide information on the types of language situations that students will face in their professional context (Martin, 2000).

Students enrolled in FSP courses come from different fields such as business, international relations, tourism, hospitality, medicine, law, and even fashion. They are usually individuals who will work in their native language but who will use the foreign language with their foreign counterparts during exchanges and transactions. Therefore, they need to communicate with professionals in the target language. They do not have much time to devote to the learning of French as they are more interested in acquiring the skills that will enable them to communicate with their professional partners abroad. Moreover, some FSP students are already working professionals who must balance school and work and can face issues with transportation and work schedules. These students are generally highly motivated because they pursue a dual purpose, both professional and academic. Unlike learners enrolled in language courses for academic purposes, who may not see the immediate usefulness of their endeavor, students enrolled in FSP courses know that the skills they will acquire will broaden their professional opportunities (http: // le- fos.com).

After surveying the students' needs, the instructor will then be able to design a course syllabus with the appropriate activities and materials to be used. Three types of syllabi may be considered, depending on the focus of the course: content-based syllabi organized around topics; skills-based syllabi which emphasize the four language skills (reading, writing, listening, speaking); and tasks-based syllabi which incorporate tasks to be performed by the students (Martin, 2000; Jordan, 1997, p. 64). Most FSP course syllabi, however, resort to a combination of these three types. In terms of the methodology to be used, FSP courses should include communicative activities and simulated tasks comparable to those that students will later be expected to perform in their profession.

FSP courses should include a cultural dimension to allow learners to familiarize themselves with the values of their future business partners. Yanru has emphasized the need for learners to question the stereotypes associated with the target culture, to sensitize them to their own ethnocentric reflexes when dealing with foreign professionals, and to understand that the technical nature of the professional culture does not have a universal dimension (2008, p. 55). Indeed, it is very important to familiarize FSP learners with the customs of the target country regarding behavior patterns, rules of politeness, taboo conversation topics so as to avoid making blunders that could affect interactions with foreign partners and thus undermine transactions (Martin, 2000). Given the limited time allocated to the learning process, the target culture cannot be introduced in depth. However, a few basic notions can be included in the course to make learners aware of the cultural dimension of communication by going over concepts like the use of 'vous' and 'tu', time management, the use of space, and ways of conveying emotions (Yanru, 2008, p. 55). Books by Platt (1994) or Nadeau and Barlow (2003 and 2016) provide some good background on French people in general, their habits, and value system; these books are entertaining and have been published in English and French, sometimes even in other languages. The daily news and current events pertaining to most francophone countries are made available through online TV news bulletins, newspapers and magazines which include articles of varying lengths, dossiers on specific topics, and video sequences. A short list of basic resources is provided later in this essay.

## II. ONLINE RESOURCES FOR TEACHER TRAINING

French instructors usually have a background in linguistics, literature, or cultural studies, and therefore need some training to teach FSP courses. They must learn to use a new approach with a new content (Dambre, 2014, pp 54-55.) such as specialized vocabulary, resources for materials, and the development of case studies by students. Furthermore, they need to prepare classroom activities with authentic documents whose content often has to be updated. This is why research has emerged in the area of FSP towards the design of learning materials, the analysis of specialized discourse in areas which are increasingly diversified, and the relationship between language and action in a professional and academic context (Mangiante and Desroches, 2014, p. 52). To this end, the Paris Ile-de-France Chamber of Commerce and Industry (CCIP) has played a major role for several decades. Through its French Language Centre (Centre de Langue Française), and in partnership with the French Ministry of Foreign Affairs, the CCIP has developed a series of publications and summer training seminars for teachers. It has also designed exams in various professional areas of FSP (business French, French for tourism, hospitality, fashion, to name a few) and it encourages the establishment of testing centers worldwide where students can take the written exams prepared and corrected by Paris and then receive diplomas in specialized areas. Its NumeriFOS website offers many resources in FSP, mainly ready-to-use classroom activities in the following areas: administration, diplomacy, business, law, hospitality, the humanitarian sector, fashion, design,

  

health, science and technology, tourism. The CCIP has also established an international scientific committee in FSP which conducts research projects and helps language centers and universities to find the necessary resources for their teaching. It used to publish the magazine *Points Communs,* and its 2014 issue, available online, was precisely about research on teaching FSP (Mangiante and Richer, 2014).

Teacher training for FSP courses is available at most French universities which offer master's degrees in French as a foreign language (FFL). In fact, two French universities offer master's degrees focusing on FSP: the University of Artois (Arras) and the University of Bourgogne (Dijon). The French Ministry of Foreign Affairs also organizes training seminars in collaboration with its Cultural Services abroad and with foreign universities. French textbook publishers specializing in French as a foreign language—CLE International, Hachette, and Maison des Langues—also organize training seminars in France and abroad. These events are usually free and some can even be attended online.

**III. INTERNET RESOURCES AVAILABLE TO TEACHERS**

Teachers can find information and resources on the Internet: newspapers and magazines (see the list below), language dictionaries (Treasury of the French Language), specialized lexicons in the area studied (economy, finance), or educational and government institutions (ONISEP, CCIP, Pôle Emploi). The French Ministry of Foreign Affairs website (www.diplomatie.gouv.fr) offers a wealth of information on France in its section "Coming to France." FSP textbooks are now available in different professional fields for several levels of proficiency (beginner, intermediate, advanced). They focus on business, tourism, hospitality, law, health, and even fashion. These textbooks are usually supplemented by a workbook with an answer key, a CD-ROM or DVD, and an instructor's manual with suggestions, sample syllabi and tests in some cases. Some of these books are available in hard copy and electronic format, and publishers even offer a virtual site where teachers and students can glean information and participate in interactive activities, including testing. Some websites are either dedicated to FSP or to areas that can be used in FSP courses. Some of these websites propose ready-to-use classroom activities and even entire units for FSP courses. Such websites are listed below.

Hosted by Hani Qotb, Le-Fos.com (http://www.le-fos.com) proposes the description of a business French course taught online, along with its objectives; collaborative and individual activities; respective roles of the teacher-designer, the tutor facilitator and learners; proposed resources; types of interactions; information technology (IT) tools employed; and evaluation methods. The section aimed at instructors ("Espace enseignants") offers online training for FSP courses with resources on FSP specificities, its public, and its methodology (http://www.le-fos.com/moodle/course/ view.php? id = 28). Another section is devoted to the development of online language courses. Le-fos.com also offers interactive activities in its thematic section: a variety of exercises (multiple-choice quizzes, matching words from two lists, incomplete text to fill with a list of words, and true-false questions) and stories in the form of an audio news or audiovisual documents with a glossary and interactive activities. An example around Fair Trade and the business world is posted on line as a model. It should be noted that this excellent website has not been updated since 2013.

Language for Work ("Langue pour le Travail" in French) is a European support network for professionals who teach the target language to migrants and ethnic minorities who have come from abroad to find work. The network is a non-profit organization that functions on a voluntary basis and helps members to share and develop their practices. Its objectives are:
- To raise awareness and promote work-related language learning to adult migrants and ethnic minorities at the national and European levels.
- To allow members to share their expertise and resources.
- To provide opportunities for networking and professional development.
- To support the development of conceptual models, practical models, and quality standards.

This website contains a resource bank with practical materials and links to other relevant sites, and a section with information and expertise to promote collaboration among network members (http://languageforwork.ecml.at/Home/tabid/3151/language/fr-FR/Default. aspx).

Citim (http://citim.velay.greta.fr/) is an online training tool that was designed in France by the Educational Lab GRETA in the Velay, a center for continuing education. The goal of this website is to assist people, mostly from Turkey and North Africa, who come to France in order to work. It has three components which can be downloaded: a book of themes or topics, a book of tests, and a book with the answer key. The program comes in the form of work situations to allow foreign workers to understand the context of employment in France. These situations deal with contracts, salaries, severance pay, paid vacation, social security contributions, or dismissal. Each case includes a recorded dialogue in several languages (French, dialectal Arabic, Rif Berber, Turkish, and Vietnamese), a description of the situation, relevant information of a practical and legal nature, and resources to

  

go further. Each situation is accompanied by two multiple-choice tests to understand both the situation and the topic. This website is a valuable tool for a course in business French to the extent that it offers recordings for listening comprehension as well as terminology and information on French labor law. However, some of the information is dated and must be updated.

Hot Potatoes is a software program which was developed at the University of Victoria in Canada and geared towards the teaching of any language (http://hotpot.uvic.ca). It includes six applications to create interactive activities such as multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering, and gap-fill exercises on the Internet. This program is freeware and can be downloaded from the Internet. It comes with a user's guide (http://www.framasoft.net/IMG/pdf/guidehp6.pdf), a tutorial, and an online Language Teaching Clipart Library.

As mentioned above, NumeriFOS (http://www.centredelanguefrancaise.paris/numerifos/), the website of the Center for French Language at the CCIP, offers resources for FSP in areas such as administration-diplomacy, business, law, hospitality management, humanitarian, fashion-design, health, science and technology, and tourism.

Various sources provide a general background on France and French-speaking countries. The international Francophone television channel TV5MONDE has a website dedicated to teachers of French as a foreign language (FFL) (http://enseigner.tv5monde.com/); it provides comprehensive classroom units on all topics with video, texts and activities at various proficiency levels, along with an answer key. Instructors can also access the portal site for FFL teachers, designed and maintained by Manfred Overmann of the Pädagogische Hochschule Ludwigsburg (http://portail-du-fle.info); this excellent tool contains all kinds of ready-to-use activities in various areas (language, culture, cinema, song) on France and other Francophone countries and regions (Quebec, Algeria, North Africa, sub-Saharan Africa). Finally, many daily newspapers and magazines are available on the Internet. Some of their articles are reserved to subscribers while others can be viewed at no charge. The following online publications focus on France unless otherwise noted.

Daily newspapers:
*20 minutes*: www.20minutes.fr
*Direct Matin*: www.directmatin.fr
*Le Devoir:* www.ledevoir.com (Montreal)
*Le Figaro*: www.lefigaro.fr
*Le Monde*: www.lemonde.fr
*Libération*: www.liberation.fr
*Le Soir:* www.lesoir.be (French-speaking Belgium)
*Le Temps:* www.letemps.ch (French-speaking Switzerland)

Magazines available on the Internet:
*L'Actualité:* www.lactualite.com (Quebec)
*Capital*: www.capital.fr
*L'Écho touristique*: http://www.lechotouristique.com
*Les Échos*: www.lesechos.fr
*L'Entreprise*: http://lentreprise.lexpress.fr
*L'Expansion*: http://lexpansion.lexpress.fr/
*L'Express*: www.lexpress.fr
*L'Hebdo:* www.hebdo.ch (French-speaking Switzerland)
*L'Hôtellerie-Restauration*: http://www.lhotellerie-restauration.fr
*Jeune Afrique:* www.jeuneafrique.com (Africa)
*Marie-Claire Cuisine et Vins de France*: http://www.cuisineetvinsdefrance.com
*Le Nouvel Observateur*: http://tempsreel.nouvelobs.com
*Le Point*: www.lepoint.fr
*La Revue du Vin de France*: http://www.larvf.com
*Voici*: www.voici.fr

## IV. BENEFITS OF THE INTERNET WHEN TEACHING FRENCH FOR SPECIFIC PURPOSES

In the last decades, technology has become an integral part of the learning and teaching process, and the various tools that have been developed have revolutionized the learning of foreign languages: computer assisted language learning (CALL) programs accessible through the Internet, software packages, and applications. The positive and negative impacts of this technology applied to French have been evaluated (Koua, 2013), and there

  

is now a consensus on the benefits of computer assister instruction, especially the use of the Internet, in the learning process.

FSP courses are language courses and should allow learners to improve their proficiency level in French. In this respect, the Internet allows the practice of language skills, especially reading, listening, and even speaking. Indeed, it provides access to many authentic documents of all kinds, including reference sites (dictionaries, encyclopedias) and numerous audio and video recordings. Some websites even offer interactive activities. Digital tools enable students to communicate with the instructor and other learners to improve their speaking kills and to engage in collaborative work through videoconferences.

Hani Qotb has demonstrated the numerous contributions that technology can bring when teaching FSP, and these contributions definitely apply to the use of the Internet (2008, pp. 239-246). This tool provides a wealth of up-to-date information on topics covered in FSP courses and on the news pertaining to the country of the target culture. It allows learners to work individually and therefore to become independent. Unlike what happens during classroom instruction, students using the Internet are not limited in time and space to complete their tasks. Interaction and thus communication between learners and teachers, and among learners themselves is made possible through the use of software programs (Skype) and web-based management learning systems (Blackboard Learn). The Internet can be a motivating factor for learners by virtue of its versatility and the diversity of media that it offers, in both the written and audiovisual formats, including websites with attractive illustrations. Furthermore, the combination of classroom and online participation helps learners to complete FSP courses, even if they cannot always be present in class physically due to professional obligations. Finally, FSP courses do not fit into a rigid curriculum like traditional courses. This leaves a certain freedom in the approach and the choice of materials used by instructors who can thus give free rein to their creative talents by using the Internet (Demaizière and Grosbois, 2014).

FSP courses may be taught in various ways, e.g., in the classroom only, completely on line, or in the hybrid mode where part of the instruction takes place in the classroom with the teacher and other learners, and part of the class is taught on line. The approach will vary according to the mode in which the course is taught, and the hybrid mode through the Internet is a good compromise as it allows interaction and participation in communicative activities. The Internet also provides a broader context to establish exchanges with scholars and students from Francophone countries who can communicate remotely (Demaizière and Grosbois, 2014).

However, when teaching on line, some caution must be exercised. The use of digital technology, including the Internet, cannot be reduced to uploading written materials, films, or lectures, as was the case when the Information Technology and Communication (ITC) first appeared, or as it is found today with the MOOC (massive open online courses). One must not forget the importance of interaction, mentoring, exchanges that are so important in the learning process. Learners should not be left to themselves, especially in foreign languages where the pedagogy is of even greater importance than in other disciplines. The use of the Internet promotes independent work, but it is necessary to find the right balance and make sure the course does not turn into self-learning (Demaizière and Grosbois, 2014). In fact, in developing FSP course based on the Internet, one must carefully plan the type of equipment that will be used, the expected outcomes, the sequence of tasks, the organization of group work, the monitoring process, and the modalities of interaction and exchanges (Qotb, 2008, pp. 401-402). To this end, Hélène Godinet has developed a model that revolves around three elements: the roles of the participants, the activities to be implemented with their development stages, and the technological tools available (for synchronous and asynchronous communication). The lesson plan template that she has devised for collaborative learning on a platform relies on interactional dynamics among the participants as well as communication tools and resources for what she calls the “scenario” (Godinet, 2007, pp. 119). Her “scenario” describes the roles of participants (students, teacher, tutor, technician), case studies (problems to solve, materials and resources, instructions, timelines), recursive processing phases (selecting and identifying the problem, seeking resources, reading and producing documents, negotiating to organize activities and time among others, producing a collective synthesis), and the platform with asynchronous tools (workspace, filing documents, forum, email) and synchronous tools (chat, phone, whiteboard) (Godinet, 2007, p. 120). She explains the objectives to be reached, the roles of the participants (teacher-designer, facilitator and tutor learners), the activities, interactions, resources, tools to be used, and the evaluation (Godinet, 2007). Qotb provides a full description of this type of scenario for a French business course taught on line (2008, p. 403-405).

## V. ASSESSMENT IN FSP COURSES WITH THE HELP OF THE INTERNET

Assessment can take many forms depending on the type of course being taught and the students’ profile (http://www.le-fos.com):

- Diagnostic assessment aims to determine the learners’ skills and abilities prior to taking the course.

  

- Assessment of knowledge can test specific points covered in the course.
- Formative assessment allows the teacher to identify the strengths and weaknesses of the learners.
- Summative assessment is done at the end of the course in order to determine the skills and knowledge acquired by the learners.

There are other types of assessment, but the forms above are most commonly used in FSP courses.

The use of the Internet allows students to engage in specific activities, thus promoting task-based learning which can be used for assessment. It is indeed important to ask learners to perform realistic tasks that they may be required to perform in a professional setting: a job search, launching a new product on the market, establishing a company in a Francophone country, organizing a banquet in a large restaurant, or organizing a guided tour in a French-speaking country for a group of foreign tourists.

Assessment should take into account all the activities performed during the semester, such as interactive activities which are automatically corrected on the course web-based learning management system (Blackboard Learn); Skype group activities (role playing, debates); participation in discussion forums for different types of exchanges, including the number of messages, content, and features; and written assignments (reports, portfolios, case studies) (Qotb, 2008, p 562-563).

The Internet lends itself beautifully to these types of assessment and sometimes allows learners to receive immediate feedback, particularly in the case of multiple-choice questionnaires. Finally, to the extent that a FSP course is still a language course, the proficiency level reached at the end of the semester could also be evaluated, according to the program requirements, using the CEFR in Europe (Common European Framework of Reference for Languages) or the Proficiency Guidelines developed by the American Council on the Teaching of Foreign languages (ACTFL) in the United States.

## VI. PRACTICAL APPLICATIONS IN FRENCH FOR SPECIFIC PURPOSES

The type of media used in FSP courses can affect the methodology. The textbook, for example, determines the course structure and requires the presence of the teacher who orchestrates the course, while websites and CD-ROMs, allow learners to progress at their own pace and be more independent and responsible (Qotb, 2008, p. 236-237). Furthermore, textbooks and CDs may involve significant costs, especially since textbooks are updated with new editions on a regular basis, which is not the case for the Internet which is free.

Promoting collaborative work and building knowledge through group work should be encouraged whenever possible. Interaction among learners should take place from the beginning of the course so that they get to know one another, especially for group work. If learners cannot participate in a discussion forum, they can introduce themselves using the video recording function of the learning management system and by downloading the recording for it to be viewed by the other students in the class. Learners should also become familiar with the tools they will be using to complete their online tasks throughout the course; this includes an introduction to the various functions of the learning management system used at the school (Blackboard Learn) as well as other tools such as Skype.

Each tool offers different capabilities. For example, the forum provides a public, written, and asynchronous (time delayed) type of communication; it develops reading and writing skills. For oral production, synchronous (live) communication, however, is an exchange of messages (written or oral) between two or more people in real time; for this type of communication, Skype is a wonderful tool. Chat is an online synchronous communication activity which is written in real time between two or more people who are in the same virtual chat room (Qotb, 2008, p. 502). The video group call function of Skype can accommodate ten people who communicate synchronously (at the same time); if the class has more than ten students, it can be divided into groups with each group scheduled at different times. Oral activities with Skype may include oral discussions from texts and videos studied before the session, simulations, or oral presentations. There are other learning management systems that allow synchronous communication.

The Internet is particularly well suited for interactive activities which can take several forms. In the case of online tests or quizzes, instructors can develop exercises that provide learners with immediate feedback, congratulating them when they have given the correct answer and asking them to reflect and reformulate their answer if it was incorrect. Multiple-choice questionnaires, association or ordering exercises, or even incomplete texts, for example, can be designed on a learning management system if it allows these functions. But interactive exercises may also take the form of open questions for which learners should formulate the answer; in this case, the students will receive the results later. But in both cases they will receive feedback. Interactive communication between learners and teachers is paramount. It can take place through Skype, instant messaging,

  

discussion forums, or chat rooms.

Concrete examples of activities designed for FSP courses appear in the appendix. Relying exclusively on the use of materials available on the Internet, some of these activities are complete units for seeking cultural information and performing specific tasks in the areas of business, tourism, and hospitality.

**CONCLUSION**

With the rise of international exchanges, communication with foreign partners will keep increasing. To this end, FSP courses are a definite asset as they satisfy real professional needs in a global economy. These courses can also motivate students to learn foreign languages, especially French. In the United States, for example, French has declined substantially since the 1960s when it was the first foreign language taught at all levels. It has since been overtaken by Spanish for demographic reasons, but it is still in high demand on the international scene where it comes second only after English. This is particularly true in the digital sector where many innovations are French, and for the development of companies that are based in French-speaking West Africa where most journal articles in the medical sector are published either in English or French (Le français langue de l'emploi aux États-Unis, 2016). This is why FSP courses, mostly business French, are now taught in the majority of American universities.

The Internet offers learners a variety of documents on any topic and it empowers them in their quest for information. It is also a useful tool when using a cultural approach to help learners from various disciplines to better adapt to the peculiarities of the French community (Salengros-Iguenane, 2011). The Internet has also revolutionized communication. Serge Soudoplatoff (2012) has studied its impact and potential in different areas and concluded that the Internet has opened up vast fields that allow collaborative work and the development of imagination. He states that the Internet "is in its infancy, and [that] it will take a good generation for humanity as a whole to master this new alphabet with all its potential" (quoted in Tillier, 2012, p. 13). With the Internet, time and space limitations disappear. In a world where remote working and the use of computers are growing to meet the needs of globalization, the teaching of FSP with the Internet is undoubtedly the future of foreign languages in general and the future of French in particular.

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## APPENDIX: EXAMPLES OF ACTIVITIES TO BE PERFORMED WITH THE INTERNET

## SEEKING CULTURAL INFORMATION

**PRESENTING A COUNTRY**
**Level: A2-B1**

**I. Presenting Belgium**

**1. Using Belgium.be in French** (http://www.belgium.be/fr/la_belgique/tourisme), provide the appropriate information.

Continent:
Neighboring countries:
Area:
Population:
Capital city:
Two or three other large cities:
Official language(s):
Currency:

Type of government:
Chief of state:
Colors of the flag:
Date of the national holiday:
National anthem:
Major mountain chains:
Major rivers:

**2. Write a paragraph and/or do an oral presentation to present Belgium, using the information above.**

**3. Consult the website "Visit Brussels" in French** (https://visit.brussels/fr/lists/top-20) and write one sentence on the following landmarks:
• the Atomium:
• Bruparck and Mini-Europe:
• Musée de la Bande dessinée:
• Manneken-Pis:
• Parlamentarium:

**II. Francophone Countries**

**1. Look for the list of French-speaking countries on the website of Organisation Internationale de la Francophonie** (http://www.francophonie.org/). Select a country and complete the information below on this country, using the Larousse encyclopedia (http://www.larousse.fr/encyclopedie).

Continent:
Neighboring countries:
Area:
Population:
Capital city:
Two or three other large cities:
Official language(s):
Currency:
:

Type of government:
Chief of state:
Colors of the flag:
National anthem:
Date of the national holiday:
National anthem:
Major mountain chains:
Major rivers:

**2. Present this country** in a short text that you will post on Blackboard Learn and/or present orally in class or during a Skype group call. The other students in the class will have to guess which country it is.
This country is located in _____ (continent). Neighboring countries are _____. Its area is _____ and it has a population of _____ inhabitants. Its capital city is _____, and the major cities are _____. The language(s) spoken in this country is/are _____. The colors of the flag are _____. The national holiday is celebrated on _____. It is a _____ (political status), and the current chief of state is _____. This country is especially known for _____.
Adapted from *Internet. Niveau intermédiaire.150 activités* by G. Custers, E. Pâquier, and C. Rodier (2007) (pp. 14-15).

  

**PRESENTING AN AMUSEMENT PARK: PARC ASTÉRIX**
**Level A1-A2**

**1. Background on the cartoon**
Look at the following excerpts of the first album entitled *Astérix le Gaulois*:
- front cover: http://www.asterix.com/bd/albs/01fr.jpg
- introductory page found in each Astérix album on
https://spacefiction.files.wordpress.com/2009/11/asterix2.jpg
Visit the official web site of the Astérix cartoon (http://www.asterix.com/index.php.fr) and give a brief description of the main characters:

Astérix:
Obélix:
Panoramix:
Abraracourcix:
Falbala:
Assurancetourix:

**2. Using the Parc Astérix website (https://www.parcasterix.fr/), provide the appropriate information.**

Park location:
How to get there:
- by car:
- with public transportation:
Opening days:
Opening times:
Specify the type of meal for each restaurant:
- Régalade Circus:
- Restauration rapide:
- Restaurant du lac:
Name of the hotel inside the park:

**3. Classify the attractions according to their category:**

| | Sensations Fortes | Pour toute la famille | Petit Gaulois |
|---|---|---|---|
| Oziris | | | |
| Tonnerre de Zeus | | | |
| Hydrolix | | | |
| Goudurix | | | |
| Le cheval de Troie | | | |
| Menhir Express | | | |
| Les espions de César | | | |
| Étamine | | | |

**4. Write a description and/or record an oral presentation to present the amusement park and post it on Blackboard.**

**ORGANIZING AN EXCURSION FOR TOURISTS**
**Level: B1-B2**

**1. Half-day excursion**
Using the web site of the Organisation locale des guides azuréens (http://www.guides-french-riviera.com/), prepare the description of a half-day excursion to Biot and Vallauris for a brochure. The 200-word text in French will provide information on the meeting place and time for departure, a brief summary on Biot and Vallauris, why they are considered places of interest, the sites that will be visited, and information for the return.

**2. Using a map of the French Riviera and additional information on Biot and Vallauris, complete the detailed itinerary below.**

| Stops | Duration of stops and visits | Time | Stops and proposed visits |
|---|---|---|---|
| Nice Tourist Office | | 1:30 p.m. | Departure |
| Biot | 30 minutes | 2:00 p.m. | Glass blowing shop |
| Biot | | | |
| Vallauris | | | |
| Vallauris | | | |
| Nice Tourist Office | | 5:30 p.m. | Arrival |

  

**3. Prepare a flyer on the excursion in French.** It should include a description of the excursion with the various stops and visits, the time and place of departure and return, a small map of the region showing the locations, and four photos (from the Internet).

Adapted from *Le français sur objectifs spécifiques* by C. Carras, J. Tolas, P. Kohler, and E. Szilagyi (2007) (pp. 61-64).

## ACTIVITIES FOR BUSINESS FRENCH AROUND A COMPANY WEB SITE

**I. PRESENTING A COMPANY: BIC**
**Level: A2-B1**

**1. Using the Bic official website** (http://www.bicworld.com/fr/homepage/homepage/), provide the appropriate information on the company.
Year of the Bic group foundation:
Headquarters:
Current CEO:
Product which made Bic famous:
Countries in which Bic products were introduced in the 1950s:
Latest country where Bic was introduced and year:
List the three main categories of products manufactured by Bic and the year of their creation:
How the name Bic was chosen:

**2. Specify the category in which the following Bic products belong.**

| | Papeterie | Briquets | Rasoirs | Produits promotionnels et accessoires |
|---|---|---|---|---|
| Porte-mines | | | | |
| Allumage électronique | | | | |
| 3-lames pour femmes | | | | |
| Sac à dos | | | | |
| Étiquette adhésive | | | | |
| Surligneur | | | | |
| Ruban correcteur | | | | |
| Kit rasage | | | | |
| Ciseaux | | | | |
| Modèle barbecue | | | | |
| Stylo plume | | | | |

**3. Fill in the blanks with the following information from the Bic website.**
BIC a fait le succès du stylo à _____. Dès sa création en _____, l'entreprise s'est appliquée à concevoir les procédés et les machines nécessaires à la production en masse des stylos _____ tout en leur assurant un haut niveau de _____. Marcel _____ (1914-1994) et son associé Édouard _____ (1908-1996) fabriquent à _____ (France) des pièces détachées de stylos plume et porte-_____. Bic lance le _____ en 1973 et le _____ en 1975. BIC® apporte des réponses _____ à des _____ quotidiens. En créant son premier produit, le stylo à _____ BIC® Cristal®, BIC a choisi d'aller à l'essentiel : concevoir un outil simple et fiable, qui facilite un geste universel, et que tout le monde puisse _____. Bic est présent sur tous les _____ et dans 160 _____. Par ailleurs, Bic participe au développement _____ en produisant des produits _____, _____ longtemps et fabriqués avec des _____ recyclés.

**4. Write a description and/or record an oral presentation to present the Bic company and post it on Blackboard Learn.**

  

**II. INFORMATION ON THE BIC COMPANY**
**Level B1-B2**

**1. Read the bilingual article "Objet culte: le stylo BIC / The Ballpoint pen"** on the website of *Le Journal Français d'Amérique* (http://www.france-amerique.com/articles/2015/10/01/le_stylo_bic_the_ballpoint_pen.html).
a. Answer the following questions:
- Who was the real inventor of the ball point pen?
- Why is the Bic ball point pen so popular in the world?
- What was the original slogan of the Bic pen?
- Who does the character on the Bic logo represent?
- Why did the Bic pen lead to a polemic in French schools?
- What are the other products that Bic has manufactured since the 1970s?

b. Summarize the article in 100 words in French and/or present an oral summary in French (2 minutes) without looking at your notes.

**2. Watch the Bic video "Bic vision et valeurs"** [Bic vision and values] on the website (http://www.bicworld.com/fr/a-propos-de-bic/bicinvideo/). [The video is narrated in French while some of the text appears in English on the screen].
a. Summarize the sections of the video below with a sentence in French.
Vision:
Values:
Ethics:
Responsibility:
Teamwork:
Simplicity:
Ingenuity:
What we do:
Our philosophy:

b. Answer the following questions based on the video.
What is the objective of this video?
What is the intended audience?
In your opinion, is this video effective in meeting its goal?
In your opinion, is this type of video more important than a promotional sequence on the products?

**III. EMPLOYMENT OPPORTUNITIES WITH A COMPANY: BIC**
**Level B2-C1**

Using the Bic company official web site (http://www.bicworld.com/fr/homepage/homepage/), go to the section "Nos métiers."

**1. Identify the eleven departments that are listed, and for each department, list the qualities that are required.**
Research and development:
Production:
Quality:
Purchases:
Logistics and Customer Service:
Sales:
Marketing:
Finance:
Legal:
Technology:
Human resources:

**2. List four qualities which are listed in more than one professional field.**
Why are they important for Bic? Would they be important for any company?

  

**3. Bic University**
What is the objective of Bic University?
What are the topics covered through the training?

**4. Go to the section "Nous rejoindre" and look at the job openings that are listed.**
Select one job offer and:
- write an application letter based on the job description and the profile required for the job.
- prepare a resume (CV) tailored to this job.
- record a simulated job interview in which you explain your background, your professional experience based on the job description, and showing that you possess the qualities required for the job (2-3 minutes). Post the recording on Blackboard Learn.
[The job interview may also be performed through Skype with the instructor playing the role of the manager in human resources, and also during a Skype video group call with the other students attending live.]

## A JOB SEARCH IN HOSPITALITY

**I. THE JOB OFFER**
**Level B2-C1**

**1. Content of a job offer**
Go to the web site of Le coin des entrepreneurs, in the section "Comment rédiger une offre d'emploi" (How to write a job offer): http://www.lecoindesentrepreneurs.fr/rediger-une-offre-d-emploi/. It contains a list of items that should appear in a job offer:
• presentation of the company (with or without its name, if the search if conducted through an employment agency)
• job description (tasks)
• type of contract (internship, temporary, permanent)
• beginning date
• end date (if applicable)
• place of work, and expected traveling if applicable
• experience required for the job
• qualities/skills sought from candidates
• salary range and/or type of compensation (fixed salary, commission)
• benefits if available (meal vouchers, company car)
• how to respond to the job offer (contact with the company or employment agency)
• what should be included in the application (resume, salary expectations).

**2. Go to the web site of the magazine *L'hôtellerie Restauration* (http://www.lhotellerie-restauration.fr) and look under "Offres d'emploi." Select a job, then a region, then a job of interest to you.**
Example:
22/06/2016
31 - Haute-Garonne
RÉCEPTIONNISTE TOURNANT(E) H/F-CDD 3 MOIS RESIDHOME***TOLOSA TOULOUSE 134#
http://www.lhotellerie-restauration.fr/emploi/annonce.asp?n=__3fQ_f

**Provide the appropriate information using the job offer above.**
Presentation of the company:
Job description:
Type of contract:
Beginning date:
End date (if applicable):
Place of work, and expected traveling if applicable:
Experience required for the job:
Qualities/skills sought from candidates:
Salary range and/or type of compensation:
Benefits if available:
How to respond to the job offer:
What should be included in the application letter:
Additional information:

  

**3. Go to the section "Fiches métiers" and click on "Réceptionniste " (http://www.lhotellerie-restauration.fr/Emploi/fiche_metier/receptionniste.htm).**
Read the job description for a receptionist and compare it with the job offer in Nr. 2 above. What additional information is included in the job offer, if any? Is any information missing?

**4. Profile of a business / company**
In order to respond to an ad and take a job interview, one must do a little research on the company. Go to the website of Residhome Tolosa in Toulouse (http://www.residhome.com/residence-hoteliere-aparthotel-toulouse-199.html) and complete the profile of the company listing the job offer above.
Name:
Date of creation:
Founder:
Current manager/CEO:
Legal status:
Headquarters:
Web site:
Total number of employees:
Turnover:
Locations:
Type of business/company:
Goals:
Motto:
Logo:

**II. APPLYING FOR A JOB**
Using the same website, go to the section "Conseils CV - candidature - lettre de motivation - entretien - période d'essai" (http://www.lhotellerie-restauration.fr/emploi/conseils-cv-hotellerie-restauration.htm).

**1**. **Writing the curriculum vitae (CV)**
**Level A2-B1**

a. Read the recommendations on how to write a resume. Note that in Europe, it should include at least the following information:
- name, coordinates (address, telephone), age or birth date (depending on the country)
- the type of job the candidate is seeking (usually in bold face)
- a photo is not required, unless it is mentioned in the job offer (depending on the country)
- education and training (internships)
- professional experience
- level of proficiency in foreign languages
- additional skills

Several model resumes are available on line:
- http://modeles-cv-lettre.blogspot.fr/2014/08/exemple-de-cv-receptionniste.html
- http://www.primocv.com/fr_FR/modele/cv/classique
- https://www.qapa.fr/news/exemples-de-cv-creatifs-gratuits/
- http://etudiant.aujourdhui.fr/etudiant/info/exemple-de-cv.html

b. Write your own resume in French.

**2. Writing the application letter ("lettre de motivation")**
**Level B1-B2**

a. Using the same website, read the recommendations on how to write a good application letter.
Identify the four keys mentioned in the article and summarize them.

b. Look at model letters on http://etudiant.aujourdhui.fr/etudiant/info/exemple-de-lettre-de-motivation.html.

c. Using one of the models (http://www.lhotellerie-restauration.fr/Emploi/Article/2008_07_Emploi_Formation/Comment_rediger_une_lettre_de_motivation.htm),

  

write your own application letter for the receptionist job offer. Make sure the last paragraph includes the salutation ("formule de politesse)." Some examples of salutations in business letters are available on http://etudiant.aujourdhui.fr/etudiant/info/formules-de-politesse.html.

**III. TAKING A JOB INTERVIEW**
**Level A2-B1**

**I. Video "The job interview: errors to avoid"**
["Entretien d'embauche: les erreurs à ne pas commettre" (Studyrama TV, 2014, 4'02), https://www.youtube.com/watch?v=HMEEP7P6z0I]

**1. Before viewing the video.**
a. During a chat room session or video group call, brainstorm some advice that you would give to candidates who are going to have a job interview: what to do and what not to do.

b. Read the vocabulary below.
Éliminatoire: qui permet l'élimination
Repérer les lieux: to check out the place
La tenue: the dress (way of dressing)
Déroutant(e): confusing
Le barrage = l'obstacle (ici)
Une sacoche = un grand sac
Démarrer = commencer
Un bloc-notes: writing pad
Le parcours: the (career) path
Les avantages sociaux (m.): benefits
La RTT = la réduction du temps de travail
Une mutuelle: medical insurance to supplement social security
Aborder: to address
Conseiller: to advise —> un conseil: a piece of advice
En amont: beforehand
L'actualité: current trends (here)
Jusqu'au bout: until the end
Soutenu(e): à un niveau élevé
L'enceinte (f.): perimeter
Une attente: expectation
Une poignée de main: handshake

**2. Watch the video sequence twice and try to understand what is being said.**

**3. Select the five recommendations which seem most important to you and explain why they are important.**

**4. Preparation for a simulated job interview**
Using the job offer for a receptionist, prepare a simulated job interview by answering the following questions in French. If you prefer, you can select a job offer on the website of Pôle Emploi (http://www.pole-emploi.fr/accueil/); it should be in a field of interest to you.

a. Education and training:
- What is your background?
- What school did you attend?
- What are your qualifications?
- How did you finance your studies?
- Have you completed any internship or practical training? In which field?
- Do you speak any foreign language?

b. Professional experience:
- When did you start working?
- Tell me about the different jobs / positions you have held.
- What job / position do you currently have?

  

- What is your current job description?
- What are your responsibilities?

c. The job itself:
- Why are you interested in this position?
- Are you willing to work overtime?
- What would you bring to our company?
- What do you know about our company?
- What do you look for in your work: money, satisfaction, power?
- Do you have questions about this position?

**5. Present the simulated interview in class/during a Skype video group call without looking at your notes OR record and post it on Blackboard Learn.**

  

# TEACHING SEVERAL VARIABLE CALCULUS AIDED BY A FREELY ACCESSIBLE WEB PRESENTATION CONTAINING FIGURES AND ANIMATIONS AND ITS USE FOR OTHER UNIVERSITIES

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**ABSTRACT**
In this contribution, the authors describe some experiences that they have gained during the creation of an original, freely-accessible Web-presentation and website for Mathematics teaching at the Faculty of Applied Informatics of Tomas Bata University in Zlín. They assume that the knowledge stated herein can also be utilized by authors of similar documents at other universities. The web-presentation is composed of more than 160 demonstrations, includes figures with accompanying explanatory mathematical texts and 50 animations of the calculus of several variables is welcomed - especially by students in the combined form of study; where there is a minimum quantity of direct tuition. Calculus is usually taught at the Bachelor degree level at universities with technical disciplines. The greatest advantage of the web-presentation lies in its relative independence to the Several Variable Calculus Modification study literature. The experience presented herein may be used by other educators or students in the preparation of their own website. The website is also created in English - so that, in case of interest, students of foreign universities can take advantage of it.

**Keywords**
Calculus of several variables, HTML application for lectures, Web-presentation, free downloadable figures and animations, teaching Mathematics, the Czech Standard ISO 80000-2:2012, website preparation, SEO Analysis

## INTRODUCTION

'Societies will only find the importance of Mathematics when they are on the rocks', says Czech Professor Pavel Exner, the current elected President of the European Mathematical Society for the 2015-18 period. He also likes to say that tuition at secondary school is especially important and which becomes the key to success because, if something goes wrong at that level, then at the higher level - it cannot be fully corrected. We can add to these words that a number of faculties focused on engineering branch applications have to educate many students who - after completing their secondary schools, do not have sufficient mathematical - and especially, geometrical knowledge and skills. Thus, every advanced university is making an effort to create the requisite organizational and material conditions to improve this problem. Therefore, modern, efficient teaching methods and resources are implemented; and not only into the mathematical subjects.

High-quality visualization resources - which are permanently and freely available on the web in an ideal case are ranked among the most effective tuition means as well. Students are grateful for the possibility of freely obtaining attractive electronic materials on the websites of other universities.

## AN HTML APPLICATION FOR LECTURES AS A PRECURSOR OF A WEBSITE-BASED PRESENTATION

A well-designed HTML application, which contains high-quality figures and animations of three-dimensional or two-dimensional geometric configurations, makes the teaching of mathematics more attractive - and easier, for both teachers and students. The authors first created a picture of an electronic mathematics textbook by using the Maple suite. Then, they added a short figure description - including mathematical symbols which are in accordance with the Czech Technical Standard (The Czech Standard, 2012). This standard is the Czech version of the International Standard (The International Standard, 2010). Afterwards, two or three-dimensional animations corresponding to the appropriate figures were created using the Maple suite.

Thus, a separate HTML application was created that was used first in lectures and seminars. This application was modified and - after a certain time, placed on a server located in the Faculty of Applied Informatics, Tomas Bata University in Zlín; on the domain: www.matem2f.fai.utb.cz. There, the modified HTML application is denoted

by the term 'Web presentation' – together with the electronic textbook that includes both of the printed handbooks cited in the references (Fialka, M. 2008a, Fialka, M. 2008b); and available for free downloading.

Due to its much faster response time, the HTML application is divided into eight interactive parts - which were originally chapters in both textbooks. The areas concerned are as follows:

*The Differential Calculus of Several Variables - with applications*

1. Notes to affine spaces and vector algebra
2. Notes on metric spaces
3. Sets of points; first of all, in Euclidean Spaces
4. Introduction to the Differential Calculus of Several Variables
5. Differential Calculus of Several Variables

*Integral Calculus of Several Variables - with applications*

6. Riemann Double and Volume Integrals
7. Line Integral
8. Surface Integral

It was decided to bring the perfections of both figure and text documents together into one didactic means – an HTML application in HTML language. Each of the eight chapters contains individual visual demonstrations. Any demonstration in the full composition may include up to 4 following parts in each projected row from left to right

- *icon* Of a specific figure as the hypertext reference to its full-page width projection
- *number* Of the figure and its work term (this can be left out)
- *title* Of the figure as the characteristic of its content
- *animation icon* Of the figure (in the event of an appropriate space situation) onto a full-page projection

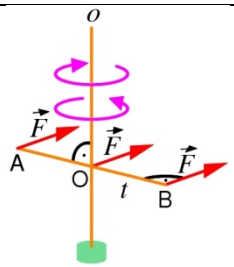
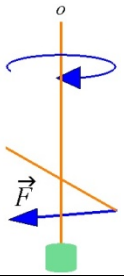
Extra attention was paid to the titles of the web document in order to ensure their maximum brevity and intelligibility and exactness at the same time. The HTML application is relatively independent of both of the above-mentioned textbooks. Generally, the content and structural character of the HTML application is conceived at the sufficient level. This also enables easy modifications to its structure and data too.

The textbooks mentioned in the references - as well as the titles in the HTML application, contain mathematic signs and symbols which are in accordance with the valid Czech Standard: ISO 80000-2:2012. The HTML application is meant to be used in a reasonable manner in tuition - and should be supplemented with traditional didactic means.

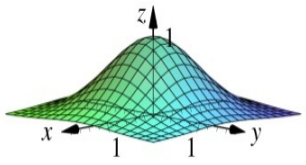
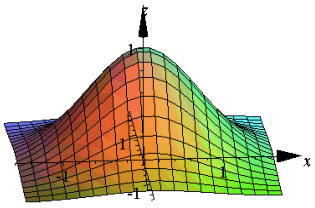
To achieve a strong impact on the audience, the lecturer has to spend sufficient time preparing for the projection. He also has to carefully consider the timing and suitability of the projection duration. Feedback from the mathematic community reflects the fact that the HTML application described above is an efficient didactic means.

Here are two demonstrations from our HTML application on Fig 1.

| | | | |
|---|---|---|---|
|  | 1.1 | Různé pohybové účinky síly $\vec{F}$ téhož směru i velikosti jako vázaného vektoru v různých působištích otáčivé tyče $t$ = AB |  |

(In English: Various physical effects of the force $\vec{F}$ of the same direction and magnitude as the fixed vector acting at different origins of the rotating rod $t$ = AB)

| | | | |
|---|---|---|---|
|  | 4.16 | „Gaussův klobouk“ $z = \mathrm{e}^{-\left(x^2+y^2\right)}$. V počátku má ostré lokální maximum |  |

(In English: ‘The Gaussian hat’ $z = e^{-\left(x^2+y^2\right)}$ . The sharp local maximum is situated at the origin)

**Fig. 1: Two demonstrations of the HTML application used in lectures and seminars**

## CREATING FIGURES AND THEIR DESCRIPTIONS

In order to select suitable figures from the Differential and Integral Calculus of the Functions of Several Real Variables for the actual HTML application, it was natural to use some figures in part for the preparation of electronic textbooks for the teaching of Mathematics II; some of which had to be revised into a colored version. Files containing two-dimensional and three-dimensional geometric configuration figures were created using the Maple system, which were then exported into EPS format in order to achieve their highest possible quality. Then they were converted into JPG format suitable for the website.

The figures in JPG format were then modified in a suitable graphical editor, since that cannot be done in the original Maple source file. However, the HTML application authors considered the modification entirely necessary from the pedagogical point-of-view. It is necessary to make the precise mathematical description or designation of coordinate axes by arrows to emphasize their orientation, etc., in a suitable graphical editor.

The orientation of the coordinate axes by means of arrows in the figures and animations was consistently denoted; and the right-handed Cartesian coordinate system was also used. This is suitable for a wide variety of problems - in particular, for physical problems. This approach required a significant increase in software effort - because both tools are not set up in Maple. The figures modified this way were then inserted into the HTML application.

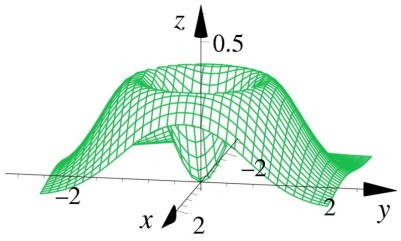
Special attention was devoted to the preparation of concise, understandable - and simultaneously, mathematically and geometrically precise, descriptions of the figures.

## CREATING ANIMATIONS

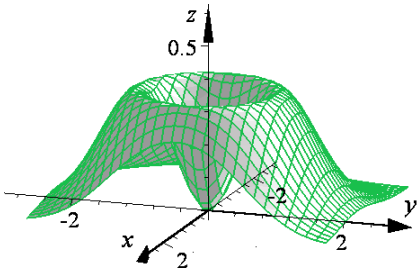
The figures were supplemented - where appropriate, by attractive, two-dimensional or three-dimensional animations. These were also created in Maple and exported from the source files into GIF format; and then, just as regards the static figures, they were modified in a graphical editor that supports working with animated figures. The modified GIFs were then inserted into the Web presentation (see the demonstration of a figure followed by its 3D animation in Fig. 2).

**4.17 {VulkanB}**




Funkce "vulkán" $z = \left(x^2 + y^2\right)e^{-\left(x^2+y^2\right)}$
V počátku -"v jícnu" má ostré lokální
minimum. Na jeho okraji je hrana maxima




(In English: The 'Volcano' Function: $z = (x^2 + y^2)e^{-(x^2+y^2)}$. The sharp local minimum is situated at the origin – 'in the crater'. The edge of the maximum is situated at the 'volcanos' edge)

**Fig. 2 Demonstration of the Web presentation placed on a website**

While the animation was located to the right of the image in the HTML application, it was a case of a horizontal arrangement; in a vertical arrangement of the Web presentation, the animation is located below the picture.
One should further mention that an effective way for modelling three-dimensional geometric configurations is to make special Maple's applications - so-called Maplets. Maplets represent a universal and user-friendly interface. Users can perform calculations, plot functions, or display dialogs without using the worksheet interface (Maplesoft, 2014).

**THE FIRST TWO INTRODUCTORY PAGES TO THE WEB PRESENTATION**

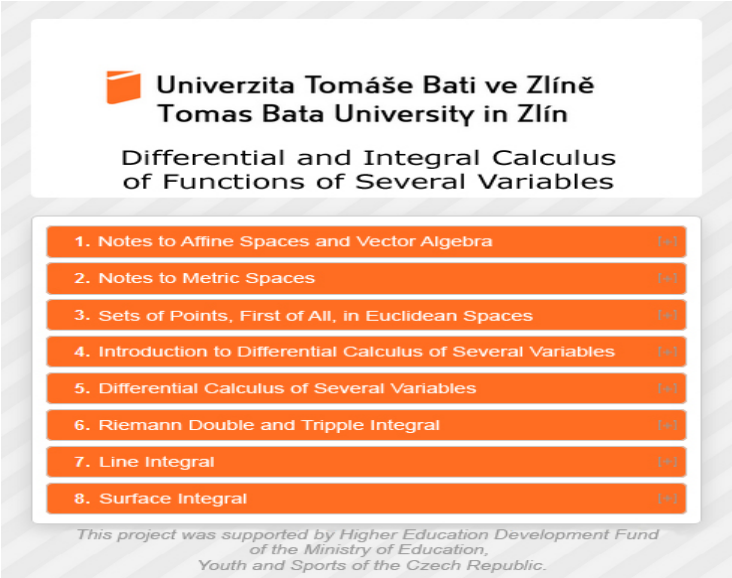



**Fig. 3 The first two introductory pages of the Web presentation**

Each of the eight chapters contains individual visual demonstrations. A demonstration of the full composition may include up to 4 components. The first component is the demonstration label – e.g., the label 4.17 {VulkanB} means the 17th demonstration, from the fourth chapter, with the working name {VulkanB}, that covers a surface resembling a volcano. The second component of a demonstration is the figure of the two or three-dimensional situation of the mathematical subject. The third component of the demonstration is the mathematically accurate description of the situation in the figure; the so-called "title". In cases where the Web presentation authors considered it suitable, there is also an animation of a figure as the fourth component.

## EXPERIENCE WITH WEBSITE PREPARATION

In order to contribute to the attractiveness of the Web presentation - but also, to work comfortably with it, some simple animation tools in Java Script were used on the website.

Initially, using PHP scripting language and a MySQL database system were considered in order to achieve the necessary efficiency to create a website with a Web presentation. Finally, it was decided that it would be more advantageous to use only HTML markup tools. It turned out that this procedure is considerably easier to the solution of the problem. At the same time, it is not so demanding on storage capacity; and consequently, it is much faster in processing requirements because the webserver does not need to send questions to the database server to display the results.

The website that was created including the Web presentation can be displayed by regular web browsers. To create them, we used the basic elements of the SEO (Search Engine Optimization) process for the visualization of sites using web search engines. This is done by using sought keywords - which are, at the same time, a thematic part of the above-mentioned subject.

The SEO Analysis method allows one to create and edit a website in such a way that its form and content are also suitable for automated processing in web-search engines. The main aim is to obtain search results in search engines that are in maximum accord with the content - and which also guarantee both a higher position for the assembled website, as well as numerous well-targeted visitors.

In conclusion, we can say that SEO Analysis includes the assessment of both the technical and the substantive factors of the website - as well as an evaluation of the respective reference profile. This analysis is also able to evaluate the current position of the website in full-text search engines and to propose specific procedures for website preparers on how to optimize their sites.

## CONCLUSION

The prime aim of this contribution was to describe a freely and permanently accessible original visual Web presentation of Several Variable Calculus issues on the Internet, that contain graphics - including animations, and accompanied by explanatory mathematical texts; which would be a vivid, comprehensible - and popular, didactic tool. A separate website in Czech and English was installed for these demonstrative slides which form the afore-mentioned Web presentation. Students of Tomas Bata University in Zlín highly appreciate tuition amplified with a visual Web presentation.

The authors believe that some information from this contribution can be useful to teachers and students - and can be further developed in their other pieces of work or studies. In addition - the objective was that the Web presentation - designed especially for the innovation of the Mathematics II subject, can be used not only by the teachers and students of our university, but also by a great number of universities requiring mathematics education in their curriculum - which is usually lectured in the 2$^{nd}$ Semester at most universities with engineering diciplines.

The Web presentation will improve the effectiveness of teaching the Calculus of Several Variables, and is intended for a target group representing more than 2,000 students at Tomas Bata University in Zlín and at its four extant faculties. The questionnaire surveys completed by about four hundred students in the full-time and combined form of study at the Faculty of Applied Informatics and the Faculty of Technology - made a year ago, showed that teaching Mathematics II, supported by the Web presentation, was evaluated by the average numerical value of 1.35. This rating is closest to the Grade B = Very Good in the standard ECTS grade system; with students being evaluated also doing the testing themselves.

Visitors to the site can download the files on the website for free. The quality of these outputs is to be assessed by site-users themselves.

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# TEENAGER'S MUSIC CONSUMPTION BEHAVIOUR AND THE TECHNOLOGY OF STREAMING SERVICES

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**ABSTRACT**
The growth of music streaming can best be understood by knowing that over one billion people worldwide use YouTube with 80 percent of YouTube's billions of views per day coming from outside of the U.S. Digital music revenues, previously driven by purchases (downloads), now mostly derive from access-based consumption (streams) which in 2015 reached US$ 2.9 billion in revenue from approximately 20 streaming service providers. Thailand's smartphone enabled youthful consumers are in the top of most global statistics and lead many regional internet/digital related categories. Combined however with this technological savvy, the internet and the smartphone contribute to the dark side of music piracy which some experts' state is responsible for a 71 percent drop since 1999 in music revenue in the US alone. The research therefore aims to study the factors that affect Thai teenager music streaming services use through a discovery process by use of the Technology Acceptance Model (TAM). Sweden's streaming music service Spotify in the first half of 2016 became the global leader in music streaming services. Spotify was stated at its inception to be a vehicle to thwart music piracy and offer a legitimate platform for music distribution. It is with this vision this study is undertaken to determine how a new generation of Thai teenagers will legally embrace the newest generation of technological innovation, music streaming services, thus saving an industry which many have noted is in a global death spiral.

**Keywords**: internet, music piracy, perceived ease of use, perceived usefulness, usage intention

## INTRODUCTION

Music recording has had a long history of technological evolution which most agree began on December 7, 1877, when Thomas Edison demonstrated his cylinder phonograph at the office of Scientific American in New York City (Edison Paper, 2013). Although technological leaps have been many, one of the first that left a long legacy was the use of 'Vitrolac' which allowed the placing of finer grooves in a record this increasing listening times to 30 minutes. This form of LP recording (long playing) is still used today and was a true milestone in recording history ("New phonograph record", 1932).

Although it was Sony which revolutionized the consumer recording industry with the 'Sony cassette recorder' in 1966 ("Promoting Compact Cassettes Worldwide", 2016), it was actually in 1928 when the Dailygraph, the first cassette magnetic recorder was manufactured in Europe (Schoenherr, 2002). It was also Sony which introduced the 'Walkman' in 1979 but it wasn't until 2002 that the new MP3 digital format was introduced to the player via Sony's "Magic Gate Memory Stick" ("Sony's dilemma," 2002).

Apple shortly before had introduced its iconic iPod on October 23, 2001 which had the ability to store 5 gigabytes of music or about 1,000 songs which could easily be downloaded from the Internet ("Apple Presents iPod," 2001). With slow dial-up connections ending and students gaining access to broadband connections, entire albums could be queued up before sleep with a student waking up to multiple, downloaded albums in the morning. Technology had made it easier and easier to be a 'music pirate'.

During this same period peer to peer (P2P) downloading proliferated with the most infamous of the early companies 'Napster', soaring to 70 million users in its short life between 1999 and 2001, before being shut down by a court's decree (Nieva, 2013). Napster is still enshrined in the Guinness Book of World Records as the fastest-growing business ever and it was Napster that was also the forerunner of today's streaming services such as iTunes Radio and the world's largest streaming music service, Spotify (Ingham, 2016).

## MUSIC INTELLECTUAL PROPERTY RIGHTS

Along with the technological developments in music recording, according to Lampel, Bhalla, and Jha (2008), the first generation of intellectual property rights laws for musical creations was born in the period from 1877 to 1890. It was in this same era that the Berne Convention adopted protection of works and rights of musicians in 1886 as well ("Berne Convention", 2016).

From this period also with the arrival of Edison's gramophone, a niche was created in a music industry dominated by publishing and performance. Copyright rules that applied to publishing and performance were

  

transferred to the music industry, and were then adjusted to account for the specific technological nature of its products. Distribution and sales were underdeveloped with many gramophones in the UK sold in bicycle shops.

Time and technology have moved on however, with intellectual property rights of music artist today being all but obliterated due to technological advances (Byun, 2016). The articles and books on this topic are prolific, with most painting a ghostly image of an industry in a death spiral due to the ravenous, unpaid consumption by consumers of digital music which is being distributed in ever increasing, hard to control and regulate, technological ways such as CDs and Napster in the past, and YouTube, Spotify, and iTune streaming over smartphones today (Hirschhorn, 2015; Witt, 2015; Voyce, 2016).

In Thailand however, on the 9th day of December 1994, through a royal decree, the older Copyright Act B.E. 2521 (1978) was repealed and a newer Copyright Act B.E.2537 (1994) was enacted ("Copyright Act B.E. 2537", 1994) which is actually much newer than the latest amendment to the international Berne Convention which last took place in 1979. In the USA in 1998, the Digital Millennium Copyright Act (DMCS) was passed as well, providing harsher punishments for music fan's file-sharing (DMCA, 1998).

In Thailand the law stipulates that musical copyright if for the entire "life of the author and continues to subsist for fifty years after the death of the author". In chapter 8 of the decree, in an attempt to put 'muscle' behind the law, there is also a long list of penalties, fines and imprisonment times for various violations of the act, depending on if the violation was for personal or commercial use. An example of this is the penalties for infringement of copyright for a commercial purpose in which the offender "shall be inflicted with imprisonment for a term from six months up to four years or a fine from one hundred thousand Baht ($US2,840) up to eight hundred thousand Baht ($US22,724) or both imprisonment and fine".

**THE MUSIC INDUSTRY AND PIRACY**

Despite long-standing legal protection in both international courts and national laws, music piracy continues unabated, even after the earlier success with shutting down Napster in 2001 with 52 million users ("Court blow to Napster," 2001). Shortly thereafter, in the first sentence of the 2002 IFPI Music Piracy Report, it was stated that "Piracy is the greatest threat facing the music industry today," and 14 years later, that has not changed, with piracy now having become the No. 1 threat that obstructs the Thai music sector from growing ("Digital platforms lift Thai media," 2015). This is consistent with research from Helkkula (2016) which stated that digitalization has had a tremendous effect on the music industry and consequently the size of the industry has been more than halved during the new millennium.

Hirschhorn (2015) also discussed the gruesome numbers behind the music industry's inability to control piracy and embrace new business models when reporting on revenue as complied by the Recording Industry Association of America (RIAA) since 1973. In the analysis, income as reported on an inflation-adjusted basis, showed US music sales plummeting 71 percent ($US 14 billion) since 1999, even though the American population had grown by some 46 million consumers during the same period.

In Thailand, a similar story has emerged as the music market industry has dropped from US$304 million in 2010 to US$279 million in 2014 with only two major labels (Grammy and RS) and one independent label (Bakery) surviving the Asian financial crisis of 1997 (Wuttipong, 2012). Recent data suggests this trend will continue with projections stating that total music revenues are projected to fall by a CAGR of -0.8% to US$268 million in the next five years.

**THE MUSIC CONSUMER**

As in the US with 46 million more consumers, a market of consuming music lovers is not the problem in Thailand as well. The problem to the Thai music industry is who consumes it, their perception about its value, and how the music is obtained and paid for, with the data pointing to a youthful, pirating consumer segment often referred to in terms as 'Generation Y' and 'Generation Z'.

In recent years marketers have coined these terms 'Generation Y' and 'Generation Z' to describe research about Thai consumer age groups. Simply stated, these are two age groups which represent two separate 'generations' of Thai consumers. The older Generation Y consumers (Thais born between 1981 and 2000) are stated to be some of the most connected users in the world with the Siam Commercial Bank Economic Intelligence Center (2016) indicating that they are the largest consumer component in Thailand with a lifetime spending potential of over USD $5 trillion. Additionally, these Generation Y consumers are also the largest owners of audio and video streaming capable smartphones within the population and some of the most connected individuals on earth, with Thailand having over 97 million mobile connections, or 149 percent of the population (eMarketer, 2013; Kemp,

  

2015). Presently in Thailand over half of the population owns smartphones with the sales of new smartphones in 2016 projected from 15 to 18 million units (Leesa-nguansuk, 2016).
Furthermore, 'Generation Z' is the next generation, which was born after 1995 which globally represents about two billion teenage consumers who are the first generation to be unaware of a world without Internet (Benhamou, 2015). It is this generation that is the main focus of the proposed research.

**DIGITAL MUSIC STREAMING**

Digital music streaming has become a new distribution technology that has upended the music industry and triggered a discussion concerning its effects on the bottom line (Datta, Knox, and Bronnenberg, 2016). According to the IFPI (International Federation of the Phonographic Industry) Global Music Report (2016), global music revenues increase 3.2 percent in 2015 as digital revenues overtook physical sales for the first time ever grabbing 45 percent of the industry reaching US$ 6.7 billion, with streaming revenues exploding to 45.2 percent to US$ 2.9 billion, remaining the industry's fastest-growing revenue source, growing over the past half-decade more than four-fold.

Helped by the spread of smartphones, increased availability of high-quality subscription services and connected fans migrating onto licensed music services, streaming has grown to represent 19 percent of global industry revenues. Streaming now accounts for 43 percent of digital revenues and is close to overtaking downloads (45 percent) to become the industry's primary digital revenue stream.

Players in this market include Google's YouTube Red and YouTube Music subscription service which goes head-to-head against other services offered by other companies such as Apple Music and Spotify. YouTube initially tried paid content in 2014 with Music Key, with a $US 7.99 a month, unlimited service, but it never made its way out of beta (Garun, 2015).

Spotify and Deezer are two more of the many music streaming services (Figure 1) that offer consumers access to their database of millions of songs, but it is the creators of Sweden's Spotify that claim their service was designed from the ground up to combat music piracy, and convince people to stop illegal file-sharing, and start consuming music legally again ("Music Streaming vs. Music Piracy," 2014).

The fight for streaming customers however has become a vicious war for market share as can be seen from the length of time that consumers are offered a free trail service in hope of permanently gaining new customers (Figure 1). Additionally, Google's trial crosses multiple services and platforms as well in that it gives customers access to Google Play Music's library of 35 million tracks ($US 9.99 a month) plus four months of access to YouTube Red which is an ad-free video streaming platform ($9.99 a month) (Wang, 2016).


**Figure 1** Music steaming platforms free trial periods-Source: Wang (2016)

According to Ingham (2016), Spotify and Apple Music became the leading streaming formats for the first time in music history in the first half of 2016 overtaking on-demand music streams on digital video platforms (e,g, YouTube) which increased just 23 percent in the six months to end of June in the US. Audio music platforms however, where on-demand streams more than doubled, were up 108 percent year-on-year. These increases represented 209.4 billion on-demand US streams of which 114.23 billion streams or 55 percent of the total were from audio streaming platforms only (Figure 2).

  

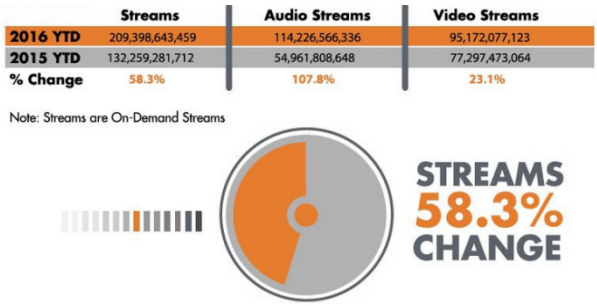


**Figure 2** Total on-demand streams in the US market-Source: Ingram (2016)

YouTube Thailand has also seen their numbers soar over a short period, with the newly created channel having risen into the top 10 globally of users watching YouTube videos, doubling the growth rate of most other countries ("YouTube sees record gain," 2015). According to YouTube Thailand, the company in collaboration with local mobile operators will launch a bundled video data plan that allows customers to watch unlimited videos for less than $US1 a day.

## LITERATURE REVIEW

### PERCEIVED EASE OF USE

The Technology Acceptance Model (TAM) is a theory that was adopted from the earlier Theory of Reasoned Action (TRA) and is used to predict how Information Technology (IT) and its use is accepted (Venkatesh & Davis, 1996). Ease of use and simplicity are key ingredients in IT acceptance. This is consistent with Delikan (2010) which examined the use of music streaming services with use of the TAM model on Swedish net users and confirmed that that there is a significant relationship between users' perceived usefulness of service use, and their attitude toward using and their behavioral intention to use. It was also interesting to note that the study found that streaming music services have a positive effect on decreasing music piracy.

Amoroso and Guo (2006) also using TAM researched P2P (peer to peer) music downloading and discovered that previous experience had a significant effect on ease of use and behavioral intention. This was consistent with Liang (2007) which indicated that perceived ease of use had an indirect and positive impact on the intention of P2P music downloading.

### PERCEIVED USEFULNESS

According to Davis (1989), perceived usefulness is the degree of a person's belief that using a specific system would increase his/her performance which is affected by social influences (TAM2).

Liang (2007) examined three leading human behavior theories including the Theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB), and the Technology Acceptance Model (TAM). From the research, it was concluded that TPB provided the most comprehensive understanding of P2P music downloading intention of the three models examined. Perceived usefulness also had direct and positive effects on the intention of P2P music downloading. This was consistent with Amoroso and Guo (2006) which stated that the perceived usefulness of internet music downloading technologies should be positively correlated with the internet connection's download speed.

### USAGE INTENTION

TAM2 asserts that subjective norm has a significant direct effect on usage intentions over and above perceived usefulness (Venkatesh & Davis, 2000). This agrees with the investigation by Dörr, Hess, and Benlian (2013) on music as a paid service (MaaS), in which subjective norm and attitude were found to positively influence usage intention.

### USAGE BEHAVIOUR

According to Lin, Hsu, and Chen (2013), usage behaviour and willingness to pay for online services is controlled by something they refer to as 'free mentality' in which customers in the internet/digital age show great reluctance in paying for internet provided services such as online news ("Times and Sunday Times," 2010).

  

Datta, Knox, and Bronnenberg (2016) studied consumer adoption of streaming music services such as iTunes and Spotify, and indicated that use of these types of services leads to significant increases in quantity, variety, plays of new content, and discovery of new favorites.

From a review of the literature, the following 4 hypotheses are presented (Figure 3).

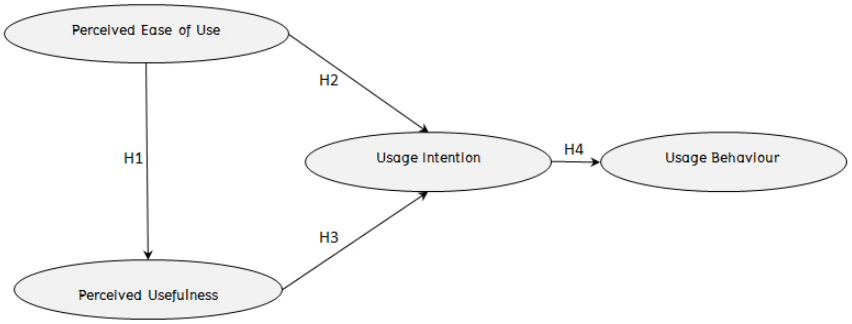


**Figure 3** Proposed Conceptual Framework

## RESEARCH HYPOTHESES

H1: Perceived Ease of Use directly influences Perceived Usefulness
H2: Perceived Ease of Use directly influences Usage Intention
H3: Perceived Usefulness directly influences Usage Intention
H4: Usage Intention directly influences Usage Behaviour

## METHODOLOGY

The proposed nature of the research entails the development of a structural equation model to analyze the factors involved with the use of streaming music services by Thai teenagers. Therefore, the following detailed steps are being proposed.

## THE STUDY'S APPROACH

For this study the researchers will use both quantitative and qualitative research from both primary and secondary data which sets the stage for the study.

## STUDY OF SECONDARY DATA

The researchers are currently reviewing the literature including published research, textbooks, internet materials, media reports, and data which have been synthesized from the secondary data to develop a conceptual model for the variables that influence teenage usage behaviour of digital music streaming services.

## QUANTITATIVE RESEARCH APPROACHES

Quantitative research will be performed using the primary data by collecting a questionnaire from the target sample. The questionnaire to be used to collect data is structured and written in a realistic, easy-to-understand format which is deemed to be reliable and reasonable. Further measurement and reliability validation will be undertaken as follows:

1. Questionnaire review will be conducted by academic scholars to validate the investigation questions and the use of rhetoric and the simplicity and comprehension of the questions.
2. During the questionnaire trial stage, questions and responses will be monitored so better clarity can be achieved, with questions being updated as required.
3. Perform data collection and statistical analysis.

## QUALITATIVE RESEARCH APPROACHES

Qualitative research will involve confirming the model of the quantitative research. It is a collection of interviews with individuals who have been involved in the Thai music industry, including label executives, music copyright managers, music streaming administrators, music industry scholars, musicians and artists.

## POPULATION AND SAMPLE

The proposed sample used in this study will consist of 300 teenagers who use internet music streaming services.

## THE SAMPLE SIZE

  

Quantitative research will be used to study the relationships between the variables of the equation. A widely accepted subject to item ratio was proposed by Nunnally (1978) it which it was stated that for exploratory factor analysis, the ratio should be at least 10:1. Kline (2005) and Weston and Gore, (2006) recommend having a minimum sample size of 200 for any structural equation model (SEM) analysis.

Qualitative research will involve the in-depth interviews of ten individuals involved in the music business, including label executives, music copyright managers, and music streaming administrators, music scholars, musicians and artists to confirm the model of quantitative research.

**TOOLS USED IN THE RESEARCH**

For this research, the measurement instrument or questionnaires to be utilized will be prepared from the literature. A self-administered questionnaire (SAQ) is being used as it is exploratory in nature, allows the teenagers to do themselves, and serves as a starting point for other methodologies. Furthermore, the researchers will continue to monitor the quality of the instruments used in the research and measure their level of quality by both content validity and reliability. These components are divided into the following two phases:

**INSPECTION BY FIVE EXPERTS**

| | |
|---|---|
| Label Executive | 1 individual |
| Music License Manager | 1 individual |
| Digital Music Streaming Administrator | 1 individual |
| Music Industry Scholar | 1 individual |
| Music Artist | 1 individual |

To ensure the quality of the questionnaire used in the research as well as the content and language used, the index of Item - Objective Congruence (IOC) will be used. The IOC for each item is the summation of scores given by the experts divided by the number of experts. This ensures the quality of the questionnaire with any IOC score less than 0.05 being eliminated (Rovinelli & Hambleton, 1977).

**DATA COLLECTION**

Primary Data is concerned with a collection of factors that influence digital streaming music usage intention by Thai teenagers.

Secondary Data will consist of studying the theories related to the research from various sources; including the Internet, books, manuals, tutorials, articles, research papers, etc., which will be used to define the concepts and theories used in the study.

**DATA ANALYSIS AND STATISTICS USED**

Quantitative data analysis research will use descriptive statistics including frequency, percentages, means, and standard deviations to demonstrate the profiles as well as rating scores and response rates (Sullivan & Artino, 2013). An analysis will be conducted using structural equation modeling (SEM) to determine the relationship of the factors influencing Thai teenager digital music streaming usage intention.

Qualitative data analysis confirmation involves in-depth interviews of ten individuals involved in the music business, including label executives, music copyright managers, and music streaming administrators, music scholars, musicians and artists to confirm the model of quantitative research and confirm the findings are credible and honest. . Afterwards, the researchers will proceed to interpret qualitative information, including classified information.

**PRELIMINARY CONCLUSION**

There is already significant research being conducted on the importance of digital streaming music services and its impact on the music industry and music piracy. From the literature review thus far however, the magnitude of music piracy on a global scale is immense with problems reaching back into the start of the digital age. Thailand's music industry and consumers have not been isolated from these issues and given the importance and impact of 'Generation Z's' (teenagers) effect on the music industry, this study has determined that variables concerning Thai teenager music streaming use, their intention to use streaming services, the perception of streaming services ease of use, and Thai teenager perceived influence on music streaming use are paramount to finding solutions to a sustainable solution to what is presently an unsustainable problem for music labels and artists.

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# TENDENCIES OF TEACHERS TO MYTHS ABOUT GIFTEDNESS

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**ABSTRACT**
This article deals with myths about gifted pupils and examines the tendencies of teachers to these myths. In the theoretical part we describe the origin and creation of myths and we further define the variables that can affect the tendencies of teachers to myths about gifted pupils (length of teaching practice, type and grade of school). 973 teachers of primary and lower secondary schools from the Czech Republic participated in the research. A questionnaire was applied as a research technique. After exploratory factor analysis it included 7 statements distributed to two factors (F1: Education of gifted children; F2: Social and emotional maladjustment of gifted children). Based on these two factors, two summation indexes were created and compared in different groups of teachers. Results of the analysis show that teachers declare low tendencies to myths about gifted pupils. The overall results of comparison show, that the tendency to myths about gifted pupils is slightly decreasing as the length of teaching practice is increasing. Teachers working on the specialized schools for gifted children have higher tendency to myths about giftedness in comparison with the other types of schools. The tendency of teachers to myths is constant in the area of Education of gifted children and is decreasing in the area of Social and emotional maladjustment of gifted children. The study has an exploratory, not confirmatory character.

**KEY WORDS**
Giftedness, gifted pupil, myths about giftedness, teacher of gifted pupil.

## INTRODUCTION AND THEORETICAL BASES

There are many myths, half-truths and common conceptions of their validity prevalent about every human activity and state. There are such conceptions about gifted pupils, their identification and education, too. These evaluating opinions about gifted individuals have probably existed since the dawn of time when people started noticing the differences in their abilities and skills. The approach to the conception of giftedness usually followed the stages which were connected to the prevalent philosophy of their time. Most often, there are defined three basic historical lines of conceptions of giftedness: pathological, biological, and environmental (Hříbková, 2009). Each of these approaches brought its own typical attitude towards giftedness and therefore it consequently created fertile ground for various myths and half-truths about gifted individuals.

Let us briefly sum up the individual lines of conception about giftedness. Environmental line was prevailing in the thinking of the 17$^{th}$ and 18$^{th}$ century. In this conception, the influence of education on giftedness development is given more importance than the surroundings. This conception is represented by J. Locke or C.A. Helvétius. Biological line of conception is typical for the 19$^{th}$ century when the influence of inheritance was overestimated. This period saw the origin of a romantic cult of geniuses who were idealized and admired. Remember the work Hereditary Genius from 1869 by F. Galton. We can register a development of a

  

contradictory line of conception in the very same period – pathological conception. Here for example C. Lombrosso claims that the development of geniality depends on a genetically conditioned psychosis which belongs to the family of epileptic disorders and even completely excludes the existence of a psychologically healthy genius. (Davis, Rimm & Sielge, 2011)

Various approaches towards giftedness repeatedly emerge and disappear throughout history of care of gifted individuals. The key milestone is for example the book of L. Terman The Genetic Studies of Genius (1st part from 1921) which describes the outcomes of longitudinal study of typical personal characteristics of gifted children. The results of the research led to so called Terman myth that the gifted are emotionally stable individuals without any social problems. On the contrary, L.S. Hollingworth pointed out the social isolation of gifted children in her book from 1942 Children above 180 IQ Stanford – Bine: Origin and Development. Here she confirms the hypothesis about the connection of high intelligence and social isolation. Based on the specificity of gifted children and the consequent need of a completely different educational approach, she initiated the development of a number of specialized classes for highly gifted children in the USA. (Vialle, 1994)

Nowadays, we do not come across fringe approaches towards giftedness in serious researches, however, a similar ambivalent approach towards the education of gifted children still remains prevalent among professional public. The lists of myths about gifted children can be found in many professional publications (e.g. Laznibatová, 2001; Treffinger, 2009; McCoach & Siege, 2007; Winner, 2001). The authors Portešová, Budíková, and Juhová (2014) tried to categorize the myths which often appear in foreign empirical studies. Based on this analysis, they reached three main areas of myths about giftedness. The first area is connected to the essence of giftedness and identification of gifted children. For instance: Giftedness observed at young children is often caused by the effort to expose the children to early advanced activities; Gifted parents have gifted children; A gifted pupil usually stands out in all areas of education. Another group of myths is connected with social and emotional characteristics of the gifted pupils or their families. For instance: Gifted individuals incline towards suicidal acts; Gifted children have problems in making social contacts; Gifted children are socially unadaptable. In this area, we also include myths connected to elitism, e.g.: Gifted children grow up to be gifted adults; Gifted children come from families from middle and higher social classes, etc. The last area is connected to education of gifted pupils and their educational needs. For instance: Gifted children do not have any problems at school; Pupils who are genuinely gifted will excel even without specific help.

The myths are made through attitudes which are comparatively stable and unchangeable social constructs which influence our perception, thinking, and consequently acting (Reid, 2011). Attitude expresses a specific evaluating state towards various social objects, in our case towards the education of the gifted children. Teachers incline towards myths for a number of reasons. They often do not have clear information from sources available about how to work with gifted children and therefore they resort to these simplified conclusions. Furthermore, the style of education in the original family is also important, as is the level f conformity of the teacher or the fear of not mastering the care of gifted children (Reid, 2011). Gross (1994) implies that the lack of knowledge about the topic of giftedness often leads to creation of myths abou giftedness. Authors such a Bohner and Wänke (2002) think that teachers with negative attitudes towards gifted children and their education often do not realize their lack of knowledge in the area of education. These teachers allow to be led by their prejudice, misconceptions, and myths, rather than try to understand these children (Bohner, Wänke, 2002). According to Davis and Rimm (1998) the teachers' attitudes towards the gifted children are essential in the process of deciding and creating of the program of education.

Many published studies map the predictors of the attitude of teachers towards giftedness. For example, during their analysis of tens of researches on this topic, Bégin and Gagné (1994) identified more than 50 variables influencing the teachers' inclination towards the myths about giftedness. Let us focus on the predictors recurring in more studies in which authors did not find any serious methodological inadequacy. Firstly, it is person's self-perception as gifted. That means that teachers perceiving themselves to be gifted have a more positive attitude towards giftedness. Intensive contact with gifted children, perceived pedagogical ability in education of the gifted, participation in educational program about education of the gifted, and the socioeconomic status of the teacher are among other significant variables which positively influence the relationship to giftedness. (McCoach & Siege, 2007). In this meaning, we can also think about other variables which enter the transformation of the teachers' tendency towards the myths about the gifted children, such as the number of years spent teaching (see Andrysová et al., 2014; Samci – Erdogan, 2015), type of school, children's age, etc. These predictors are what we focused on in our article. From the list of myths, we chose the myths about social and emotional characteristics of the gifted individuals or the development in their families.

  

**THE STUDY**

The main aim of the research was to determine the degree of teachers´ tendency to myths about gifted pupils in terms of individual questionnaire items and two factors of the questionnaire. Partial aims were to assess the degree of teachers´ tendency to myths about gifted pupils from the view of selected teachers´ characteristics (length of working experience, type of school and grade of school, where they currently work). 973 teachers of primary and lower secondary schools from the Czech Republic participated in the research. These were 177 males and 796 females. Most of these teachers came from the Moravia-Silesia and Central Bohemia regions. Other information about the participants of the research are presented in table 1.

**Table 1**: Characteristics of the research sample.

| | Characteristics | Count | % |
|---|---|---|---|
| **Length of practice** | 0 - 2 years | 48 | 4,9 |
| | 3 - 5 years | 46 | 4,7 |
| | 6 - 10 years | 89 | 9,1 |
| | 11 - 20 years | 212 | 21,8 |
| | 21 and more years | 578 | 59,4 |
| **Type of school** | basic elementary school | 802 | 82,4 |
| | specialized elementary school | 53 | 5,4 |
| | multiannual grammar school | 118 | 12,1 |
| **Grade of school** | ISCED1 | 385 | 39,6 |
| | ISCED2 | 588 | 60,4 |

The research was based on a questionnaire consisting of 28 statements - myths about giftedness and gifted children. The expressions “child” and “pupil” are understood as synonyms in this text. In both cases it is the subject of education from the perspective of teachers. Primarily we focused on the myths associated with social and emotional characteristics of gifted individuals, possibly with the development of these symptoms in family. These were myths that had been selected according to the thematic focus of the above publications (Laznibatová, 2001; McCoach & Siege, 2007). Individual statements were rated on a five-point scale from 1 to 5, where 1 = strongly disagree and 5 = strongly agree. In other words, the higher the number, the higher the rate of teachers´ tendency to myths about gifted pupils. Reverse statements also occurred in the questionnaire, but they were re-coded before analysis.

Rated questionnaire statements were subjected to exploratory factor analysis (EFA). Data fulfilled the basic requirements for implementing this type of analysis (KMO = 0,725; statistically significant Bartlett's test of sphericity, all MSA measures > 0,7). Two factors comprising generally 7 statements were extracted based on Principal Components Analysis and Varimax rotation. Our intention was to extract the simplest possible factor solution that explains most of the variance. On the one hand, we reduced the majority of the questionnaire items, on the other hand, we acquired factor solution that could be well interpreted. According to the partial statements of individual factors, we assigned their names: **F1 - Education of gifted children; F2 - Social and emotional maladjustment of gifted children.** Factor F1 explains 28,17 % of variance, factor F2 explains 26,52 % of variance, they both together explain 54,69 % of the total variance of the examined construct. Reliability (in terms of internal consistency) of individual factors is by Cronbach's alpha as follows: F1 = 0.630, F2 = 0.671. Reliability is in both factors below 0,7, however, given the small amount of items entering into each factor, we assume these values as acceptable. Table 2 contains more information about the two factors.

**Table 2**: Extracted factors, their items and factor loadings.

| Items of the questionnaire | Factors and their factor loadings | |
|---|---|---|
| | 1 | 2 |
| I1. Gifted children are spineless, they use their talents to enrich themselves at the expense of others and to handling with others. | 0,764 | |
| I2. Gifted children are the product of ambitious parents. | 0,726 | |
| I3. If we pay attention to gifted children, we unduly increase their confidence. | 0,720 | |
| I4. Parents´ fear of "loosing childhood" of gifted child is well founded. | 0,530 | |
| I5. Gifted children suffer from emotional problems. | | 0,827 |
| I6. Gifted children are socially maladjusted. | | 0,775 |
| I7. Inclination to suicidal behaviour is likely to gifted children. | | 0,677 |

  

**FINDINGS**

The main aim of the research was to determine the degree of teachers´ tendency to myths about gifted pupils in terms of individual items and two factors of the questionnaire. That means to conduct some descriptive analysis of the research problem. Table 3 shows the results of our survey in terms of 7 questionnaire items. The items are sorted in descending order according to the percentage of teachers with approving attitude (options include strongly agree and agree). The table also contains the percentage of teachers with dissenting attitudes (strongly disagree and disagree). The highest tendency to myths about gifted pupils occurred with the items labelled I5 (Gifted children suffer from emotional problems.) and I4 (Parents´ fear of "loosing childhood" of gifted child is well founded.). Conversely, the lowest is this tendency in the case of items marked I7 (Inclination to suicidal behaviour is likely to gifted children.) and I1 (Gifted children are spineless, they use their talents to enrich themselves at the expense of others and to handling with others.).

**Table 3**: Summary of attitudes to individual questionnaire items.

| Items of the questionnaire | Approving attitude (%) | Dissenting attitude (%) |
|---|---|---|
| I5. Gifted children suffer from emotional problems. | 33,1 | 32,1 |
| I4. Parents´ fear of "loosing childhood" of gifted child is well founded. | 22,5 | 60,3 |
| I6. Gifted children are socially maladjusted. | 14,2 | 67,0 |
| I3. If we pay attention to gifted children, we unduly increase their confidence. | 13,9 | 77,0 |
| I2. Gifted children are the product of ambitious parents. | 7,4 | 84.6 |
| I7. Inclination to suicidal behaviour is likely to gifted children. | 4,0 | 49,7 |
| I1. Gifted children are spineless, they use their talents to enrich themselves at the expense of others and to handling with others. | 1,4 | 92,3 |

For the purposes of descriptive analysis and comparison of results in groups two summation indexes were created as a result of EFA. One factor underlies each of the indexes. Both are transformed so that their values can vary from 0 to 10 points. The more points in each index, the higher the rate of teachers´ tendency to myths about gifted pupils. Basic descriptive statistics of both indexes are presented in table 4. As we can see, teachers´ tendency to myths about the gifted is higher in Index2 (*Social and emotional maladjustment of gifted children*) in comparison to Index1 (*Education of gifted children*). We can also see, that the average teachers´ tendency to myths is low in both indexes (on the scale from 0 to 10).

**Table 4**: Descriptive statistics of two indexes (based on two extracted factors from EFA).

| | n | Min | Max | Mean | SD |
|---|---|---|---|---|---|
| **Index1** | 973 | 0,00 | 10,00 | 2,57 | 1,53 |
| **Index2** | 973 | 0,00 | 9,17 | 3,75 | 1,87 |

Nevertheless, we can also see, that there are some teachers in the sample with very high or very low tendencies to the myths (according to the values of minimum and maximum in table 4). To identify teachers with unusual grade of tendencies towards myths about gifted pupils we used the rule of 6 sigma. It means, that we can consider all individual values of z-score smaller that -2 or higher than +2 as unusual in comparison to the rest of our sample. In Index1 there are 5 % of teachers reaching very high tendencies towards myths and only 1 teacher (0,1 %) reaching very low values. The differences are higher in Index2. There are 6 % of teachers declaring very low values and slightly above 2 % with very high values. Anyway, most of the teachers (over 90 % in both indexes) reach a “normal” score.

As already mentioned, partial aims were to assess the degree of teachers´ tendency to myths about gifted pupils in terms of selected teachers´ characteristics (length of working experience, type of school and grade of school, where they currently work).

Comparison of results in groups of teachers is summarized in table 5. Our findings show, that there are no substantively (practically) significant differences among groups from the view of teachers´ practice, type or grade of school. All groups declare low tendencies to myths about gifted pupils. However, it is interesting, that

  

the highest tendencies in both indexes are connected with teachers working in special schools focused on the development of intellectually gifted pupils.

**Table 5**: Comparison of results in groups of teachers.

| | | Index1 | | | Index2 | | |
|---|---|---|---|---|---|---|---|
| | | **Count** | **Mean** | **SD** | **Count** | **Mean** | **SD** |
| **Length of practice** | 0 - 2 years | 48 | 2,72 | 1,85 | 48 | 4,15 | 1,96 |
| | 3 - 5 years | 46 | 2,81 | 1,63 | 46 | 3,50 | 2,05 |
| | 6 - 10 years | 89 | 2,75 | 1,48 | 89 | 4,06 | 1,93 |
| | 11 - 20 years | 212 | 2,52 | 1,48 | 212 | 3,93 | 1,89 |
| | 21 and more years | 578 | 2,53 | 1,52 | 578 | 3,63 | 1,82 |
| **Type of school** | basic elementary school | 802 | 2,57 | 1,54 | 802 | 3,70 | 1,81 |
| | specialized elementary school | 53 | 2,92 | 1,58 | 53 | 4,36 | 2,23 |
| | multiannual grammar school | 118 | 2,45 | 1,43 | 118 | 3,86 | 2,03 |
| **Grade of school** | ISCED1 | 385 | 2,57 | 1,64 | 385 | 3,84 | 1,87 |
| | ISCED2 | 588 | 2,57 | 1,45 | 588 | 3,70 | 1,87 |

Because we do not have a representative sample of teachers, we did not apply any tools of inferential statistics to the data. The results presented in this section should therefore be treated as exploratory, not confirmatory. In case of repetition of the survey at a different sample of teachers we can expect different results. Firstly, we assumed that increasing length of the teaching practice (and improving teachers´ competence at the same time) leads to a reduction in the tendency to myths about gifted pupils (McCoach & Siege, 2007). According to the table, the results have a slightly decreasing tendency, but the differences among five groups are very small from the substantive point of view.

Next step of the analysis was to explore the relationship between the type of school and the degree of teachers´ tendency to myths about gifted pupils. Types of schools were for the purpose of this study divided as follows: basic elementary school (ie. a school without a specialized program for gifted pupils, working on grade ISCED1 and ISCED2); specialized elementary school (ie. a selective school for diagnosed gifted pupils in pedagogical-psychological counselling, it usually offers a specialized program for the education of gifted pupils on grade ISCED1 and ISCED2); and multiannual grammar school (ie. a school with a specialized program for gifted pupils, working on grade ISCED2). Based on our theoretical assumptions we expected that teachers working in the specialized schools for gifted children will have a lower tendency to myths about giftedness in comparison with the other types of schools (Bégin, Gagné, 1994; Portešová & col., 2014). As we can see in the table above, the average tendencies to myths are the highest in the group of teachers from special schools, which is an unexpected result. However, in terms of substantive significance the determination coefficient reached very low value of 0.68 %, which is practically negligible. This result may reflect the specific experiences of teachers from specialized schools for gifted pupils. Gifted children with so-called double singularity (ie. children who not only show their talent, but also some signs of a certain handicap, for example Asperger's syndrome, dyslexia, etc.) are more likely to be assigned to specialized schools for the gifted. Classes with a reduced number of students (up to 16 in contrast to regular classes of elementary schools with about 30 pupils) are usually established at these schools, so teachers have stronger ties on pupils. We consider this outcome of our analysis as the most interesting and slightly surprising in the context of expected theoretical knowledge. This relationship should be tested on a representative sample in some future survey. Before this is realised, we can´t make any generalizations, as our sample is not strictly representative.

The last step was to determine the relationship between the degree of school where teachers mainly operate and the degree of teachers´ tendency to myths about gifted pupils. The first stage in the Czech Republic includes 5 years (the usual age of pupils is 6 – 10 years) and corresponds to the international classification of education ISCED 1. The second stage consists of 4 years (the usual age of pupils is 11 – 14 years) and corresponds to the international classification of education ISCED 2. We assumed that with increasing age of gifted children (from ISCED1 to ISCED2) the tendency of teachers to myths will also increase. This assumption was based on the working experience and observation of classroom teaching with gifted pupils, which were gained by the first author of this study. Our data did not support this assumption, but it should also be tested in a future survey.

  

## CONCLUSIONS

The article is focused on the issue of myths and explores teachers´ tendency to myths about gifted pupils. Determining the extent to which teachers tend to myths about gifted pupils is crucial for the further development of giftedness. It is also important from the view of inclusive education and for the development of school climate, especially in the areas of class consistency as a social group and pupils´ overall relationship and motivation to school (Kašpárková, 2007). We assume, that teachers with high inclination to myths would not pay sufficient attention to gifted pupils and this attitude could have an impact on the overall climate in the classroom.

In the theoretical part we tried to describe the origin and creation of myths and further define the variables that can affect the tendency of teachers to myths about gifted pupils. This construct plays the key role of dependent variable in our research. In relation to this construct, we decided to explore three independent variables: the length of teaching practice, type of school and grade of school where teachers currently work.

The research sample consisted of 973 teachers of primary and lower secondary schools across the Czech Republic. A questionnaire of our own construction was applied on this sample. It included 28 items describing myths about social and emotional characteristics of gifted children and their development in families. Using the EFA two factors containing seven items were extracted: F1 - Education of gifted children; F2 - Social and emotional maladjustment of gifted children.

The first objective was to determine the overall rate of teachers´ tendency to myths about gifted pupils. We found, that 33 % of teachers declare approving attitude to item I5 (*Gifted children suffer from emotional problems.*). If teachers consider gifted children emotionally problematic, labelling of these children may occur in practice. This may result in their partial exclusion from a group of peers. On the contrary, only 1 % of teachers agree with the relatively strong expression in item I1 (*Gifted children are spineless, they use their talents to enrich themselves at the expense of others and to handling with others.*). We can say, that our respondents have week tendencies to myths about gifted pupils. However, there are some unusual individuals in our sample, which can be identified with the use of the six sigma rule. In Index1 there are 5 % of teachers reaching very high tendencies towards myths and only 1 teacher (0,1 %) reaching very low values. In Index2 there are 6 % of teachers declaring very low values and slightly above 2 % with very high values. Anyway, most of the teachers (over 90 % in both indexes) reach a "normal" score. When we compare these tendencies from the view of two factors (indexes), they are slightly stronger in the area of Social and emotional maladjustment of gifted children.

Partial aims were to assess the degree of teachers´ tendency to myths about gifted pupils in terms of two factors of the questionnaire and in terms of selected teachers´ characteristics (length of working experience, type and grade of school). The overall results of comparison show, that the tendency to myths about gifted pupils is slightly decreasing as the length of teaching practice is increasing (in both indexes). Surprisingly, teachers working in the specialized schools for gifted children have higher tendency to myths about giftedness in comparison with the other types of schools (also in both indexes). The tendency of teachers to myths is constant in the area of Education of gifted children (Index1) and is decreasing in the area of Social and emotional maladjustment of gifted children (Index2).

After presenting our result, we should also underline some basic limitations of the study. Presented study can be understood as a pilot probe. We are aware that all measurements in education but also in other fields, are considered relative, simplistic and indebted to the paradigm through which we realize quantitative research. Another problem arises from the use of questionnaire as a research method because it strongly simplifies studied reality on selected statements. As we have already mentioned, we did not have a representative sample in this study, so the result should not be generalised. Teachers who voluntarily participated in the research expressed positive interest in exploring this issue. The sample of respondents can be therefore considered as positive deviation from the reality. The results may seem better than the actual situation. Furthermore, we recognize that teachers tend to describe themselves in a better way, because they assume that their tendency to myths should be low.

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# TESTING THE PATTERNS OF TIME SPENT AND LEANING EFFECTS BETWEEN RESILIENT AND UNDERACHIEVED GROUPS

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**ABSTRACT**
This study aims to analyze the patterns of time spent and learning effects between resilient and underachieved groups. We invited 1,800 students base on their departments from six universities to fill out the questionnaires. A total of 1,191 students responded to the survey. The resilient and underachieved students were selected by their SES and academic achievement in previous semester. In this study, 39 students fit the resilient group, and the other 40 students fit the underachieved group. Both t-test and correlation analysis were used to determine the group differences and their relationships in time spent, learning intention, and success in knowledge leaning, skills acquiring, and personal development. The results reveal the resilient students have stronger learning intention on participate in an internship, co-op, field experience, student teaching, or clinical placement than do the underachieved students. Resident students spent more time on working for pay on campus and providing care for dependents. The testing of learning effects shows that the resilient students have done better than that of underachieved students in writing clearly and effectively, speaking clearly and effectively, thinking critically and analytically, understanding people of other backgrounds, being an informed and active citizen. This study found there is no relationship between intent to learn and time spent among these students. Furthermore, there is no correlation between time spent and workable knowledge acquirement among these students.

**Keyword:** resilient students, underachieved students, time spent, workable knowledge and skills, higher education

## INTRODUCTION

This article selected a unique case, with rapid expanded its higher education system, to explore the learning issues among the resilient and underachievement students. Reviewing the Taiwan's higher education system, we found the number of students has increased from 358,000 in 1974 to 1,355,290 in 2013, an almost four-fold expansion in Taiwan (Ministry of Education, 2013a). According to 2012 Education Statistical Indicators, the tertiary education gross enrollment rate (GER) has reached 84%, higher than in most other Asian countries (Ministry of Education, 2013b). In the rapidly expansion system, the students' learning issue has caused public concerns recently. The public expects higher education institutions not only to maintain high enrollment rates, but also to improve educational quality. When we refer to student learning, learning outcomes become the basis for judging successful instruction (Donald, 2000). Within the universal system, reviewing students' learning activities may provide useful suggestions for reinventing the expanded higher education system.

In recent years, both the groups of undergraduate resilient and underachieved groups have received great attention from teaching departments and administration departments after the mass higher education. The scholars of the research community have showed a lot of concerns about the learning issues. The resilient student is defined as students espouse psychological features of resilience. They are students who are willing to conquer the barriers during their academic journey and eventually reward by their excellent academic achievement (Gordon Rouse, 2001; Hargis, 2006; Huang & Waxman, 1996). While underachieved students referred to Bok's influential discussion of "underachievement" in undergraduate education focused on institutional performance (Bok, 2006).

In this study, the resilient and underachieved students refer to students with an economical disadvantaged or advantaged family background in terms of their social economic status. The aim of the study is to analyze the patterns of time spent and learning effects between resilient and underachieved groups. Students' learning intention, time spent, and workable knowledge acquirement have also been considered to test their correlation among these factors. The implication of how resilient students could achieve successful academic performance may assist those disadvantaged students to enhance their learning effectiveness. Furthermore, the underachieved students' learning pattern may reflect the issues should be meliorated in campus.

## LITERATURE REVIEW

The success-oriented students believed they can face the challenge of difficult. Even if they are failed, they will think they are not working hard, not their ability. While the failure-avoiding students will think their ability is not good. When they are successes, they will think they are lucky or the work is easy.

### Resilient and underachievement students

Previous studies found the reason why resilient students success is their personality traits, and their family support make them have positive thinking, as well as teachers play the role of providing chances of success by the extra-curricular activities or voluntary work (McMillan, Reed, and Bishop, 1992). A resilient individual has some intrinsic personality or attitudes, that make him easygoing and positive thinking than others. These intrinsic personality and attitudes are divided into two levels of "nature" and "nurture" (Thomsen, 2002). The "nature" includes: a. Having an easy temperament or disposition, and b. Having the ability to elicit positive response from others. The "nurture" includes a. Having empathy and caring about others, b. Having excellent communication skills, c. Having a sense of humor about one's self, d. Having a sense of one's identity, e. Having the ability to act independently, f. Having the ability to separate from unhealthy situations or people, and g. Having a sense of purpose or future.

Usually, underachieved students have been discussed widely not only focusing on a special gift group. Within the mass higher education, Bok's argument has become an important voice for uncovering the underachieved students' learning issues. Numerous studies have conducted the issue in higher education settings, for example, McNabb (2015) described a small-scale ethnographic study of academic underachieved in freshmen and sophomores in college. She used a combination of participant observation, examination of class documents, and personal interviews with students and instructors to gather data that offers "intimate perspectives about why college beginners academically underachieve." Zhang and Wang (2015) found that the current domestic theoretic research on undergraduate underachievement meant to find the reasons and put forward countermeasures through "speculations", but the investigation, experimental research and intervention process have been relatively insufficient. A great divide regarding underperformance in college falls for many educational researchers is whether underachievement comes from a student ill-prepared for the demands of the rigor of college curriculums (Haycock and Huang, 2001) or students who do not perform to expected standards because of external issues like self-esteem, perfectionism/procrastination, and an ability or willingness to take risks (Fehrenbach, 1993; McNabb, 2015). Among the discussions, these concerns provide a lot of possibilities for further studies.

### Learning intention

Over the past several years, we have experienced a growing trend for increased student demand for participation in higher education. Previous reports demonstrated the need for higher education and contrasted this with an argument surrounding the finite capacity to support such growth (OECD, 2013). There is lack of convinced evidences to address the intention of learning among these participants in the expanded higher education. As Gašević, Dawson and Siemens' argument (2015), it is often perceived that education is rife with data, very little is related to capturing the conditions for learning (internal and external). The measurement of internal conditions such as achievement goal orientation, cognitive load, or epistemic beliefs are yet to be fully understood in relation with their collection and measurement with/from trace data. Learning intention belongs to internal conditions for learning.

In this study, learning intention refers to the activities that the students plan to do before they graduate. The definition includes participate in an internship, field experience etc.; hold a formal leadership role in a student organization or group; participate in a learning community; participate in a study abroad program; work with a faculty member on a research project; complete a culminating senior experience.

### Time management

For college students, they need to manage time effectively if they are going to be successful. Typically, time management refers to the way that you organize and plan how long you spend on specific activities. Proper time management is the key to success in college. While the amount of time students spend on their studies in and out of class has fallen by about 15 hours a week since the early 1960s, controlling for socio-demographic and institutional affiliations, and the average now registers at a little over 25 hours per week (Babcock and Marks 2010). Only one-third of University of California students say they complete as much as 80% of the required reading for their courses (Brint and Cantwell, 2008; Brint, Douglass, Thomson, and Chatman, 2010). By contrast, the average college student spends 40 or more hours per week on social and recreational activities (Babcock and Marks 2010; Brint and Cantwell, 2011). Is this example similar or different in various higher

education settings? Furthermore, Nadinloyi, Hajloo, Garamaleki, and Sadeghi (2013) indicated training group can work well in their time management in the experimental research. Their study revealed significant differences in two groups (experimental and control group) and time management was increased in the experimental group after ten section's training. The results indicate that time management skill in the experimental group was better than that of the control group. Claessens, Eerde, Rutte, and Roe (2007) found that time management behaviors relate positively to perceive control of time, job satisfaction, health, and negatively to stress. The relationship with work and academic performance is not clear. Time management training seems to enhance time management skills, but this does not automatically transfer to better performance. The purpose of this study aims to assess the effectiveness of time spend on campus related activities and its impact on learning effect.

**Workable knowledge and skills**

Workable knowledge and skills referred to how much the students' experiences at the institution that will contribute to their knowledge, skills, and personal development. Typically, these experiences come from formal and informal learning in campus which will contribute the students' capability and enhance their employability. For example, Eraut (2000) outlines how formal learning has the following characteristics:

- A prescribed learning framework;
- An organized learning event or package;
- The presence of a designated teacher or trainer;
- The award of a qualification or credit; and
- The external specification of outcomes. (p. 114)

Learning is predominantly determined by the complex social practices in any learning setting, which integrate what are sometimes termed formal and informal components in the higher education settings. Furthermore, Brint, Cantwell and Saxena (2012) suggested that analytical and critical thinking skills are developed when students attempt to solve complex, incompletely structured problems. They needed through close inspection and comparison of texts, methods, and research results. These skills can be developed by instructors who require students to break down complex arguments into their analytical components. They can be developed also by requiring students to apply principles, concepts, or ideas to new problems or phenomena.

Students' workable knowledge and skills preparation in campus might integrate formal and informal learning. As NSSE's (2016) definition, workable knowledge and skills referred to writing clearly and effectively; speaking clearly and effectively; thinking critically and analytically; analyzing numerical and statistical information; acquiring job- or work-related knowledge and skills; working effectively with others; developing or clarifying a personal code of values and ethics; understanding people of other backgrounds; solving complex real-world problems; being an informed and active citizen. In this study, the workable knowledge and skills will be determined by students' perception and verified by other influencing factors. Actually, the psychological assessment is not enough to catch the whole picture of these knowledge and skills acquirement. Reviewing related literatures, the study has considered the limitation of the study.

## METHOD

This survey was conducted in Taiwan by using the adapted 2014 NSSE's questionnaire. The survey had a combination of Likert-type responses from 1 (strongly disagree) to 4 (strongly agree) or 1 (never) to 4 (always). We selected 39 resilient students and 40 underachieved students from the 1,191 college students' data of the engagement survey in 2015.

**Research instrument**

The definitions of main variables in this survey questionnaire are listed as follows:

a. "Learning intention" refers to the activities that the students plan to do before they graduate. This domain includes I1. Participate in an internship, co-op, field experience, student teaching, or clinical placement; I2. Hold a formal leadership role in a student organization or group; I3. Participate in a learning community or some other formal program where groups of students take two or more classes together; I4. Participate in a study abroad program; I5. Work with a faculty member on a research project; I6. Complete a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.).

b. "Time management", defined as 8 different academic activities related to time spent. Typically, participants' time management was asked to answer the question: How many hours do you spend in a typical 7-day week doing the following? For example, How many hours in a day do you spend on leisure or friendship?

c. "Workable knowledge and skills" defined as how much has your experience at this institution contributed to your knowledge, skills, and personal development. This domain contains the following items: W1. Writing clearly and effectively; W2. Speaking clearly and effectively; W3. Thinking critically and analytically;

W4. Analyzing numerical and statistical information; W5. Acquiring job- or work-related knowledge and skills; W6. Working effectively with others; W7. Developing or clarifying a personal code of values and ethics; W8. Understanding people of other backgrounds; W9. Solving complex real-world problems; W10. Being an informed and active citizen.

d. "Students' learning experiences", defined as students' overall satisfaction with their educational experiences, the questionnaire presented as: "Please rate your overall satisfaction with your educational experience and school activities in the previous semester." This is 1-5 scale represented from strong disagree to strong agree.

The questionnaire took approximately 15 minutes to complete. A reliability analysis was conducted to assess the internal consistency of this designed questionnaire. The result revealed that the Cronbach's alpha is 0.90, which is in the satisfy level.

**Sampling**

Six universities were selected to participate in the survey, which included three public and three private universities. We invited 1,800 students base on their departments of these universities to fill out the questionnaires. This questionnaire survey assured the respondents' confidentiality. A total of 1,191 students responded to the survey from March to May of 2015. The valid response rate was 66.1%.

Resilient students were determined by using their social economic status (SES) and academic achievement. We divided the students into five groups from lowest to highest SES. Academic achievement typically determined by the students' semester final grades. Typically, the resilient students should fit the criteria in the lowest SES and top academic achievement group. The lowest SES group means the student's family income in none or in less than ten thousand per year. Top academic achievement represents the student's academic achievement in previous semester is in A level. Following the criteria, we selected 39 resilient students from the 1,191 college students' data of the engagement survey in 2015. Among 39 resilient students, 68.2% is male and the other 31.8% is female. While the underachieved students belong to high SES and low academic achievement (achievement is C or below C level) group, there 40 students fit the criteria, 57.9% is male, 42.1% is female.

**Statistical procedures**

The data were analyzed with SPSS. This study employed t-test to determine the differences from time spent, learning intention, and workable knowledge and skills between groups. Correlation analysis provided relationship information among these activities. Pearson correlation was employed with two tails test to judge the significance by using an alpha equals to .05 as the statistical significant level.

**RESULTS**

This study focused on the group differences in learning intention, time spent, workable knowledge and skills, and learning experiences. There are 39 students belong to resilient group, the other 40 students belong to underachieved group. Among these 79 students, 50.6% is male and the other 49.4% is female. While the gender distributions in both groups are different in Pearson $\chi^2$ ($\chi^2_{(1, 95)}$=4.318, $p$=0.038). The details of group differences are presented as follows.

**Learning intention**

Learning intention among these students has been determined by asked the question: Which of the following have you done or do you plan to do before you graduate? The response have been judged by way of 1-4 scale from "have not decided" to "done or in progress". Among these students, their learning intentions only in I1 "Participate in an internship, co-op, field experience, student teaching, or clinical placement" has shown significant difference in both groups ($t$=-2.129, $p$=.036). The resilient students have shown stronger intention in this activity. The other comparison of the intentions are listed in [Table 1].

**Time spent**

The t-test to determine the differences of time spent between the resilient and underachieved groups shows there is a statistical significant difference in TS3 (working for pay on campus) and TS7 (Providing care for dependents), see [Table 2]. This study found that resilient students spent more time on working for pay on campus for economic reason and provided more care for their dependents.

**Table 1**: Differences of learning intention between resilient and underachieved groups

| | groups | N | Mean | t-value | df | p-value |
|---|---|---|---|---|---|---|
| I1 | Underachieved students | 40 | 2.000 | -2.129* | 77 | .036 |
| | Resilient students | 39 | 2.450 | | | |
| I2 | Underachieved students | 40 | 2.000 | -.373 | 77 | .710 |
| | Resilient students | 39 | 2.077 | | | |
| I3 | Underachieved students | 40 | 2.150 | .966 | 77 | .337 |
| | Resilient students | 39 | 1.923 | | | |
| I4 | Underachieved students | 40 | 2.500 | .180 | 77 | .858 |
| | Resilient students | 39 | 2.462 | | | |
| I5 | Underachieved students | 40 | 2.400 | .176 | 77 | .861 |
| | Resilient students | 39 | 2.359 | | | |
| I6 | Underachieved students | 40 | 2.625 | .391 | 77 | .697 |
| | Resilient students | 39 | 2.513 | | | |

*$p$<.05

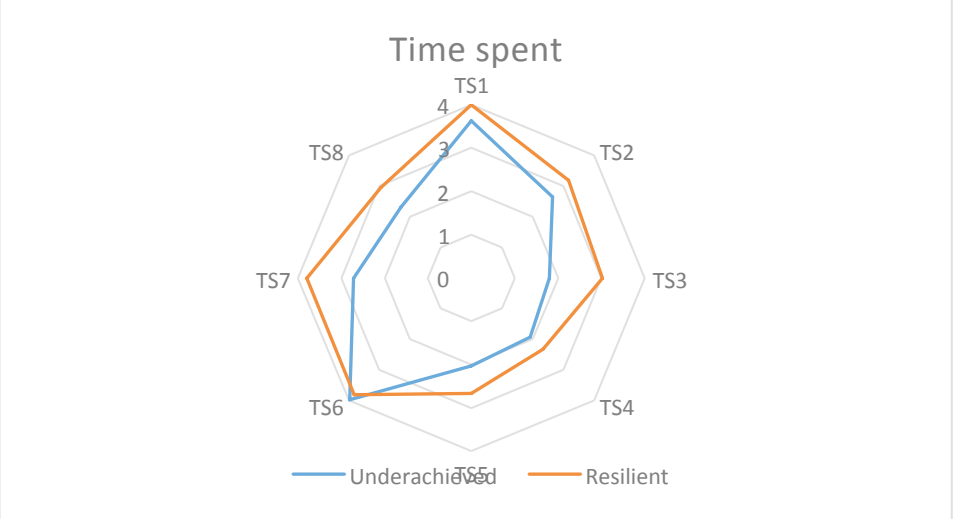
**Table 2**: Time spent differences between resilient and underachieved groups

| Time spent | group | N | Mean | t-value | df | p-value |
|---|---|---|---|---|---|---|
| TS1 | Underachieved | 40 | 3.625 | -.776 | 77 | .440 |
| | Resilient | 39 | 4.000 | | | |
| TS2 | Underachieved | 40 | 2.650 | -1.207 | 77 | .231 |
| | Resilient | 39 | 3.179 | | | |
| TS3 | Underachieved | 40 | 1.800 | -2.726** | 77 | .008 |
| | Resilient | 39 | 3.026 | | | |
| TS4 | Underachieved | 40 | 1.925 | -.989 | 77 | .326 |
| | Resilient | 39 | 2.333 | | | |
| TS5 | Underachieved | 40 | 2.025 | -1.524 | 77 | .132 |
| | Resilient | 39 | 2.667 | | | |
| TS6 | Underachieved | 40 | 3.975 | .314 | 77 | .755 |
| | Resilient | 39 | 3.821 | | | |
| TS7 | Underachieved | 40 | 2.725 | -2.440* | 77 | .017 |
| | Resilient | 39 | 3.795 | | | |
| TS8 | Underachieved | 40 | 2.300 | -1.779 | 77 | .079 |
| | Resilient | 39 | 2.949 | | | |

*$p$<.05, **$p$<.01

Compared their time allocation, the radar diagram shows the different time spent between the two groups. Typically, resilient students spent more time on campus activities or off campus related activities. Most of students spent more time on TS1 (Preparing for class) and TS6 (Relaxing and socializing), See [Figure 1].

**Figure 1**: Time spent differences between resilient and underachieved students compared by Radar diagram.



**Obtain workable knowledge and skills**

How much have the students' experiences at the institutions contributed to their knowledge, skills, and personal development? The results reveal the resilient group's performance better than that of underachieved group in writing clearly and effectively (W1), speaking clearly and effectively (W2), thinking critically and analytically (W3), understanding people of other backgrounds (W8), and being an informed and active citizen (W10). Justifying these workable knowledge and skills, it is reasonable that writing, speaking, and thinking are the critical factors for academic performance. This study found that the resilient group took advantage in these knowledge and skills. Furthermore, understanding people of other backgrounds (W8) and being an informed and active citizen (W10) belong to interpersonal skill and personal development, the resilient group also demonstrates better than that of the underachieved group. The details of t-value and p-value have presented in [Table 3].

**Table 3**: Compare the obtained knowledge and skills between resilient and underachieved groups

| Knowledge and skills | group | N | Mean | t-value | df | p-value |
|---|---|---|---|---|---|---|
| W1 | Underachieved | 40 | 2.150 | -3.078** | 77 | .003 |
| | Resilient | 39 | 2.744 | | | |
| W2 | Underachieved | 40 | 2.025 | -4.065*** | 77 | .000 |
| | Resilient | 39 | 2.846 | | | |
| W3 | Underachieved | 40 | 2.600 | -2.092* | 77 | .040 |
| | Resilient | 39 | 3.000 | | | |
| W4 | Underachieved | 40 | 2.875 | .016 | 77 | .987 |
| | Resilient | 39 | 2.872 | | | |
| W5 | Underachieved | 40 | 2.850 | -.574 | 77 | .568 |
| | Resilient | 39 | 2.949 | | | |
| W6 | Underachieved | 40 | 2.650 | -1.281 | 77 | .204 |
| | Resilient | 39 | 2.897 | | | |
| W7 | Underachieved | 40 | 2.525 | -1.630 | 77 | .107 |
| | Resilient | 39 | 2.846 | | | |
| W8 | Underachieved | 40 | 1.950 | -3.505** | 77 | .001 |
| | Resilient | 39 | 2.692 | | | |
| W9 | Underachieved | 40 | 2.925 | -.568 | 77 | .572 |
| | Resilient | 39 | 3.026 | | | |
| W10 | Underachieved | 40 | 2.275 | -2.097* | 77 | .039 |
| | Resilient | 39 | 2.718 | | | |

*p<.05, **p<.01, ***p<.001

**Learning experiences and related linkage**

Students' learning experiences refer to overall satisfaction with their educational experiences. These experiences were reflected on the scale from 1 strong disagree to 5 strong agree. The result revels that mean of learning experiences in resilient group is 4.359 (n=39), while that is only 3.6 (n=40) in underachieved group (t=5.185, p<.001). The resilient students have perceived better leaning experiences in campus than do the underachieved group.

This study conducted correlation analysis to determine what kind of linkage may exist among these activities in campus. Learning intention and time spent were selected in the correlation model. This study redefined time spent, incorporating study related time spent, work related time spent, and care related time spent. There is no significant relationship between learning intention and time spent displayed in the correlation model. Similarity, there is no significant relationship between time spent and obtain workable knowledge and skills among these students.

## CONCLUSIONS

This study has demonstrated learning intention and related activities among resilient and underachieved groups. Basically, both groups have shown their differences in learning intention, time spent, and workable knowledge and skills acquirement. More specifically, the results reveal the resilient students have stronger learning intention on participate in an internship, co-op, field experience, student teaching, or clinical placement than do the underachieved students. Resident students spent more time on working for pay on campus and providing care for dependents. The learning effects have shown differences, typically the resilient students have done better than that of underachieved students in writing clearly and effectively, speaking clearly and effectively,

thinking critically and analytically, understanding people of other backgrounds, being an informed and active citizen. This study found there is no relationship between intent to learn and time spent in these special groups. Furthermore, there is no correlation between time spent and workable knowledge acquirement among these students.

The findings may enhance the current knowledge to realize the learning activities among resilient and underachieved students in higher education setting. This study may limit its samples in an expanded higher education system. For further studies, researchers may consider widely survey or select higher education institutions in different contexts which might obtain more meaningful information in this field.

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# THE 21ST CENTURY KNOWLEDGE AND LEARNING HERITAGE EXPERIENCES AND THE "DIGITAL NATIVE" GENERATION

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**ABSTRACT**
Children heritage education, knowledge, and awareness, through the conceptual approach of "Edutainment" and "Serious Games", should be considered as one of the most critical issues in our digital age. This paper describes the state of the art, the kind of existing initiatives, and comments about the main results achieved by the digital heritage multimedia. It aims at improving the awareness of institutions, curators, educators and producers about the potentialities and importance role of such a learning experience technology, in order to let children have a more active role in the enjoyment, appreciation of cultural heritage, and prepare them for future actions for heritage protection and preservation. The paper will discuss: Why should we develop methods to promote appreciation, knowledge, and care about cultural heritage issues among children. How we can better utilize the powerful and effective learning tools of digital heritage multimedia and serious games to inspire young children to learn more about cultural heritage, antiquities and conservation issues. Taking into consideration that there is a growing body of research on the effectiveness of online serious games, the paper attempts to illustrate what and how we should consider and seriously deal to reach the "Digital Native" generation through the application of technology to heritage to become a feasible recreation edutainment tool, a common project lexicon, support and promote access to and reuse of digital cultural heritage resources.

**INTRODUCTION**
As part of human history, all tangible and intangible heritage will be shared by all people. ICOMOS (International Council for Monuments and Sites) Charter in Article 3 says, "The protection of heritage should be considered as a moral obligation upon all human beings; it is also a collective public responsibility". In Article 9 states, that the archaeological heritage is the common heritage of all humanity and international cooperation is essential in developing and maintaining standards in its management. It also states that "There is an urgent need to create international mechanisms for the exchange of information and experience among professionals dealing with archaeological heritage management". The above mentioned may hardly be obtained if we take into consideration all the complexity of works regarded as protection, preservation, and conservation. According to Henning (2012, p.593) "Local commitment and participation should be actively sought and encouraged as a means of promoting the maintenance of the archaeological heritage". But what about children, the future heritage professionals, in all these scenarios?

Children become what they live. Heritage speaks experiences common to children everywhere. It has long been recognized that teaching children about cultural heritage and archaeology is essential to preserving history (Smardz and Smith, 2000). Actually, heritage themes could be also used even efficiently to teach children some principles of other social and physical sciences. For a child, digital media belong to his common life as part of socialization processes of knowledge. Digital technology is revolutionizing the ways in which we are communicating with each other and perceiving the environment around us. Currently, there is a great variety of ways in exhibiting and disseminating cultural heritage assets all around the word. This fact is generating new theories of learning like "Conectivism" or "Invisible" learning (Benito, 2012, p.651).

Unfortunately, heritage education and awareness remains largely undervalued, with most efforts relying on in-person experiences informal cultural institutions. Meanwhile, there have been many preliminary applications of heritage edutainment multimedia technology, it was not adequate to make the required and hoped change. However, with the rich resources of 3D imaging and interactive programming already at our disposal, we are well equipped to do so, given a coordinated effort (Haddad, 2014, 2016) .

This paper describes the state of the art, the kind of existing initiatives, and comments on the main results achieved by TV programs, online e-games and Muppets animation. The paper attempts to clarify, explore and investigate why and how heritage edutainment Multimedia can make a significant contribution to the "Digital

Native" children understanding, curiosity, appreciation and care for cultural heritage, that integrate enjoyment, fun, play, practical and discovery in to children's daily lives. It also attempts to propose some ideas, if we make the appropriate plans, which is as entertaining as it is intellectually challenging for young children of the 21st century. Based only on a collaboration of a multidisciplinary and creative teams, we can be ready to encourage children, as also parents' even educators to look, explore, mind and care for the wonders of our cultural heritage. The methodological approach of this research is based on the following questions:

- Why we should develop methods to promote appreciation, knowledge, and care about cultural heritage issues among children.
- How can we develop methods to promote appreciation, awareness, and care of cultural heritage issues among children.
- How Children's edutainment conceptual approach can better utilize the powerful of the digital multimedia of the serious games to inspire young children's to learn more about cultural heritage, antiquities and conservation issues.
- What and how we should consider and seriously deal to reach the "Digital Native" generation through the application of technology to heritage to become a viable recreation edutainment tool, a common project lexicon, and support and promote access to and reuse of digital cultural heritage resources.

## HERITAGE, MULTIMEDIA AND CHILDREN EDUCATION

We live in an information digital knowledge society. Heritage is not only a fascinating subject to learn, but also a vivid and real life experience, and without speaking about cultural heritage and "Edutainment Multimedia" and " Serious Games", we cannot hope to provide the kind of education and schooling needed to carry us safely into the 21st century (Haddad, 2012, 2016). According to Susi et al. (2007, p.2) edutainment refers to "any kind of education that also entertains even though it is usually associated with video games with an educational aim". According to Anderson E. et al (2009, p.1) "the term serious games describes a relatively new concept, computer games that are not limited to the aim of providing entertainment, that allows for a collaborative use of 3D spaces, that are used for learning and educational purposes in a number of application domains".

Our nonrenewable cultural heritage resources are suffering and will continue suffering if we do not put forward the required and appropriate protections measures. However, the advances in multimedia and communications technologies continue to make the world a smaller place. Digital technology has changed our approaches to cultural heritage appreciation and promises to continue opening new horizons and opportunities. In addition, the rapid advances being made in delivering 3D interactivity e-games, over the internet, using Virtual Reality Modelling Language (VRML) is also making fast more feasible interaction with virtual historic monuments. Furthermore, Quick Time Virtual Reality (QTVR) software offers considerable promise as a visualization production system, as it is possible to incorporate interactivity, changes between scenes and sounds as a multimedia product (Haddad, 2013); this could play a major role to children, understanding, appreciation, and interpretation of cultural heritage.

In order to reach the "Digital Native" children, though, we must utilize tools already popular with them. From children's own perspective, during early years, play and learning are not always separate in practices (Einarsdottir, et al. 2009; Samuelsson and Carlsson, 2008). Children "Game experiences" are the most important part of their daily life, whether it be playing a casual game on their mobile phone and computer or playing a game with themselves. In fact, 2D and 3D animation, e-games, website games, outreach material and Muppet held children's attention. "Digital Native" children, actually, spend a considerable portion of their time playing e-games. E-games is one of the major forms of recreation because it is available in their mobiles, and can be done in indoor and outdoor spaces as well within the home environs. Game-based learning as new research in pedagogy is being rapidly developed. Shank and Kosma (2002) in their vision for twenty-first century education predict a model where schools, homes, the workplace, libraries, museums, and social services integrate education into the fabric of the community.

Due to digital technology, however, there is also an increasing gap between the traditional heritage experts and technical people and users involved in heritage digital multimedia. Meanwhile, cultural heritage research is increasingly aided by, and dependent on, digital multimedia, however, 3D heritage tools are still not popular among users in cultural heritage (Haddad, 2011). New technologies are sometimes difficult to rapidly assimilate by the multidisciplinary community involved in cultural heritage, while the practical aspects which most engage the user are both the interface and ease of access to data (Shank and Kozma, 2002).

## WHY WE SHOULD DEVELOP METHODS TO PROMOTE APPRECIATION, KNOWLEDGE, AND CARE ABOUT CULTURAL HERITAGE ISSUES AMONG CHILDREN

Developmental accomplishments and cultural heritage manifestation are bound together, and, as a consequence, specific behaviours come to be synonymous with development itself. At ages 6–10 years, children shift from relying on visible racial cues and begin to understand cultural aspects of ethnicity such as language, food, ancestry and heritage (Ramsey, 2008). In the recent years, however, there has been a growing emphasis on the urgent need in involving children in heritage issues. In many EU countries, this particular effort of developing and bringing together culture and arts, education has been institutionalized by the creation of organizations and networks to promote arts and cultural education (Arts and Cultural Education, 2009) .Yet, in many European heritages, childhood education communities' cultural-historical theory has become increasingly influential for informing practice. Now, the notion of young children stepping out of the classroom to experience history, art and culture heritage as a living and breathing phenomena in their local environment has become alien to school life. Explorations of archaeology also have a great potential for encouraging children's investigative skills and inspiring in them a curiosity and appreciation for our nonrenewable cultural heritage (Haddad, 2014).

By promoting enjoyment and interest in participating in cultural heritage practices, "Digital Native" children cultural heritage appreciation can be build up. Recent research and studies have highlighted the pressure for curriculum development in the arts in the 21st century, to include the study of multimedia in order to enable pupils to use *Information and communication technologies* (ICT) as part of the creative process ( Haddad, 2012). This is s basic issue to create a generation that respect and be responsible for preserving their cultural heritage. However, there is currently a very limited number of e-games created for young children that target specific heritage developmental and edutainment needs in a quality manner. Meanwhile, some e-games use impressive heritage buildings, they do not directly discuss history or how to promote awareness in order to preserve and conserve heritage.

Most of the commercial games do not talk about the sites themselves but used them as settings to show heroes and bad people fighting and struggling each other (usually in a bloody way). Internet games, thus, greater aim are based on vandalism, war destruction and disasters (Haddad, 2016). Though, while these games teach children how to make tactics fight and win, they do not directly address issues of understanding and appreciating some aspects of cultural heritage. On the other hand, for digital native children, the typical traditional approach of introducing the local arts and crafts in their environment (e.g., pottery, mosaic, glass-work etc.), is not at all sufficient to understand and share with them the dangers facing our cultural heritage. As Plowman and Stephen (2003, p.160) note new technologies may lead to new concepts of play and learning especially as new ways are found of conceptualizing ICT so that the term does not simply denote standard computers. They actually need to teaches lessons about cultural heritage, archaeology, and conservation more directly. By assessing the multimedia cultural heritage themes and tools, that addressing heritage, archaeology, and preservation, we can figure out from a quick literature review of heritage curricula, television shows, and games internationally, that these materials exist mostly in schools and museums.

## HOW CHILDREN'S HERITAGE EDUTAINMENT CONCEPTUAL APPROACH CAN BETTER UTILIZE THE POWERFUL OF THE DIGITAL MULTIMEDIA OF SERIOUS GAMES

Heeter (1999) already had emphasized that we have only begun to realize the potential connectivity possible in a networked world. To inspire, however, young children to learn more about cultural heritage, antiquities, and conservation issues, taking into consideration that there is a growing body of research on the effectiveness of online "serious games", there are some multimedia tools encouraging students directly to become archaeologists, but without emphasis on how to learn issues about preserving cultural heritage. For instance, the US National Parks Service (NPS) has a website for children about archaeology, how to become an archaeologist, and how to start your own dig ( Haddad, 2014)].

The Archaeological Institute of America publishes a magazine for kids, called *Dig*, to promote youth interest in the field. There are, however, many such other interactive archaeology games online for kid, such as the British Broadcasting Corporation's (BBC) "Dig Deeper," which asks about ancient cultural heritage history (Haddad, et al, 2012). PBS also has a game called, "Be an Archaeologist," where children have to fit together the pieces of a pot from a dig site. In the famous *Sesame Street*, which has aired for over 40 years and has been dedicated to addressing children's critical development needs, and loved by children, respected by educators and trusted by parents, there is some cases precedent for archaeology and cultural heritage on the show. Sesame Street has also included brief discussions of archaeology, and many episodes incorporating holidays from various cultures. For example, in one episode explains also the profession of archaeology and several feature *Indiana Jones* parodies, as also "The Golden Cabbage of Snuffertiti" and "Ernie and Bert explore and Egyptian Pyramid". In another episode, "Big Bird in Japan", he visits Japan, showing children the famous temples of Kyoto ( Haddad, 2012, 2014).

Although these projects teach children to understand and appreciate some aspects of cultural heritage and historical sites, they do not directly address issues of consciousness preservation and conservation. Sesame Street mostly uses heritage sites also for settings to teach lessons or tell stories, without addressing the history or the importance role of an archaeological excavation. Segments showing children or Muppets learning only about the profession of archaeology in not enough, while it is of importance to learn some basic information about the challenges facing our nonrenewable cultural heritage preservation and conservation. In addition, there are no attention of why and how children could be involved, by presenting some tips, that they can practice when visiting a heritage site. In fact Muppet characters that children already know, learn from, entertain and educate them, can offer countless possibilities as a platform for young children to explore and care about heritage and archaeological themes. **Figure 1c** shows an example of a virtual Roman audience reacting to a theatre play on stage after inserting some Sesame Street Muppets.

However, in order to interest children in these issues, it is essential to use the potentiality of digital multimedia tools. The creation, however, of cultural heritage applications for cultural heritage outreach material, digital edutainment e-games, even VR systems is a learned process with its share of challenges. Children TV programs should design a heritage-themed websites and games dealing with more about efficient use and management of cultural heritage. Actually, heritage themes and objects should to be used more efficient and creative ways to teach principles of other social and physical sciences in formal education. Therefore, there is a need to re-examine:

- How to create a balance between the content of heritage and the international cultural public in the knowledge industry ? This could be started by addressing critical topics of cultural heritage resources, and to include more themes with the Muppets not only concerning archaeology, but also cultural heritage conservation and preservation issues and to explain why it is important.
- Why undertake restoration for heritage site? How to achieve restoration? How to suggest new ways to promote cultural heritage appreciation among young children in the future using multimedia resources, based on the different forms of "Digital Participation"; augmented reality, or App for Smartphone and tablets, social sharing to be used. Nowadays the digital resources are being used for open-air heritage sites or art museums (Benito, 2012, p. 651). The generation and reconstruction of historical and archaeological experiences, using the techniques of computer animation, can also raise public awareness, while it is not always so easy to visit the historic sites. For example, Sesame Street outreach material by their famous Muppets ( see **Figure 1c)**, with some modifications could be the foundation for many e-games allowing children to experience what is heritage, Archaeology, and conservation for?
- What are the problems and solutions? What technique? What material? In what state? what for? Though, we need to seek for new and more attractive content to teach the "Digital Native" children more about cultural heritage, archaeology and conservation issues through the digital cultural industry.

A general review of the range of projects in the field of ancient cultural heritage and archaeology described as virtual heritage, show numerous examples of virtual environments build as reconstructions of historic sites but many sterile and devoid of population. Up to the present, there have been few examples in the field of fully interactive, real-time models that have been published to the Internet ( Haddad, 2014). However, Virtual heritage and archaeology, recently, start to play more significant role than before, in exploring issues involved in creating immersive cultural heritage projects. Thus, enhancing our perspective and understanding of the environments in which our ancestors lived and worked. A well designed, age–appropriate, and culturally sensitive educational and e-games activities during the early childhood years must be provided to facilitate positive interaction with the greater environment, and foster learning of an array of social, emotional and basic cognitive skills. VR hardware and software can play a major role in the creation of a number of educational and cultural heritage programs targeted at the widest possible audience on many levels (Gaitatzes et al, 2000). By mobilizing multimedia as a tool to expose children to the values and achievements of cultural heritage, appropriate e-games and activities, can help children gain positive social relation skills requisite to appreciating the diverse world cultures in which they live.

## DISCUSSION AND SUGGESTIONS

Heritage knowledge is a unique key to understanding the world different cultures and human creative themes. Digital cultural heritage participation enable children communicating and interpreting heritage in creative ways. The question is: how can we give children the knowledge and skills to make informed decisions about their cultural heritage? Nobody can imagine that we invest 3 billion hours weekly playing online games (http://www.bunnyfoot.com/blog/2015/01/the-growing-importance-of-serious-games/). This also means that we invest daily about 0.43 billion hours, from which children actually spend a considerable portion of their time

playing e-games. Gamification and learning design, represent a new, complex area of design development for the game world. The pedagogical approach of serious games is a new tool for presenting heritage multimedia information. A Google-search for edutainment in compression with serious games illustrate clearly the worldly wise position of the serious games. **Table (1)** shows that there is an extreme growing body of research on the effectiveness of online serious games as a creative learning tools and the subject of serious games is rapidly spreading. Van Eck (2006) and Susi et al. (2007, p. 2) considered that the edutainment software was a failure "since it resulted in what has been described as boring games and drill-and-kill learning".

| Date | Term | Renders about |
|---|---|---|
| 2016-4-2 | edutainment | 4.5million hits |
| 2016-7-10 | edutainment | 5.5 million hits |
| 2016-4-2 | edutainment multimedia | 357 000 hits |
| 2016-7-10 | edutainment multimedia | 345 000 hits |
| 2016-4-2 | serious games | 15 million hits |
| 2016-7-10 | serious games | 35 million hits |
| 2007-01-03 | serious games | 1,1 million hits (Susi, 2007, 2). |

**Table 1**: A Google-search on edutainment in compression with serious games, based on date and Google renders.

By mobilizing multimedia as a tool to expose the "Digital Native" children to the values and achievements of cultural heritage, appropriate serious games, can make possible children gain positive social relation skills requisite to appreciating the diverse world cultures in which they live. In fact, we are only at the beginning of the rapid evolution of serious heritage games technology. A growing number of projects are currently based on Augmented reality (AR) integrated platforms, exploring a variety of applications in different domains of cultural heritage. However, meanwhile many serious games make using of impressive heritage buildings and monuments, there is still gaps on research on how novel ubiquitous computing can be developed and deployed to heritage e-games, and augment the museum educational experience for children. In addition, they do not consider heritage issues such as promotion, awareness, preservation and conservation. In fact, Serious games are attracting growing interest even from educators; they allow learners to experience situations that are impossible in the real world for reasons of cost, time and safety, and involve users who are not keen on cultural activities while being fond of video games (Bellotti et al., 2012, p. 2). They came into wide use with the emergence of the "Serious Games Initiative" covering the same goals as edutainment, and has been described as the use of computer and video games for non-entertainment purposes, and as simulation approaches and/or technologies for primarily non-entertainment purposes (Susi et al., 2007, p.5).

The 21st century knowledge and learning experiences need to reflect the lives of 21st century heritage workers. For that, an appropriate heritage serious games can play a considerable role in engaging the "Digital Native" children in observing the wonders of our cultural heritage world, promote a sense of appreciation and develop national identity, a sense of national and personal pride, even acceptance of other different peoples and cultures. On the other hand, despite today of the plethora of the digital tools, instruments and applications that are available in the cultural heritage domain, a little attention is still paid by Governments, Ministries towards educational strategies and policies dedicated to children, especially in the developing countries containing plethora heritage sites and monuments. Heritage multimedia and serious games, if we make the appropriate plans, can encourage children, parents, even educators to look for, explore and care for the wonders of our cultural heritage. Institutions of informal education, such as museums, research and cultural centres, are now in a better position to make use of such advanced systems and investigate their educational potential while effectively shaping how they deliver public entertainment and education.

Therefore, there is a need to suggest new strategic ways to promote cultural heritage appreciation, and to seek for new and more creative and attractive content to teach children more about cultural heritage. Actually, there is a need to plan and develop a strategy based on a creative pedagogical approach for the informal cultural heritage edutainment programs for students outside school, with alternative methodologies in edutainment multimedia. It should be emphasized that in this strategy the edutainment heritage games scenario/ storyline do not really have to be directly and strongly concerned with the heritage subject matter that the game is supposed to express and state, but it must deal and respect the 3C (Content, Concept and Creativity) (Haddad, 2016). However, humanities aspects must have equal weight with the technical aspects in the subjects represented through all stages of the game blot and in the game design process. On the other hand, the thousands of 3D model documents of 3D models like of the 3D laser scanning and photogrammetry **( Figure 1a, b)** should be used not

only as tools for preservation and conservation, but also as the initial material in children heritage edutainment serious games themes and activities, as directed by a multidisciplinary team of archaeologists, historians architects, CRM specialists', professional conservationists, arts educators, artists, creative and art directors, IT experts, and local arts foundations (Haddad, 2012, 2014). Another application is to use 3D and archiving to serve tourism Virtual tours. The interactive tour, and games (Thomas et al, 2000), can be a good tool for children understanding many cultural heritage issues; meanwhile the possibility of creating an interactive tour in the website can assist the child interest to be sensitive and positive to the significance of our cultural heritage.

If we address and define a wide range of educational objectives, these serious games approach is a dynamic tool to present critical learning opportunities for young children, and can serve as a positive model of how heritage multimedia can be used to foster educational cultural heritage, archaeology and conservation aims. This also can assist in producing new ideas for heritage edutainment multimedia, with the aim of establishing the needed children and family awareness and care for our significant and unique heritage legacy.

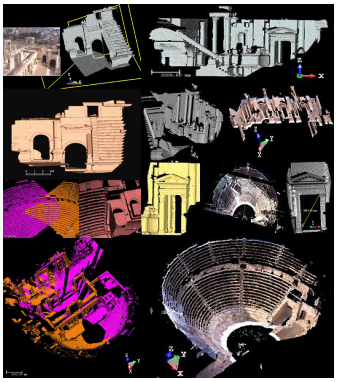
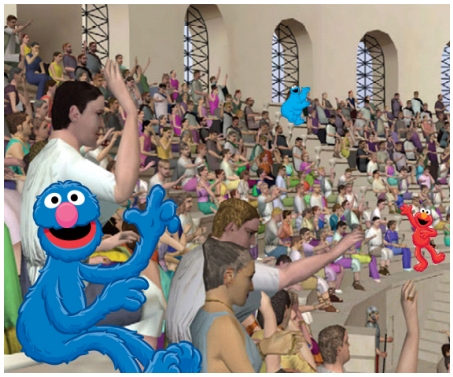
a  b   c

**Figure 1:** (a, b) Examples of images of 3D laser scanning heritage objects ( After Haddad, 2011, figs.2,3,6) , (c) Example of a shoot of a virtual Roman audience reacting to a theatre play on stage after inserting Muppets) (Haddad, 2016, fig.1a).

Dealing with heritage education requires sustained interactive access to the cultural themes and objects (Addison, 2000). However, arts and cultural heritage education is a communication process, which is based on the joyful and intense engagement with artwork or cultural artifacts, but also with cultural values and symbolic systems. Developing an interest in heritage themes requires a redefinition of the *recipient* and *mediator* guidelines, taking into consideration the radical changes opened by the serious games and edutainment multimedia (Haddad, 2014). In addition, an analysis of constructivism in Computer Science education leads to the following conclusions :- (a) *models* must be explicitly taught, (b) *models* must be taught before abstractions, and (c) the seductive reality of the computer must not be allowed to supplant construction of *models* (Ben-Ari, 2001). For the application of the serious game technology to heritage to become a viable recreation and edutainment creative tool we should answer simply the child and consider the following:

- What is the role, we desire, from the heritage multimedia for the "Digital Native" children communication of heritage knowledge and for diversity cultures? A combination of technological, economic and creative challenges, suggest that 3D models should be used in more effective and creative ways to improve interpretation in museums, and virtual museums, children TV productions, e-games, as well as in the classroom.
- How child process heritage information? Why we undertake restoration for an archaeological site? how could heritage knowledge best be imparted? What is the appropriate time for children to play within this new knowledge? This knowledge offers a base for exhibition and for education.
- With and for children we should develop these heritage awareness material; by using a spirit of inquiry, wonder, and imagination, where cultural heritage and archaeology should be used as tool to exercise skills in making children think, where the past can be related to daily life. However, user tests and a balance is needed to meet the two major technical and user/stakeholder requirements.
- Empowering the personal expression, by asking how to expose the "Digital Native" children to different styles of the various cultural heritage forms as a form of personal expression? how to encourage the child to identify, explore, discuss and appreciate different forms of heritage? How to encourage children to develop and create their own visual cultural e-games through the existing website material (e.g., drawing, painting, collage, sculpture). How to develop some concepts of personalization of content, like "I am a Heritage Artist", "I am a Heritage Scientist", and "I am a Heritage Conservator "?

- The need to define a strategy based on guidelines for the expected role of children heritage edutainment multimedia enhancement, and to design serious games programs and campaigns to help young people and children retrace their lost cultural heritage, in order to deepen their appreciation of cultural assets focusing on the playful side (Roussou & Efraimoglou, 1999).

Any strategy should be developed through a consultative process to engage all relevant stakeholders. To that end, a consultation workshop shall be done which will be the building block for the development of the implementation of this strategy in order to design a heritage multimedia model for the related institutions governments and game companies. Given also the need of defining guidelines of the role of multimedia in children cultural heritage enhancement for sustained engagement, the highly entertaining tools of serious games and virtual realities are particularly important. The strategy guidelines should consider the main following issues:

- The need to prepare a teacher-oriented authoring tool that abstracts the common traits of adventure games in order to support the development of such games (Bellotti et al, 2012, p.4) in the formal education, after reviewing and evaluation the different heritage curricula,.
- The need for assessment of heritage e-games, cultural heritage virtual reality and community cultural heritage educational and entertainment programs not only from educators but also from the point of view of the cultural heritage expert.
- The need to archive all 3D digital models documents in order to evaluate their potentiality of reusing and recycling them in different children multimedia programs to produce a new heritage edutainment serious games content.

In conclusion, reaching the 21st century "Digital Native" children requires a re-imagination of conventional educational pedagogy, accounting for their changing interactions with the world around them. In order to expand the public utility of the developed 3D digital achievements, e-games Institutions and pioneers companies must rethink of how they should address the youngest cultural citizens cultural needs. Thus, in endeavoring to secure our cultural legacy, these Institutions and companies should be involved in weaving specific projects stunningly truthful games with captivating storylines and loveable characters, creating a basket of tools, controlled by educational and heritage authorities and communities. In designing these programs, the communities involved in children's heritage edutainment multimedia must first establish pupil's educational deficits and curiosities, to be accomplished by formative and summative testing user research. A special research team shall control the current e-games curricular assets, teacher's favored pedagogy, and student's own knowledge of heritage. Simultaneously, they have to evaluate the learned specific values for any informational e-content of the most published serious games of the market. Based on the findings, the community team will be ensured that each game delivered is rich in edutainment content, but also commercially feasible for a broad international market (a feature missing amongst most "educational" games).Though, initial controlling edutainment serious games projects can led to preliminarily design the games, spanning children's different interests and levels of development. Each game can be built with designated learning outcomes in mind. Collectively they can introduce children to digestible bites of world history, anthropology, architecture, ancient technology, conservation and preservation exciting the future generations about some of the world's greatest treasures. The idea is to present content from different perspectives and according to the various pedagogical views and objectives (Bellotti et al. 2010).

## SUMMARY AND CONCLUDING REMARKS

Heritage multimedia provides benefits for heritage protection and for education. Taking into consideration that there is rapidly growing a body of research on the effectiveness of online serious games as effective learning tools, the 21st-century knowledge, and learning experiences should be reflected in the requirements of our nonrenewable heritage, such as challenges and opportunities. A sustainable alternative model, encompassing multi-dimensional socio-cultural and economic benefits for fostering school learning for heritage protection net program should be designed and developed. For that, an appropriate heritage serious games can play a considerable role in engaging the "Digital Native" children in sharing the wonders of our cultural heritage world. The conceptual approach of the serious games, with the appropriate content if controlled by the educational and heritage community, can promote a sense of appreciation and develop a national identity, a sense of national and personal pride, even acceptance of other peoples and cultures. As we have argued in this paper, the information and communication technology (ICT) offer magic networks to the heritage diversity knowledge. However, there are many challenges of scientific and pedagogical mediation regarding the conceptual approach of edutainment multimedia and serious games to make a significant contribution to children's appreciation and care about cultural heritage. The suggestions presented in this article open up further research questions and perspectives.

Nowadays, however, advances industry in computer hardware and sophisticated 3D modelling packages allow creating compelling visualizations of static objects. However, research in virtual reality (VR) and archaeology is

a relatively young field which has shown considerable growth in the recent years. The rapid development of workstations makes it feasible to animate them in real time, which is required for Virtual Reality, Interactive Television, and Video Games applications. As a result, 3D models will be used more effectively to improve interpretation in museums, virtual museums, e-games, children TV productions, as well as in the classroom. Therefore, digital heritage knowledge communication, IT, and pedagogical sciences should be given more emphasis for the content from the child community.

The challenge will be to give further emphasis on improving access, establishing meaningful narratives for collections and displays and story-led interpretation by the expected development of the virtual museums in the coming few years. Another challenge is to support the multidisciplinary awareness needed for providing a comprehensive framework for the accessibility, preservation, participatory and sustainable preservation of cultural resources and assets, based on a holistic, social understanding of the human cultural story and cultural heritage preservation challenges. The main problems are the huge development costs in relation to their limited reuse and recycle till now. However, now more than ever, we have computational and communicational tools to build an intelligent system which will be able to operate with huge heritage datasets for the communication heritage production tools to increase the access to exchange knowledge between the various cultures.

A rapidly growing number of projects are currently exploring a variety of applications in different domains of cultural heritage. For that, the thousands of 3D models documents conducted around the world should be studied and evaluated to start to be reused and recycled in edutainment multimedia to create and design 3D animation heritage serious games and activities. With and for children we should develop cultural heritage awareness serious games material. The cultural heritage expert who had prepared the content and observed the user tests, then, can suggest possible improvements on the implementation of some serious games. However, these games should be designed with the appropriate educational content from a multidisciplinary and creative teams together with the childhood and heritage specialists. In addition, the heritage serious game scenario/storyline should not really be directly concerned with the main heritage main message that the game is supposed to express and state, but it should deal and respect the 3C (Content, Concept, and Creativity). However, virtual heritage applications should give more emphasis on the theoretical content side regarding the educational goals, experience and create an engaging storyline, besides the technological aspects such as graphics, hardware or interface.

In addition, collaboration framework and collaborative approach between the different players at a policy-making level in formal and informal organizations is a must, to support and control projects promoting the "Digital Native" children cultural heritage edutainment e-games programs. As we argued in this paper, for application of ICT in a construction of children heritage edutainment knowledge, actually, there is a need to plan and develop a strategy by a special pedagogical approach for informal programs for students outside school, with emphasis on the game experience and user interaction. When preparing contents for the cultural context it should be exciting and attractive in order to create suspense and expectation. The strategy should also consider alternative methodologies to enhance the child's interaction curiosity for the future of cultural heritage challenges. In conclusion, in order to enable an intelligent processing, we need the two main components of heritage multimedia "education and entertainment"— which are almost ignored by many educators — to be re-discussed, re-assessed, developed and totally integrated together in a productive creative approach, in which a balance to the content heritage and the cultural public is a must. The link between these two communication components poles, should be based on developing a management of international thematic heritage knowledge.

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# THE ANALYSIS AS IN TERM SINGING EDUCATION OF THE STYLE OF MÜNİR NURETTİN SELÇUK IN TURKISH MUSIC

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**ABSTRACT**
The singing education in Turkish music has been made by the traditional teaching method known as a 'meshk' from the past until last century. The music education of Enderun Palace of Ottoman State was made via Mevlevi lodges and the other lodges. The demand in Meshk known traditional education has been decreased since the Turkish Republic Era together with the closure of lodges. Modern teaching methods based on the notation has been accepted. However, Turkish music performance styles learned via meshk method has begun to disappear from our cultural treasures. In the performing these styles, the contributions of institutions such as Daru'l-Elhan, Municipal Conservatory and Universtiy Choir which was founded after the Turkish Republic have relatively continued. Singer Munir Nurettin Selçuk is one of the most important performers of last century. He has grown up with traditional meshk method, led to performers with unique style in the technique of the singing and has been school in this sense. Owned by the performance styles, he has been a bridge between past and future. In Turkish music, the singing education via traditional style today is located in the working field of Turkish music conservatories. In this context, analyzing his style of Münir Nurettin Selçuk as in term singing education in this study will lead the performers who will work in this field. In our study, the informations on the life and art of Münir Nurettin Selçuk has been given and The Analysis of his performances styles has been made.

**Keywords**: Münir Nurettin Selçuk, Turkish Music, Music, Style of Singing, Music Performance

## INTRODUCTION

Definitive information on singing in the Turkish music dates back to the Ottoman period of XV. and XVI. Centuries. The places conducting music in this period were Enderûn, Mevlevî lodges, tradesmen's lodges and private meşkhânes (lodges of practice) (Tanrıkorur, 2005, p.22). These institutions played an important role in popularizing music through the task of fundamental education and performance. In the Ottoman state, Enderun was the institution providing the highest level of music education. On the other hand, numerous lodges, primarily the Mevlevi lodges, were places of education and performance for verbal music. In the Ottoman period, the lodges were not only shrines for performing religious rituals, but also places training major composers and performers (Durgutlu, 2013, p.3). With the westernization movement of the Ottoman State, initiated by Sultan Selim III. and Mahmud II., the Turkish music began to lose its popularity and later, the palace withdrew its support for this type of music. With the shutting down of Enderun, Lodges and Mehterhane, the Turkish music was practised and performed in private foundations, societies and places of music. By the mid-XIX. Century, the western music gained dominance in the Ottoman geography; at the end of this period, Tanburi Cemil Bey in instrumental music and Münir Nurettin Selçuk in verbal music, having the highest level of knowledge in both Western and Turkish music, stood out as the significant performers and composers with knowledge of the tradition in the respective period as well as modern musical trends. Based on this information, the analysis of Münir Nurettin Selçuk's pattern of performance with respect to singing training shall constitute the essence of this study; in this regard, a surface examination of Münir Nurettin Selçuk's life, art and performances serve as a guide to the artist's patterns of performance and understanding.

## THE LIFE AND ART OF MÜNİR NURETTİN SELÇUK

Born in 1900 in Istanbul, Münir Nurettin Selçuk's father was Mehmed Avni Nureddin Bey, a second class caliph in Sadarettin Amedi-i Divan-ı Hümayun chamber and his mother was Hanife Hanım. Münir Nurettin Bey was named after his uncle, the grand vizier Abdurrahman Nurettin Pasha. Münir Nurettin's brother was Colonel Necmeddin Bey and his sisters were Mediha and Besime Hanım. Münir Nurettin's middle name was Mehmed and had children named Meral, Timur and Selim, by different women (Öztuna, 1990, v.II, p.275). Drawing attention for his beautiful voice at a young age, Münir Bey sang in his father's mansion until becoming a singer and student in Darü'l-Feyz-i Music society in Ali Şamil Pasha's Mansion in Kadiköy in 1915. Starting public concerts in 1917, Münir Nurettin Selçuk enrolled in the Darü'l-Elhan Turkish music school and became a pupil of Zekaizade Ahmed Irsoy the same year. Joining the Şark Mûsikî (Eastern Music) Society chaired by Ali Rıfat Çağatay, Münir Bey performed concerts and studied music under Hoca Ziya Bey of Üsküdar. In 1923, he joined the Muzıka-yı hümayun in the rank of lieutenant; as the republic was established two months later, he joined the Riyaset-i Cumhur İncesaz Council as a civilian. In 1926, he left the council and began making records with a

  

records company named Sahibinin Sesi (Owner's Voice). Since that time, he completed 800 records. In 1927, he went to Paris for singing and piano lessons and returned in 1928. In 1930, he performed the first Turkish music concert in Europe alongside the Turkish musical instruments in the Paris Theatre in France. He never performed in clubs at any time, but performed for Egyptian movies. Between 1942 and 1947, he worked in the performance council of Istanbul Conservatory and sang classical Turkish music works for 15 records. In 1953, he became the chief of Istanbul Conservatory Performance Council upon Nevzat Atlığ's resignation. Preserving the classical style of singing has always rendered him distinguished among and superior to the other artists. Although Münir Nurettin's voice was not as bright as those of Hafız Osman and Hafız Burhan, he preserved his high level, classical style and fame from 1917s till recent years (Öztuna, 1990, v.II, p.275). Münir Nurettin Selçuk passed away in 27 April 1981 and buried in Aşiyan graveyard.

**STYLES INFLUENCING MÜNİR NURETTİN SELÇUK'S PERFORMANCE**

The concept of style in Turkish music is defined as a voice or instrument artist's unique singing, playing or performing style. The literature presents a conflict of concepts for this term. As such, the term style was perceived and considered as the performance style and singing of a specific period, certain musical forms, certain schools, time and professors. Essentially, the word style refers to a student studying and practising different styles, synthesizing them through their musical capabilities, skills and studies to create their own style of performance with no previous example or imitation. Since an early age, Münir Nurettin Selçuk listened to various styles of performance and was highly influenced by both the professors he heard and different types of music. His style was formed through time by his life of music and had a different influence on the audience. The styles influencing Münir Nurettin in Turkish music can be listed as follows: Classical style, Hafız-Gazelhan style, Radio style, Choir style, Fasıl style (Zeybek, 2013)

Classical Style: A look at Münir Bey's performance shows that his style involves a full performance of the note and aversion of adornment and variation of notes. The musicians accompanying this style have the same performance, where any execution outside the note is definitely avoided. Since Münir Bey was trained by the style of learning with practice, he performed plainly and by observing the note in the learning phase and was influenced by this style.

Hafız-Gazelhan Style: Hafız-gazelhan style in Turkish music involves glorified guttural voice and adornments as well as marks of the chanting of Koran and Religious music characterized by these three types of performance (Şen, 2001). Münir Bey particularly reached advanced levels in this style before going abroad. This style requires care to avoid over-embellishment of performance by hafız and gazelhan. This may stand distasteful in classical style. Münir bey particularly took the styles of Hafız Sami, Hafız Osman and Hafız Burhan as example and basis for such performances. Because those performers did not refrain from over-embellishment in the performance of classical music in particular. Hafız-Gazelhan style was essentially formed as a religious style, i.e. in mosque or lodge music. Initially, Münir Bey adopted this style at high level in a very good way, and it was understood that he performed the one and a half syllabic parts, reductions and inductions with embellished musical performance as required by the hafız-gazelhan style. Münir Nureddin did not only employ the hafız-gazelhan style that influenced him in religious music, but in numerous forms, primarily songs, and achieved success. The style can be felt in the gazelles that he sings between the songs. The significance of hafız-gazelhan style is felt by the showing of tone and embellishment, rather than its melodic dynamism. Münir Bey became an important representative of this style through hish governance of music and maqam, being trained through the practice learning style, his knowledge of meter and literature and consideration of meaning prosody in the performance of works.

Radio Style: Not received very positively as an expression, style refers to the nuances, adornments, breathing spots and interpretations without exaggeration and on time, in a measured and clean way in the artist's performance (Şen, 2001). Professor Alâeddin Yavaşca expressed that this style remained too loyal to traditional performance and was established as the radio style by standing out in the choirs conducted by Mesud Cemil and Ruşen Ferit Kam in Ankara Radio (Zeybek, 2013, p.22). Münir Bey contributed to the formation of this style and was influenced by it in his performances with Ankara Radio's choir.

Choir Style: Turkish music is essentially chamber music, and traditional music, thus the choir style does not conform with the structure of Turkish music. Mesud Cemil resided and lived in the west for many years and listened to choirs of Western music. Upon returning to the country, in mid-1930s, he established the first Turkish music choir and started performing. The choir style essentially comprises everyone singing and playing the same. The Turkish music tradition does not involve this; each chorist having different ornaments and stylet strengthens choral performance. Later on, Münir Bey primarily used choirs as his vocal in his performances in municipal conservatories and became successful. While having no interaction with the choir style in a traditional sense, Münir Bey allowed the style to gain numerous forms of stage discipline including dressing and stage conduct. On the other han, public performances in lodges and mosques, considered the same as choir, should not be confused with choral performance, since choir features a conductor, while public performance does not. The

  

chief invocator is tasked with managing the invocation, also the variety through adornment of performance is acceptable here as well.

Fasıl Style: Fasıl is the style of performing works in our music lined up by specific precepts and performed in mass. This style has various types, including huzur, enderun and meydan, primarily the classical. Many styles of fasıl, excluding the classical, are dominated by freedom, adornment and virtuoso. The adornment in the fasıl style should avoid over-embellishment and interrupting the essential melody. The rhythm and metronome are very important in fasıl. Therefore, the performance must be competent and expert in music, that fasıl may be enjoyable to the audience. Although Münir Bey was proficient and capable in the fasıl style, but was not deeply influenced by this style due to his style of upbringing and taste.

## TECHNIQUES OF ADORNMENT USED BY MÜNİR NURETTİN SELÇUK IN PERFORMANCES

An examination of the history of performance of Turkish music reveals that the system of education through practice was adopted. Practice refers to the instructor teaching the works to the pupil through performance without adhering to any written resource. Practice remained indispensible in music training until the notes were used popularly (Durgutlu, 2013, p.21). With the use of note, although shown by symbols and sings, certain styles in performance were taught to students through listening and special studies. Münir Bey also strived to make adornments without disrupting the main melody. The techniques of adornment he primarily used in performance are: Grace Note, Mordant, Grupetto, Trill, Vibrato, Glissando, Portamento, Falsetto, Rubato, Stapo, Stress.

Grace Note: This is the most common adornment note in the Turkish music, typed in small. It follows the rule of performance in a short time and the performer decides from which note to start its execution (Torun, 1996, p.28). The most common types of grace note in Turkish music are those based on the following note. It corresponds to a time of stress and played with emphasis. Two types of grace note are used, which are the one valued by the previous and following notes. It is usually used on eight and sixteen notes. Some types of grace note are also used in duo, to enrich the performance (Özbilen, 2007, p.13-16).

Mordant: The note is shown by the host sixteen note and special signs (Torun, 1996, p.248). This is used to strengthen the sense of suspension and transition and to balance the sense of finale at the end. Due to its rhythmical function, it reinforces and emphasizes rhythm during performance. Mordant applied to a special note increases its effect; consequently Münir Bey used it to stress a special note.

Grupetto: This is a type of adornment known as lute quill in Fasıl singing and instrument playing. It refers to three or four small notes, valued by the hosting note and corresponds to unstressed time.

Trill: It refers to frequent and regular grace note adornment of deminote or semibreve in high pitch. It is a frequent adornment in vocal performances. It is shown by the letters (tr) and placed above the note to be stressed.

Vibrato: It is the extension of the full note or a part thereof through larynx in frequent, intermittent and turbulent sounds (Özbilen, 2007, p.20). An element of adornment that gives an identity to the sound, vibrato was used by Münir Bey to add vitality and brightness to the performance. It is shown by the abbreviation ‘vib’.

Glissando: This is the type of adornment by rapid shifting of the sound, as shown by a broken line between the start of two notes. Glissando is shown as ‘gliss’ or ‘g.’ in addition to broken line between two notes.

Portamento: It is an adornment of shifting, similar to glissando; however, it is different from glissando in that the shifting forms a sequence. It is shown as a straight line (-), ‘p’ and ‘port’ between two notes. Some performers called Portamento the ‘heavy’ glissando. They used this adornment to create a dramatic mood in performance, as done by Münir Bey (Torun, 2012).

Falsetto: This is an adornment technique with Bright and impressive vibrato using octave intervals in high intervals with the highest resonance space of performer’s head.

It is shown by an ‘8 va’ on the note (Özbilen, 2007, p.29).

Rubato: It is the adornment referring to random movement of performer on the work. It is the meaningful delay of note values. It is used in Turkish music works to make the performance more meaningful in meyan cycles in particular. It is shown with an angle with downward tip or ‘rub’.

Stapo: It is the adornment featuring the performance or stress of syllables or phrases by the performer to demonstrate the rhythm or to strengthen the rhythmic effect. It can also be described as the lodge style in traditional performance. It can also be expressed as ‘over-embellishment’ in Hafız and gazelhan styles. It is shown by a small ‘s’ on the note.

Stress: This adornment features emphasizing certain notes or syllables in lyrics through effect. The stress is performed on the first note of grace in the melody, on the high pitch note or by increasing the sound level of the syllable to be stressed. Stress is shown by ‘>’.

## THE ANALYSIS AS IN TERM SINGING EDUCATION OF THE STYLE OF MÜNİR NURETTİN SELÇUK IN TURKISH MUSIC

Having a significant style in Turkish music, the examination of Münir Nurettin Selçuk’s style with respect to the teaching of singing demonstrates that Münir Bey was searching for the style while adhering to the tradition. The most important contribution to his traditional singing style was the prioritization of the embellished

  

hafız-gazelhan style, known as lodge style, in the initial phase. His first music teachers, Zekaizade Hafız Ahmed Irsoy, Bestenigar Ziya Bey, Hanende Nedim, Hanende Kaşıyarık Hüsameddin have an important role in his performances. Münir Bey's traditional hafız style performance began to change as of 1930s, when he formed his own style. This change in his performance is considered a deviation from the tradition. Alâeddin Yavaşca said that there is no vocal artist without their share of his performance style in recent period, to demonstrate the significance of Münir Bey in the style of the era (Yavuz, 1994). He influenced numerous performers through his many records and concerts. The most notable ones are Rıza Rit, Ahmet Çağan, Tulûn Korman, Ali Rıza Köprülüleroğlu and Alâeddin Yavaşca. Many artists that followed Münir Bey in the tradition of performance have imitated him. On the other hand, Münir Bey's chain of practice stretches up to Dede Efendi, Tanbûrî İshak and Eyyûbî Mehmed through three branches. In terms of singing style, the most prominent aspect of Münir Bey's performances was the new singing technique developed by adding the western singing technique to hafız-gazelhan style. To elaborate, he used the head sound to reach high pitch and included falsettos in the performance. Instead of increasing the volume through diaphragm, as in western singing technique, he decreased the volume of his voice to take the lead as in the Turkish musical tradition. On the other hand, Münir Bey's style has no attempts of redundant adornment or disruption of melody in the performance of works. Münir Bey rendered adornments by considering the period of the work, its composer, form, the prosody of poetry and meaning to establish his style. He avoided the use of unnecessary gliss, grace, trill, piano and forte, performed the music by considering the lyrics and developed a style. He used a multitude of harmony, süpürde and neyi accords in his performances. He particularly demonstrated his unique, traditional style of performance in the gazelles that he sings between songs.

## CONCLUSION

In our research, we superficially examined Münir Nurettin Selçuk's concerts, records and album performances to demonstrate his contributions with regard to the teaching of singing. Based on this point, Münir Bey is the first vocal performer to combine his training in traditional practice with western singing technique. He commonly preferred the harmonic reed accord and rarely the 'kız' reed accord in his performances. Executing every pitch meticulously and strongly, Münir Bey demonstrated his hafız-gazelhan style by increasing the octave in performance. He also used western musical nuances for modern performances. The style of Hafız Kemal, Hafız Burhan and Hafız Sami are prominent in his older records. Having more traditionally adorned performances before his music education in France, he displayed plain performances in the western music after returning from France. He rendered adornments and nuances without exaggeration and right on the spot. It is recommended for students and researchers inclined towards Turkish musical vocal training, repertory, tone and style should initially analyze all records of Münir Bey and move towards other styles.

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# THE ANALYSIS OF MIDDLE SCHOOL STUDENTS' ANXIETIES-APPREHENSIONS ABOUT MATHEMATICS IN TERMS OF DIFFERENT VARIABLES

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**ABSTRACT**
The purpose of this study is to analyze mathematics anxiety which appears in situations requiring to deal mathematics like solving mathematical problems and dealing with numbers and also which is defined as an irrational fear, in terms of different variables. The study was designed according to scanning model for this purpose. The study group is composed of 466 students who are studying in a public school within İzmit province of Kocaeli. As a data collection tools; 'Demographics Information Form (DIF)' and 'Mathematics Anxiety-Apprehension Survey (MAAS)' were used. In research results; it is found that mathematics anxiety of the students shows significant differences according to situations such as whether they are good at Mathematics or not, whether or not they have a separate room for studying, the length of time they allocated to study mathematics, whether or not they understand mathematics, whether they love mathematical games or not and whether they hope to have a job related with mathematics in the future or not. In addition to this, it is determined that students' mathematics anxieties did not differ significantly according to the fact that whether students are receiving extra help while doing their mathematics homework or not.
**Keywords:** Mathematics, anxiety, apprehension, different variables

## INTRODUCTION

Mathematics anxiety is expressed by evaluating mathematics anxiety as a specific form of the general anxiety as a typical fear or tendency about situations involving mathematical interaction which causes a fear. Many academicians have conducted various studies about this topic from 1950 to present day and each of them stated different aspects of the mathematics anxiety. As a result of this, they defined mathematics anxiety in different forms. Dreger and Aiken (1957), one of the pioneers of this topic, stated mathematics anxiety as "an emotional reaction created against mathematics and arithmetic"; Richardson and Suinn (1972), "getting worried and strained while using numbers and solving mathematical problems in daily and academic life"; and Daniel (1978) "strong and negative emotional reaction which prevents a person to deal with mathematics as he or she wishes (quoted from Ashcraft & Faust, 1994). May (1977) expresses mathematics anxiety by paying attention to its typical features as the feelings such as despair and indecision which is felt when somebody faces with a dangerous situation.

Various factors have asserted so far in studies carried out to determine the reasons of mathematics anxiety. Some of these factors can be classified as in the following; factors about features which are peculiar to the field mathematics, educational factors, factors about the attitudes of the families, personal values and expectations from mathematics classes. Harris and Harris (1987) stated three main reasons as "student-related, teacher-related and teaching-related reasons". The main reasons of mathematics anxiety were grouped under three headings in the most used classification system which was suggested by Byrd (1982) as personal, environmental and situational reasons (Baloğlu, 2001). Here, while personal reasons are related with emotional and psychological features of an individual, environmental reasons are connected with the previous understandings, attitudes and experiences of an individual (Baloğlu, 2001).

According to Curtain (1999), teachers can develop positive attitudes if they manage to increase the amount of student talk by minimizing their roles in classes and to make mathematics lessons more attractive in a way to let them succeed in classes. These kinds of approaches will enable students to gain self-confidence and to be less worried when they encounter mathematical operations. Elmore and Vasu (1980) pointed out a low but significant correlation between students' mathematical achievements and their attitudes towards mathematics lessons. Şen and Koca (2005) carried out a research to determine how the attitudes of middle school students towards mathematics and science classes change according to their gender and grade levels. In that study, it was seen that students generally perceived mathematics and science classes as enjoyable and the lesson which they love most and ask their schools to increase the number of hours per week was mathematics. The purpose of this study is to

  

analyze students' anxieties regarding mathematics lessons in terms of different variables. In accordance with this aim, the answers of the following research questions were searched. Do the anxieties of middle school students regarding mathematics differ according to following circumstances?

1. Their success in Mathematics classes,
2. While doing their mathematics homework; whether to receive an extra help, whether to have a separate room for studying or not and the length of time they allocated to study for mathematics,
3. Whether to understand mathematics or not, whether to love mathematical games or not and whether they hope to have jobs related with mathematics or not.

## METHOD

### Research Design

Since it is tried to describe current case according to its existing circumstances (Karasar, 2007) this study is a descriptive study in scanning model. The case, event, individual or object which become the subject of a study are tried to be described according to their own circumstances (Karasar, 2007).

### Study Group

The study was carried out in İzmit, Kocaeli with 466 students who are studying in a public school which is bound up Ministry of Education. The distribution of students who were taken to the scope of this study according to their genders and grade levels can be seen Table 1.

**Table 1:** Study group

| | 5th Grade | 6th Grade | 7th Grade | 8th Grade | Total |
|---|---|---|---|---|---|
| Female (F) | 31 | 78 | 52 | 49 | 210 (45,06%) |
| Male (M) | 39 | 91 | 64 | 62 | 256 (54,94%) |
| **Total** | 70 (15,02%) | 169 (36,27%) | 116 (24,89%) | 111 (23,82%) | 466 |

When the study group is analyzed, it is seen that 45,06% of the students is composed of female students (n=210) and 54,94% is male students (n=256). 15,02% of the students are 5th graders (n=70), 36,27% 6th graders (n=169), 24,89% 7th graders (n=116) and 23,82% 8th graders (n=111).

### Data Collection Tools

**Demographics Information Form (DIF):** In this form, there are questions which were prepared to obtain information about the students' gender, grade levels and academic achievements etc. The information obtained from DIF was used as independent variables in comparing the anxieties-apprehensions of students towards mathematics.

**Mathematics Anxiety-Apprehension Survey (MAAS):** The adaptation of the survey which was developed by Ikegulu (1998) and its validity and reliability studies were carried out by Özdemir and Gür (2011). Cronbach alpha reliability co-efficiency for the overall scale which was developed by Ikegulu was found as ,728 and Cronbach alpha co-efficiencies for its sub-dimensions was found respectively as ,8536 and ,9272. As a result of Özdemir and Gür's analysis, Cronbach alpha co-efficiency for the overall scale was calculated as ,912 and Cronbach alpha co-efficiencies for its sub-dimensions as; for the positive attitudes towards mathematics as ,858 and for the negative attitudes towards mathematics as ,910. The high score obtained from the scale shows us the fact that anxiety regarding mathematics is also high.

In this study, first of all the reliability of the scale was analyzed. In this sense, Cronbach alpha internal consistency co-efficient was calculated as ,890 for the scale and Cronbach alpha co-efficiencies were calculated as ,819 for the positive attitudes towards mathematics and ,878 for the negative attitudes towards mathematics. It was decided that obtained reliability co-efficiencies are sufficient as having calculated reliability co-efficiencies as 0,70 and over was generally accepted as sufficient (Büyüköztürk, 2012). Later on, in order to test the validity of the scale's factor structure, confirmatory factor analysis was carried out and the results were presented in Table 2.

**Table 2:** Confirmatory factor analysis results of MAAS

| Indexes | Value | Model-Data Fit |
|---|---|---|
| $X^2/sd$ | 3,64 | *Average fit* (Sümer, 2000) |
| RMSEA | 0,075 | *Good fit* (Hooper, Coughlan & Mullen, 2008) |
| NFI | 0,94 | *Good fit* (Thompson, 2004) |
| NNFI | 0,96 | *Excellent fit* (Sümer, 2000) |
| CFI | 0,96 | *Excellent fit* (Sümer, 2000) |

  

| | | |
|---|---|---|
| RMR | 0,10 | *Undistinguished fit* (Kline, 2005) |
| SRMR | 0,06 | *Good fit* (Brown, 2006) |
| GFI | 0,88 | *Sufficient fit* (Aydın, 2009) |
| AGFI | 0,85 | *Sufficient fit* (Aydın, 2009) |
| PGFI | 0,71 | *Simple and plain* (Sümer, 2000) |

When Table 2 is analyzed, it is seen that fit measurement values of MAAS are at the desired level.

**Data Collection and Data Analysis**

In data collection process, data collections tools were implemented with study group between the dates of 15.12.2014 and 19.12.2014. Students were asked to complete data collection tools in 40 minutes. As a result of the implementation, 513 DIF and MAAS were collected.

In data analysis, first of all, all the collected data (513 DIF and MAAS) were analyzed one by one by the researchers. As a result of this analysis it was decided that some of the data could not be included to the study. The reasons of this situation can be explained with the fact that some students responded to the scale with a single option (for instance; some students only ticked 'Strongly Agree' option) and some students provided insufficient information to the DIF. In this sense, 5 from $5^{th}$ grade level, 7 from $6^{th}$ grade level, 19 from $7^{th}$ grade level and 16 from $8^{th}$ grade level, in total 47 data collection tool were not taken into evaluation. In this regard, necessary analyses were carried out by using data obtained from remaining 466 DIF and MAAS.

Later on, it was tested whether the collected data would be analyzed by using parametric or non-parametric techniques. For this, the assumption that the distribution of data should be normal or close to normal distribution was considered and the fitness of the collected data to the normal distribution was examined by using tests which are used in normality issue. At this point, as it is suggested to use Kolmogorov-Smirnov (K-S) test in the cases when the group size is bigger than 50 and Shapiro-Wilks test when the group size is smaller than 50 (Büyüköztürk, 2012; Büyüköztürk, Çokluk & Köklü, 2010), Kolmogorov-Smirnov (K-S) test was utilized to decide on the normality of the data collected in this study (N=466).

When the calculated p value is bigger than " ,05", it is interpreted as the scores fit to normal distribution at this significance level (Büyüköztürk, 2012). As a result of analysis conducted for the data collected both from MAAS and its sub-dimensions, it was determined that the data regarding MAAS (p= ,000 < ,05) do not have normal distribution. In this regard, it was decided to analyze the data by using non-parametric tests.

While analyzing the data, Kruskal-Wallis and Mann-Whitney U tests were utilized. While Mann-Whitney U were used in the analyses conducted according to gender, whether to have extra help or not and whether to have a separate room for studying, Kruskal-Wallis test was used in the analyses conducted for other cases. The significance level was accepted as ",05" in all the conducted analyses. While LISREL 8.7 program was used for the confirmatory factor analysis of MAAS, SPSS 17.0 was used for the other analyses.

**FINDINGS**

The first sub-problem of the study was determined as *"Do the anxieties-apprehension of middle school students regarding mathematics differ according to their success in Mathematics classes?"*. The anxieties-apprehension of students regarding mathematics was compared by using Kruskal-Wallis test according to their success in Mathematics classes. The findings obtained about the success of students in mathematics classes were presented in Table 3.

**Table 3:** Anxiety-apprehension regarding mathematics & success in mathematics

| Mathematics Achievement Score | N | Mean Rank | df | $X^2$ | p |
|---|---|---|---|---|---|
| 1 | 18 | 101,19 | | | |
| 2 | 38 | 149,25 | | | |
| 3 | 125 | 167,64 | 4 | 148,564 | ,000 |
| 4 | 129 | 220,30 | | | |
| 5 | 156 | 332,97 | | | |

When Table 3 is analyzed, it is seen that the anxieties-apprehension of students regarding mathematics significantly differed according to their achievement scores in Mathematics classed ($X^2 = 148{,}564$; p= ,000 < ,05). When mean rank is considered, it is seen that students whose mathematics score is 5 have the highest anxiety-apprehension score.

  

The second sub-problem of the study was determined as *"Do the anxieties-apprehension of middle school students regarding mathematics differ according to whether to have an extra help or not, whether to have a separate room while doing mathematics homework and the length of time allocated to study mathematics?"*. The findings obtained from the analyses carried out between anxieties-apprehension of students regarding mathematics and whether to have an extra help or not while doing their mathematics homework variable were presented in Table 4.

**Table 4:** Anxiety-apprehension regarding mathematics & whether to have an extra help

| Whether or not to have an extra help | N | Mean Rank | Mean Sum | U | p |
|---|---|---|---|---|---|
| Yes (Y) | 237 | 238,45 | 56512,0 | 25964,0 | ,420 |
| No (N) | 229 | 228,38 | 52299,0 | | |

When Table 4 is analyzed, it can be said that the anxieties-apprehension of students regarding mathematics did not significantly differ according to whether to have an extra help while doing their math's homework (U=25964,0; p= ,420 > ,05). The findings obtained from the analyses carried out between anxieties-apprehension of students regarding mathematics and whether or not to have a personal study room while doing their mathematics homework variable were presented in Table 5.

**Table 5:** Anxiety-apprehension regarding mathematics & whether or not to have a personal study room

| Have a personal study room | N | Mean Rank | Mean Sum | U | p |
|---|---|---|---|---|---|
| Yes (Y) | 329 | 241,67 | 79508,5 | 19849,5 | ,042 |
| No (N) | 137 | 213,89 | 29302,5 | | |

When Table 5 is analyzed, it can be said that the anxieties-apprehension of students regarding mathematics significantly differed according to whether to have personal study room or not (U=19849,5; p= ,042 < ,05). The findings obtained from the analyses carried out between anxieties-apprehension of students regarding mathematics and the length of time allocated for studying variable were presented in Table 6.

**Table 6**: Anxiety-apprehension regarding mathematics & length of time for studying

| Length of time for studying | N | Mean Rank | df | $X^2$ | p |
|---|---|---|---|---|---|
| Less than half an hour (1) | 47 | 160,71 | 5 | 26,512 | ,000 |
| Half an hour (2) | 132 | 218,51 | | | |
| An hour (3) | 169 | 241,33 | | | |
| One and a half hour (4) | 73 | 274,03 | | | |
| Two hours (5) | 29 | 281,52 | | | |
| More than two hours (6) | 16 | 216,28 | | | |

When Table 6 is analyzed, it is seen that the anxieties-apprehension of students regarding mathematics significantly differed according to their length of time allocated for studying ($X^2 = 26{,}512$; p= ,000 < ,05). When mean ranks are considered, it is seen that students who are spending "two hours" to study mathematics have the highest anxiety-apprehension level.

The third sub-problem of the study was determined as *"Do the anxieties-apprehension of middle school students regarding mathematics differ according to following cases such as whether or not to understand mathematics, whether to love mathematical games or not and whether they hope to have jobs related with mathematics or not?"*. The findings obtained from the analyses carried out between anxieties-apprehension of students regarding mathematics and whether to understand mathematics or not were presented in Table 7.

**Table 7:** Anxiety-apprehension regarding mathematics & whether or not to understand mathematics

| I can understand mathematics | N | Mean Rank | df | $X^2$ | p |
|---|---|---|---|---|---|
| Yes (Y) | 266 | 306,18 | 2 | 185,110 | ,000 |
| No (N) | 12 | 56,88 | | | |
| A Little (L) | 188 | 141,94 | | | |

When Table 7 is analyzed, it can be said that the anxieties-apprehension of students regarding mathematics significantly differed according to case whether or not to understand mathematics ($X^2 = 185{,}110$; p= ,000 < , 05). When mean ranks are considered, it is seen that students who said 'I can understand mathematics' have the highest anxiety-apprehension level. The findings obtained from the analyses carried out between anxieties-

  

apprehension of students regarding mathematics and whether they love playing mathematical games or not were presented in Table 8.

**Table 8:** Anxiety-apprehension regarding mathematics & whether or not to love playing mathematical games

| I love playing mathematical games | N | Mean Rank | df | $X^2$ | p |
|---|---|---|---|---|---|
| Yes (Y) | 280 | 274,51 | | | |
| No (N) | 71 | 127,43 | 2 | 77,529 | ,000 |
| A Little (L) | 115 | 199,15 | | | |

When Table 8 is analyzed, it can be said that the anxieties-apprehension of students regarding mathematics significantly differed according to case whether or not to love playing mathematical games ($X^2 = 77{,}529$; p= ,000 < , 05). When mean ranks are considered, it is seen that students who said 'I love playing mathematical games' have the highest anxiety-apprehension level. The findings obtained from the analyses carried out between anxieties-apprehension of students regarding mathematics and whether they hope to have jobs related with mathematics or not were presented in Table 9.

**Table 9:** Anxiety-apprehension & whether or not to have jobs related with mathematics in the future

| Have a job related with mathematics | N | Mean Rank | df | $X^2$ | p |
|---|---|---|---|---|---|
| Yes (Y) | 143 | 303,42 | | | |
| No (N) | 113 | 144,19 | 2 | 88,297 | ,000 |
| Indecisive (D) | 210 | 233,94 | | | |

When Table 9 is analyzed, it can be said that the anxieties-apprehension of students regarding mathematics significantly differed according to case whether or not to have jobs related with mathematics in the future ($X^2 = 88{,}297$; p= ,000 < ,05). When mean ranks are considered, it is seen that students who said 'I hope to have a job related with mathematics' have the highest anxiety-apprehension level.

**CONCLUSIONS and SUGGESTIONS**

It was understood in this study in which the anxieties-apprehension of middle school students had been analyzed in terms of different variables that mathematics anxiety-apprehension significantly differed according to students' success in mathematics classes, whether to have a separate study room and the length of time they allocated for studying mathematics. Similarly, it was also presented in this study that mathematics anxiety-apprehension significantly differed according to following cases such as whether to understand mathematics, whether to love playing mathematical games and whether they hope to have jobs related with mathematics. In addition to this, it was obtained that mathematics anxiety-apprehension did not significantly differ according to following cases such as whether to have an extra help while doing homework.

Unlike many studies, it was appeared in this study that students who are successful in mathematics classes have the highest mathematics anxiety-apprehension. This caused the fact that researchers interpreted anxiety-apprehension in a different meaning. It is not always necessary to attribute a negative meaning to mathematics anxiety-apprehension as a certain level of anxiety may lead students to study more. By considering the results of this study, it is thought that students whose anxiety-apprehension levels higher than others feel obliged to study more and to be more interested in mathematics lessons.

It can be said that understanding mathematics is a prerequisite for achievement in Mathematics. The fact that students who understand mathematics and who achieved success in mathematics have high mathematics anxieties or apprehensions reminds us that environmental factors also have an influence on this issue. It can be accepted as a sign that although young people are successful in mathematics classes, they cannot come over their prejudices regarding the difficulty of mathematics as they have been brought by being imposed with this fact. For this reason, it can be suggested that it is necessary to be successful both in schools and families in order not to create prejudice against mathematics when our students are younger.

The research finding as having an extra help about mathematics reduces the mathematics anxiety can show us that students need a support to gain self-confidence about mathematics and for this reason it can be evaluated as students should get an extra help to remedy their deficiencies. Bander and Betz (1981) stated that mathematics anxiety mostly appear in adolescence period. Faust (1992), Hembree (1990) and Zeidner (1991) express that an individual who has more mathematics lessons feels less mathematics anxiety. This research finding is parallel with studies stated above. In a similar thought, it can be said that students who feel more mathematics anxiety can have a better understanding and this will result with a more interest in mathematics by affecting their attitudes towards mathematics, so in the future this may lead them to the professional fields which are related

  

with mathematics. Most of the research findings are different from the findings which have been carried out so far. For this reason, it is necessary to search this topic in details by using qualitative research methods. It can be said that this study is important in terms of revealing this necessity.

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# THE ANALYSIS OF UNDERSTANDING FACTORIAL CONCEPT PROCESSES OF 7TH GRADE STUDENTS WHO HAVE HIGH ACADEMIC ACHIEVEMENTS WITH PIRIE-KIEREN THEORY

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**ABSTRACT**
The aim of this study is to analyze the understanding factorial concept processes of 7th grade students who have high academic achievements with Pirie-Kieren theory. The research participants are composed of two 7th grade students who are studying at a public primary school in the İnegöl district of the city of Bursa. This research has been designed according to case study design since it was carried out with two students who had high academic achievements in a constructive learning environment. The research participants were selected among voluntary students by considering their mathematics achievement test scores and their grades stated in the previous year' reports. Mathematics achievement test was composed of 15 questions that were covering pre-cognitive knowledge of the factorial concept. Educational games, group work, puzzles, worksheets and activities designed for the objectives in the factorial concept were used in the research. The data of the research was collected by through a semi-structured interview, participant observation and document analysis for each student in the study group. The obtained data was analyzed by using a descriptive analysis method. According to the findings, students who have high academic achievements were able to construct concepts easily by interpreting activities and they reached formalising level according to Pirie and Kieren theory. In the light of the findings of this study, the researchers have developed suggestions.
**Keywords:** Pirie-Kieren theory, folding back, learning to learn, factorial

## INTRODUCTION

The concept as a definition means mental structure or representation which represents the organized knowledge of an individual which belongs to something like an object, event, action, peculiarity and relation (Klausmeier, 1992). A single concept does not mean anything on its own. If the concept is associated with a suitable schema, then the understanding about the aforementioned concept will occur (Skemp, 1987). An individual constructs knowledge when he/she relates the items that he/she will learn with the previous ones in his/her mind. If we simulate concept knowledge to a chain link, each link contains some information. As the interrelated knowledge expands the link to which it belongs will also expand so that the piece of information that it is connected will become stronger (Baki & Kartal, 2004). In the event that any piece of information is not associated with the current information that one has in the chain link formed by understanding, gaps will occur in understanding regarding the concept and the person will have difficulties in grasping the new information. The actual situation that should be asked here i) what does 'understanding' mean?; ii) what do we understand from understanding?; iii) How does understanding occurs? In this regard, searching the answers of these questions has great importance.

The term of 'understanding' is a widely used word in teaching mathematics. Sometimes with the word of understanding many different situations are implied. For example; the teachers' asking students 'do you understand?' while teaching is another way of asking can I continue my presentation? But what is implied with the word of 'understanding' in researches is seen as the students' access point for a well-defined concept. The researchers who carried out studies on this topic tried to analyze the meaning of 'understanding with philosophy and they had many difficulties regarding this topic (Sierpinska, 1990). It can be said that these difficulties are caused from the inability of mathematics educators to distinguish between understanding and information before Skemp's (1987) explanation of instrumental understanding against relational understanding (Sierpinska, 1990). Although the subsequent researchers separated understanding from knowledge, mathematics educators could not reach a unilateral agreement regarding the meaning of 'understanding' since various writes considered this issue

  

from different perspectives (Schroeder, 1987). From Skemp till today, there has been various theoretical perspectives which were addressing the question that how students infer meaning from mathematics presented to them. Some of these perspectives are as in the following: (1) Sierpinska's epistemological obstacles approach; (2) Dubinsky's APOS theory; and (3) Piere and Kiere's dynamic theory for the development of mathematical concepts. It is understood from the indicated theories that there is not a single way for understanding 'understanding'. In this study, understanding 'understanding' was evaluated according to Pirie-Kieren theory which is based on von Glasersfeld's opinion expressing constructive approach and understanding process as a constant process and elaborated this view (Pirie & Kieren, 1994).

**Piere Kieren's Understanding Model**

Pirie and Kieren (1994) developed a two-dimensional model which they named as 'the dynamic model of understanding' and which was composed of eight intertwined layers in order to monitor at which processes and how an individual structures a new subject or concept for understanding 'understanding'. This model was presented in figure 1. In this model, there are eight potential layers that may occur on any matter for each individual at different levels in the developmental process of understanding (Pirie & Kieren, 1994). These layers are called as; *primitive knowing, image making, image having, property noticing, formalizing, observing, structuring* and *inventizing*. This theory claims that student moves into graded understanding layers at different levels by constructing new knowledge with his/her pre-cognitive knowledge (primitive knowledge) (Cavey, 2002). Each layer here implies a qualitative change in the development of the understanding of a learner (Meel, 2003).

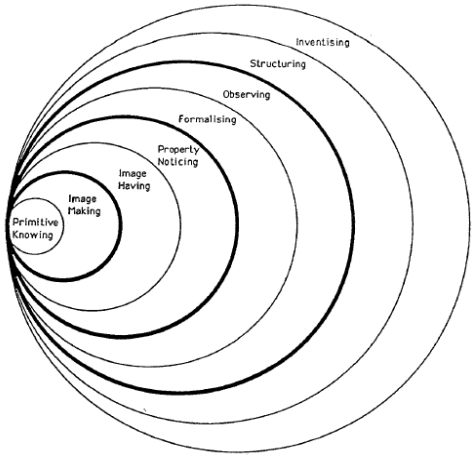


**Figure 1.** The growth of understanding model (Pirie & Kieren, 1994)

The development process of understanding starts with the layer which is in the core position of the model and called as 'primitive knowledge'. Primitive knowledge does not mean low mathematics level. The primitive knowledge layer contains pre-cognitive knowledge which is necessary for students to construct new concept that he/she will learn (Pirie & Kieren, 1994). The second layer is expressed as 'image making'. In image having layer, it is expected from a person to create differences in his/her previous knowledge and to use them in the next understanding layer (Pirie & Kieren, 1994). At this layer, the learner engages in activities in order to have an idea regarding what the concept is about (Martin, 2008). The third layer is stated as 'image having'. This layer is the stage of creating an image in learner's mind about the subject. The learner needs a new activity for re-constructing the concept (Pirie & Kieren, 1994). The first 'no need to limits' stage in Pirie and Kieren's model occurs between image making and image having layers. The learner once reached the image having layer can use the knowledge that he/she obtained without the need to re-construct many times the itemsat the primitive knowledge layer or images at the image making layer (Pirie & Kieren, 1994).

The fourth layer was stated as the 'property noticing'. The learner at this layer can recognize the different features of the concept that he/she learnt through the images that he/she created in his/her mind. At the fifth layer of the understanding which is '*formalizing*' the learner can generalize a newly recognized knowledge by using an image that he/she has before; besides he/she may state the reasons of the generalizations that he/she made through formalizing concepts by depending his/her previous images (Pirie & Kieren, 1994).

At the development process of understanding, the sixth layer is stated as 'observing'. At the observing layer, the learner can make a planning through organizing his/her personal thinking process by recognizing the branching in the thinking process (Pirie & Kieren, 1994). The person who is learning at this layer reached the position of expressing the coordination of theorems with each other and reflecting what he/she learnt. The seventh layer is expressed as 'structuring'. The people who are learning at this layer can express their thoughts as mathematical

  

structures by postulating their previous experiences as a new theory (Pirie & Kieren, 1994). The outmost layer of the Pirie-Kieren's growth of mathematical understanding model is expressed as 'inventizing'. The person who is learning at this layer was completely structured understanding, for this reason he/she accessed a completely new understanding level and in a position to be able to generate new questions by expanding his/her previous mental structures (Pirie & Kieren, 1994). The intertwined layers are showing that the development in understanding is not linear and unidirectional. Although the rings of the model are growing outwardly more abstract and more general, the development in understanding do not occur in that linear way.

It is not necessary to have visual or illustrated presentations at image making layer, the images can be expressed verbally or through activities (Martin, 2008). As a requirement for the philosophical dimension of the nature of mathematics, mathematical will be convenient to see this layer as an inventizing layer for the individuals whose meta-cognitive level is high at the process of structuring knowledge and when primary school level students are considered as discovery layer. Instead of this, the development in understanding occurs in constant forward and backward movements through the layers of knowing' (Martin, 2008). The coming back movement for the purpose of organizing existing understandings and ideas about a mathematical concept at inner layers is called as fold back according to Pirie-Kieren Theory knowledge is inventizing for some and for others it is discovering.

It is thought that it Pirie-Kieren theory with its layered model; guides for observing and defining the process thoroughly in which knowledge is structured through repetitive organizations and about the perceptions of students, how they think and how they structure their thoughts with a suitable way. The fact that Pirie-Kieren accepts understanding as a process rather than sensing focuses our study to analyze the process of students' understanding any subject in their minds according to this theory. The purpose of this study is to analyze how the understanding factorial concept process of $7^{th}$ grade students who have high academic achievements is developing according to Pirie-Kieren theory.

## METHOD

### Research Design and Study Group

The case study method was used in the study. This study is carried out with two students each of whom is a special case and who are grouped as high academic achievements in a constructive learning environment where designed activities regarding 'operations with integers' sub-learning field. As the aim of this study is to deeply analyze understanding factorial concept processes of these students according to Pirie-Kieren theory, this study serves as an example for the 'multiple case' design among qualitative research methods. The study group is consisted of two volunteer $7^{th}$ grade students who have high academic achievements by looking at their mathematics scores given in their previous term reports and applied achievement test results and who are studying in a primary school in İnegöl district of Bursa city. The academic achievements of these students were given in Table 1.

**Table 1.** The distribution of the study group by their academic achievements

| Name | Achievement Test Result | | Academic Achievement Level |
|---|---|---|---|
| | True | False | |
| Suzan (S) | 16 | 4 | High Academic Achievement |
| Ekrem (E) | 16 | 4 | High Academic Achievement |

The pre-cognitive knowledge and mathematics achievement levels of the selected students are parallel. It was not paid attention to take equal number of female and male students since the purpose of the study did not include comparing female and male students. It was paid attention that students were able to explain how they solved the problems in the activities and to express their own thought since the purpose of this study is to deeply and multi-dimensionally analyze the mathematical understanding processes of students.

### Data Collection Tools

The achievement test, activities implemented with students and video recordings were used as data collection tools in this study.

***Achievement Test:*** It is a 20-question multiple choice test including subjects such as arithmetic four operations, sets, fractions, percentages, decimal numbers and linear equations for testing pre-cognitive knowledge of students to understand 'Permutation' and 'Factorial' concepts. The document analysis was used among qualitative research techniques for collecting qualitative data. The documents; provide real and easily accessible data and give opportunities to researchers to produce solutions to problems (Yıldırım & Şimşek, 2008). For this reason, the data consisted of the answers of the students to activities used within the scope of this study were

  

used in order to support to data obtained through semi-structured interview and participant observation and to make alternative explanations to obtained results. For data analysis, the interviews were transformed into written forms.

**Operations**

The following objectives stated in the 7th grade teaching program for the subjects of numbers, probability and statistics according to new mathematics program (MEB, 2005) were taken into account within the scope of this study; *i) Compares the basic principles of counting and uses them in problems*; *ii) Finds the factorials of natural numbers* and *iii) Explains the concept of Permutation and calculates*. Since an evaluation only about the first two of these objectives was carried out in this study, the activities regarding these two objectives were included. The related literature was scanned before building up activities and the activities which are suitable to objective were used by the researcher through analyzing the previous studies carried out about this topic.

**Data Analysis**

The worksheets that students used for solving the activities and the dialogues between students during the activities were used as the source of data. All the collected data were analyzed by using descriptive analysis method.

**Table 2.** The coding of layers in Pirie-Kieren's the growth of understanding model

| Pirie-Kieren Theory Layers | Layers Coding |
|---|---|
| Primitive Knowing | PKL |
| Image Making | IML |
| Image Having | IHL |
| Property Noticing | PNL |
| Formalizing | FL |
| Observing | OL |
| Structuring | SL |
| Investizing | IL |

Each student in the study group was coded with letters of S (with high academic achievement) and E (with high academic achievement) which are the initial letters of their own names. The data of semi-structured interview, participant observation and document analysis were taken into consideration as a whole respectively for each student whose academic achievement is low in the study group and the research question was answered by synthesizing them. So that the understanding processes of the students are presented by drawing a detailed map of their knowledge structuring processes according to Pirie-Kieren dynamic model.

**FINDINGS AND COMMENTS**

The findings obtained at the end of this study were given in this part by having direct quotations from students' dialogues during group work and structuring the data in the worksheets. As including all the findings obtained in the activities of all four students requires a very wide information scope, in this part only the samples from the dialogues of "S" and "E" who have high academic achievements are presented with the idea that these students are able to structure concepts meaningfully in a shorter time and they can give a better idea to readers. The real names of the students were not used in this study.

**Primitive Knowledge Layer**

The occurrence of understanding process starts with the layer which we called as primitive knowledge which contains the previous knowledge of a person. The researcher may not know whether the person obtained all the previous knowledge completely or not; It can be said by looking at the achievement test results of the students in the study group that Suzan (S) and Ekrem (E) at least have the pre-knowledge which is necessary for understanding factorial concept in the designed activities but the pre-knowledge of Canan (C) and Fatma (F) is insufficient.

**Image Making Layer**

The purpose of the first activity entitled as "Can you help Ayşe?" is to remind the multiplication and addition feature among the basic principles of counting to students. To which things the students had paid attention at the level of establishing the correlation of connectors with results observed while students performing the first activity.

***I E:*** *What does it say at this question?…One shirt, one trouser*
*(Underlines the words that he said)*

  

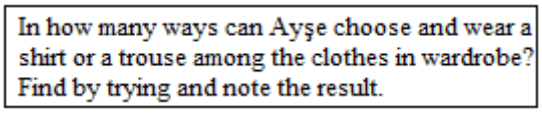


**Figure 2.** E's worksheet

***2 E:*** *If it is a shirt and this one is the trouser. One type, yes it becomes type* *I.M.L*
*(E takes a trouser and a type of shirt into his hand).*
***3 S:*** *The first type, the second type…* *I.M.L*
*(S is trying one type of a shirt and a trouser as a set).*
***4 E:*** *Hımmm, 4 types. (Finds by trying)* *I.M.L*
***5 S:*** *4? 1, 2, 3 and 4. Yes, 4 types* *I.M.L*
*(S is counting by making four sets with the material in her hand)*

It is seen from the conversations on the 2nd, 3rd, 4th and 5th lines of the above dialogues that E and S used all of their materials to find probable situations that can happen. It can be said that two friends are at the image making layer according to Pirie-Kieren theory as they performed an activity by studying together.

**Image Having Layer**

***11 A:*** *In your opinion, what does it mean by saying 'or' in this question? (The researcher is intervening in order for students to look at the question from a different perspective)*
***12 E:*** *This one or this one…*
***13 A:*** *In how many different ways can Ayşe wear a shirt?*
***14 E****: 4 ways* *I.H.L*
***15 A:*** *…or in how many different ways can she wear a trouser?*
***16 E:*** *That one is also 4. As saying 'or' means either this one or that one …* *I.H.L*
*I found 8.*
***17 S:*** *Hımmm, yes 8.* *I.H.L*

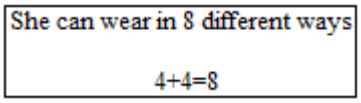


**Figure 3.** E's worksheet

***18 S:*** *In how many different ways can Ayşe wear a shirt or a trouser**?***
*(S reads out loud the second question in the activity)*
***19 E:*** *16.* *I.H.L*
*(E answers without needing to try the material).*
***20 S:*** *Yes, 16.* *I.H.L*
***21 A:*** *Can you explain how did you find the answer?*
***22 E:*** *Each one in four different ways, 4 times 4 is 16.* *I.H.L*

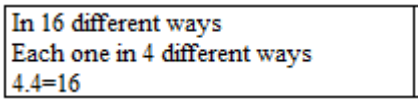


**Figure 4.** E's worksheet

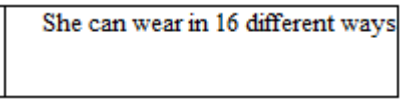


**Figure 5.** S's worksheet

It is seen from the conversations on the 14th, 16th, 17th, 19th, 20th and 22nd lines of the above dialogues that students could answer the question used in the activity without touching the material with their hands. In this case, it can be said that students made created an image in their minds about general multiplication and addition feature as a result of the image making activities.

**Property Noticing Layer**

In the second activity entitled as 'I am hungry, what can I eat?' students were asked to express their results mathematically in a short way in order for them to see the correlation between connectors and operations. Ekrem answered the question without needing to touch the food types on the table upon Suzan read out loud the question about in how many different ways Ahmet the hero of the event can eat one type of dessert and one type of salty food among 4 type of desserts and 3 type of salty food according to the story fictionalized at the beginning of the story.

***23 E:*** *4 types of desserts, 3 types of salty food…the answer is 12 .* *I.H.L*
***24 S:*** *12.* *I.H.L*

  

***25 A:*** *Can you explain how did you find the solution?*
***26 E:*** *There were 4 types of desserts and 3 types of salty food. I multiply 4 and 3 since it said or in-between or the answer is 12* *P.N.L*
***27 S:*** *I thought in the same way* *P.N.L*

| |
|---|
| In how many different ways can Ahmet eat one type of desert and one type of salty food?<br>4.3=12 different type |

**Figure 6.** E's worksheet

| |
|---|
| In how many different ways can Ahmet eat one type of desert and one type of salty food?<br>12 different types<br>4.3=12 |

**Figure 7.** S's worksheet

***28 A:*** *In how many different ways can Ahmet eat one type of dessert and one type of salty food?*
***29 E:*** *7* *P.N.L*
***30 S:*** *7* *P.N.L*

| |
|---|
| If Ahmet's mother wrote in a note that you could eat one type of dessert or one type of salty food, how many different types could Ahmet choose?<br>4+3=7 different types |

**Figure 8.** E's worksheet

| |
|---|
| If Ahmet's mother wrote in a note that you could eat one type of dessert or one type of salty food, how many different types could Ahmet choose?<br>He could choose in 7 different types<br>4+3=7 |

**Figure 9.** S's worksheet

When the students' worksheets given in 6th, 7th, 8th and 9th figures are analyzed, it is observed that students underlined 'or' and 'and' connectors. For this reason, it is accepted that students can analyze the image that created in their minds and can recognize the correlation between connectors and operations given in the questions. By looking at the conversations on 26th, 27th, 29th and 30th lines of the above dialogues, it can be said that students moved from image having layer to property noticing layer according to Pirie-Kieren Theory.

**Formalizing**

According to the story fictionalized in the fourth activity entitled as 'We are all colorful' created for the purpose of making students feel that there is a correlation between general multiplication feature and counting, Garfield the hero of a carton series wonders about in how many different ways the boxes in four different colors can be ordered.

***79 A:*** *Well, if we increase the number of boxes, in how many different ways can we order the boxes? (The researcher is adding another box to the table)*
***80 E:*** *What if we try to find the number of situations for each box when they placed in the beginning* *I.M.L*
***81 S:*** *120. (E provides an answer while struggling in image making layer)* *F.L*
***82 A:*** *(By looking at to E), which way do you follow for finding the answer?*
***83 E:*** *First, I find in how many different ways one can be placed in the front,* *F.L*
*Later on I will multiply with 5 since there are 5 boxes.*
***84 A:*** *S how did you find the answer?*
***85 S:*** *There are 5 options that can be placed in the front, 4 for the second place and then 3,2,1.* *F.L*
*We found earlier by multiplying, we also multiply all now. The answer is 120.*
***86 A:*** *S, what do you think? Did E follow a wrong way for finding the solution?*
***87 S:*** *It was correct but a longer way.*
***88 E:*** *Yes, I got it. For example, while ordering four boxes, 4 will be in the front, then 3, after that 2and finally 1* *F.L*
*We multiply them. Or, we solve by finding the possibility of placing in the front for one of them.*

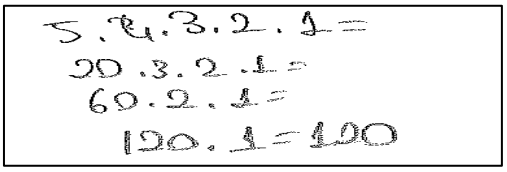


**Figure 10.** S's worksheet

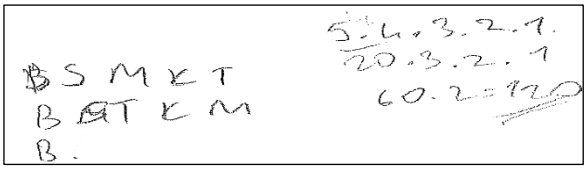


**Figure 11.** E's worksheet

The researcher uses the question form given on the 79th line of the above dialogues for students to advance their understanding more by generalizing the image in their minds. As the image in E's mind is not sufficient for making a broader generalization, he started to order the five boxes on the table instead of advancing his existing

  

understanding more. In this case, it can be said that E made a fold back to the image making layer according to Pirie-Kieren theory. While E is trying to order the boxes at image making layer, it is seen from conversation on the 81st line that S reached the formulizing layer according to Pirie-Kieren theory as she can identify newly recognized knowledge by using the knowledge that she had before. After that, E could move into the formulizing layer by consciously thinking about generalized features. It can be said from the conversations on the 81st, 83rd, 85th and 88th lines of the above dialogues that students are at the formalizing layer according to Pirie-Kieren theory.

The aim of our study is to try to analyze the growth in understandings of the students according to Pirie-Kieren theory with the activities designed under the name of creating factorial concept. The detailed map of two students in the study group about the growth of their understanding for the factorial concept is given below.

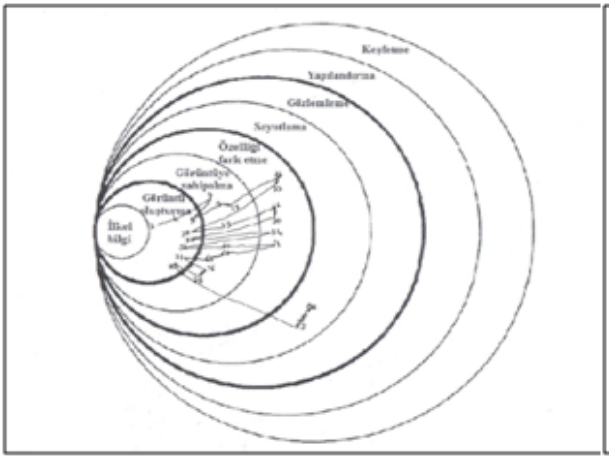


**Figure 12.** The growth of E in the process of structuring factorial concept

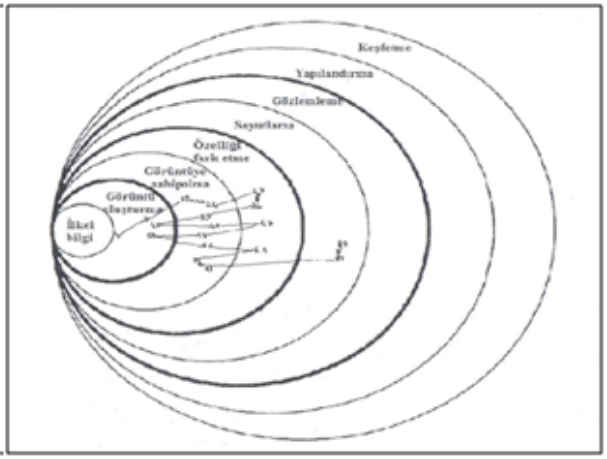


**Figure 13.** The growth of S in the process structuring factorial concept

## CONCLUSION, DISCUSSION AND IMPLICATIONS

The following results were obtained in accordance with the findings of this study in which the process of understanding the factorial concept of the students who have high academic achievements according to Pirie-Kieren dynamic model. The mathematical understanding levels of students who have high academic achievements involve four of the layers of the Piere-Kieren theory (image making layer, image having layer, property noticing layer and formulizing layer). Both two students could not be successful at the other three levels. Even though these last three layers do not show high mathematical level, they represent high mathematical skills such as forming new mathematical concepts and proving the correctness of an idea by absolutely postulating an idea. For this reason, if we consider the Piaget's cognitive development stages, it can be said that it is a normal case for 7th grade students to have a skill at these layers.

Among the students who have high academic achievements, the student whose name is Ekrem stayed longer than Suzan at formalizing layer of Piere-Kieren's dynamic theory. The movements of Ekrem to formalizing layer did not display a linear movement but continued as constant fold backs. Especially, after student had moved into property noticing layer, he often made fold backs to image making layer. The student felt the necessity to study with more materials for structuring his knowledge well by staying longer in this layer. According to Simon (2002, 2006) image making layer is the key for mathematical understanding. The understanding in this form is very important for acquiring conceptual learning skills of mathematics. Besides, the student moved into image having layer by not returning from image making layer to property noticing layer again in some parts of the mathematical understanding process. The mathematical understanding at this layer requires student to use the concept that he/she structured in his/her mind without needing the previous knowledge. At the end of this process, it is seen that the student transmitted his mathematical understanding to the formalising layer by generalizing the factorial concept which was presented to him with examples after noticing the multiplicative feature of this concept. It is thought that in moving into this layer, Suzan's explanations which he cooperated in the fold back cases between layers and the teacher's questioning process are effective.

The student Suzan was able to structure her knowledge by moving into formalizing layer which is the fifth layer of Pieren-Kieren's layers in a shorter time than the student Ekrem. It is seen that Suzan was structuring her knowledge by spending more time than Ekrem at image having layer at the beginning. As a result of this, after she moved into property noticing layer, she returned to image making layer with a less need to fold back. After

  

she had moved into property noticing layer from this layer, she only returned image having layer once and then she were able to move into formalizing layer directly. It can be said that she completed this process in a shorter time as a result of her attitude to be more quizzical at the image having layer and her ability to evaluate the knowledge appeared as a result of the questions that the researcher asked to her friend.

At the end of this study, both two students reached formalizing layer among Pieren and Kieren layers. This result is supporting the findings of the studies carried out by Pirie and Kieren (1994) and Manu (2005). Even though the academic achievement levels of the students were equally determined it is seen that their process of knowledge structuring were different. Both students mostly made fold back at 'image making' layer among layers at Pirie and Kieren's dynamic model. For this reason, it can be said that image making layer in which students are dealt with activities for having an idea regarding what the concept is about is mostly for fold back. The conceptual links of students were observed while they were making fold back as they had opportunities to re-structure the previous layer by using their existing understandings. This finding of the study is supporting the studies that were carried out by Martin (2008), Pirie and Kieren (1994).

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# THE APPROACH OF CANDIDATE TEACHERS TOWARDS SOCIO-SCIENTIFIC ISSUES: THE SPACE RESEARCHES EXAMPLE

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**ABSTRACT**
The purpose of this study is to identify the approaches of candidate teachers towards socio-scientific issues. To this end, 42 candidate teachers doing their pedagocgical formation program in 2015-2016 academic year were put through a study on the socio-scientific topic Space Researches. Of the 42 candidate teachers, 4 are physics students; 22 are chemistry students and 16 are biology students. The research pattern was determined as scanning and a text which describes the positive and negative aspects of Space Researches was prepared to collect data. The candidate teachers were given the text and their views on space researches were asked. Their answers were analyzed via content analysis method. According to the results, the majority of the candidate teachers are in favor of space researches (%71,43). The rationale of the candidate teachers who supported these researches was the fact that it has more benefits than harms, they are required for the development of the country, they help the formation of the future and they believe the world will be rendered more liveable thanks to these researches. Those candidate teachers who adopted a negative approach towards space researches (28.57%) justified their opinion by saying that these researches have negative sides that are still in the dark, people are exposed to more radiation, they inflict damage on the country's economy, they leads to consumerism due supporting new technological advancement, they lead to an increase in carcinogens, the results of the researches are not announced to the public objectively, it increases dependence on technology and they contaminate the Earth beyond the limits of liveability. The candidate teachers that are in favor of space researches express that they consider the researches are reliable since the harms that emerge during researches can be minimized. On the other hand, the candidate teachers who are of the opposite idea argue that those harms can never be wiped out and that the budgets set fr these researches should be used for researches devoted to improving human health. Identifying the views of teachers - physical sciences teachers in particular - on current researches is essential in that these views give insight about their approaches towards their students..

## INTRODUCTION

The human being, culture and economy are in a constant interaction. Correspondingly, any change in any of the links of this chain will affect the others. Hence, as a result of the population growth and the rapid imporvment of science and technology worldwide, the needs of the human beings are on the rise. Hand in hand with the uncontrolled use of the technology developed to meet these needs, the natural resources are damaged, the results of which are rising proportionately (Yılmaz, Morgil, Aktuğ and Göbekli, 2002).

Today, individuals encounter a world of socio-scientific issues. Even though these issues have a scientific aspect, they are observed to be at the limits of scientific knowledge and require decision making at individual or social level. As well as inholding values and moral and ethical factors, these decisions require a certain account of benefit and loss. On the other side, the issues of this sort are those conflictual among individuals at public level and among scientists in the scientific league. Besides, due to their conflictual nature, the media is the primary setting where these issues are dealt with. As examples of such topics, global warming, gene therapy, nuclear plants, clooning and GMO can be given (Kolsto, 2006; Ratcliffe & Grace, 2003; Sadler, 2004).

Besides these, it was ascertained that socio-scientific issues, which are reported to be debatable, related with science and tecnhnology, requiring scientific and ethical reasoning and not-well-structured problems (Sadler, 2004), affect the scientific discussions of students and these issues were recommended for physical sciences teaching program and classroom discussions. In the same breath, it was put forward that the epistemic belief levels of students, which are described as the beliefs and prejudices of towards science and the nature of knowledge, have an influence on scientific discussion (Hofer & Pintrich, 1997).

The curriculum of many countries include debatable socio-scientific issues (Dawson, 2001). Physical sciences teachers express that such issues are essential for the curriculum and that it is important for them to deal with such issues at school for they will face them later in life. Moreover, teachers are of the idea that these issues will be beneficial in terms of enabling them to understand the relationship between daily and social problems and science, enhancing their decision-making sills and understand physical sciences better (Lumpe, Haney & Czerniak, 1998; Lee, Abd-EI-Khalick & Choi, 2006).

However, physical sciences teachers, due to several barriers, either make mention of socio-scientific issues very little or skip these subjects (Lee et al., 2006). For instance, teachers have stated that there may be times when the cultural structure and religious beliefs of the teachers residing in the area where the school is located do not

match with these subjects, which can be a threat towards their jobs; moreover, they do not want to confront the families (McGinnis & Simmons, 1999). Furthermore, several teachers have mentioned that solving the matters that include social, political and economical problems is not the teacher's job (Gayford, 2002). Some teachers said that they do not feel comfortable while discussing such issues. Moreover, it has been specified that an accumulation of knowledge is required to discuss these matters and, if this knowledge is not possessed, classroom management will disappear so teachers refrain from dealing with such issues in the classroom (Day & Bryce, 2011; Lee et al., 2006). Another barrier is the concern of covering the curriculum issues and the lack of related class materials (Cross & Price, 1996; Gayford, 2002; Lee et al., 2006). It was also reported that it is difficult to assess the performance of the students in ethical and moral issues (Lee et al., 2006). Lastly, teachers have pointed out the inadequate standards of the students and their lack of interest in such issues as a barrier (Lee et al., 2006).

In this study that examines the attitudes of candidate teachers towards socio-scientific issues, the subject of space researches was chosen. Determining the general attitudes of physical sciences teachers (physics, chemistry and biology) was aimed at.

The fact that socio-sicentific issues are mentioned more and more frequently and that they are included in the physical sciences program increases the importance of socio-scientific issues. With this regard, it is important that studies related with socio-scientific issues be examined and their results be assessed. To this end, the views of candidate teachers on "space researches", which is one of the socio-scientific issues" were taken. It is reckoned that this study will be a guiding light for the training of candidate teachers in socio-scientific issues. In the study, an answer for the following question was sought;

What are the views of candidate physical sciences (physics, chemistry, and biology) teachers who are doing their pedagogical formation program on socio-scientific issues?

## METHOD

The study was conducted using the scanning model. The rationale behind choosing this model is portraying a present and past situation as it is. The event, individual or the object that is subject to the study is identified on their own terms and as they are. Any kind of change or effect is not meant (Karasar, 2009:77). Since this study aims at identifying the views of candidate teachers on space researches, the scanning model was deemed suitable.

### Study Group

The study group consisted of 42 candidate teachers that did their pedagogical formation degree in 2015-2016 academic year. Of these 42 candidate teachers, 4 of them are physics students; 22 of them are chemistry students and 16 of them are biology students.

### Data Collection Tool and Data Analysis

Scanning was adopted as the research pattern and a text describing the positive and negative sides of Space Researches was written to collect data. The candidate teachers were given the text and asked for their opinions on space researches. Their answers were analysed via content analysis method.

## FINDINGS

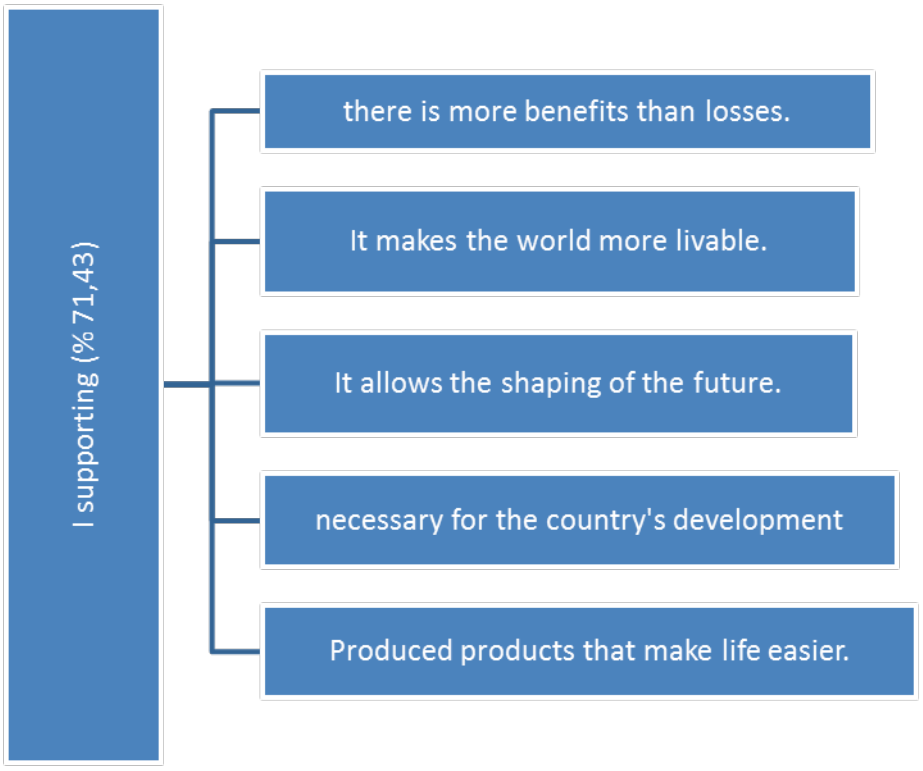
According to the results of the research, the majority of the candidate teachers support space researches (%71,43).

**Table 1.** The General Predisposition of Candidate Teachers Towards Space Research

| Views | Frekans | % |
|---|---|---|
| I supporting | 30 | 71,43 |
| I do not supporting | 12 | 28,57 |

The candidates that supported these researches expressed their reasons as having more benefits than harms, being necessary for the development of the country, generating products that make life easier, helping shape the future and their belief that the world will be a better place to live thanks to these researches.




The justifications of the candidate teachers that had a negative approach towards space researches (28,57%) were that the researches have negative sides that have not yet been revealed, they expose human beings to more radiation, they harm the country's economy, they increase consumerism since they promote advanced technology, they cause a rise in carcinogens, the research results are not declared to the public objectively, technology dependence is going up and making the Earth too polluted to live.

The candidate teachers who are in favor of space researches state that the researches are safe as the harms that emerge during the researches can be minimized. Those who are against the researches, however, assert that those harms can never be removed and the budgets allocated for these researches should be used for researches devoted to human health.

## CONCLUSIONS

Playing a crucial role in establishing the bond between the private lives of students and physical sciences and specified as an inseparable part of physical sciences education in that it enables students to understand that scientific knowledge is a human product (Pedretti, 1999), socio-scientific issues. The aim of this study conducted with candidate teachers in Turkey is to identify the general tendencies of them towards socio-scientific issues.

Socio-scientific issues contribute to students' discussion and problem-solving skills. It is important that students perceive socio-scientific issues, make decisions and find solutions. (Sadler ve Zeidler, 2004). These issues that contribute this much to the personal development of students must be in the educational program. Those socio-scientific issues that are in the Secondary School Physical Sciences program should be transferred to the high school program. Also, high school teachers should have knowledge, insight and views on socio-scientific issues. It is in sight that candidate teachers of physics, chemistry and biology do not have much knowledge about space researches which do not remain on the agenda in our country, which reflects on students negatively.

Socio-scientific issues aid those teachers who aim at improving critical thinking and judgemenet skills of their students. According to Albe (2008), including socio-scientific topics in the learning process increases the motivation of the learners and lead them to have more interest in such issues. Nuangchalerm (2010), also stresses that incorporating socio-scientific issues into the lessons influence students' high order thinking, discussion and questioning, and their understanding the nature of science. Also, it is stated by Sürmeli (2008) that making decisions on social matter related with physical sciences in a learned way is an important feature of physical sciences- literacy and improving students' decision making on socio-scientific matters and critical questioning skills is among the important tasks of physical sciences education.

The fact that candidate teachers mostly expressed their opinion over the text and did not express much opinion outside of the statements in the text is thought-provoking. An examination of the statements of the candidate teachers shows that they do not have adequate knowledge about space researches.

When studies devoted to socio-scientific issues are looked at, it can be seen that they are few in number and they mostly regard university students (İşbilir, Ertepınar and Çakıroğlu, 2012; Özdemir and Çobanoğlu, 2008; Soysal, 2012; Turan, 2012); and that one topic choosen among socio-scientific issues is focused on (Demir and Düzleyen, 2012; Özdemir and Çobanoğlu, 2008; Uzunkol, 2012.

By means of involving socio-scientific issues in physical sciences education, it is aimed to improve the skills of students to make decisions, analyze, synthesize, evaluate and perceive the relationships between socio-scientific issues (Zeidler, 2001). Topçu (2008) also puts forward that including discussion and evaluation activities concerning socio-scientific issues in physical sciences education will contribute to the rational, sensual and social development of individuals. Sürmeli (2008) stresses out that socio-scientific issues should be involved in the classroom so that students can make effectual decisions when they face socio-scientific matters.

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# THE CHALLENGES AND OPPORTUNITIES OF SOCIAL MEDIA IN HEALTH

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**ABSTRACT**
Yet despite this interest, there seems to be very limited understanding of what the term "Social Media" exactly means. There are countless blogs on health topics written by specialists and non-specialists alike that are read, commented on and shared globally. Decision makers, as well as consultants, try to identify ways in which firms can make profitable use of applications such as Wikipedia, Facebook, Instagram, YouTube, Second Life, and Twitter. Social networks such as Facebook or Hi5 are used by hundreds of millions of people to communicate about a huge range of topics, including health. The emergence of Internet-based social media has made it possible for one person to communicate with hundreds or even thousands of other people about products and the companies that provide them. Given the rapid changes in the communication landscape brought about by participative Internet use and social media, it is important to develop a better understanding of these technologies and their impact on health communication. The first step in this effort is to identify the characteristics of current social media users. Up-to-date reporting of current social media use will help monitor the growth of social media and inform health promotion/communication efforts aiming to effectively utilize social media. Timely, accessible and credible health information is critical for improving public health outcomes, whether to help people take action during an outbreak or to prevent illness. Increased access to the Internet and mobile communication combined with strategic uses of social media can bring public health information to many more people, more quickly and directly than at any time in history. Twitter and other social media tools might not bring health to all, but they can help to bring accurate health information to many more people than ever before.

## INTRODUCTION

Health communication is no longer limited to didactic transactions in medical settings or media messages delivered to passive audiences. With the rapid evolution of the Internet and online social networking, health communication now incorporates dynamic exchanges of information on a global scale. Social media, defined as Internet-based applications that allow for the creation and exchange of user-generated content, provides means for rapidly and inexpensively reaching a broad audience with health information through applications such as Facebook, Instagram, and Twitter (Almedom, 2005). In a society where individuals search social media for health information more frequently than they communicate with their doctors, understanding the consequences of using online resources is vital for keeping stride with evolving health care. Capitalizing on these resources requires an understanding of the factors influencing engagement with health communications in the social media context (Bender et al., 2011).

## THE STUDY

Social media use is on the rise. Facebook is the most used social network in the world [9], followed by YouTube. Curiously, the same social networks are used in extremely different countries. Healthcare organizations are slowly starting to use social media. More and more hospitals, medical professionals, and health authorities have opened accounts in YouTube, Facebook, and Twitter to reach their potential clients (Bernstam et al., 2008). The aim of this study is to determine the social media on health topics.

## FINDING

Communication in society is currently undergoing a paradigm shift from face-to face encounters to digital encounters via social media. Social media refers to any Web site or application used for social networking, including tools that enable individuals to collaborate, communicate, and share information easily. Social media have been employed in many industries to engage consumers (Cameron and Chan, 2008). Social media Web sites come in 5 major categories: weblogs, microblogs, file-sharing sites, integrated social media, and location-based social media.2 Together, these form a concept known as Web 2.0.3 The ''Big 4'' social media sites are Facebook, Twitter, LinkedIn, and YouTube, which together have more than 3 billion users worldwide and over 700 million users in the United States alone ((Bernstam et al., 2008). The health care industry has moved at a slower pace in incorporating social media because of inherent risks such as patient privacy, but recently this rate has increased to fulfill the consumers' needs. Moreover, some companies use social media to provide their

  

employees with wellness videos in order to cut their health care costs. It is apparent that the landscape of social media is evolving; therefore, it is absolutely necessary to be aware of the effects that it could have on the work environment. There are numerous concerns of safety and privacy of patient information, aswell as quality of care (Desai et al., 2015).

**Benefits**

Social media is a great tool for spreading information, news, and knowledge. From the physician or organizational point of view, being connected to patients through socialmedia means being able to build a patient community, answer questions patients might have, and broadcast health and wellness information (Kaplan and Haenlein, 2010). Health-related information has been the longstanding top category of searches on the Internet. Through social media, physicians and health care organizations can create custom tools to manage and monitor patient care. There are several mobile applications now that can track your body weight, blood pressure, temperature, and even check if you have a sexually transmitted disease (Kim et al., 2012).

Patients always have access to a doctor if they are connected on other social media sites such as Facebook. If they have any questions that they do not feel comfortable posting on an online forum, they can send private messages through almost any social media Web site to their doctor. One of the biggest benefits to this is that a doctor active on social media can help a patient almost instantly, particularly in times of crises (Luque, Bau, 2015). With over one billion daily active users, Facebook provides unprecedented opportunities for health organizations to reach and engage with targeted populations around the world. It is both a place where health information is passively encountered and a place where it is actively sought (Nedjat et al., 2014).

Users can “like,” “share,” or “comment” on any post, thereby transmitting different types of health information to others. By engaging users with the message contents and enabling them to share the messages with family and friends, these functions can promote learning, behavior motivation, and social support. Many such pages post interactive health information several times a day including recipes, reminders to check blood glucose, and personal stories about coping with the illness. Given the nature of diabetes management (i.e., a daily routine of self-care behaviors) and its growing prevalence, ongoing access to health management assistance through Facebook could help in meeting the high demand for health care associated with this chronic condition (Rus and Cameron, 2016).

Online communities of patients are very common in diabetes. In these networks people affected with diabetes share their experiences and also find emotional support from peers. These networks can be extremely large with dozens of thousands members and fairly complex networks. Chomutare et al. (2013) studied the dynamics of online communities of diabetes patients, and they found that the most centric members (those with more trust within the communities) tend to have more years of experience with disease. By contrast, seals of quality that started to proliferate a few years ago do not guarantee the veracity of the information published, as stated in a study by the American Cancer Society (2008) about quality criteria in online information about breast cancer.

**Risks to Privacy**

Alongwith all of the benefits that come with integrating social media into health care, there is also a myriad of risks that come with a physician’s presence on social media as well as an online friendship between a physician and a patient. Controversial or negative dialogue by individual health care professionals on social media has the potential to reflect poorly on the organization, especially if the individual is viewed as an agent for the organization (Woolley and Peterson, 2012).

**Illness Representation Attributes and User Engagement**

Many of the Facebook messages contained illness representation attributes. These features were hypothesized to predict user engagement because they represent the type of information sought and used to form a mental representation of an illness. Consistent with these hypotheses, consequence information (e.g., “The daily challenges of living with diabetes can take a toll on both people living with the condition and their loved ones”) predicted higher rates of shares in general (Rus and Cameron, 2016). Similarly, control information predicted higher like and share rates in the context of text-only messages (Bender et al., 2011). Although a high proportion of posts (54 %) provided identity information about symptoms, provision of this information was unrelated to user engagement. Timeline information was also a relatively common feature, appearing in 22.5 % of posts, but it did not predict user engagement either (Luque and Bau, 2015). Although these two features may not motivate engagement with Facebook pages, they still might be influential in shaping other disease management behaviors and emotional responses. Future work could manipulate the inclusion of illness representation features in posts to further assess their influence on user attention, engagement, behavior, and emotions (Woolley and Peterson, 2012).

  

**Social Support and Positive Identity**

That social support and positive identity predicted higher rates of engagement suggests these message elements address important motivations of individuals using diabetes-related Facebook pages. Seeking social support and positively reappraising one's identity as a person with diabetes reflect emotion regulation strategies delineated by self-regulation theory. Whereas social support appeared to prompt comments, messages focusing on positive identity appeared to motivate users to share the message with others (Nedjat et al., 2014; Luque and Bau, 2015).

## CONCLUSION

As we have seen, the Internet is rapidly expanding and is being used for health purposes by a great number of people. Social networks have a powerful influence in health decisions. Sometimes they help spread rumours and fake information and can undermine public health policies (Desai et al., 2015).

Posts were collected only from Facebook, and user engagement was measured only by means of Facebook features. Message features could influence user engagement with other social media platforms (e.g., Twitter, Tumblr, Instagram, etc.) in different ways. In addition, overall user response rate could not be measured because Facebook pages did not indicate how many followers viewed a post without responding to it at the time that the study was conducted. Further, the study focused only on Facebook users interested in diabetes support and management and those willing and able to engage in some way with diabetes-related posts. It is possible that such individuals differ from those who do not share these interests. For example, they may be higher in computer or internet literacy or have less concern about privacy (Luque and Bau, 2015).

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# THE CONCEPT OF KNOWLEDGE IN DEWEY'S PHILOSOPHY FOCUSED ON ITS RELATION WITH HEGELIAN PHILOSOPHY

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**ABSTRACT**
The purpose of this study is to clarify the concept of knowledge in Dewey's philosophy by exploring that focusing on the relationship with Hegelian philosophy.
Hegel opposes the dualism of traditional philosophy and transcend it by his own dialectic named Hegelian dialectic. Hegel criticizes that it is possible to distinguish recognition subject and object in perception. He think this thought is the start of error and make impossible to solve the problem. In Hegel, the whole of reality is combined result and unfolding process, so result and process all should be at the core when we understand situation. Dewey was influenced by Hegelian philosophy, and particularly Hegelian dialectic. Dewey was trying to overcome the dualism during the whole life, and has confessed that Hegel's philosophy is the foundation to fullfill desire of integration as a way to overcome the dualism. The Hegelian dialectic is logic shows that there is no definite boundary between recognition and absolute will. More precisely, it shows that boundaries of all existence can be change. In Dewey's perspective, knowledge is the thing that occurred in the process for resolving the problems in the life. In this case, Dewey suggest scientific investigation methods as a way of solving the problem. He think that through scientific inquiry It can be understood the relation among the situation in different conditions, and it can be possible to foresee results occur in the future. Predictions for the future are accompanied by a real achievement for it. Therefore, knowledge is the totality of practical courses including scientific and objective facts as well as to psychological and emotional parts. Such knowledge serves to make the experience can be used freely and meaningfully to the other experience. Above all, this is the real value of knowledge in Dewey's philosophy.

## INTRODUCTION

Lately, educational trend is growing to make class culture for self-directed learning in Korea. It is considered that such trend is from Dewey's theory that emphasize experience-based education. Education, whatever approach it is, can not be explained apart from the lessons centered on knowledge, and the access method for actual of education can vary significantly depending on how we define knowledge. Thus, it is very important for the development of educational practice to grasp Dewey's concept of knowledge. And Dewey revealed that large part of his philosophy was influenced by Hegel. This paper clearly aims to discover the nature and characteristics of Dewey's theory of knowledge by re-examining how his theory accepted Hegel's philosophy. It will provides a rational and systematical basis for the so-called perspectives and reflections on some suggestions that focus on the alternatives of knowledge education.

### Hegel's philosophy as the Foundation of Dewey's Theory of Knowledge

Although Dewey criticizes, of Hegel's philosophy in his work *Democracy and Education* from different aspects, he admits that he is also deeply affected by Hegel. This chapter aims to explore Dewey's theory of knowledge through Dewey how to accept Hegelian dialectics as a principle of negating and overcoming dualism and objective idealism.

#### 1. The Clue of Hegel's Negating and Overcoming Dualism

Hegel criticizes Kant's philosophy in his *Phenomenology of Mind*. And Kant discusses the rationality of human beings and whether it can be regarded as the method of understanding absolute truth through his *Critique of Pure Reason*. Futhermore, because of the objectivity, which is recognized universally as one of the indefinite objects based on the experimental intuition of humans, so Kant concludes human cannot know the pure object itself. He emphasizes the subjectivity of cognition, but suggests that subjectivity can never come close to the truth of the objective. To understand Kant's views on the distance between cognition and cognitive objects, Hegel responds that it is not clear where to draw the line between cognition and absolutes(Hegel, 1807). He believes that the 'cognition' refers to the generalization of the certain relations and existences associated with consciousness, in that case, the so-called cognition can be discussed and discovered in the 'relationship' between the subject and object of it—or

  

rather, only in the cognitive activities. But if we differentiate the cognition and cognitive object, it will lead to the logic of grasping pure objects of cognition by eliminating transformations and changes that derives from the relationship between them. For example, when the doctor needs to look into the patient's surgical site by shooting to the lights, would doctors be able to identify the site of surgery without the operating lamp? On the contrary, doctors neither confirm surgical site or perform the operation in the dark.

The idea that it is possible to differentiate the subject and object of cognition, takes it for granted that there is the discrimination between truth and falsity originally for reasonable thing. These thoughts, in a sense of everything either true or false, or should be true or false, so eventually it could make the misunderstanding that against the false or wrong thing is the truth. Exposing difference itself is set to be important differentiating truth and untruth rather than being absorbed in a sort of situation, in the end only hover at situation's edge. According to Hegel, situation, in other words the whole of reality, consist of conclusion and creation process(Hegel, 1807), for grasping situation, real conclusion and creation process should be the core.

Based on the negation of dualism, Hegel's thought of emphasizing the importance of 'process' within the problem-solving provides a wonderful motivator for the formation of Dewey's philosophy. Although dualism appears to take on various modes in the history of philosophy, the only thing they have in common is that they regard the world of human activities as a pure phenomenon, which aims to distinguish the essence of existence that is inaccessible to humans. Because of that, Dewey's philosophy is deeply subjected to Hegel's negation of dualism. Because Hegelian dialectics provides an intense and specific sample for him to overcome conflict and contradiction from dualism.

**2. Hegelian Dialectic and Dewey's Continuity of Experience**

Hegelian dialectic is the logic of cognition that is unfolded through thesis-antithesis-synthesis based on Spinoza's insight that 'all regulations are negative'. 'thesis' is the step that dose not found itself containing inconsistency, 'antithesis' is the step that reveals inconsistency found, 'synthesis' is the step that thesis and antithesis are combined and integrated into synthesis. But, at the same time, the step of 'synthesis' implies another inconsistency and negation. As a result, the Hegelian dialectic shows that there is no clear boundary between cognition and the absolute being, and all boundaries of existence are fluid. Thus, the subject of perception must be able to accommodate and comprehend the negative object from their own.

According to Hegel, human consciousness will recognize by distinguishing something that associated with themselves from his own(Hegel, 1807). Recognized subject is the negative one that is different from the subject of perception. In this time, consciousness tries to review whether the match after deciding negatived object, that distinguished from subject of perception, is true. Of course, cognition and truth(subjects and objects) have been established as being already distinguished, so they can not be matched. However, Hegel regards that consciousness can be proceed to the next step by knowing the disagreement of subject and object. Hegel calls the change and the flow that unfolds between subject and object as a 'dialectical movement'. Such movement can be established from the shift of consciousness, and from this fact, a new and true object is created, he called it "experience(Erfahrung)".

When humans find a new sort of meaning through any event in the course of life, such a process is called 'experience' by Dewey. Of course, the 'experience' of Hegel and Dewey, is a concept that has different logics and philosophical backgrounds, but there are some similar things. One is that Dewey's experience means an interaction itself between humans and environment. Experience as an interaction is peculiar combination both trying and undergoing of subject to the world(Dewey, 1916: 146), the connection type of both sides decides the result of cognition, that is, the quality of experience. For example, when the act of bringing the hand to the pot(active side) and the result of suffering from the act(passive side) are connected, the child will understand the 'meaning' of burn. In other words, if we have experienced the situation truly, then we can understand the meaning of it(Kwon, Heo & Kim, 2014: 97).

The other one is that experience in Dewey's perspective is the foundation or mean of another experience. It means the continuity of the ends and means. For example, let us think about the establishment of a house. In order to build a house, we shall proceed to a series of processes, for example, making a foundation, setting up a pillar, amassing a brick, etc. But unless we imagine the finished house, it is impossible to measure how much area should be needed to make a foundation, where we must make a pillar and how we build a brick. A series of activities for the establishment of a house, it is possible to determine the direction when imagined house is in mind. Which it was only simple acts and materials would be eligible as a means by being related to the imagined house that is an end as end in view. In other words, means are meaningful when ends are reflected, ends will be given a sort of value through the validity of means. Moreover, that means reflectes ends implies that ends guide the direction of activities. Thus, ends are 'means' to lead the activities, and acts as a means reflecting ends itself is an ends. So Dewey said that the distinction of ends and means is just only one convenience, we call it end when it marks off the future direction of the activity in which we are engaged; We call it means when it marks off the present direction(Dewey, 1916: 113). Like this, Dewey views ends and means which seems to conflict and opposed to all appearance, as that action by 'end in view', and eminerntly integrates them(Jung, 1995: 272).

  

**3. Objective Idealism of Hegel**

Hegel sees that all phenomena happening now are the course of realizing the absolute spirit as the ultimate goal. On the other hand, in Dewey's point of view, events which have been unfolding in the environment, that is phenomenon, are interactions of organisms and the environment itself, they are not the stages for the realization of the transcendental subject, such as the absolute spirit. Despite these differences, Dewey affirms the objectivity that has been discussed in the process of advancing towards the absolute spirit of Hegel.

Dewey, while considering the thinking method of Hegel, thought that the best activity in thinking is to try to make it in a pure expression of the facts(Dewey, 1897: 95). He thought Hegel in childhood was gained a ability to understand the essence of existence as things themselves by a personal reflection, cautiousness and silent, and emphasized the objective situation itself. Dewey also views that thinking, because it is subsequently real, it may be found only in the objectivity and can not be found in the subjective opinion(Dewey, 1897: 95). So Dewey considers the reflective thinking as the most desirable way of thinking. Reflective thinking as he understands it is an active and ongoing, carefully pondering based on the evidence of supporting it and the obtain results about some belief or form of knowledge. Only when there is a trust based on the objective evidence and some efforts to eliminate the subjective opinion that allows real thinking. However, it called objective evidence as a 'fact present in a particular place or thing', that 'recognition' the objective evidence is possible by consciously distinguishing between the subject and object that is called by Hegel within the situation in interaction defined by Dewey. So Dewey focuses on the assertion of Hegel, 'all the thinking is objective, the relationship of the thinking is in the form of the objective world, the process of the thinking, simply follow the movement of the situation itself'(Dewey, 1897: 96). It means that It should explore practical means about the current situation going on. In short, because the ability of thinking while being separated from the object so the idea that mind(thinking) can understand or develop the truth itself is wrong.

Dewey regarded the thinking as the creation and entering into a new world, but creativity can only start from the familiar material well known(Dewey, 1916: 165-166). He thought that progress being to be made when trying to make up with more consistent results through the efforts to reconstruct it after pondering on the basis of the existing beliefs or practices that regarded as the objective facts. In short, true thoughts are made on the basis of objective facts. Object given in the development process of thinking towards Hegel's absolute spirit, which should be recognized as an objective fact itself to the subject of perception. The subject of perception will have a more developed awareness when consciousness can not be accepted the object itself and the moment of understanding that they have recognized by their lens in the process of identifying the object. It cannot explain the increase and development about the subject of perception and object without the premise of the objectivity of subject.

**The Formation and Growth of Knowledge Based on Scientific Inquiry Process**

Hegelian dialectic seems to indicate that the process of identifying a number of relevant exists in life. Dewey thought that it is possible to identify this relevance through the process of scientific inquiry. And he saw that the knowledge is generated in this process. Moreover, understanding the relevance, it does not mean terminating in itself, also be extended to a new phase, and has the characteristic that repeats the process of grasping the other relevances. This process revealed new knowledge through scientific inquiry process, and it confirms that the Hegelian philosophy is integrated in Dewey's philosophy and reveals the nature and characteristics of knowledge much more clearly.

**1. The Paradigm Shift of Knowledge on Modern Science**

In Dewey's view, most of thoughts and faiths in before the development of science cannot provide exact grounds, rather they are closed to the fast-acting and prejudice relying on the authority, tradition, injection or imitation, etc. On the other hand, science has emerged as a powerful tool to gain confidence in the faith of thought or belief by providing the basis for assumption with the verification. According to Dewey, science is defined by special apparatus and method, i. e. the way of inquiry and verification of thinking under appropriate conditions as so-called 'acquired skills'(Dewey, 1916: 197-198). In general, science because it is considered as 'the systematically organized knowledge' that can be seen in exact opposite of 'acquired skills'. However, these two have just different names of the same meaning. For example, if any architect build a good house, we would believe that the knowledge of the architect is organized systematically. The meaning of this judgment is that architect when building a house comprehensively utilize skills learned from actual construction activity on the basis of various objective resources and information without relying on imitation or unconditionally accommodating prejudice basing on authority or tradition. Architect's 'acquired skills gained from practical activities' which will be 'the systematic organizational knowledge'. In Dewey's view, science has brought a great change in point of view that knowledge is formed through the actual process of investigation and verification rather than the immutable and eternal truth that is recognized through the reason.

Based on the scientific method, The first task is observation that provide data as a foundation to identify any object. After that, humans for thinking is to obtain a result of what being seemed as the knowledge based on such facts that it has been verified with experiment. In other words, for Dewey, knowledge is verified by thinking with

  

experimental and hypothetical scientific procedures. Like this, modern science made the paradigm that it is not a superior value that considers invisible higher and ideal power, but rather things that will be directly investigated and observed is what we can most confident.

**2. Nature and Characteristics of Knowledge as a Result of the Inquiry**

In Dewey's perspective, knowledge is a perception of several connections of an object which determine its applicability in a given situation(Dewey, 1916: 350). Therefore the function of knowledge is to make one experience freely available in other experience(Dewey, 1916: 349).

A person who take advantage of the knowledge does not look at the faced situation by independent situation but understand it by associating with other events or conditions, and then use a tool or take appropriate action. If it could not be solved by skills of self, then it may request help to others, or if it is considered impossible to solve, then a person may choose a way to evade. For example, firefighters in front of a burning building do not see it just 'dangerous fire' itself. He chooses the way for effective fire fighting after careful grasping about all of conditions associated with the crisis(e.g. the position and height of the surrounding buildings, weather conditions, available workforce, fire fighting experience, etc.) Like this, knowledge has a function to increase the control capability of the situation.

But knowledge may not be a direct contribute to solve problems in real situations. In the previous example, although firefighters mobilized all of knowledge he had, may fails to fire. At this time, the firefighters will check that there are any errors or deficiencies of the knowledge was utilized in judgment and execution for fire fighting. Through this self-reflection, firefighters will be got substantial values while a provisional thing will be revealed in the future, for example, founding some caution or advantage to use, and spiritual values, for example, having a sense of well-balanced from consolation and encouragement of fellow. It means that the firefighters get rewarding, that is to experience a meaning, through the problem solving process of fire fighting. In short, the knowledge in Dewey's perspective serves to achieve spiritual rewards as a result of acts by increasing the experience of meaning or meanings contained in the experience

A brief conclusion is that the knowledge in Dewey's perspective is the knowing occurred in the process of solving problems in the life. Especially, it is possible to reach reliable and definitive conclusions, i. e. the acquisition of knowledge through the practical process of scientific inquiry. And This process includes even emotions such as the best efforts and passion of subject in the situation. Because assumptions about any situation or results can be described as the predictive of a future, and activities to predict and plan the future must accompany the achievement motivation(Kwon & Kim, 2015: 9). Dewey thinks that the experimental method is a systematic way to gain knowledge by giving out the fact that we predicted or assumed through the activities(Dewey, 1916: 348). After all, the knowledge gained through the experimental method is not independent of personal emotions. Therefore, we can lead activities intellectively and make the growth of its meaning as much as having more clearly perceive about the meaning of the experimental method, that is one's expectations or desire to the future.

On the other hand, this knowledge can be proved based on the contents of knowledge revealed through the inquiry process in the past, and the knowledge revealed through the inquiry process in current can be used as a material that constitutes the other knowledge of the future. In other words, knowledge in Dewey's philosophy has a double meaning in which it leads to a stable termination of the current and is a way as resource causing exploration of future. On the other hand, extending these double meanings, the knowledge as a meaning that obtained from the experience has both a personal meaning and a social meaning. Because knowledge is the result (as meaning) that is obtained in the course of personal life, but, individual existence in which there are continuous interactions constantly and the formations of knowledge in it. If think in this way, we can see that the knowledge defined by Dewey is not incompatible with traditional rational knowledge but exists in one continuous line and develops itself by giving more meanings and values(Park, 2010: 145).

## CONCLUSION

### The Meaning and Implications of Dewey's Concept of Knowledge

Knowledge that consists of scientific investigation methods, which has a direct relation with investigator who living in the present life and being future-oriented. Knowledge also has objectivity, on the side of that is verified through the inquiry process. On the other hand knowledge has a changeable flexibility what always keeps the contextual relevance in mind.

scientific inquiry makes narrow and subjective opinions, and reflective and unfounded faith can be modified, suppled or excluded as a reasonable ground, furthermore, reasonable grounds is the fact that revealing through scientific inquiry that are made to have any permanent behavioral tendencies about the world. That is why Dewey judged worthwhile scientific inquiry. Knowledge has a totality that can be extended and applied to the world, by doing that, so it has generality, and can be the resources of education for the individual and social growth.

  

Such features of knowledge have several important implications. First, it confirms the possibility of theoretical knowledge and practical knowledge that can be harmonized. Also, it should enhance the importance of prudence, responsibility and flexibility these should be demonstrated in practical situations of education by reflecting the modern society that changes constantly and vary widely. If we views about the 'knowledge' can be changed in many ways, it can be considered that the future can be created through the results of the current behavior, and this makes the current exploration and practice will be asked more prudence and responsibility. In addition, the attitude to check carefully and thoroughly, that is the extent to which participation in exploration activities, which will bring clarity for the future design of learners, as a result the learner will pose of participants.

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# THE CONTINGENCY OF PRACTICAL ACTIVITY AND THE SELECTIVITY OF VALUE: FOCUSED ON THE CONNOTATION AND OBJECTIVE OF OAKESHOTT'S CIVIL EDUCATION CONCEPT

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**ABSTRACT**
The object of this paper is chiefly to clarify the theory of Oakeshott's civil education from the perspective of his philosophical view of politics and to attempt to concentrate his civil education concept into the interrelationship between the contingency of practical activity and the selectivity of value. First, this paper brings out Oakeshott's civil education concept by analyzing and combing the core ideas of four representative schools of the contemporary western civil education thought. Secondly, Oakeshott systematically addresses the essential connotation of politics based on his philosophical view of hermeneutics. He believes politics is composed by three components: a political situation, a response to a situation and a genuine deliberation on value selection. Thirdly, Oakeshott points out that civil education is designed to train qualified citizens who treat the freedom as the value orientation based on his political-philosophical concept of value selection. And this paper emphatically introduces his unique concept of political freedom of the 'individual'. Fourthly, the political objective of civil education is to establish a conservative civil association of morality rather than a community of interests that pursues 'common good'. And it emphasizes that only in a safe and stable political environment can citizens enjoy a more-diversified lifestyle of value selection. Lastly, in the context of modern instrumental-rational education, Oakeshott treats the conservative political view of liberalism as the value orientation and attempts to resolve the contradictions and conflicts of ideological education through the way of 'intimation' and 'conversation'. Beginning from the philosophical basis and empirical mode of practical activities, Oakeshott considers value selection as the essential connotation of education and proposes his unique concept of civil education that possesses conservative disposition. It is undoubtedly that this new educational concept will play a positive role for the reformation and development of contemporary education.

**INTRODUCTION**
Michael Oakeshott (1901 ~ 1990) is a well-known political philosopher in contemporary England. As one of the conservative intellectuals, he is internationally best known for his unique philosophical view of politics, particularly the criticism on rationalist politics. He not only pays attention to the political problems, but also much cares about the educational studies. D. G. Myers comments in *Learning to be a human*, "with the exception of Dewey, it may be said that no other twentieth-century philosopher of equal abilities has examined the problem of education as closely, or understood it as deeply, as Oakeshott" (Myers, 1990, p. 626). And typically, in *The Voice of Liberal Learning*, Oakeshott profoundly reveals and discusses the essential problems of comtemporary education from the viewpoint of political philosophy. And to this extent, his concept of civil education is no exception. Because the theoretical background for civil education lies in political philosophy (Mabe, 1993), and different thoughts of political philosophy produce different concepts of civil education. Generally speaking, as far as the historical development of the theoretical concept of civil education is concerned, there are mainly four theoretical perspectives of civil education in western history. They are civil education concepts of republicanism, of liberalism, of communitarianism and of multiculturalism. Of these four civil education concepts, the theory of liberalism is the premise and foundation of the western civil education thought, and other three concepts (republicanism, communitarianism and multiculturalism) amend the theory of liberalism based on the specific political situations and demands from different angels (Bertossi, 2003). All these educational thoughts affect the value orientation of civil education in varying degrees, and each of them plays an important role in the practice and theory of civil education. Although these theory schools have played a positive role in encouraging the development of the theory and practice of civil education from different angles, on different degrees, almost all of them were basically discussing some questions on what kind of qualifications the citizens should have, how the government exercises its functions efficiently, how to correctly handle the individual, the collective and national interests and how to cultivate good citizens. And essentially, instead of re-examining the problems and experience of civil education on the height of philosophy, they merely elaborate their respective stances rationally based on the corresponding historical backgrounds. For example, the civil education concept of liberalism is to stress the priority and effectiveness of individual rights; the excessive demands of republicanism, however, tends to easily lead to a collective propensity of extremalization; the educational concept of communitarianism aims to overemphasize the values and interests of community—namely, the pursuit of the 'common good'; and the disposition of multiculturalism is to emphasize

  

the inevitability and necessity of differences between 'ethnic groups'. The common characteristic of these four educational concepts is that education can be understood as a sort of substantive-purposive activity; it is the embodiment of political and technical hegemony of rationalism. What is worse, however, is that the rationalist hegemony has deeply invaded and has begun to corrupt the institutions and systems of the genuine education. And the Rationalist has perfectly put his educational program into practice. Nevertheless, this program is certainly not "an initiation into the moral and intellectual habits and achievements of this society, an entry into the partnership between present and past, a sharing of concrete knowledge; for the Rationalist, all this would be an education in nescience, both valueless and mischievous" (Oakeshott, 1991a, p. 38). Indeed it denies the complexity and contingency of educational activities and the fact that value selection is the essence of practice. For this reason, Oakeshott explicates the ontological contingency and value of practical activities from the perspective of hermeneutic philosophy, even alluding to the discussion of the ideological issues of education. He treats the conservative-liberal moral practice as the value orientation and attempts to solve the crisis of ideological education of rationalism through the educational methods of intimation and conversation. In this paper, beginning from the philosophical basis of hermeneutics, Oakeshott tries to consider the politics as a sort of practical activity (or practical mode of experience) and proposes that the political activity is composed of three components—a political situation, a response to a political situation, and a deliberation about the response to be made. Then, he regards the value selection of the response to be made to the political situations as the essential connotation of politics. These discussions and analyses of politics will lay a solid theoretical foundation for the formation of his concept of civil education. Lastly, Oakeshott details the core meanings and connotations (e. g., the cultivation of the ability of understanding the political situations, the cultivation of the free 'individual', the cultivation of the ability of judging and selecting correct value, the promotion of the practice of constructing civil association, and the importance of setting up the educational concept of "intimation and conversation") of civil education from three aspects including its value orientation, political objective and approach.

**Value Selection: the Essential Connotation of Politics**

According to Oakeshott, politics may be identified as a sort of political activity in practical area; it is not a science or a kind of instrumental behavior of certainty, but a behavior of 'value selection'. He provides an elucidation of the nature of political activity by examining and illuminating how we come to learn our traditions of political behavior (Williams, 1983, p. 33). Generally speaking, a political activity comprises of the ingredients of three aspects, i. e. a political situation, a response to a situation and a genuine deliberation on value (Oakeshott, 1991c, pp. 70-1). First, a political situation has its own characteristics, this situation derives "not from natural necessity, but from human choices or actions, and to which more than one response is possible" (ibid., p. 70). Secondly, a political situation has the characteristic of publicity; it is may be identified as "a contingent situation to which a ruler or a government (and not a private person, as such) is expected to respond" (p. 70). And above all, a political situation originates from man himself, it is inherently uncertain, thus, a sort of deliberation is required "in the choice of the response to be made to the situation" (p. 71). And, of course, the essence of this deliberation is not a simple consideration of technical rationality, but a complicated consideration of value. In short, this political view as Oakeshott understands it is a typical political view of humanism, because he elaborates the essential connotation of politics based on the practical activities of human beings, and fundamentally, these practical activities can be understood as the objects of 'value selection'. And politics is a sort of practical activity concerned with making a selective response to the actual situations of politics, and it is consistent with its own world of value. However, owing to the contingencies of specific political situations, and then, there are also different value selections depending on the responses to political situations. This kind of valuable selectivity about the response to be made to the political situations is precisely the essential connotation of politics. Furthermore, this political view of value selection, for Oakeshott, is a vigorous criticism of the political view of rationalism (e. g., Machiavellianism and the natural law theory of Hobbes) in modern times. To be specific, the political view of rationalism believes politics can be regarded as a sort of operational technique or plan (Cf. Oakeshott, 1991a, pp. 27-9). For the Rationalist, a technique or a plan is the decisive condition that is used to reinvent the social politics. And more specifically, in politics, a central-planning society is the ideal mode of all rationalist politics (Cf. Oakeshott, 1947-8, p. 478). But, from the point of Oakeshott's empiricism, the philosophical error of rationalist politics lies in that it classifies politics as a scientific mode of experience, rather than a practical mode of experience. And one of the biggest differences between the scientific mode of experience and the practical mode of experience is the fact that science is unconcerned with value while practice is concerned with the selectivity of value. Thus, the dilemma of rationalist politics lies in that it ignores the contingency and selectivity of politics that is identified as a sort of valuable practical activity.

**The Freedom of the 'Individual': the Value Orientation of Civil Education**

The freedom, for Oakeshott, is chiefly a way of living practice. And the practice of freedom is the value selection of freedom, that is to say, everyone should become a free 'individual' in specific historical practice.

  

Because Oakeshott is not "easily assimilated to liberalism. . . he saw in liberalism a strong tendency towards abstract individualism" (Boucher, 2005, p. 83). And this 'individual' is the distinct characteristic of Oakeshott's concept of civil education that treats the freedom as the value orientation. To Oakeshott, the 'individual' is not the nature of human beings, but the product of history, it sprouted in the 13th century, after four centuries' development, this sort of 'individual' ultimately changed the political and moral status of Europe. Moreover, it is not the transcendental essence of humans, but the outcome of human practice. Of course, "all individuals are members of more than one group and subscribe to more than one practice" (Callahan, 2005, p. 9). In short, the free value orientation of civil education (that is, the value orientation of practical freedom) is to cultivate the free 'individual' who has the spirit of freedom. And this kind of free 'individual' has the following characteristics: first, the morality of the 'individual' is a sort of morality that aims at pursuing "'liberty' and 'self-determination'" (Oakeshott, 1991d, p. 374). Secondly, the freedom of the "individual" in the process of value selection comes into being in the practice, and has been being enriched and developed in the process of historical practice. Lastly, the value selection of freedom is the essential requirement of the 'individual'. Here, every "individual choice is preeminent and a great part of happiness is connected with its exercise" (Oakeshott, 2000, p. 82).

Nevertheless, the alternative to the 'individual' is the appearance of the 'mass man'—the sort of people who, in moral practice, can be considered as a variation of the 'individual'. And the most prominent characteristic of the 'mass man' may be observed, it is the 'anti-individuality'. Because the morality of the 'anti-individual' is a sort of morality that pursues "'equality' and 'solidarity'". And the core of this morality is not a concept of 'self-love', but a form of "the love of 'the community'" (Cf. Oakeshott, 1991d, pp. 374-5). Indeed, the morality of the 'anti-individual' is what the philosopher Friedrich Nietzsche calls the "morality of slave" that defines the moral behavior as a standard of appraising 'good' and 'evil'. Certainly, for the 'mass man', Oakeshott carries an intensely critical attitude, because the emergence of this 'mass man' for man himself is exactly a manifestation of the principle of equalization and mediocrity, which is in conflict with the characteristic of the 'individual' who pursues 'liberty' and 'excellence'. Moreover, the 'mass man', as we have seen, is not the existing form of an independent individual, but a variation of the 'individual', and its formation and development has been experienced such a process: the 'individual'—the 'anti-individual'—the 'mass man'. And in this process the 'anti-individual' is a product of whose who fail to facilitate the formation of the 'individual' in his development and evolution. And "the disposition to be an 'anti-individual' is one to which every European man has a propensity; the 'mass man' is merely one in whom this propensity is dominant" (Oakeshott, 1991d, p. 381). If the 'anti-individuals' occupy an absolutely dominant position in quantity in society, they would then turn into 'mass man'. And outwardly, the 'mass man' is free, but it fact, he has never had the true freedom in practical activities, because the 'mass man' is weak in the ability of judging and selecting correct value. What he seeks is the equalization of 'public value', and his disposition is attempt to compensate for what he cannot create for himself by obeying or controlling others. It is precisely because of the lack of the ability of selecting correct value, the 'mass man' lacks a moral spirit of 'liberty' and 'self-determination', and he finds no 'sense of security' in himself, thus, he tends to make up for this kind of moral defect by endowing the society and government with unprecedented power and authority (ibid.). If the general disposition of the 'individual' is to exercise the 'civil rights' to establish a world of 'liberty' and 'happiness', then the natural propensity of the 'mass man' is to rely on the absolute 'social power' to create a single substantive world.

**Civil Association: the Political Objective of Civil Education**

Based on the above analysis of the political view of value selection, Oakeshott believes civil education should treat the individual freedom as the value orientation and take the construction of civil association as the political objective. Then, what is the civil association? what is the meaning of civil association?

According to Oakeshott, a civil association presents the following several characteristics: first, civil association is the form of a collective organization of the 'individuals', and every 'individual' is the prerequisite and foundation of civil association. In this common organization, the heart of it is to preserve the freedom intrinsic to agency of its members disposed to individuality, and the freedom of every 'individual' is preserved in this common recognition of the rules of civil association (Cf. Franco, 2003, pp. 502-3). Thus, the common recognition of a compulsory civil association is the intrinsic requirement of the 'individual', because the members of a compulsory civil association are free, and the answer lies in the characteristics of its common, general and articulated rules (Podoksik, 2003, p. 63). But, relatively speaking, the general character of the 'mass man' is evidently not in conformity with the essential requirements of civil association. Moreover, the common goal of the 'mass man' is not to establish a civil association, but a community that promotes 'common good'.

Secondly, in terms of value selection, a civil association is differ from the community that aims at promoting

  

'common good'.[1] In general, civil association is a kind of durable social relationship in which human agents can be engaged (ibid.). As to value orientation, this sort of association persists in focusing on the essential character of freedom and consciousness and pursues the independence and diversity of value orientation. But the value orientation of a community mainly embodied in the pursuit of the 'substantive good' and the high affirmation of the consistency. For Oakeshott, there are mainly two forms of community, namely the ancient community and the modern community. The former is the outcome of traditional society;[2] the latter is a variation of the 'individual' in modern society.[3] Thus, clearly, civil association is opposite to the community that promotes the 'common good'. Thirdly, a civil association is different from an enterprise association on the value orientation. Because an enterprise association exists for specific purposes, it "may be both disinterested as well as self-aggrandizing, highly formal or intimate, and even of greater or lesser degrees of moral legitimacy" (Boyd, 2004, p. 605), it is recognized as a purposive associations. By contrast, a civil association "is not concerned with the satisfaction of wants and with substantive outcomes but with the terms upon which the satisfaction of wants may be sought"; it is characterized as a 'moral association' (Oakeshott, 1975, p. 174; 1991f, p. 454). And the practice of morality is the essential characteristic of a moral association, it is different from the practice of utilitarianism, because a moral practice does not treat the 'common good' as the value orientation; it is a sort of non-purposive practice. Further, a moral practice "has no source or legitimacy other than its historic creation and acknowledgment by human beings. . . cannot be understood in terms of a Divine, transcendental, or rational ordering: It is a human achievement" (Ademi, 1993, pp. 881-2).[4] And the value of this human achievement lies in that it "cannot tell us what specific choices to make but it does tell us what range of choices are open to us, how we should deliberate and decide among them, and what ways of life are likely to prove self-destructive" (Parekh, 1995, p. 169). Finally, civil association as Oakeshott understands it is a sort of conservative association. On the other hand, enjoyment is the essential characteristic of conservative disposition. For Oakeshott, "the disposition to be conservative is, then, warm and positive in respect of enjoyment" (Oakeshott, 1991e, p. 412), and all practical activities, then, "where is sought is enjoyment springing, not from the success of the enterprise but from the familiarity of the engagement, are emblems of the disposition to be conservative" (p. 418). Clearly, a civil association is conservative because it lies not in the ultimate purpose of pursuing the benefits of enterprises, but in the moral practice of assuring the enjoyment of the life-styles of various value selections. Indeed, the conservative character of civil association is a centralized reflection of Oakeshott's political view of

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[1] One interpretation of the 'common good' rooted in Aristotle's philosophy remains in use as a community of mutual benefit, referring to "a good proper to, and attainable only by, the community, yet individually shared by its members" (Louis, 1993, p. 687). By contrast, this community or association as Oakeshott's understands it is related not in terms of "common purpose" or "substantive performances" but in terms of "the common good, community, general will, or other expressions of shared purposes and mutual solidarity" (Podoksik, 2003, p. 63; Boyd, 2004, p. 605; Oakeshott, 1975, pp. 147-8, 152-3, 176-7). This kind of understanding is actually based on the analysis of the characteristics of value selection.

[2] E, g., Ferdinand Toennies, a German social thinker, proposes the conception of 'traditional community' in community and society (1887). This traditional community as Oakeshott understands it is actually a religious community of the Middle Ages.

[3] The community of collectivism, for Oakeshott, is typically a modern community, and Marx's thought of 'modern community' is undoubtedly the most representative one.

[4] For the specific discussion of a moral practice, see *On Human Conduct*, pp. 63-4, where Oakeshott states: "Every such vernacular of moral converse is a historic achievement of human beings. Each is a continuously accumulating residue of conditional relationships learned in an experience of intercourse between optative agents. It emerges as a ritual of utterance and response, a continuously extemporized dance whose participants are alive to one another's movements and to the ground upon which they tread. Its abstract nouns (right and wrong, proper and improper, obligation, dueness, fairness, respect, justice, etc.), when they appear, are faded metaphors, and it is only the uneducated who insist that each must have a single unequivocal meaning indifferent to context. This language is responsive to the aspirations of those who speak it and it is amplified in the pia libertas of its conscientious users. It is never fixed or finished, but (like other languages) it has a settled character in terms of which it responds to the linguistic inventions, the enterprises, the fortunes, the waywardness, the censoriousness, and sometimes the ridicule of those who speak it. It is its vicissitudes, and its virtue is to be a living, vulgar language articulating relationships, responsibilities, duties, etc., recognizable by its speakers as reflections of what, on earth, they have come to understand themselves to be. It is acknowledged by those who speak it, not because a failure to do so is liable to attract a penalty or because it is recognizably advantageous to do so, but because they have been educated in its use and in speaking it they reenact it for themselves. It is learned only in being used".

  

conservatism.[5] In short, the political objective of civil education is to establish a conservative civil association of morality and to encourage individuals to enjoy the safe and stable lifestyle that possesses different value selections in moral practice, namely, the "morality of individuality" (Oakeshott, 1993: 20).[6] Indeed, this traditional moral view of conservative liberalism aims to remould the current world that is not free and establish a non-purposive civil association of moral practice. For Oakeshott, the approach of remoulding the contemporary illiberal world is not a sort of radical revolution, but a sort of traditional inheritance, that is to say, human beings should engage themselves in various moral practices, trying to draw inspirations from tradition in order to prevent their free lifestyles from being disrupted.

**Intimation and Conversation: the Important Approaches for Civil Education**

Based on the above analysis, civil education as Oakeshott understands it should not only take the freedom of the 'individual' as the value orientation, but also regard the construction of civil association as a political goal. Then, what is the approaches or methods of civil education? For this question, Oakeshott sums up two general approaches of civil education, namely, intimation and conversation.

First, intimation is an important concept in the thought of Oakeshott's political philosophy. In some sense, his philosophical view of politics is a sort of political view of intimation, that is to say, politics is "the pursuit of intimations". As Oakeshott puts it, "In politics, then, every enterprise is a consequential enterprise, the pursuit, not of a dream, or of a general principle, but of an intimation" (Oakeshott, 1991b, p. 57).[7] As a sort of intimation, it is not the simple generalization or induction of pure experience, or the "implication of logic", or the "contingency of historical episodes", but the realization and elucidation of historical experience. Moreover, this realization or elucidation of the response to be made to the historical experience is not an activity of mind or intellect, or a process of knowledge acquisition, or a matter of general experience, but a process of 'living practice'. This 'living practice' is a kind of process of value selection. Then, which approach is the safer way of value selection? Does it depend on "the politics of the book" or "the politics of ideology" (Oakeshott, 1991a, pp. 26-7), or simply pursue the value of public interest or other social functions? Clearly, the answer as Oakeshott understands it is not the ideological way of instrumental rationalism, or the pragmatic way of simply focusing on the current situation, but the traditional way of basing on the "practical experience and historical understanding" (Williams, 2010, p. 4). Because "politics is clearly concerned with practicality. It is a mode of experience that has a distinct aim other than coherence, clarity, and truth. Political leadership is an art, practiced in pursuit of stability, where broad frameworks and fixed principles represent awkward (but necessary) shortcuts for deciding courses of action" (Williams, 2010, p. 6). But the characteristic of instrumental rationalism may be observed, it is the pursuit of general certainty. And the characteristic of pragmatism may be observed, it is the pursuit of current effectiveness. Comparatively speaking, the intimation as Oakeshott understands it pursues a kind of liberal way of conservatism or a kind of stable way of enjoyment. Then, where does this kind of intimation come from? In Oakeshott's view, tradition is the main resource for acquiring intimations. Because "it is neither fixed

[5] Of course, for the conservative disposition, Oakeshott gives an example that illustrates the point in the most graphic way: "In political activity, then men sail a boundless and bottomless sea; there is neither harbour for shelter nor floor for anchorage, neither starting-place nor appointed destination. The enterprise is to keep afloat on an even keel; the sea is both friend and enemy; and the seamanship consists in suing the resources of a traditional manner of behaviour in order to make a friend of every hostile occasion" (Oakeshott, 1991b, p. 60; 1989d, p. 177).

[6] According to Oakeshott, the "morality of individuality" is a sort of new moral disposition; and it is to be recognized as one of the practical moralities of civil education. As he puts it, "By the morality of individuality I mean, in the first place, the disposition to make choices for oneself to the maximum possible extent, choice concerning activities, occupations, beliefs, opinions, duties and responsibilities. And further, to approve of this sort of conduct—self-determined conduct—as conduct proper to a human being, and to seek the conditions in which it may be enjoyed most fully. It is in this approval—not merely on one's own account but in respect of others also—that the impulse towards individuality becomes a moral disposition" (Oakeshott, 1993, pp. 20-1). In short, this is how individuals ought to live, and to become a moral disposition.

[7] John C. Rees writes, in description of intimation ("Professor Oakeshott on Political Education", *Mind*, Jan., 1953, p. 72): "we have not disposed of our difficulties, for we are left with the phrase, 'the pursuit of intimations', as a description of any kind of political activity. In normal linguistic usage to speak of responding to intimations would convey the idea of cautious and moderate amendments to the inherited social fabric, so Professor Oakeshott cannot blame the unsophisticated reader if, from the unusual choice of words, he is tempted into supposing that cautious reform is not merely the most desirable, but also the only possible, mode of political activity". This kind of description could be seen as the most important and reliable basis of understanding intimations.

  

nor finished; it has no changeless centre to which understanding can anchor itself; there is no sovereign purpose to be perceived or invariable direction to be detected; there is no model to be copied, idea to be realized, or rule to be followed" (Oakeshott, 1991b, p. 61). Thus, the traditional way of intimation is not only different from the deductive method of empiricism (from particular to general), but also from the positivistic method of rationalism (from general to particular); it is a kind of practical mode from particular to particular. And this "particular-to-particular practice way" is not a epistemology-based activity that aims at the mastery of the 'theory of knowledge', but a practice-existentialism-based realization that transcends the philosophy of 'theory of knowledge'. Thus, Oakeshott insists that "political education is not merely a matter of coming to understand a tradition, it is learning how to participate in a conversation: it is at once initiation into an inheritance in which we have a life interest, and the exploration of its intimations" (p. 62). Here political education is, in fact, simply a sort of civil education discussed and analyzed in this paper. Moreover, the value characteristics of the political education of intimation can be represented with contingency, situationality and selectivity. Because "the greater part, then—perhaps the most important part—of our political education we acquire haphazard in finding our way about the natural-artificial world into which we are born, and there is no other way of acquiring it" (ibid.).

On the other hand, another important approach of civil education is the conversation that differs from the traditional way of intimation. To be specific, the intimation refers to the contingency and situationality of civil education; it is not the same as the logical argumentation or deduction, and it is a kind of realization and experience from particular to particular. But the educational method of conversation, for Oakeshott, is a kind of interaction based on the principles of equality, voluntariness, honesty and faith-keeping. And "it allows for a relationship between theory and practice that is contingent: an interaction that neither entails nor proscribes anything by necessity but that may act as a spur to action or reflection. The relationship is neither logical nor authoritative" (Gerencser, 1995, p. 725). At the same time, when we enter into an educational situation of specific conversation, Oakeshott stresses that "there is nothing necessary or restrictive about this interaction, except the paradoxical recognition that there are no certainties within it" (pp. 732-3), because a conversation is an sort of equal interaction that has no substantive conditions attached; it has no specific goal or plan, we do not make the rapid judgment and choice to satisfy our immediate needs, and we do not put forward certain temporary countermeasures and proposals "in the face of everything topical and transitory" (Oakeshott, 1991a, p. 7); "it has no predetermined course, we do not ask what it is 'for', and we do not judge its excellence by its conclusion; it has no conclusion, but is always put by for another day" (Oakeshott, 1989c, pp. 109-10).

Thus, from the above analysis we can conclude that the conversation as Oakeshott understands it is "one way of translating and reinterpreting", and it is a "non-hierarchical, non-directive, and non-assertive" process of interaction (Auspitz, 1991, pp. 356-7). Moreover, there are various unrestricted voices in the process of conversation, and one voice cannot tend to replace or dominate the others, on the contrary, "voices have no claim over one another and there is no single idiom of speech in which they all converse, but they may respond to and 'provok[e] one another'", indeed, the essence of conversation in Oakeshott's view lies in "the diversity of voices that may enter into it, and the ability of each to enjoy and acknowledge another without losing its own integrity" (Gerencser, 1995, p. 732; Auspitz, 1991, p. 357). In short, a conversation, for Oakeshott, is not merely the preferred from of educational method. It is for him the firm foundation of educational activity, and a metaphor for civil education itself.

To sum up, it will be seen at once that these two pedagogical methods (intimation and conversation) have gained their own internal definitions from the philosophy of Oakeshott's hermeneutics. Properly speaking, an intimation is a sort of realization and inspiration based on the historical experience, and a conversation is a sort of interaction based on the starting point of sincerity and equality. Indeed both of these methods involve the issues of value selection, and they make the appropriate judgment of value selection from the perspective of hermeneutics in social history practice. It will be seen also that the educational concept of "intimation and conversation" is the opposition of the educational methods of pragmatism and instrumental rationalism; it emphasizes the importance of participating in the interaction of a practice, and of understanding the value of a 'meaning' world. This kind of educational method indicates that Oakeshott's educational philosophy is not a sort of political view of faith, but a sort of political view of scepticism. And the most notable characteristic of this political view of scepticism is to highlight the contingency and transiency of practical activity.

## CONCLUSION

In the context of modern technical-rational education, civil education has received an universal attention from all over the world. The contemporary western civil education thought mainly has developed into four kinds of representative schools, they are republicanism, liberalism, communitarianism and multiculturalism. And the object of this paper is to interpret Oakeshott's civil education concept by combing and reviewing the core ideas of the western civil education thought and to attempt to concentrate his civil education concept into the

  

interrelationship between the contingency of practical activity and the selectivity of value.

First, value selection is the essential connotation of political activity. According to Oakeshott, a political activity is not a sort of instrumental behavior of certainty, or a sort of functional behavior of purposiveness, but a sort of "behavior of value selection" of conservativeness. It contains three core components: a political situation, a response to a situation and a genuine deliberation on value. A political situation is originated from the selectivity and contingency of practical activity; it has the character of uncertainty and variability. Thus, a sort of deliberation is required in the choice of the response to be made to the political situation. The essence of this deliberation is not a simple reflection on technical rationality, but a complicated reflection on value. Because politics as Oakeshott understands it is a typical "practical activity" of humanism—a response of value selection to "objective political situation". The value selection of this response to be made to the situation is the essential connotation of politics.

Secondly, the freedom of the 'individual' is the value orientation of civil education. Oakeshott emphasizes that civil education is designed to cultivate qualified citizens who treat the freedom as the value orientation based on his political-philosophical concept of value selection. This kind of free 'individual' has the following characteristics: first, the morality of the 'individual' is a sort of morality that aims at pursuing 'liberty' and 'self-determination'. Secondly, the freedom of the 'individual' in the process of value selection emerges in the course of practice, and it has been being enriched and developed in the process of historical practice. Thirdly, the value selection of freedom is the essential requirement of the 'individual'.

Thirdly, the political objective of civil education is to establish a conservative civil association of morality rather than a community of interests that pursues 'common good'. In general, civil association is a sort of durable "interactive relationship" in which human agents can be engaged to promote the diversified development of value selection. This kind of association persists in focusing on the essential character of "freedom and consciousness" and pursues the independence and diversity of value orientation. It emphasizes that only in a safe and stable political environment can citizens enjoy a more-diversified lifestyle of value selection.
Lastly, the educational concept of "intimation and conversation" is the opposition of the educational methods of pragmatism or instrumental rationalism; it emphasizes the importance of participating in the interaction of a practice, and of understanding the value of a 'meaning' world. And the most notable characteristic of this educational concept is to highlight the contingency of practical activity, as well as to stress the importance of value selection. This educational concept not only shocks the foundation of ideological education but also discourages the Rationalist from pursuing the illusion of certainty.

In short, on one hand, Oakeshott constructs the political philosophy theory of value selection that treats the conservative freedom of the 'individual' as the value orientation through the way of hermeneutic philosophy. On the other hand, he proposes the concept of civil education that aims at the establishment of a civil association by harnessing the educational method of "intimation and conversation". It is undoubtedly that a review and transcendence of the rationalist view of education (that is, the civil education concept of liberal conservatism) are significant for us to establish the concept of civil education that focuses on the practice of educational reform. As Oakeshott says, "the disposition to be conservative is, then, warm and positive in respect of enjoyment, and correspondingly cool and critical in respect of change and innovation" (Oakeshott, 1991e, p. 412). Thus, he treats the conservative political view of liberalism as the value orientation and attempts to resolve the contradictions and conflicts of ideological education through the way of "intimation and conversation". And the ultimate goal is to enjoy the political life of conservative liberalism.

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# THE CURRENT RESEARCH VIEW ON THE ISSUE OF SPECIAL EDUCATIONAL DIAGNOSTICS, SPECIAL EDUCATIONAL COUNSELING AND EARLY INTERVENTION FOR CHILDREN WITH DISABILITIES IN SLOVAKIA

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## ABSTRACT
The authors in this article discuss rather the issue of early intervention for children with special educational needs in Slovakia in terms of conceptual frameworks and paradigmatic assumptions as well as in terms of its implementation in special counseling centers. Authors further emphasize the importance of early intervention for individuals with special educational needs which cannot do without quality and early diagnosis. This proved our results of research findings relating to the identification, progress and developmental changes of typical behaviors of children with ADHD and children with autism in terms of their ontogenesis.
**Keywords:** children with special educational needs, early care, special counseling and diagnosis, network of special educational counseling centers

## INTRODUCTION
Early intervention system in Slovakia is supported by a specialized network of special educational counseling centers. One of the priority actions of Special educational counseling centers is the issues of founding, early diagnosis and underpinnings of individuals with special educational needs. The authors deal with the issue of special educational diagnostics with regard to children with special educational needs in early and pre-school age realized in special educational counseling centers. The concept of special educational diagnostics is incorporated into the system of early intervention. Pertracted is the conceptual framework and paradigmatic bases of early intervention, early care and special educational diagnosis in early and pre-school age as well as its theoretical basis.

## THE STUDY
**The aim of early care** (early intervention) is to support and strengthen child and family services needed, helping to create an inclusive and cohesive society that is aware of the rights of children and their families. European Agency for Special Needs and Inclusive Education (2005) characterized early care as a set of services and measures for very young children and their families, which are provided at their request at a certain time of children life (from birth up to the maximum six years) and involving any the activities undertaken when a child needs special care in order to ensure and support personal development, strengthening the competencies of families and promote the integration of the family and the child into society.

The conditions for **the implementation of early diagnosis and early intervention** for children with disabilities from birth to three years is necessary to develop in line with the main principles of which are highlighted by key international organizations such as the United Nations Organization and UNESCO. Early intervention is related to the rights of small children and their families to receive the support they may require. Such rights are enshrined, for example in the declarations of the United Nations and UNESCO.

According to Vančová (2014) and Nagyová ( 2015) the situation in the field of early care in Slovakia is gradually improving, although still not sufficiently coordinated team effort. Doctors come into contact with a child with disabilities very early, but special educators too much later.

**Early intervention system** in Slovakia is supported by a **specialized network of special educational counseling centers** (SECC). One of the priority actions of special educational counseling centers is the issues of founding, early diagnosis and underpinnings of individuals with special educational needs, individual work with these children, professional help for their families, pre-schools institutions, preparing them to enter the school, outreach to parents and school staff in selecting the optimal mode of training, multidisciplinary and sectorally characterized complete consultancy service to children, their parents and teachers throughout the school as well

as in the process of choosing an occupation and vocational training (incluDing higher education). ( Kastelová, Németh, 2014)

**Early Intervention** at European level is considered to be a key area of inquiry. It was one of the themes of the program Helios II (1993-1996), whose findings were challenging as the inspiration for learning and for rehabilitation. These findings formed the basis for the document issued by the **European Agency for Special Needs and Inclusive Education (1998),** which vividly describes the situation in different countries. European and international documents that have been pressed in the last 20-30 years and dealing with concepts, principles and methods of early care, are a source of knowledge on theoretical developments in the field, contributed to the development of concepts and subsequently influenced the practice. The benefit of such documents seen primarily in two areas:

1. **Created a new concept in early care**, for their direct participation in health, education and social sciences, including special education. This showed us new situation, as in the past, these sectors had different and not always interconnected fields of competence;
2. **Underlined the importance of changes in the concept of intervention**. Putting emphasis on the shift in focus of interventions directed specifically at child a much broader approach that includes the family and the surrounding community (Peterander et al, 1999; Blackman, 2003).

**In Slovakia, at the beginning nineties** brought changes in paradigms and conceptual frameworks related to complex rehabilitation of individuals with special educational needs. Changes were reflected in **the implementation of biodromal approach** whereby the scope of care for individuals with special educational needs expanded to include early age. This care should saturate the **Special educational counseling centers** through the improvement of the screening and development of basic methodological materials, with emphasis on special-diagnostics of children with disabilities of early and pre-school age. Another change was **the implementation of special educational care model** that replaced the so-called medical model. There was a paradigm shift related to **equal promote an integrated training** in regular schools, as well as to the **qualitative development of special schools** and special educational institutions (Németh, 2013).

The foregoing changes were proclaimed in the following concepts:

- **The Concept of upbringing and education of disabled children and youth,** approved by the Ministry of Education and Science of the Slovak Republic, 25 March 1993, number 1707 / 93-30
- **The Concept for Special educational counseling** approved by the Ministry of Education, May 15, 1998, number 68 / 1998-42 and its amendment of 2000
- **The National Program for the Development of Education in the Slovak Republic in the term years 2000 - 2015** (Millennium)
- **The Concept for Special educational counseling** approved by Government Resolution no. 282 of 21 March 2007.

In accordance with the above conceptual intentions of special education in the field of early complex special pedagogy counseling care for children with disabilities was developed the **Program to improve the system of early counseling** for parents of children with disabilities, children with multiple disabilities (deaf and blind, combined disability with mental, physical and other disabilities) and pervasive developmental disorders, including cooperation practitioners for children and adolescents with special needs counseling facilities and the gradual expansion of the network of specialized counseling centers for the parents of these children. The program was developed on the basis of government measure number 6. 3. 10. Government Resolution no. 590/2001 of 27 June 2001 the National Program for Development of Living Conditions for Citizens with Disabilities. The program identifies **the need for interdepartmental approach** to addressing the complex care for children with disabilities in early age and counseling for their parents (Šramová, Cabanová, Vačková, 2012). Envisages co-operation by Special educational counseling centers and ambulances for children and adolescents (in elaboration participated in the Ministry of Health and Ministry of Education in the same proportion) ( Harčaríková, 2013). Program **reconcile the concept** of comprehensive care for the disabled in the **Slovak Republic with internationally accepted concepts** also in early counseling to parents of children with disabilities.

**Special educational counseling** for children with special educational needs (SEN) in early and pre-school age as part of a comprehensive system of care for the disabled, which is an integral part of special pedagogical diagnostics, shall be done in Special educational counseling centers (SECC). According to the **Model Statute of Special educational counseling centers** (Art. IV) the priority activities of the Centre are: **screening** (early search) and **complex special pedagogy diagnostics** focused on determining special-diagnosis and prognosis, followed by the definition of special educational needs and special-procedures. SECC do these activities in collaboration with the family, physicians, psychologists, remedial teachers, nurses, teachers in pre-schools and schools, with social workers or other professionals with a view to drafting the appropriate way of upbringing and education of individuals with SEN.

## BASIC DATA FOR RESEARCH DESIGN

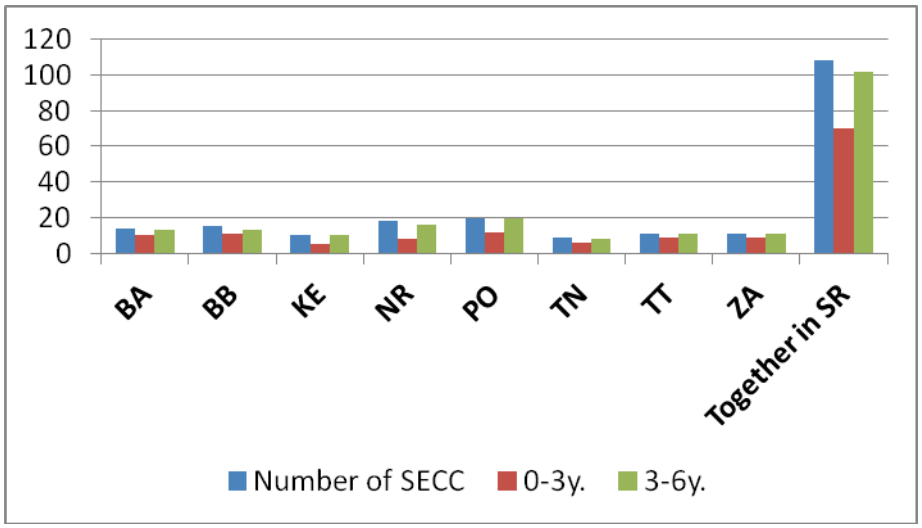
  

By **Directory of Special educational counseling centers in the Slovak Republic for 2012** there was around **108 SECC** in Slovakia. For all these centers, 70 centers focused on clients with special educational needs in early childhood and 102 centers focused on clients with SEN in pre-school age.

*Table 1: Number of SECC in Slovakia by regions with clients in early and pre-school age*

| Region | BA | BB | KE | NR | PO | TN | TT | ZA | Together in SR |
|---|---|---|---|---|---|---|---|---|---|
| **Number of SECC** | 14 | 15 | 10 | 18 | 20 | 9 | 11 | 11 | **108** |
| **0-3 years** | 10 | 11 | 5 | 8 | 12 | 6 | 9 | 9 | **70** |
| **3-6 years** | 13 | 13 | 10 | 16 | 20 | 8 | 11 | 11 | **102** |

**The Legend:** BA (Bratislava), BB (Banská Bystrica), KE (Košice), NR (Nitra), PO (Prešov), TN (Trenčín), TT (Trnava), ZA (Žilina)




*Graph 1: Number of SECC in Slovakia by regions with clients in early and pre-school age*

Complex care for clients at **early age** provides **64.8% of the total SECC** and **94.4% of SECC** provides its services for children with SEN **preschoolers.**

*Table 2: Percentage of the number SECC in Slovakia by regions with clients early and pre-school age*

| Region | BA | BB | KE | NR | PO | TN | TT | ZA | Together in SR |
|---|---|---|---|---|---|---|---|---|---|
| **0-3y.** | 71,40% | 73,30% | 50% | 44,40% | 60% | 66,60% | 81,80% | 81,80% | **64,80%** |
| **3-6y.** | 92,80% | 86,60% | 100% | 88,80% | 100% | 88,80% | 100% | 100% | **94,40%** |

**The Legend:** BA (Bratislava), BB (Banská Bystrica), KE (Košice), NR (Nitra), PO (Prešov), TN (Trenčín), TT (Trnava), ZA (Žilina)

According to The Institute of Information and Prognosis of Education it was in the school year 2013/14 registered **490 clients** of SECC **at an early age.** It had 44 clients less than one year, 100 clients had less than two years and 346 clients had less than three years. In the early years had represented most frequently impaired communication ability (192 clients) and multiple disability (104 clients).

*Table 3: Number of clients SECC at an early age by the kind of disability and disruption*

| | AUT | MP | SP | ZP | NKS | TP | ZDR.O. | VNP | AKT.POZ. | TOGETHER |
|---|---|---|---|---|---|---|---|---|---|---|
| Less then 1 year | 0 | 7 | 5 | 1 | | 8 | 8 | 15 | | **44** |
| 1- 2 years | 1 | 7 | 7 | 3 | 24 | 7 | 24 | 26 | 1 | **100** |
| 2- 3 years | 22 | 22 | 20 | 8 | 168 | 14 | 13 | 63 | 14 | **346** |
| **TOGETHER** | **23** | **36** | **32** | **12** | **192** | **29** | **45** | **104** | **15** | **490** |

**The Legend:** AUT (autism), MP (mental disability), SP (hearing disability), ZP (visually impaired), NKS (impaired communication ability), TP (physical disability), ZDR.O. (poor health), VNP (multiple disabilities), AKT.POZ. (fault activity and attention)

In the school year 2013/14 SECC provide their services to **9.208 clients in pre-school age,** of which 1.216 clients were under the age of three years, 2.613 clients within four years and 5.379 clients in five years. We found that with increasing age also increasing the number of clients SECC. In the pre-school period, it agrees to the early age, the most occured diagnosis was impaired communication ability (6.809 clients).

*Table 4: Number of clients SECC preschoolers by type of disability and disruption*

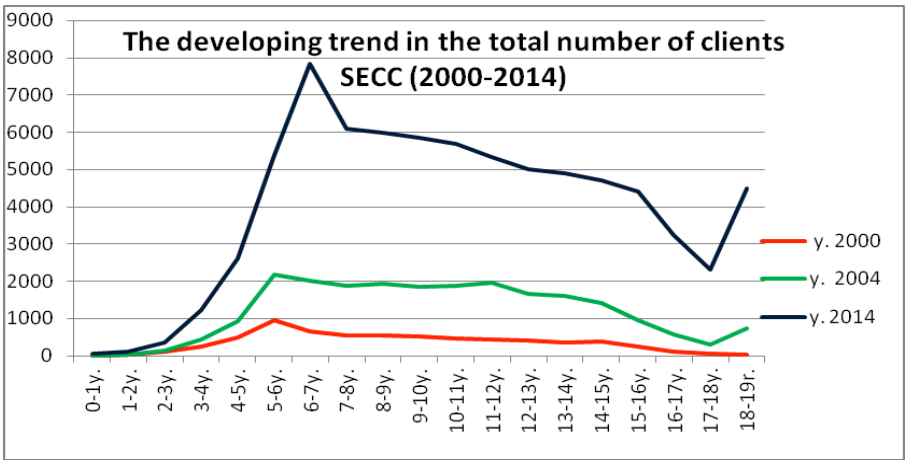
| | AUT | MP | SP | ZP | NKS | TP | ZDR.O. | VNP | AKT.POZ. | PS | TOGETHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3- 4 years | 110 | 48 | 35 | 22 | 752 | 27 | 23 | 144 | 34 | 16 | **1216** |
| 4- 5 years | 163 | 99 | 48 | 38 | 1896 | 37 | 21 | 177 | 104 | 19 | **2613** |
| 5- 6 years | 211 | 260 | 72 | 52 | 4161 | 39 | 45 | 215 | 230 | 33 | **5379** |
| **Together** | **484** | **407** | **155** | **112** | **6809** | **103** | **89** | **536** | **368** | **68** | **9208** |

**The Legend:** AUT (autism), MP (mental disability), SP (hearing disability), ZP (visually impaired), NKS (impaired communication ability), TP (physical disability), ZDR.O. (poor health), VNP (multiple disabilities), AKT.POZ. (fault activity and attention), PS (behavioral disorders)

Of the total number of **75.511 clients** SECC were 490 clients at an **early age,** which represents **0,65%,** 9.208 clients were **preschool age,** which constitutes **12,19%.** The clientele of **early and pre-school age** (9.698 clients) represents **12,84% of the total clientele** SECC in Slovakia.
As it was mentioned above, around the year 2000 were adopted concepts, policies and programs that support the screening, special pedagogical diagnosis and intervention for Individuals with SEN in early and pre-school age. Therefore, we wonder if the effect of such policies and measures increased the number of clients in early and preschool age in SECC. We assumed that this trend will be progressive. In **2000** SECC had a total of **6.616 clients**, **in 2004 there were 22.457** and **in 2014 the 75.511 clients**. Our hypothesis was confirmed.

*Table 5: The developing trend in the total number of clients SECC (2000-2014)*

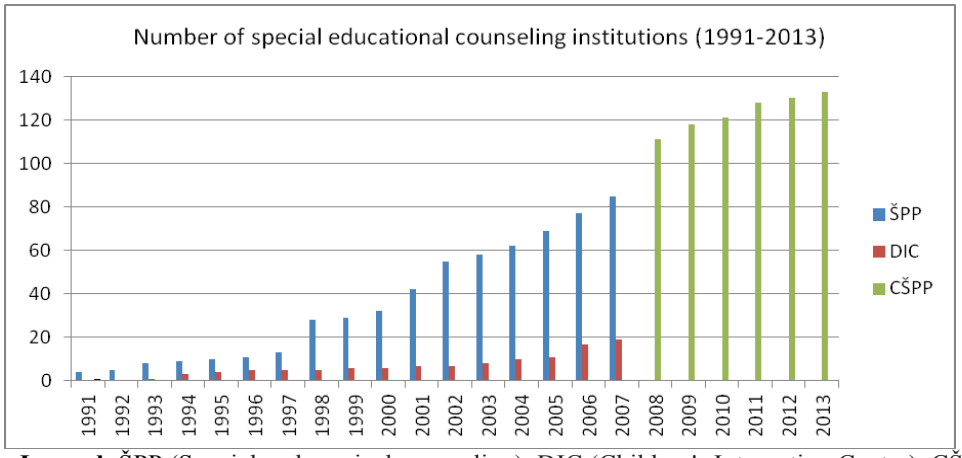
| Age / Year | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **y. 2000** | 5 | 37 | 108 | 236 | 488 | 941 | 666 | 551 | 542 | 528 | 470 | 447 | 407 | 351 | 378 | 256 | 119 | 57 | 29 |
| **y. 2004** | 7 | 21 | 130 | 440 | 932 | 2187 | 2021 | 1878 | 1927 | 1858 | 1868 | 1946 | 1672 | 1606 | 1402 | 944 | 572 | 313 | 733 |
| **y. 2014** | **44** | **100** | **346** | **1216** | **2613** | **5379** | **7826** | **6086** | **5974** | **5859** | **5688** | **5327** | **4996** | **4885** | **4712** | **4401** | **3250** | **2309** | **4500** |




*Graph 2: The trend in the total number of clients SECC (2000-2014)*

In 2000 there were 1.815 clients in early and pre-school age in the SECC. In the next three years the number has not increased significantly. Only in 2004 it was 3.717 and in 2014 their number increased to 9.698. A higher number of clients is explained by the fact that the number of centers has also increased over the years (see Graph 3).




**The Legend**: ŠPP (Special pedagogical counseling), DIC (Children's Integration Center), CŠPP (SECC)

*Graph 3: Number of special educational counseling institutions (1991-2013)*

## RESEARCH METHODOLOGY, DATA ANALYSIS AND FINDINGS

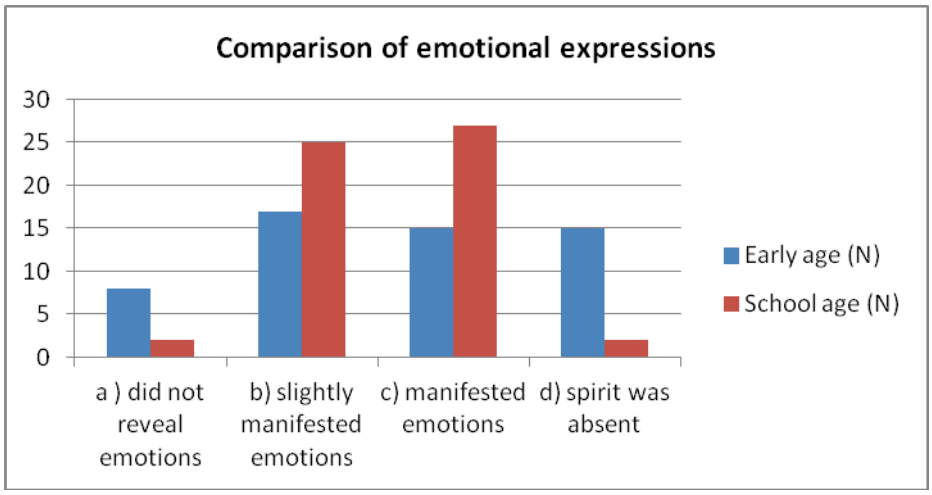
Due to constant changes in the organism that take place in early and pre-school age, it is important to conceive special-diagnosis in this age period as a **dynamic and constantly transforming system** to which can not be regarded as a final process. What is important is the timeliness requirement and the earliest possible detection and underpinnings disability or disturbance in a child with a view to the rapid onset of early special-intervention. The current special pedagogical diagnostics, according to Smoľjaninov, Vančová ((2011) reflects **biodromal access** to a person with disabilities. Each age period has its own specifics in fact to be the diagnostic activities taken into account.

Individual development is a dynamic process in which take place qualitative and quantitative changes in the organism within a certain time period. On the development of the individual influence endogenous (hereditary and genetic information) and exogenous factors (education and environment) mutually-determining and creating interaction. The result of their interaction is the fact that the individual undergoing changes and tends to improve, evolve. This development is normal. The opposite is developmental anomaly in which development is not progressive. It may be: stagnation, limited, delayed, interrupted and flawed development.

**Our research activity was focused on the identification, progress and developmental changes of typical behaviors of children with ADHD and children with autism in terms of their ontogenesis.**

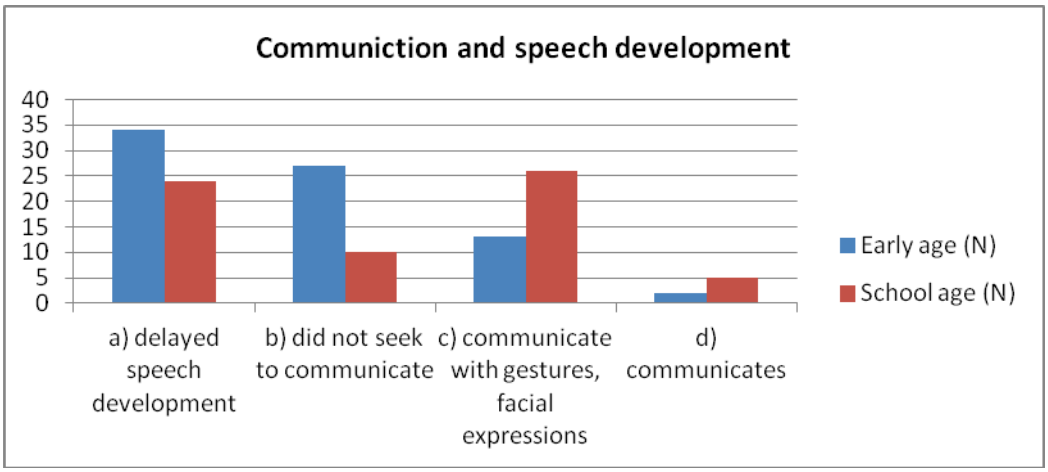
**The aim of the first research was to identify the specific behaviors of children with autism in their current school age and retrospectively at an early age.** We focused on the **area of communication, social interaction and imagination, so called autistic triad.** The research sample consisted of 54 children with autism spectrum disorder. The main research method was questionnaire containing 19 questions for parents of autistic children. The questionnaire was distributed to special primary schools and Autistic Centre. Research results confirmed that the behavior symptoms of individuals with autism are in the **category of social interaction different at an early age and at school age.** Expressions of emotion under the influence of age and the influence of special interventions improve and child have been shown to express more emotionally. The occurrence of the behavior, manifested as if the child has been absent in spirit, with age also significantly reduced. It turned out that systematic education and training is also possible to achieve an increase in interest of the child for social contact. Most children with autism nevertheless does not have school-aged close friends, avoiding other children and are not interested to have friends. Children are solitary and gradually later in life it is more clearly. By the influence of age the networking opportunities are unchanged. Harming in the early childhood frequently occurred and in the school age the incidence decreased. In the category conflict with peers, children behave the same at an early age and school age.




*Graph 4: Comparison of emotional expressions*

**Communication** as a single area of triad of autism is another specific sign of autism spectrum disorders. From the research it was clear that delayed speech development persists even at school age, despite the fact that the child is trying to communicate more. Speech and communication belong to the problem area. Children do not understand verbal communication often means the terms, words and phrases literally. Sometimes they do not want to talk because they do not need to communicate. Problems in this area have shown up to 3 years of age, because until then the expressions attributed to delayed speech development. Through the child development there have been no significant changes in **non-verbal behavior.** Disturbed eye contact at an early age remained equally disturbed at school age. Other nonverbal behaviors as a special body position, gestures, facial expressions also do not tend to the strong improvement in school age. We noted that **problems persisted in the area of communication, despite some progress in this area, even at school age** was there. Children have difficulty in understanding verbal language and non-verbal communication signs remained at approximately the same level as in early age and as in primary school age.



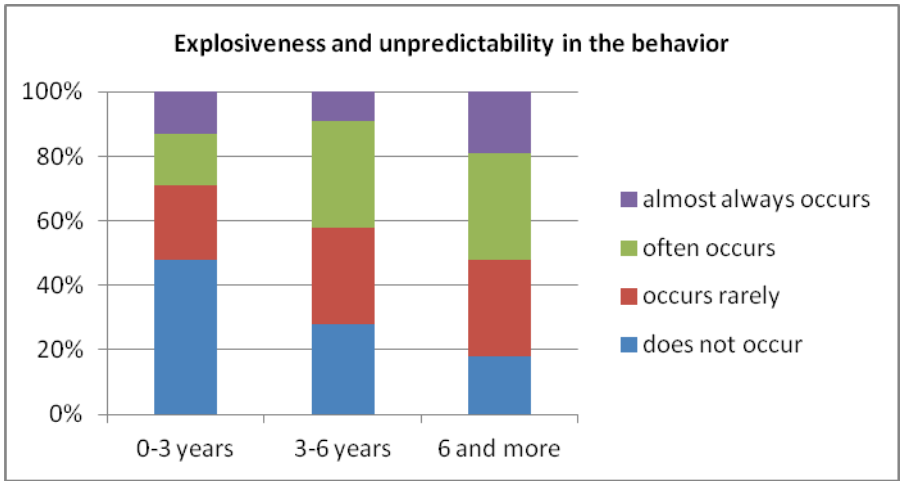

*Graph 5: Communication and speech development*

**The third area of the triad - imagination,** which includes play, imagination, thinking, hobbies etc., also confirmed its presence in specific manifestations of autism spectrum. Repetitive movements and stereotyped behavior were in comparison to early age and school age almost equally represented. Children through their age don´t changed their learned movements and behavior. Children at an early age and later could not play with other children, suggesting that their imagination, tendency to spontaneous play not belong to their natural personality expression. Children's interest in subjects or activities that have a stereotyped movement or expression, through age remains. The children were fascinated by simple movements, which showed no change and no buckling of the stereotype. Children like toys with sound expression, even if this interest in school age decreased. This confirms that stereotyped behavior and repetitive movements and expressions are an integral part of the personality of the individual with autism. Children with autism at an early age prefer solitary play, which in school age slightly improved. In school-age children imitate their parents in various household chores.

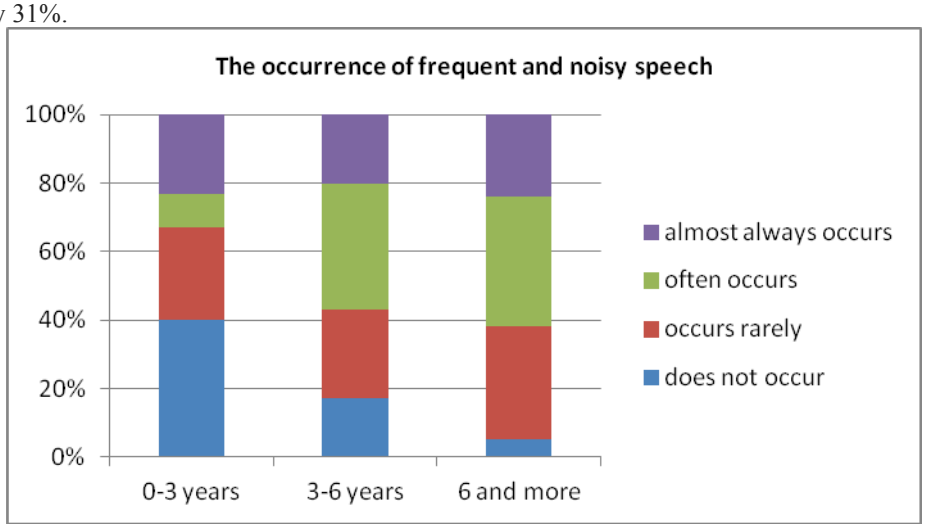
**When comparing the specifics of the behavior** of children with autism at an early age and school age our research findings have pointed to the fact that the most significant change in the behavior of these children occurred in the area of social interaction, less significant changes have occurred in the area of communication and imagination. However, since each case is different, individual, right here plays an important role special pedagogical diagnosis, intervention and subsequent special intervention and therapy.

**The aim of the second research** was through the method questionnaire (Conner´s Scale for Parents) **identify typical manifestations in the behavior of children with ADHD at an early, pre-school and school age.** Children were evaluated in terms of individual areas - catering and self-servicing, emotional, social and educational field. The differences in behavior we have identified on the basis of information from parents of 30 children with ADHD, parents filled out with information about their children retrospectively.
Based on the research results we conclude that the behaviors of children with ADHD in the **areas catering and self-servicing** exhibit the same characteristics in early age and in school age. **The emotional areas** we have identified differences in behavior in early and school age in these children. Explosiveness and unpredictability are at school age more frequent than in the early years (an increase of expression as much as 23%). Likewise, the category of the rapidly changing mood has been identified in school-age children much more often - an increase of 29%.




*Graph 6: Explosive and unpredictable behavior*

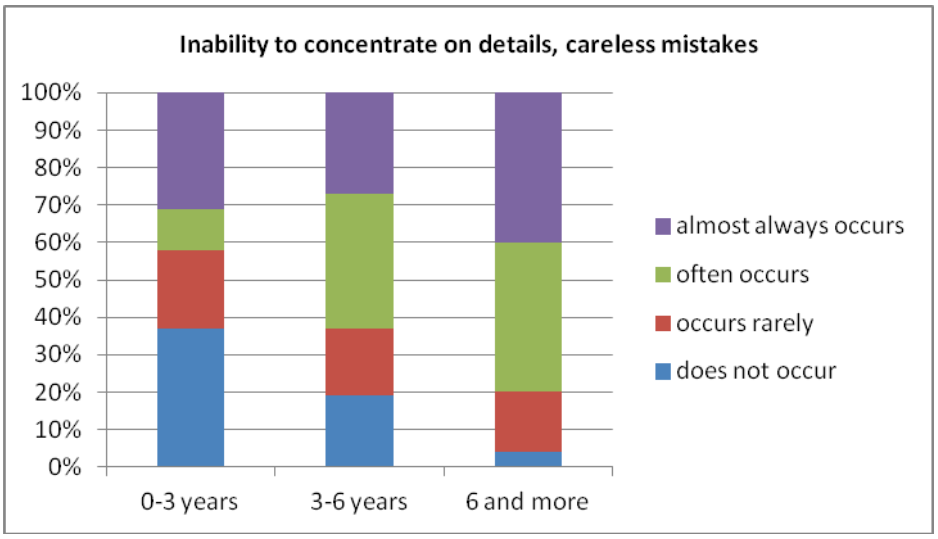
**In the social field**, we again identified different behavior in early and school age. The most significant difference was reflected in the category noisy and frequent verbal expressions - school age have increased expression by 31%.




*Graph 7: The occurrence of frequent and noisy speech*

**In the school area** we have identified different behavior in pre-school and school age. The differences were in the categories focus on details and careless mistakes while of school age have increased symptoms in these categories up to 13% compared to pre-school age.




*Graph 8: Inability to concentrate on details, careless mistakes*

From processing the collected data evaluated **for the early age** of a child with ADHD we can be said that the most significant problems in their behavior is reflected in the **social sphere** (problems and requiring assistance with activities that children at that age should be carried out independently (60%)). There were also significantly manifested problems with malaise, uncontrollable movements and restlessness (50%). From the information provided by respondents evaluated separately for **preschool age** of child with ADHD we can state that in the emotional field in these children often appeared behaviors, such as: explosiveness and unpredictability in the behavior (47%), the rapidly changing mood (43%) and ejaculated quickly answer the question yet finished (43%). In the social area appeared the problems and requiring assistance with activities that children at that age should be carried out independently (60%). Unlike early age there dominates the most frequent and loud talking (57%). In the school area most prevalent is inability to concentrate on detail and creating inadvertent errors (67%). **In school-age** of monitored children has occurred frequent waking during the night (up to 20%). This result is in according with Harčaríková (2014) results. In the emotional area occurred explosiveness and unpredictability in the behavior (53%), the rapidly changing mood (56%) and quickly answer to the question not yet finished (54%). In the social sphere often occurred also in behavioral manifestations such as malaise, restlessness, uncontrollable manifestations. School area was represented categories such as: inability to concentrate on detail and creating inadvertent errors (80%) and observing the instructions to complete their duties (57%).

## CONCLUSIONS

**The aim of the first research** was to **identify the specific behaviors of children with autism in their current school age and retrospectively at an early age**. We focused on the **area of communication and imagination. Communication** as a single area of triad of autism is another specific sign of autism spectrum disorders. We noted that **problems persisted in the area of communication, despite some progress in this area, even at school age** was there. Children have difficulty in understanding verbal language and non-verbal communication signs remained at approximately the same level as in early age and as in primary school age. **The area of imagination,** which includes play, imagination, thinking, hobbies etc., also confirmed its presence in specific manifestations of autism spectrum. Children through their age don´t changed their learned movements and behavior. Children at an early age and later could not play with other children, suggesting that their imagination, tendency to spontaneous play not belong to their natural personality expression. This confirms that stereotyped behavior and repetitive movements and expressions are an integral part of the personality of the individual with autism. Children with autism at an early age prefer solitary play, which in school age slightly improved. In school-age children imitate their parents in various household chores. **When comparing the specifics of the behavior** of children with autism at an early age and school age our research **findings have pointed to the fact that the most significant change in the behavior of these children occurred in the area of social interaction, less significant changes have occurred in the area of communication and imagination.** However, since each case is different, individual, right here plays an important role special pedagogical diagnosis, intervention and subsequent special intervention and therapy.

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# THE DESIGN SKILL OF TEACHER: THE ANALYSIS OF THE *PROJECT WORKS*

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**ABSTRACT**
Designing is a complex competence (Snelbeker, 1987; Freiberg, 2002; Loughran, 2006) involved in the teaching function itself (Laurillard, 2012), which derives into a planning capability and a real authentic "pre-vision" capability (Zingale, 2015).
How to train the teacher for this complex and 'hybrid' (Davey, 2013) competence therefore? What tools facilitate the acquisition of mental patterns useful to the inexperienced teachers in order to practise a design skill (Nikolaeva, 2012)?
In the first part of this contribution, the training experience for the design competence carried out in the training courses for the special education teaching certification (d.m. 249/2010, d.m. 81/2013) at University of Bari is described.
In the second part, the structure and the first outcomes of an exploratory study aimed at knowing how the trainee teachers develop design models are illustrated.
The study carried out at the above-mentioned training course in 2014-15, involved about 240 trainee teachers and was performed through the comparative analysis (Fereday & Muir-Cochrane, 2006; Snow & Cress, 2000) of the *project works*. It found that the trainee teachers already possess 'personal' design models at the beginning of their training but also are able to modify them in more formalized structures.

## INTRODUCION

Designing the didactic actions will be always more one of the main competences of the teacher, since it is a prerequisite contributing to make real the "curricula autonomy" and "organizational flexibility" required by the school today (L. 13/07/2015, n. 107; European Commission, 2013).
Designing - involved in the teaching function itself (Laurillard, 2012) – leads the teachers to open sceneries, to meet common and specific student needs, to provide educational offers compliant with the indications of the System of Education and Training and meeting the territorial needs (cfr. Curricular and extracurricular projects - Capperucci, 2008).
What does *designing* mean in educational context? How specific is it, compared to designing in other contexts? And, above all, what does the teacher design skill consist in?

### *Design*

According to a "minimum ontology" (Rossi & Toppano, 2009) and independently from the application field, design can be considered an activity producing *in output* the description (a project, indeed) of an artefact including sufficient information to build/create and meeting specifications given *in input* (such as aims, objectives, limitations to be respected) (p. 57).
In other words, designing is "a mental and/or material representation of an object/activity (i.e.: a didactic action), aiming at its building/creation" (p. 11).
From a multidimensional point of view and in perspective of the complexity it is possible to describe the design as a "situated and collaborative activity of production, elaboration and transformation of models" (p. 16), both mental and/or material.
According to the well-known reflexive and situated paradigm (Schön, 1983; Brown, Collins, Duguid, 1989; Gero & Kannengiesser, 2002), the designers would possess a sort of "toolbox" made of mental models, symbolic representations, conceptual contents and representation languages more or less specific (Rossi e Toppano, 2009, p. 15); they would not be limited to follow mechanically a rule, an applicative procedure, but would rather be able to choose which "tool" to implement depending on circumstances and the phases of the design project. They would therefore follow a "guideline for the action and would communicate with it in a reflexive way" (p. 15) rather than a linear and prescriptive methodology – based on technical rationality.
Having clarified the design conditions, it is suitable to go deeper in the activated processes.
The designers, that are to say who build a model of an object/activity to be performed, carry out three sub-activities (Toppano, 2007): a. *internalization* – they create a mental image of the object/activity; b. *representation* – they use a language of the representation and conceptual contents that give shape to the mental image; c. *externalization* – they use a notation system and a specific instrumental tool to communicate the representation. These sub-activities are integrated and simultaneous therefore the level of the thought and of the medium are mutually determined (Rossi & Toppano, 2009, pp. 42-43).

  

Apart from *building* the model, the designers also need to *share it socially* (Stahl, 2000). It is therefore essential that the individual knowledge of the designer and the shared culture are 'aligned'.
This alignment takes place through a comparison of the experiences and the creation of a "tacit knowledge" (Polanyi, 1967; Fabbri, 2003), of a shared, explicit and formal conceptualization, that facilitates the sharing of a controlled *vocabulary*, a *glossary,* a *taxonomy* and a *thesaurus* (Rossi & Toppano, p. 53).
Having clarified the main elements of the design process – internalization, representation, externalization and socialization (see also, SECI - Nonaka & Takeuki, 1995) - it is suitable to consider the second level, that is to say the training to the design process.

*Training for the design*

As already mentioned, the designers do not use planning rational procedures, but they rather interact with the context in specific situations. They do not merely apply preordained patterns to a certain area of reality (i.e.: the problem to be solved, the action to be performed), but instead activate a sort of continuous conversation – even though sometimes unaware – with that area. In other words, there should be a continuous link (Gero, 1990) among the concepts of function (F), behaviour (B) and structure (S) that they possess in:

- "expected word", that is to say the conceptualizations/interpretations that they have of the external world - such as the idea that they have about how to solve a problem (cfr. the mental image of the *internalization*);
- "internal world"- that is to say the same conceptualizations/interpretations, yet formalized (cfr. the mental image of the *representation*);
- "external world" – to be meant as the cognitive artefacts taking place during the design activity – i.e.: schemes, formal models, demonstrative prototypes etc. (cfr. the mental image of the *externalization* to be communicated and shared).

If the design is always performed about a specific situation, the training of the future designer – based on the "situated" method (Gero & Kannengiesser, 2002; Masclet & Boujut, 2010) – must in theory facilitate the conversation (Schön, 1983) between the "expected" and "internal" world of the designer and the "external" one of the artefacts; in practice, it must be structured so that the designer initial knowledges meets the symbolic models/artefacts proper to the design and the practical experience in designing. Such aspects mutually influence each other and affect how the designer training takes place (Toppano, 2007; Sim & Duffy, 2000). This should therefore be performed so that it is:

- *retrospective*, offering the trainee some concrete examples of design projects;
- *in situ*, through concrete design activity, even though in a simulated form;
- *preventive,* through a gradual introduction to the vocabulary, the taxonomy, the thesaurus of the design - the so-called "toolbox".

According to Gero, this demonstrates the inevitably active role of the designer in his/her training consisting in the capability, very often unaware, to modify/adapt/interpret the design internal and external models – meant as cognitive artefacts – since "he is the one who choose the variables where to focus, who give an order to the problematic situation (…), who give meaning" and is "basically free" (Rossi & Toppano, 2009. p. 99).

**AN EXPERIENCE AT THE UNIVERSITY OF BARI**

The last reformation law about initial teacher training (dm. 249/2010; dm. 30/2011; dm. 81/2013) provides a series of common guidelines that the teacher training courses need to comply with, in order to train to the design skill.
*First,* the qualifying teacher training courses in primary and secondary school are organized according to the model "induction" through a) alternating courses, school internship and reflexion/synthesis moments in the university internship; b) using connecting professional roles facilitating the construction of a professional knowledge on several levels – teachers, university supervisors, school tutors (Agrati & Gemma*,* 2015[1]).
*Secondly*, among the disciplines, specific theoretical courses about design have been organized such as '*Planning and evaluation of the training processes*', '*Design of the PDF, of the PEI - Life Project and Life Quality models: from designing to evaluation processes*'. These should provide those "external" models, those "performance design knowledge" both theoretical and practical that is essential to give shape to the personal knowledge possessed by the trainee (Gauthier, 1997; Damiano, 2007).
*Third*, it will be possible to evaluate the design skill during the training through the analysis of a *project work* in which the trainee teacher needs to describe the didactic action performed during the school internship, elaborated during the university internship meetings and recorded in the final course report. Writing the *project work* would, this way, fulfil two functions: on the one hand, it represents the practical exercise of the design skill, on the other hand it reports the construction of the exercise itself.
It follows the experience gained during the two-year period 2013/14 and 2014/15 at the training courses for the special education teaching certification (*Corso di formazione per il conseguimento della specializzazione per le attività di sostegno didattico agli alunni con disabilità*) at University of Bari. The description of the university internship is focused. This could be consider as a "borderline" between practice and theory that leads the

  

trainees to reflect *in fieri* and subsequently about the experienced carried out and about the theoretical knowledge gained with the university courses. For the description of the structure of the university internship, inspired to the dialogical-reflexive method, please refer to Agrati & Gemma (2015).
The model of process for the didactic design subtended to the meetings dedicated to the design skill was inspired by the training model in situation (Gero & Kannengiesser, 2002) and by a systemic, multidimensional and complex vision of the design (Rossi & Toppano, 2009). It as well guarantees the trainee teacher that *retrospective*, *in situ* and *preventive* training useful to meet and compare the "expected", "internal", and "external" design models. On a curricular level, this would be possible through the orchestration of theoretical (theoretical course), practice (school internship) and reflexive training (university internship) – see the model in figure 1. On an operational level, this would be possible through a *project work* re-writing process – meant as "design artefact"- consisting in three moments, correspondent to the first, second and third draft.

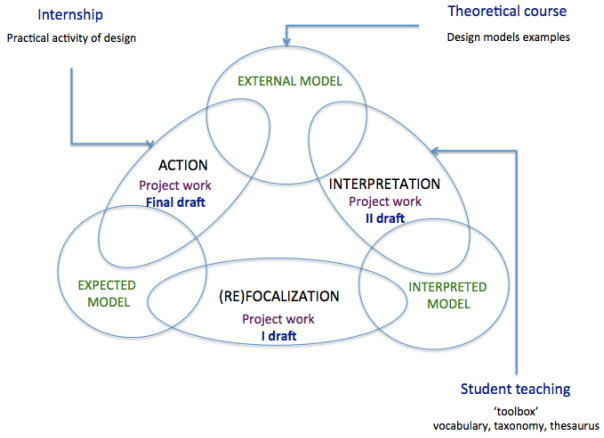


Figure 1 – The situated model of teachers training – adapted from Gero & Kannengiesser (2002).

Figure 1 is merely representative of the process for the didactic planning, of an aware reduction of the complex dynamics difficult to formalize. Nevertheless, it clarifies the *project work* drafting phases, as presented in the university internship meetings. Those meetings have to be considered as the place dedicated to the elaboration, *personal* at first, then *collective*, finally *formal*, of the *project work* - object of this study.

*Meetings of the university internship and elaboration of the project work*

Building the design skill is part of a pluralistic, multi-level process in which the trainee has experienced designing in first person and through the comparison of his experience with the experienced colleagues, has received and criticized theoretical designing models, has been followed through the elaboration process of his/her "toolbox".
It follows the elaboration process of the *project work* within the university internship meetings and, at a later time, some aspects of the redrafting technique used.

*The* project work *as design 'artefact'*

A design model is a symbolic model, a particular type of "cognitive artefact", belonging to what Popper (1979) defines as "World 3". It can be defined as an "artificial tool (…) ensuring a representative function and affects the human activity" (Norman, 1991, in Rossi & Toppani, 2009, p. 25). The use itself of the artefact transforms the activity it was designed for. In particular, it modifies how the set target is meant to be reached. This is why the *project work* – meant as a "design artefact " (Agostinelli, 2007) elaborated during the university internship meetings – is a tool both *of* and *for* the design (Magnoler, 2008), a tool that has facilitated the trainee teacher in the preparing of the action (*of*) and in the reflection about the action itself (*for*).
It is constituted by a) a totality of *statements*; b) a *language* of representation; c) *conceptualizations* about the thing/action to be represented and it is reified in d) an instrumental *vehicle*. As a matter of fact, whoever drafts a *project work* is to respect conceptual and linguistic bindings such as:
- the *structure*, or the 'form'. It helps to make explicit the process laying under the action to be performed, for example the model WBS - *Work Breakdown Structure* (Nepi, 2006) represents as a hierarchy the activities and sub-activities. Elaborating a *project work* in WBS leads to adapting the "internal" model to a particularly structured "external" model typology but still supporting the process socialization (see also, Seels & Glasgow, 1998);
- the *language*, that is to say the *vocabulary*, the *syntax*, the *semantic* specific to the design (Coyne et al., 1990). The designers of a didactic action use expressions such as "didactic activities", "tools", "learning

  

contents", "objectives", "targets"; they aim at a balance between the personal language and the specific language of the designing to avoid committing linguistic mistakes (see Wittgenstein, 1953). Each participant to the course wrote three drafts of the *project work.* Each one of these drafts has been defined based on the formal organization that it has acquired (see Figure 2). The first draft is a *narration*. The trainees described in a narrative way how they meant to act to solve a certain problem without any reference structure and based only on personal experience, on the debate with the school tutor during the school internship. This draft aimed at facilitating the expression of the "expected" design model and at observing the so-called spontaneous configuration. The second draft is a *report*. The trainee activated a first comparison between the "expected" model expressed in the first draft and the different models deriving as well from the debate with the colleagues. This has not only promoted the sharing of the contents included in the first drafting, but it has, above all, promoted the reflection about the structure to be used to formalize the hypothetical action – comparison between "expected" and "internal" model. The third draft – *structure* - has been elaborated in a formal way. The structure of the planned action took place through the respect of the linguistic bindings – vocabulary, taxonomy etc. – of the model proposed by the university supervisor. This has facilitated the comparison between "internal" models, deriving from the debate with the colleagues and the "external" design model shared with the community of experts.

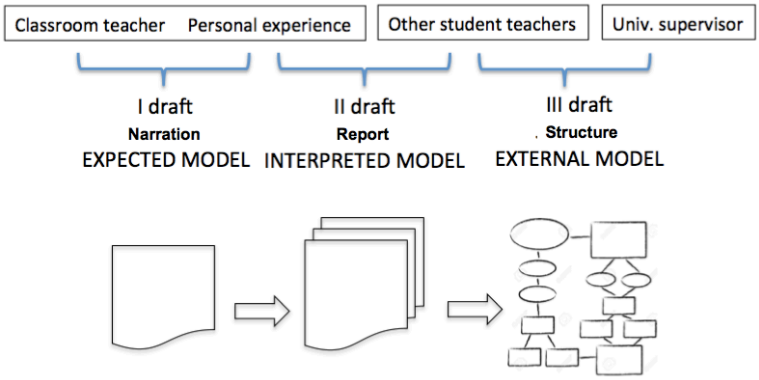


Figure 2 – The three *project works* drafts.

It is useful to refer to some aspects about the re-writing technique, often used in the didactic practice (Corno, 1999), in particular in the teacher professional training (Perla, 2012).
The re-writing technique used during the university internship meetings might be defined as a "cognitive" technique (Corno, 1999, p. 117) since it allows the writer to transform the basic text considering new pints of view and/or a deeper analysis or reconfiguration of previously underlined elements, properly basing on the incentives received on the second step (cfr. the text transformation process that each participant could perform following the debate with the other participants and the school tutor). Re-writing techniques of this kind require a complex and specific cognitive work as they stimulate the "strong" creativity (Corno, 1999) of the involved writer: first of all the activation of the memory, secondly the way knowledge (*principle of data accessibility*) is accumulated in the mind, the inevitable respect for the bindings or binding criteria to the creative act – for example the textual structure, the context aspects etc. (*principle of the bindings*); last but not least, the elaboration of something felt as new and original (*principle of the originality*).
This 'new and original' something is described by the cognitive sciences (Schank & Abelson, 1977; Russel & Norvig, 1995) as *script*, mental concept that let re-configure the elements of a knowledge (events, typical scenes, stable organizations in the memory) in a more and more complex and specific ways. Those *scripts* could be somehow associated, even if not properly, to those how have been defined "expected", "internal" and "external" models of design, that represent the focus around which the project work analysis was carried out.

## A STUDY ABOUT DESIGN MODELS

The exploratory study was carried out at the training courses for the special education teaching certification (*Corso di formazione per il conseguimento della specializzazione per le attività di sostegno didattico agli alunni con disabilità*) at University of Bari in 2014-15. It has involved about 240 participants in order to investigate how trainee teachers build design models and, in particular, how they transform the "expected", personal models into "external" models elaborated by debating with the colleagues, the school tutors and the university supervisors.
This first phase of the study was carried out through the comparative analysis (Fereday & Muir-Cochrane, 2006; Snow & Cress, 2000) of the three drafts of the about 240 *project works* provided by the trainee teachers during the university internship meetings and focused the attention on the formal organization of the documents –defined *narration*, *report*, and *structure* (see above). A second phase of the study, still in progress, aims at analysing in depth the aspect of the *language* and of the *syntax* of the final *project works*.

  

Through the qualitative analysis of the data (Miles & Huberman 1994; Anderson, 2003) and following the comparative way, the material was read in a cross-reference way through the usual inductive phases of the a. classifying the files, b. codifying the significant aspects (*coding data*), c. identifying recurrent typologies (*structuring data*). A double-way matrix was used: it is worth reminding that this is the "*form* on which particular characteristics of the multiple cases or utterances that the analyst need to take into consideration can be recorded" (Miles & Huberman, 1994, pp. 93–95). On it, macroscopic characteristics of the formal documents organization have been reported.
Some "emerging categories" (Bryant & Charmaz, 2007) among the design models reported in the three drafts of the *project works* have been deducted from the comparison of the matrixes, . The drafts having no reference model have been coded as "informal"; those having some sort of linear structure in phases – linked to the most known example is the ADDIE meta-model, Analyse, Design, Develop, Implement, Evaluate (Seels & Glasgow, 1998) – have been coded as "ADDIE"; those referring to hierarchical models following a time logic have been coded as "WBS" – referring to the most known meta-model WBS (*Work Breakdown Structure*).

*Analysis of the data and first evidences*

The figure 3 represents the absolute values of the design model typologies (ADDIE, WBS, informal) found in the three drafts (Narration, Report, Structure) of the *project works*.

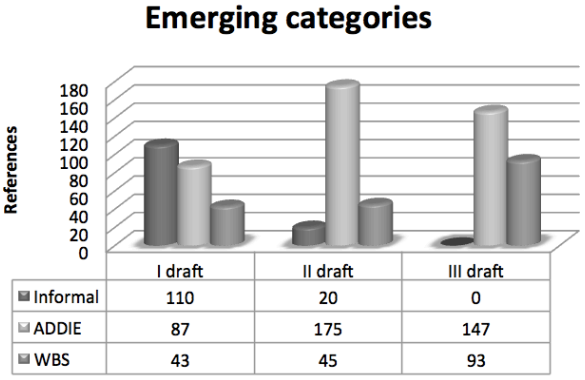


Figure 3 - Emerging categories in the three drafts of the *project work*.

Hereunder some aspects of the evidences are focused. In the first *project works* draft (Narration) the trainee teachers have used "external" models more or less formalized such as ADDIE (87) and WBS (43), even though in most cases they have not used any model. In the second draft (Report) the number of informal models has considerably decreased (from 110 to 20), whereas the use of model ADDIE has increased (175), following the debate with the course colleagues, as it is worth reminding. In the third draft, all the trainee teachers have used "external" design models such as ADDIE (147) and WBS (93) following the debate with the course colleagues and technical-practical indication received by the supervisor, as it is worth reminding.

As known, the model ADDIE represents a meta-model describing a linear process of action in phases (analysis, design, development, implementation and evaluation - Seels & Glasgow, 1998). The ADDIE models found in the three drafts of the *project works* were not hardly "canonical": sometimes the *design* phase was elicited, sometimes the structure was roughly respected but the vocabulary used was different etc. Nevertheless, as previously mentioned, the models inspired to the ADDIE typology have been collected in the same "family".
Looking at the figure 3, it is noted that the reference to the design ADDIE model are present in a consistent way (87) even in the first draft of the *project works* (Narration), increase further in the second draft (Report) (175) and then balance in the third draft (Structure) compare to the WBS model.
This is sufficient to consider the ADDIE model as an indicative expression of the "implicit" teacher knowledge (Perla, 2010) – on a design modelling level – that the teacher itself uses mostly not being aware of it. It is worth considering that the knowledge repertory used by the trainee teaches in the first draft is merely experiential, originated by the memory of the previous training experiences as well as by the debate with the school tutor during the school internship (Agrati & Gemma, 2015[2]). This prevailing design model seems to reinforce during the debate with the course colleagues –it has increased, in fact, from 87 to 175 from the first to the second draft – but then balances to the other "external" model proposed by the supervisor. It would be interesting to further investigate each of these inferences through a detailed analysis of the drafts but, as it has been clarified, this will be a task in the second phase of the study.

**CONCLUSIONS AND FUTURE PERSPECTIVE**

Reading the three drafts of the project works, it is possible to highlight that the trainee teachers already possess some design models at the beginning of their training. These models are 'personal' but can be easily modified

  

in more formalized structures. More or less formal design models – inspired to ADDIE and WBS – are available since the first drafts of the *project works* and keep having a more defined structure through the debate with the course colleagues (second draft) and the formal models provided by the supervisor (third draft). From the point of view of the study about the teacher training, this suggests to focus more on the "personal knowledge" background of the future teachers that they possess at the beginning of their training.

The comparative analysis highlighted as well the advantages and the limits of the *project work* as professional teacher training "tool". The writing activity generated an unquestionable advantage in terms of participants training, that is to say to make explicit, make 'visible' some knowledge that would have otherwise been kept implicit (Perla, 2010) and maybe unaware. The triple draft of the *project works* performed by the participants gave the opportunity to make explicit, to clarify and even to build a more "strategic" knowledge (Damiano, 2007) compared to a 'anecdotal' knowledge. This professional writing (Perla, 2012) is conditioned nevertheless by a. the chance to have a suitable space/time, independent from the practice and facilitating reflection; b. the motivation to "commit in paths (…) leading often to question the very same presuppositions of one's own action, sometimes the very same identity" (p. 12).From this latter consideration, the main limit of this *project work* tool arises: that is to say the emotional and cognitive commitment from the participants. Several participants showed a certain reluctance towards elaborating a project work, towards the practice of writing itself.

Even through reading the material, some sort of avoiding the task has been detected, such as the use of some stereotyped writing expressions and quotations from pre-existent documents.

The re-writing technique – as a way to *produce* material – and the comparative analysis – as a way to *read* the material – allowed anyway to achieve some positive outcomes about the training efficacy of the university internship module. This made possible the comparison among the *pre* and *post* action knowledge in a direct way. In the university internship meetings, the debate with the colleagues and the incentives from the supervisor turned into the chance for the participants to re-elaborate the design models arose in the first drafts of the *project works*, facilitating its restoration.

In the university internship meetings the internship tutor used very well-known design models (ADDIE and WBS). It would be interesting to observe what kind of impact more complex, multidimensional models – such as the FBS Gero & Kannengiesser, 2002) or the FVP (Rossi & Toppano, 2009) would have on the trainee designers.

It might be interesting as well analyse in depth the informal kind of models arose in the first drafts of the *project works* to be informed about the naïve, spurious representation forms that the future teachers possess and investigate about their origin.

Finally, it could be interesting analyse more in detail each of the models found in the drafts of the *project works* and relate them to the ADDIE and WBS to clarify their special features. This would lead to better clarify the process of transformation of the "internal" models in "external", formal models.

As often mentioned in this study, these are matters needing further in-depth analysis and further investigations.

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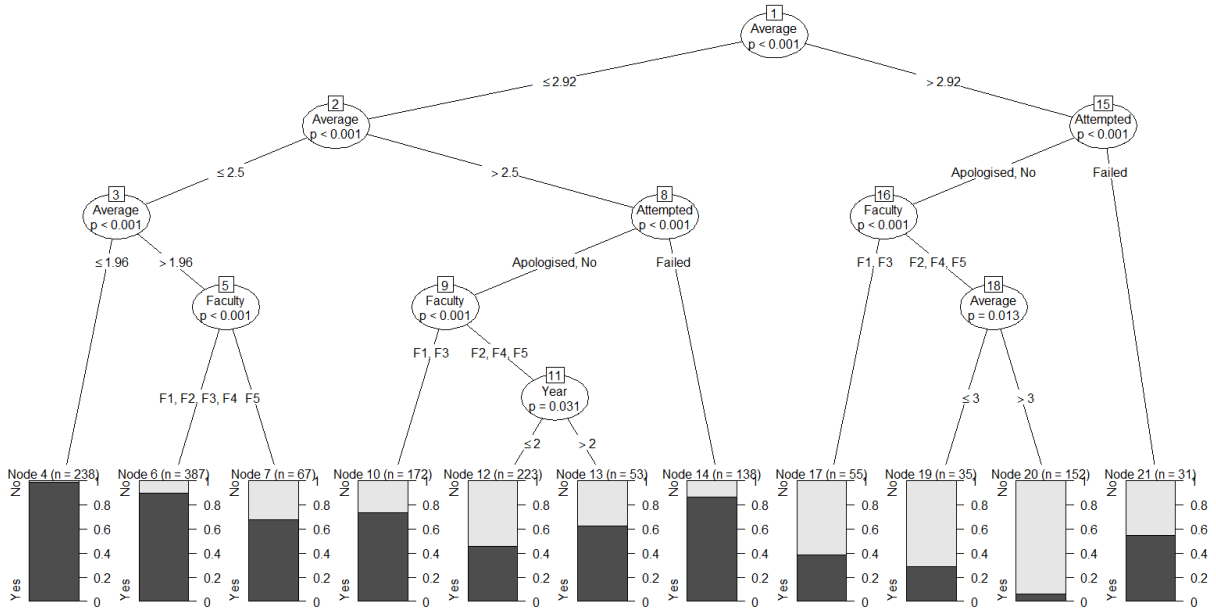
**Figure 1**: Model results




**Model formula:**
Passed ~ Faculty + Sex + Year + Age + Average + Nationality + Attempted + Experience

Fitted party:
[1] root
| [2] Average <= 2.92
| | [3] Average <= 2.5
| | | [4] Average <= 1.96: Yes (n = 238, err = 1.7%)
| | | [5] Average > 1.96
| | | | [6] Faculty in F1, F2, F3, F4: Yes (n = 387, err = 10.6%)
| | | | [7] Faculty in F5: Yes (n = 67, err = 32.8%)
| | [8] Average > 2.5
| | | [9] Attempted in Apologised, No
| | | | [10] Faculty in F1, F3: Yes (n = 172, err = 26.7%)
| | | | [11] Faculty in F2, F4, F5
| | | | | [12] Year <= 2: No (n = 223, err = 45.3%)
| | | | | [13] Year > 2: Yes (n = 53, err = 37.7%)
| | | [14] Attempted in Failed: Yes (n = 138, err = 13.8%)
| [15] Average > 2.92
| | [16] Attempted in Apologised, No
| | | [17] Faculty in F1, F3: No (n = 55, err = 38.2%)
| | | [18] Faculty in F2, F4, F5
| | | | [19] Average <= 3: No (n = 35, err = 28.6%)
| | | | [20] Average > 3: No (n = 152, err = 5.9%)
| | [21] Attempted in Failed: Yes (n = 31, err = 45.2%)

Number of inner nodes: 10
Number of terminal nodes: 11

# THE DETERMINANTS OF STUDENTS' SUCCESS IN THE INTRODUCTION TO ACCOUNTING COURSE AT THE UNIVERSITY LEVEL

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**ABSTRACT**
The determinants influencing the students' general performance as well as performance in accounting courses are subject of a widespread research all around the world. The paper's goal is to reveal the validity of common determinants of students' success in an introductory course on accounting at the leading business university in the Czech Republic and thus to supplement the current research by an insight into the specifics of accounting education in a transition country not covered by the literature yet. The research design rests on the application of conditional inference trees in identification of the determinants of success in the course. Using a sample of 1,832 students enrolled in the course Introduction to Accounting in winter semester 2014/2015, the general ability to learn, the type of major specialisation, the time sequence of study, and the previous unsuccessful participation in the course increase the probability of passing the course. On the other hand, the analysis does not unmask any influence of age, gender, nationality or experience with accounting from secondary school on the success in the course.

**INTRODUCTION**
Despite (Spitzer, 2000) insists on that the students' overall university performance can be explained by self-efficacy, intrinsic motivation, self-regulation and social support, the literature indicates dissimilarities in the drivers of students' performance in accounting courses. The differences might be factual as well as an outcome of different research approaches, or imperfect research designs. Commonly applied regression models shall include both student-oriented endogenous factors and student-exogenous factors (Guney, 2009); however, some of them are often omitted because of data restriction. Furthermore, the samples scrutinised may be subject of time and/or country variations, when specific historical, social, cultural institutions surrounding education can influence its shape and outcomes (Marginson & Rhoades, 2002). Country studies or university-specific studies can thus extend the knowledge of relevant "determinants of success", including their mutual combinations under different institutional setting. The paper's goal is to reveal the validity of common determinants of students' success in an introductory course on accounting at the leading business university in the Czech Republic and thus to supplement the current research by an insight into the specifics of accounting education in a transition country not covered by the literature yet. The Czech accounting is traditionally subordinated to the fiscal needs of the state. A high book-tax dependence creates completely different incentives to prepare high-quality financial statements by firms and impairs their utilisation both by external and internal users (Procházka, 2014). A transition from a command economy to a standard free-market economy brings additional challenges to accounting (Ištvánfyová, Mejzlík, & Pelák, 2010). The tensions among interested stakeholders are higher than in developed countries, and the situation is relevant across the Central and Eastern Europe (Albu, Albu, & Alexander, 2014). The state of the art in accounting practice influences also the accounting academia (Albu & Albu, 2015) and might have an impact on education processes.

The paper acknowledges the specifics of a transition country and contributes to the current research by several unique features stemming from the institutional background of Czech accounting and the response of the University to international trends in education. Firstly, the course "Introduction to accounting" is based on internationally accepted principles of accounting represented by IFRS and not on Czech GAAP, which is the preferable option by majority of Czech universities. Both systems are relatively distant conceptually (Nobes, 2008), (Žárová & Mejzlík, 2009) as well as practically (PwC, 2013). Other Czech universities, having substantially less students, prefer rather practically oriented courses on Czech accounting than general courses with an international focus. Secondly, despite an international aspect of the course, it is taught in Czech language, as required by the accreditation rules. Thirdly, a significant group of students is formed by foreigners, mainly from other CEE countries, for which the Czech language had been neither the main, nor the minor foreign language before the decision to enter the University. They have to therefore struggle with twofold "lost in translation" elicited: (a) by teachers, when interpreting Anglo-Saxon accounting tradition and translating English terminology into Czech language not containing directly comparable concepts and terms; (b) by own incapability to understand the exposition in Czech being a foreign language for therm. All these factors can negatively influence the performance especially of those students, whose major is not accounting. The unique

  

background of the course is also reflected by the research design applied by the paper. In particular, the paper utilises a methodology of conditional inference trees. The method combines the approach investigating differences within the same variable and their net effect on the outcome, commonly applied in regression analysis, with merging subgroups displaying a similar pattern of behaviour under different conditions (approach applied e.g. by fsqca in fuzzy settings). These alternative approaches exploring the paradoxes occurring as "similarities in differences" and/or "differences in similarities" help in revealing asymmetric patterns of behaviour (Woodside, 2013), and thus may contribute to depict a specific combination of factors shaping the students' performance.

## LITERATURE REVIEW

The determinants influencing the students' performance in accounting courses are subject of a widespread research. The studies try to explore both subjective and objective factors that can have an impact on the probability of passing the course and the resulting grade. The subjective factors relate to the student's students personality and general ability to learn; the objective factors control for different teaching styles, methods of testing, class size, etc. The empirical evidence exhibits mixed conclusions about the importance of the various factors on the students' performance. Using data sets of 983 + 679 students in Accounting Principles I and Accounting Principles II, (Bouillon & Doran, 1990) unveil that the secondary school score and the current score at the university are positively associated with the performance in both courses. However, having an accounting course in secondary school produces contradictory results: it improves the performance in the first course, but impairs the grade in the second course. Finally, selecting an accounting major leads to better results in the first course, but there is no difference between students with a major in accounting and students with other specialisations in the successive course. The positive influence of previous experience with accounting at secondary school on the performance in introductory course on accounting at universities is also evidenced by (Lynn, Shehata, & White, 1994). (van Rensburg, Penn, & Haiden, 1998) come to even more striking difference compared to (Bouillon & Doran, 1990): secondary school experience is a plus for the introductory course at the university, but simultaneously it is minus for the performance in next intermediate courses.

(Jackling & Anderson, 1998) confirm that general ability is a decisive factor influencing the accounting score. Other background variables, such as accounting at secondary school, gender, and language, have no significant effect on performance. The student effort is another personal determinant alongside with the class size and the attributes of the lecturer (Naser & Peel, 1998). Regarding particular personal qualities (ir)relevant to the obtained grade from accounting course, (Oswick & Barber, 1998) find out that the students' personality traits are not associated with their performance in accounting. On the other hand, a personal learning style does matter (Tan & Laswad, 2015). Contrary to (Jackling & Anderson, 1998), the importance of language proficiency is emphasised by (Gul & Cheong Fong, 1993). On the other hand, (Gul & Cheong Fong, 1993)s' sample contains data supporting differences in personality type as one of compounding factors determining the performance. Similarly, general learning ability measured by the grade score in alike-subjects (mathematics), proficiency in a foreign language and previous experience with accounting are explaining variables also in the study of (Tho, 1994). However, gender and socio-demographic variables do not influence the final performance. (Muda, Hussin, Johari, Sapari, & Jamil, 2013), although, unveil statistically significant gender differences in success rates. (Fallan & Opstad, 2014) presume that gender characteristic is not homogenous and needs to be complemented by other personal features such as a personality type.

Based on the literature review, following hypotheses about the students' performance (measured binary as "passed" vs "failed") in the introduction course on accounting are proposed:

- H1: There is no difference in the success rate of students having the accounting specialisation as their major and "non-accounting" students.
- H2: There is no difference in the success rate of students according to their gender.
- H3: There is no difference in the success rate of students according to the year of their study.
- H4: There is no difference in the success rate of students according to their age.
- H5: There is no difference in the success rate of students according to their nationality.
- H6: There is no difference in the success rate of students enrolling the course for the first time compared to the students repeating the course.
- H7: There is no difference in the success rate of students having experience with accounting from secondary school compared to those not having any previous experience with accounting.

## RESEARCH DESIGN AND DATA

The University of Economics, Prague (further "University") is the largest business school in the Czech Republic, having 17,462 students as at the end of 2014 (VŠE v Praze, 2014). The University consists of six faculties:

- Faculty of Finance and Accounting (F1); Faculty of International Relations (F2); Faculty of Business

  

Administration (F3); Faculty of Informatics and Statistics (F4); Faculty of Economics (F5); Faculty of Management (F6)

F1-F5 are located in Prague, F6 is placed in the Southern Bohemia (in Jindřichův Hradec). The course "Introduction to Accounting" is a compulsory subject for all bachelor students. The course is solely taught by the Department of Financial Accounting and Auditing, except for the detached F6. This faculty is therefore excluded from the further analysis.

The testing of the hypotheses utilises the methodology of conditional inference trees. The CI trees are a type of decision trees, estimating a regression relationship by binary recursive partitioning in a conditional inference framework. The algorithm tests the null hypothesis of independence between any of the explanatory (input) variables and the explained (response) variable. The explanatory variable indicating the strongest relation to the response variable is selected; the magnitude of the association refers to a p-value of a test for the partial null hypothesis of a single input variable and the response. Based on this association, a binary split in the inspected explanatory variable is carried out. The procedure employs the multiple significance tests computed repeatedly at each inception of the algorithm (Hothorn, Hornik, van de Wiel, & Zeileis, 2006); the permutation tests follow the (Strasser & Weber, 1999)s' paper on the limit theorems for the conditional distributions of linear test statistics.

Following the classification of (Guney, 2009), the model incorporates following student-oriented endogenous factors as explanatory variables:

$$\text{Passed} \sim \text{Faculty} + \text{Sex} + \text{Year} + \text{Age} + \text{Average} + \text{Nationality} + \text{Attempted} + \text{Experience} \quad (1)$$

Table 1 presents the description of variables captured by Equation 1 and their expected sign on the response variable "Passed".

**Table 1**: Variables description

| Variable | Description | Values | Expected direction |
|---|---|---|---|
| Passed | The final result of the course of a student | Yes; No; Apologised | xxx |
| Faculty | The home faculty of a student | F1-F5 (see above) | Students from F1 should perform better than other faculties. |
| Sex | The gender of a student | M (male); F (female) | No difference |
| Age | The age of a student, when taking the course | Integer ranging from 19 to 34 | The higher age, the higher probability to pass |
| Year | The year, in which a student takes the course | Integer ranging from 1 to 4 | The higher year, the higher probability to pass |
| Average | Weighted average score for other subjects already taken by a student | Continuous variable: ranging from 1 (the best score) to 4 (the worst score-failure) | The better average, the higher probability to pass |
| Nationality | Proxy for mother language | In total 17 cases | Native speakers should perform better |
| Experience | A previous experience with accounting courses at secondary school | Yes, No | Students with previous experience should perform better |
| Attempted | Indicates, whether a student was enrolled in the course already in previous semester | No (first attempt); Yes – Failed; Yes – Apologised | Indecisive |

All courses at the University are evaluated in the same manner. The point maximum is 100 and there are four grades: 1 (100-90 points); 2 (89-75 points); 3 (74-60 points); 4-failure (less than 60 points). The students' performance at the course labelled as "Passed" is rearranged into the outcomes Yes (grades 1, 2, 3), No (grade 4), and Apologised. There are several variables proposed to explain the variance in the response variable "Passed". Firstly, the type of a student's study programme can influence the result (Bouillon & Doran, 1990). "Faculty" variable is used as a summary indicator of different study programmes. Regarding the expected impact on the outcome variable, the students of F1 have accounting as one of the core courses. They are supposed to perform better than the students of the remaining faculties, for which accounting is not a principal area of the study. For another variable "Sex", no difference in the success rate is expected (Tho, 1994), (Jackling & Anderson, 1998). On the other hand, a positive effect of an "Age" on students' performance can be expected following the findings of the literature review. With the increasing age of a student taking the course, the

  

likelihood of passing it shall grow, as the older students can capitalise on self-reported learning strategies (McKenzie & Gow, 2004), i.e. on their deeper knowledge of effective learning methods, attitude to problem solutions, etc. In a similar manner, being a student at the University for a long time period can positively attribute to the ability to pass the course, as students have more experience with the organisation of study processes within the institution, the teachers' requirement, etc. The time sequence of course participation is an alternative measure of age, distinguishing "mature" students from novices. (Spitzer, 2000) provides evidence of the positive impact of higher age on the students' success. This factor is controlled for by adding the variable "Year".

The performance at the accounting course is also affected by the general ability of a student to learn (Guney, 2009), (Jackling & Anderson, 1998), (Naser & Peel, 1998). The variable "Average" score from other courses taken by a student during is used as an approximation of his/her predisposition to successfully pass the course similarly as by (Bouillon & Doran, 1990). Furthermore, the data contain 17 different nationalities of students The findings of previous research regarding the importance of language proficiency are mixed (Gul & Cheong Fong, 1993), (Jackling & Anderson, 1998). However, the hypothesis works with a conjecture that students with Czech "Nationality" shall perform better on average, as they do not need to tackle with the language barriers. The last two explanatory variables concentrate on the students' past experience with accounting courses. Firstly, the "Experience" checks for their knowledge of accounting from secondary schools and suspect that those having studied accounting in the previous level should outperform the novices in the course, as it is the first course on accounting in the University (Bouillon & Doran, 1990), (Lynn et al., 1994), (van Rensburg et al., 1998). Secondly, as the pass rate is not 100%, students have to repeat the course once again in the next semesters. Therefore, the variable "Attempted" controls, whether a student was enrolled in the course already in previous semesters. However, the expected impact on the probability of passing is unclear.

The sample investigated embraces the students' results in the course Introduction to Accounting during the winter semester 2014/2015. Data are retrieved from the study information system; the sample contains the results of the course and the data on an endogenous individual background of the enrolled students.

**Table 2**: Descriptive statistics

Panel A: Distribution of response variable "Passed"

| Faculty | Yes (count) | Yes (share) | No (count) | No (share) | Apologised (count) | Apologised (share) | Total (count) | Total (share) |
|---|---|---|---|---|---|---|---|---|
| F1 | 318 | 78.71% | 71 | 17.57% | 15 | 3.71% | 404 | 22.05% |
| F2 | 304 | 71.03% | 96 | 22.43% | 28 | 6.54% | 428 | 23.36% |
| F3 | 132 | 72.93% | 31 | 17.13% | 18 | 9.94% | 181 | 9.88% |
| F4 | 150 | 60.73% | 63 | 25.51% | 34 | 13.77% | 247 | 13.48% |
| F5 | 157 | 27.45% | 229 | 40.03% | 186 | 32.52% | 572 | 31.22% |
| **Total** | **1,061** | **57.91%** | **490** | **26.75%** | **281** | **15.34%** | **1,832** | **100.00%** |

Panel B: Relative frequency of binary explanatory variables "Sex" and "Foreigners"

| Faculty | Sex | Czechs (count) | Foreigners (count) | Total (count) | Foreigners (share) |
|---|---|---|---|---|---|
| **F1** | | **266** | **138** | **404** | **34.16%** |
| | Female | 146 | 91 | 237 | 38.40% |
| | Male | 120 | 47 | 167 | 28.14% |
| **F2** | | **321** | **107** | **428** | **25.00%** |
| | Female | 237 | 82 | 319 | 25.71% |
| | Male | 84 | 25 | 109 | 22.94% |
| **F3** | | **135** | **46** | **181** | **25.41%** |
| | Female | 73 | 28 | 101 | 27.72% |
| | Male | 62 | 18 | 80 | 22.50% |
| **F4** | | **194** | **53** | **247** | **21.46%** |
| | Female | 58 | 27 | 85 | 31.76% |
| | Male | 136 | 26 | 162 | 16.05% |
| **F5** | | **541** | **31** | **572** | **5.42%** |
| | Female | 219 | 19 | 238 | 7.98% |
| | Male | 322 | 12 | 334 | 3.59% |
| **Total** | | **1,457** | **375** | **1,832** | **20.47%** |
| | Female | 733 | 247 | 980 | 25.20% |
| | Male | 724 | 128 | 852 | 15.02% |

  

Panel C: Descriptive statistics of explanatory variables "Year", "Age", and "Average"

| **F1 (n=404)** | **min** | **median** | **max** | **mean** | **sd** |
|---|---|---|---|---|---|
| Year | 1 | 2.00 | 4.0 | 2.10 | 0.25 |
| Age | 19 | 22.00 | 31.0 | 21.73 | 1.14 |
| Average | 1 | 2.51 | 3.9 | 2.47 | 0.52 |
| **F2 (n=428)** | **min** | **median** | **max** | **mean** | **sd** |
| Year | 1 | 2.00 | 4.0 | 2.22 | 0.50 |
| Age | 20 | 22.00 | 33.0 | 21.93 | 1.25 |
| Average | 1 | 2.39 | 3.8 | 2.36 | 0.48 |
| **F3 (n=181)** | **min** | **median** | **max** | **mean** | **sd** |
| Year | 1.00 | 3.00 | 4 | 2.51 | 0.70 |
| Age | 20.00 | 22.00 | 32 | 22.72 | 1.73 |
| Average | 1.21 | 2.56 | 4 | 2.55 | 0.45 |
| **F4 (n=247)** | **min** | **median** | **max** | **mean** | **sd** |
| Year | 1 | 3 | 4 | 2.59 | 0.69 |
| Age | 20.00 | 23.00 | 34 | 22.96 | 1.71 |
| Average | 1.33 | 2.66 | 4 | 2.65 | 0.44 |
| **F5 (n=572)** | **min** | **median** | **max** | **mean** | **sd** |
| Year | 1.00 | 1.00 | 4 | 1.18 | 0.47 |
| Age | 19.00 | 21.00 | 29 | 21.26 | 1.32 |
| Average | 1.19 | 2.96 | 4 | 3.40 | 0.68 |
| **Total (n=1,832)** | **min** | **median** | **max** | **mean** | **sd** |
| Year | 1.00 | 2.00 | 4 | 1.93 | 0.74 |
| Age | 19.00 | 22.00 | 34 | 21.90 | 1.49 |
| Average | 1.19 | 2.61 | 4 | 2.65 | 0.61 |

**RESULTS AND DISCUSSION**

The depiction and calculation of the conditional inference trees are processed using the package "partykit" in R (Hothorn & Zeileis, 2015).

**Insert Figure 1**

Figure 1 (in the Appendix) presents the results of the analysis. Regarding the model results, the CI-trees algorithm identifies 11 nodes. The procedure does not find the variables "Sex", "Age", and "Nationality" to be statistically significant. In case of "Sex", the prediction of no difference is confirmed and the analysis corresponds to the prevailing conclusions in previous research. However, our study is not in line with the previous literature evidencing a positive association between the age and the performance. The explanation might rest on the fact that accounting is close to exact subjects like mathematics, where the talent is more important than experience. The significance of age is not evident, even if different approaches to classification of the age were applied, e.g. by distinguishing young and mature students in the manner suggested by (Spitzer, 2000).

Similarly, the expectation of better performance by the Czechs turns out not to be true, even if different approaches (Liu & Cong, 2013) and (Juola, 1998) are applied. Neither of the approach described passes the critical values of significance tests. The irrelevance of language prerequisites can be either outcome of well-working entrance examination conditions levied on foreigners. Alternatively, accounting as computation discipline close e.g. to mathematics wipes off the difference in language skills as it requires predominantly the analytical and logic skills. Any problematic vocabulary has then a consistent effect on the performance of all students (Shaftel, Belton-Kocher, Glasnapp, & Poggio, 2006). Finally, having an accounting course at secondary school is not associated with better performance in the first course on accounting at the university, which rather opposite finding compared to previous research.

On the other hand side, the variation in variables "Average", "Faculty", "Year", and "Attempted" explains different chances to successfully pass the course. The most influential variable is the general ability to learn (measured by the average grade score in other subjects). The CI-tree algorithm recognises five groups of students according to their "Average" score:

- Excellent students: average < 1.96
- Good students: average between 1.96 and 2.50
- Mediocre students: average between 2.5 and 2.92

  

- Weak students: average between 2.92 and 3.00
- Poor students: average > 3.00

The excellent students have 98.3% chance to pass the course, or alternatively expressed they face to a 1.7%-risk of failure (see Node 4 on the left hand side of Figure 1). Good students perform worse, with "Faculty" being a moderating effect. Students affiliated with F5 have a failure rate of 32.8% (Node 7) compared to just 10.6%-rate for other faculties (Node 6). The dissimilarities across good students in disfavour of F5 students can be a result from the fact, that these students are required to take course already in the first semester. Other faculties require/recommend attending the course in later years. Therefore, good F5 students lack experience with the education procedures at the University, which make their results worse compared to similarly talented, but more experienced students from other faculties.

The breakdown of mediocre students depends on a compounding effect of previous enrolment into the course. If a student failed to pass the course in the past, he/she has 86.4%-chance to pass the course at the repeated attempt (Node 14). Mediocre students are thus able to learn from past mistakes; this finding implies high consistency and predictability of requirements on students of the course. In addition, the failure of mediocre students in the previous attempt increases their probability to pass the course in a second attempt to a level almost comparable with the good students. However, if a mediocre student takes the course for the first time, its chance to perform successfully falls down to 73.3% in the case of F1 and F3 students (Node 10), or even to a lower level, if students come from F2, F4, or F5. For this subset of students, the year, in which they take the course, is also relevant. In accord with expectation, the sooner participation in the course (Node 12 vs Node 13) decreases the likelihood to pass the course.

Similarly to mediocre students, the past failure boosts a chance to pass the course for weak students as well (Node 21), up to 10 times (compared to Node 20). If students have no unsuccessful past attempt, then their result is associated with the faculty affiliation. Once again, F1 and F3 (Node 17) outperform remaining three faculties. The probability of finishing the course is then dependent on whether the students are "only" weak (Node 19), or even poor (Node 20).

## CONCLUSIONS

Applying conditional inference trees, the general ability to learn (variable "Average"), the type of major specialisation (variable "Faculty"), the time sequence of study (variable "Year"), and the previous unsuccessful participation in the course (variable "Attempted") have been found to influence the probability of passing the introductory course to accounting at the University of Economics, Prague. The most influential determinant is the learning ability, measured by the average grade score of a student in other subjects. The analysis uncovers five subgroups of students according to their average. On the lower level, the students' main specialisation influences the performance in certain subgroups. Except for excellent students, the students from the faculties focusing on finance and accounting (F1) and business economics (F3) outperform the colleagues from remaining three faculties, in which accounting is not a core subject. Finally, a negative outcome in the first attempt of mediocre and weak students significantly increases their change to pass the course in repeated attempts. Finally, the year of a study, in which a student enrols the course is relevant factor only for one node (subgroup) of students. On the other hand, the analysis does not unmask any influence of age, gender, or nationality on the performance of students in the course.

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# THE DEVELOPMENT OF SELF-EFFICACY SCALE TOWARD SCIENTIFIC PROCESS SKILLS

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**ABSTRACT**
The aim of this study was to develop a Scientific Process Skills Self-Efficacy Scale (SPSSES) and determine its psychometric properties. In this survey study, the sample consisted of 211 Prospective Science Teacher (PST) who studied in the science education department of two public universities in the 2015–2016 academic years in Black Sea Region of Turkey. The SPSSES includes 47 items in thirteen sub-category. The sub-categories are "observing", "classifying", "data recording", "measuring", "using Space/number relations", "prediction", "interpreting the data", "drawing conclusion", "identifying variables", "graphing", "changing and controlling variables", "making a hypothesis" and "experimenting". Content validity of the SPSESS was provided with experts' opinions. In order to determine psychometric properties of SPSSES, Confirmatory Factor Analysis (CFA) was carried out. Results of the CFA revealed that within the scope of thirteen-factor structure, construct validity is high for target characteristics to be measured. The Cronbach alpha reliability coefficient of the scores was found to be 0.91 for SPSESS. These values prove that the SPSESS are reliable. In conclusion, SPSESS developed in this study can be used with the aim of testing/assesing SPSESS of PST. Also, as there is no such scale we can locate it is a good contribution to the literature as a valid and reliable instrument.

**Key words:** Scientific Process Skills, Self-Effiecy, Prospective Science Teacher

  

# THE DEVELOPMENT OF TEACHING SCIENCE PROCESS SKILLS FOR THAI IN-SERVICE SCIENCE TEACHER

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**ABSTRACT**
This study explored and developed conceptual understanding and teaching science process skills for in-service science teachers under the Office of the Basic Education Commission in Thailand. A sample comprised of 166 in-service science teachers in the Secondary Educational Service Area Office 3, Nonthaburi province, obtained from stratified random sampling. Firstly, the teachers' conceptual understanding of science process skills was investigated by using science process skills conceptual understanding test and teaching science process skills evaluation form. Results of the first phase showed that in-service science teachers had moderate level of conceptual understanding of science process skills and teaching science process skills at the moderate level. Taking into an account of the first phase findings and research-based evidences in the literature, a professional development program covering 13 science process skills as a training package was developed, modified and implemented consequently. Experts' opinions toward the training package including contents, teaching strategies, assessment and evaluation tools, and the training instruments including teaching manual for teaching 13 science process skills, and learning management plans were at the highest levels. Results from the implementation showed that the teachers' conceptual understanding of science process skills after participating in the training workshop was significantly higher than that of before. The teachers' satisfaction toward the training package and the training instruments were at the highest level. Finally, the teachers follow up phase was used to determine teaching practices in classrooms using multi method evaluation and cross-case analysis. Results showed that the teachers improved teaching science process skills. The findings have implications for science process skills teaching development for Thai in-service science teachers.

## INTRODUCTION

The fact that, nowadays, scientific knowledge is increasing rapidly. Teachers cannot teach all the information to students. Thus, it is necessary to teach the students to acquire the scientific knowledge. Science teachers are required to teach science process skills to their students (American Association for the Advancement of Science [AAAS], 1989, 1993; National Research Council [NRC], 1996). Because of knowing the processes of science and combine the processes and scientific knowledge foster the students' scientific reasoning and critical thinking to develop their understanding of science and scientific inquiry process (NRC, 1996). Science process skills are capabilities of students to acquire the scientific knowledge and the acquisition of science processes. Those skills provide meaningful learning and prevent memorization of facts (Cain, 2002), thus science process skills help the students understand the knowledge they obtained. Science process skills have an important role in developing students' higher order thinking and decision making. Students will be able to think creatively and these capabilities can be transferred to other areas of study (Anderson, 2002; Glynn & Duit, 1995). In addition, science process skills prevent developing negative attitudes to science (Cain, 2002). Hence, science process skills should be taught to students while they are studying in all levels in their formal education. In order to produce students who acquire the science process skills, the teacher should be competent in science process skills; theoretically and practically (Hafizan, Halim, & Meerah, 2012).

Teaching science process skills has become important in the science curriculum all over the world and has become one of the new approaches for more effective and meaningful teaching science. Thirteen science process skills are divided into two major categories, basic or simpler science process skills and integrated or more complex science process skills. Basic science process skills include observing, measuring, classifying, inferring, manipulating and communicating data, predicting, using space/space and space/time relationships, and using numbers. Integrated science process skills include identifying and controlling variable, operational defining of the variable, formulating hypotheses, experimenting, and interpreting data and conclusion. In order to teach science process skills effectively, it requires the teachers to master in these investigation and experimental skills.

There were some studies examined science course content for prospective teachers (Boardman & Zembal-Saul, 2000; Dana, *et al*., 2000; Zembal-Saul, & Oliver, 1998) and teacher preparations aimed at developing understanding and abilities associated with effective science teaching in classrooms among teachers (Marion *et al*., 1999; Zembal-Saul *et al.*, 1999). However, there were evidences that teachers had limited conceptual

  

understanding of science process skills in teacher education. The research results showed that pre-service teachers had poor conceptual understanding of science process skills, their incorrect definitions of science process skills ranged from not having any idea to redundancy. Moreover, the pre-service teachers interchanged the definitions of science process skills, especially measuring and quantification, and predicting and inferring (Mbewe, Chabalengula, & Mumba, 2010). The teachers had low performance on the science process skills. In addition, the teachers are unable to provide correct definitions of the science process skills to the students (Boardman and Zembal-Saul, 2000; Dana *et al.* 2000; Zembal & Oliver, 1998). These have implications for science teaching, learning and teacher education.

In Thailand, there was only one published paper on professional development about science process skills. Kruea-In and Buaraphan (2014) developed a social constructivist-based professional development workshop to help lower secondary school science teachers develop their science process skills and laboratory lesson preparation skills. They founded that the workshop help the teachers develop their science process skills. Thus, more professional development resources are needed to help the teachers to develop their instructional activities to teach science process skills to the students.

This study aimed to explore conceptual understanding and teaching science process skills of in-service science teachers under the Office of the Basic Education Commission. Firstly, the teachers' conceptual understanding of science process skills was investigated by using science process skills conceptual understanding test and teaching science process skills evaluation form. Taking into account of the first phase findings and research-based evidences in the literature, the science process skills professional development program covering 13 science process skills as the training package was developed, modified and implemented consequently in the second phase. Finally, the teachers follow up phase was used to determine teaching practices in classrooms by using multi method evaluation and cross-case analysis.

**THE STUDY**

The purposes of this study were (1) to explore conceptual understanding and teaching science process skills of in-service science teachers under the Office of the Basic Education Commission, (2) to develop science process skills training package according to school context to promote conceptual understanding and teaching science process skills for the teachers, (3) to compare conceptual understanding and teaching science process skills of the teachers before and after participating in the training workshop, and (4) to study the teachers' satisfaction toward the training package and the training instruments.

Target group of this study was 290 in-service science teachers under the Office of Secondary Educational Service Area 3, Nonthaburi province, Thailand.

The first phase: a survey of conceptual understanding and teaching science process skills of 166 in-service science teachers obtained from stratified random sampling.

The second phase: the development of conceptual understanding and teaching science process skills by using science process skills training package. The target group of this phase comprised of 30 in-service science teachers obtained from stratified random sampling from the participants in the first phase.

The third phase: following up of teaching science process skills after the training by using the activity training package of 10 in-service science teachers obtained from purposive sampling.

Instruments used in this study were as follows:

In the first phase: instruments were science process skills conceptual understanding test (SPSCUT) and teaching science process skills evaluation form. The SPSCUT composed of 130 items, 10 items for each science process skill. The difficulty indices of the items were ranged between .35-.75. The discriminate indices of the items were ranged between .30-.70. The reliability of the test was .86.

In the second phase: instruments were (1) training package including contents, teaching strategies, assessment and evaluation tools, (2) training instruments including teaching manual for teaching 13 science process skills and learning management plans, (3) a questionnaire for the teachers' satisfaction toward the training package and the training instruments, the 5-point Likert-type scales, and (4) a questionnaire for experts' opinions toward the training package and the training instruments, the 5-point Likert-type scales.
In the third phase: instruments were (1) teaching observation form, (2) learning management plans evaluation form, and (3) semi-structure interview form.

  

Contents used in this study were 13 science process skills which were basic or simpler science process skills and integrated or more complex science process skills. Basic science process skills include observing, measuring, classifying, inferring, manipulating and communicating data, predicting, using space/space and space/time relationships, and using numbers. Integrated science process skills include identifying and controlling variable, operational defining of the variable, formulating hypotheses, experimenting, and interpreting data and conclusion.

Research processes were as follows:
The first phase:
(1) Surveyed research documents on science process skills, teaching science process skills, and assessment and evaluation of teaching science process skills.
(2) Developed science process skills conceptual understanding test (SPSCUT) and teaching science process skills evaluation form.
(3) Collected data and analyzed the data obtained from science process skills conceptual understanding test (SPSCUT) and teaching science process skills evaluation form.
The second phase:
(4) Developed training package including contents, teaching strategies, assessment and evaluation tools, and training instruments including teaching manual for teaching 13 science process skills and learning management plans.
(5) Developed teaching observation form, learning management plans evaluation form and semi-structure interview form.
(6) Evaluated training package, by experts, on contents, teaching strategies, assessment and evaluation tools.
(7) Workshop trained for the development of conceptual understanding and teaching science process skills by using the training package for in-service science teachers under the Office of Secondary Educational Service Area 3, Nonthaburi province, Thailand, in March 2015.
The third phase:
(8) Follow up of teaching science process skills after workshop training by using the training package of ten in-service science teachers in their classrooms.
(9) Analyze qualitative and quantitative data by using data from several resources.

**FINDINGS**

1. On the basis of the objective 1 of this study, to explore conceptual understanding and teaching science process skills of in-service science teachers under the Office of the Basic Education Commission, the results were as follows;

1.1 Conceptual understanding of science process skills scores ( $\overline{X}$ ) of 166 in-service science teachers were in the range of 5.15 to 8.21 ( $\overline{X}$ = 6.73, S.D. = 1.45), as shown in [Table 1] and [Figure 1].

1.2 Teaching science process skills of 166 in-service science teachers revealed that only 76 teachers (45.78 ) stated that they have taught science process skills contents directly, while 112 teachers (67.47 ) stated that they have integrated science process skills during they conventionally teach the students in their classrooms. There were 22 teachers (13.25 ) stated that they have taught science process skills contents directly and have integrated science process skills during they conventionally teach the students in their classrooms. The detailed results of teaching science process skills were shown in [Table 2].

**Table 1**: Conceptual understanding of science process skills of 166 in-service science teachers.

| Science process skills | $\overline{X}$ | S.D. |
|---|---|---|

  

| | n = 166 | |
|---|---|---|
| observing | 7.10 | 1.54 |
| measuring | 6.30 | 1.01 |
| classifying | 7.66 | 1.14 |
| inferring | 5.15 | 1.38 |
| manipulating and communicating data | 5.64 | 1.57 |
| predicting | 5.75 | 1.60 |
| using space/space and space/time relationships | 7.30 | 1.41 |
| using numbers | 6.35 | 1.82 |
| identifying and controlling variable | 8.21 | 1.32 |
| operational defining of the variable | 6.43 | 1.83 |
| formulating hypotheses | 8.08 | 1.12 |
| experimenting | 6.15 | 1.49 |
| interpreting data and conclusion | 7.36 | 1.58 |
| Total | 6.73 | 1.45 |

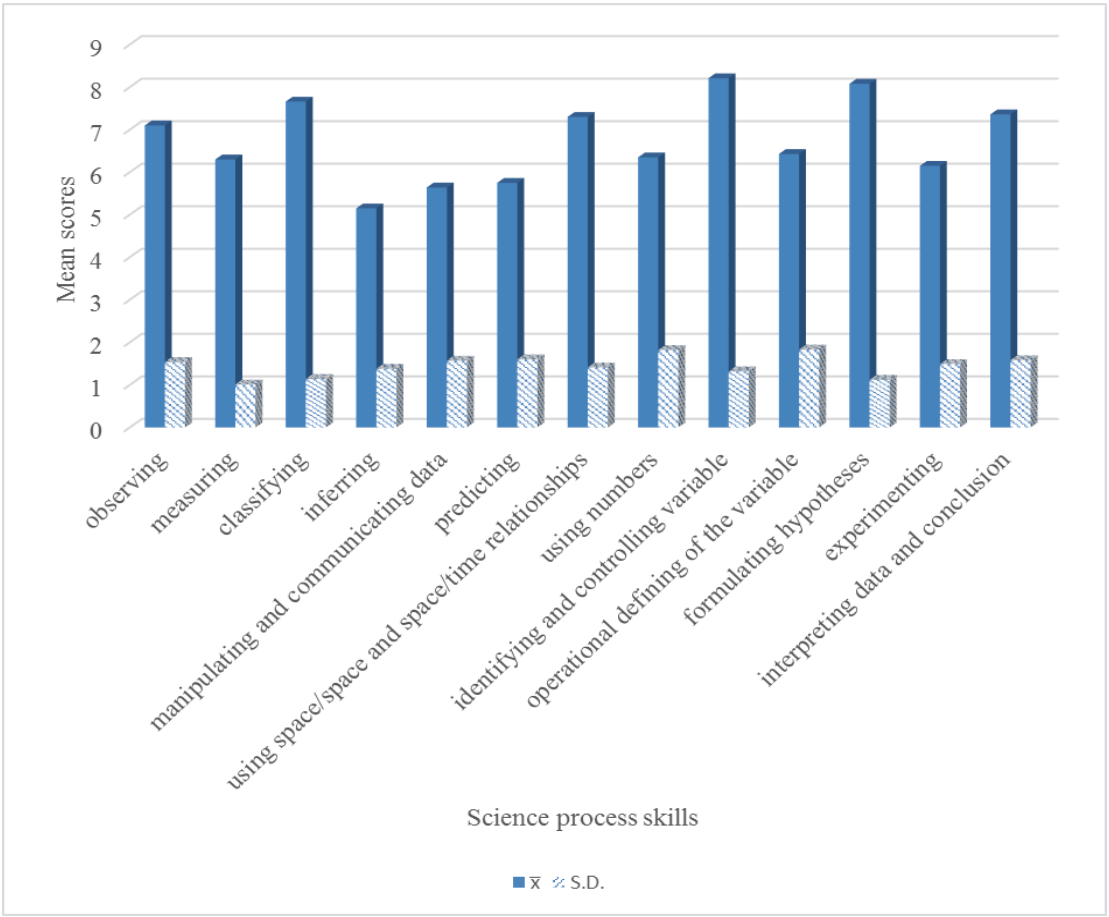


**Figure 1**: Conceptual understanding of science process skills of 166 in-service science teachers.

**Table 2**: Teaching science process skills of 166 in-service science teachers.

| Categories | Direct | | Meaning | Integrated | | Meaning |
|---|---|---|---|---|---|---|
| | $\overline{X}$ | S.D. | | $\overline{X}$ | S.D. | |

  

| | | | | | | |
|---|---|---|---|---|---|---|
| Assign learning objectives relevant to science process skills | 2.96 | 0.19 | high | 1.43 | 0.49 | low |
| Assign teaching and learning approaches emphasis science practical activities | 2.64 | 0.48 | high | 2.44 | 0.67 | high |
| Do teaching and learning activities appropriate for the development of science process skills of the students | 2.26 | 0.44 | Medium | 1.79 | 0.59 | Medium |
| Use appropriate media for training science process skills for students | 2.33 | 0.47 | Medium | 1.72 | 0.54 | Medium |
| Assess and evaluate science process skills by using variety of tools | 1.07 | 0.25 | low | 1.12 | 0.33 | low |
| Do teaching and learning activities, approaches and steps, as stated in learning management plans | 2.16 | 0.54 | Medium | 1.82 | 0.59 | Medium |
| Do activities that help the students to used science process skills | 2.11 | 0.62 | Medium | 1.99 | 0.66 | Medium |
| Evaluate science process skills during classes | 1.07 | 0.25 | low | 1.09 | 0.29 | low |

2. On the basis of the objective 2 of this study, to develop science process skills training package according to school context to promote conceptual understanding and teaching science process skills for the teachers, the results were as follows;

The five experts' opinions toward the training package and the training instruments, from the 5-point Likert-type scales questionnaire, were at the highest level, as shown in [Table 3].

**Table 3**: Experts' opinions toward the training package and the training instruments.

| Categories | $\overline{X}$ | S.D. | Meaning |
|---|---|---|---|
| Training Package | 4.64 | 0.48 | highest |
| contents | 4.52 | 0.51 | highest |
| teaching strategies | 4.80 | 0.42 | highest |
| assessment and evaluation tools | 4.73 | 0.46 | highest |
| Training Instruments | 4.65 | 0.52 | highest |
| documents | 4.40 | 0.58 | highest |
| learning management plans | 4.83 | 0.38 | highest |
| Total | 4.65 | 0.50 | highest |

3. On the basis of the objective 3 of this study, to compare conceptual understanding and teaching science process skills of the teachers before and after participating in the training workshop, the results were as follows;

3.1 Conceptual understanding of science process skills scores ($\overline{X}$) of 30 in-service science teachers before participating in the training workshop were in the range of 5.10 to 8.87 ($\overline{X}1$ = 6.94, S.D.1 = 1.92), after participating in the training workshop were in the range of 8.10 to 9.43 ($\overline{X}2$ = 8.72, S.D.2 = 0.91). The teachers' conceptual understanding of science process skills after participating in the training workshop was significantly higher than that of before counterpart at the .05 level, as shown in [Table 4] and [Figure 2].

**Table 4**: Conceptual understanding of science process skills of the teachers before ($\overline{X}1$) and after ($\overline{X}2$) participating in the training workshop.

| Science process skills | $\overline{X}_1$ | S.D.1 | $\overline{X}_2$ | S.D.2 | t | p |
|---|---|---|---|---|---|---|

  

| | n = 30 | | n = 30 | | | |
|---|---|---|---|---|---|---|
| observing | 7.97 | 1.71 | 9.33 | 0.76 | 6.633 | .000 |
| measuring | 6.13 | 1.04 | 8.43 | 0.68 | 15.06 | .000 |
| classifying | 7.70 | 1.34 | 9.10 | 0.61 | 7.64 | .000 |
| inferring | 5.10 | 1.24 | 8.07 | 0.74 | 14.39 | .000 |
| manipulating and communicating data | 5.63 | 1.54 | 8.10 | 0.84 | 13.40 | .000 |
| predicting | 5.53 | 1.80 | 8.10 | 0.96 | 12.73 | .000 |
| using space/space and space/time relationships | 7.70 | 1.58 | 9.13 | 0.68 | 6.74 | .000 |
| using numbers | 6.60 | 1.85 | 8.40 | 0.89 | 7.60 | .000 |
| identifying and controlling variable | 8.87 | 1.41 | 9.43 | 0.73 | 3.80 | .001 |
| operational defining of the variable | 5.97 | 2.01 | 8.33 | 0.88 | 8.53 | .000 |
| formulating hypotheses | 8.50 | 1.17 | 9.27 | 0.69 | 5.14 | .000 |
| experimenting | 6.70 | 1.56 | 8.60 | 0.81 | 9.25 | .000 |
| interpreting data and conclusion | 7.93 | 1.44 | 9.03 | 0.81 | 5.51 | .000 |
| Total | 6.94 | 1.92 | 8.72 | 0.91 | 18.08 | .000 |

$p < .05$

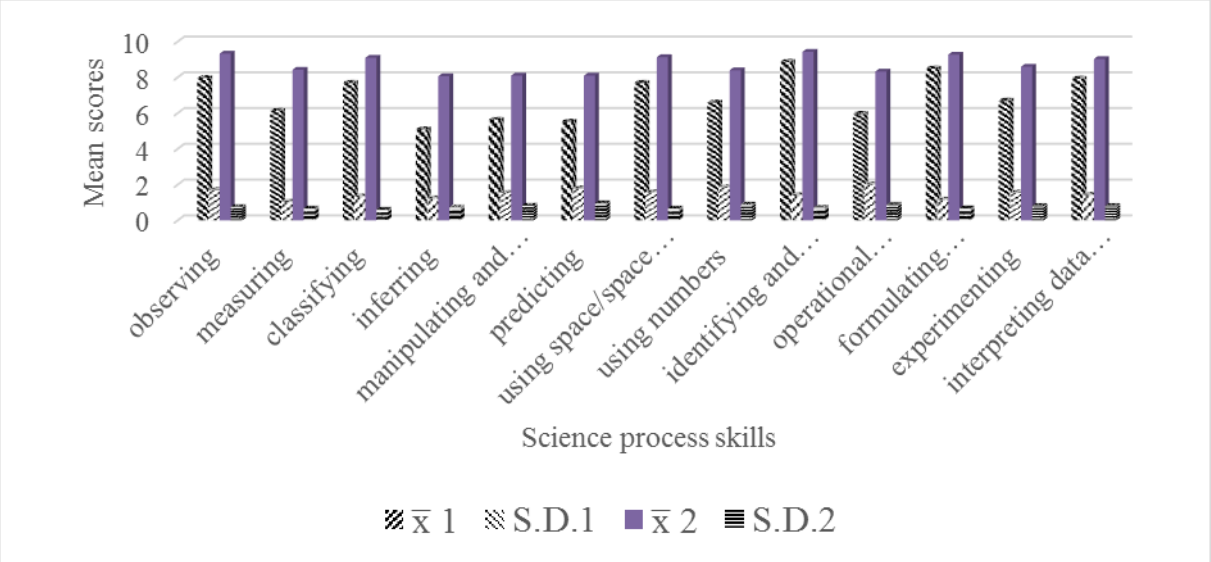


**Figure 2**: Conceptual understanding of science process skills of the teachers before and after participating in the training workshop.

3.2 The results of teaching science process skills from 30 in-service science teachers revealed that before participating in the training workshop, only 11 teachers (36.67%) stated that they have taught science process skills contents directly, while 17 teachers (56.67%) stated that they have integrated science process skills during they conventionally teach the students in their classrooms. There were two teachers (6.67%) stated that they have taught science process skills contents directly and have integrated science process skills during they conventionally teach the students in their classrooms. Interestingly, after the development of teaching science process skills, workshop training, in the third phase, the results from 10 in-service science teachers collected from teaching observation form, learning management plans evaluation form, and semi-structure interview form showed that only one teacher (10.00%) teaches science process skills content directly, while nine teachers (90.00%) have integrated science process skills during they conventionally teach the students in their classrooms.

4. On the basis of the objective 4 of this study, to study the teachers' satisfaction toward the training package and

  

the training instruments, the results were as follows;

The 30 in-service science teachers' satisfactions on the training package and the training instruments, from the 5-point Likert-type scales questionnaire, were ranged from 4.51-4.67 ( $\overline{X}$ = 4.58, S.D. = 0.56), the highest level, as shown in [Table 5].

**Table 5**: Teachers' satisfactions toward the training package and the training instruments.

| Category | $\overline{X}$ | S.D. | Meaning |
|---|---|---|---|
| Training Package | 4.57 | 0.56 | highest |
| contents | 4.51 | 0.56 | highest |
| teaching strategies | 4.67 | 0.54 | highest |
| assessment and evaluation tools | 4.60 | 0.56 | highest |
| Training Instruments | 4.58 | 0.56 | highest |
| Science process skills documents | 4.51 | 0.56 | highest |
| learning management plans | 4.63 | 0.54 | highest |
| Total | 4.58 | 0.56 | highest |

## CONCLUSIONS

The research results showed that, in general, Thai in-service science teachers had moderate level of conceptual understanding of science process skills and teaching science process skills. But, after the development of teaching science process skills, workshop training by using the training package and the training instruments, the teachers improved their level of conceptual understanding of science process skills and teaching science process skills. After the development of teaching science process skills, the results revealed that the teachers possess higher mean scores of conceptual understanding and increasing competencies in teaching science process skills as was found in professional development intervention on teachers' science process skills (Cotabish, Dailey, Hughes, & Robinson, 2011; Kruea-In & Buaraphan, 2014). The participants in this study stated that the training package and the training instruments promote their conceptual understanding of science process skills and teaching science process skills because they provide proper contents, teaching strategies, and assessment and evaluation tools. Especially, the examples of learning management plans helped them better write their own learning management plans emphasizing science process skills. However, the results from teaching observation, learning management plans evaluation, and semi-structure interview indicated that the teachers need to learn more about creating activities emphasis of science process skills which can be normally used in their classrooms. The results implicated that, in general, professional development approaches such as coaching and mentoring are still needed for Thai in-service science teachers in order to foster mastering in teaching science process skills.

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# THE EDUCATION FOR SUSTAINABLE DEVELOPMENT AND TEACHER COMPETENCIES FOR ANTHROPOCENE

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**ABSTRACT**
Mankind has entered a new geological period (Anthropocene) and society must learn to deal with the challenges of sustainability and sustainable development. The university sector is the one that can critically address sustainable development as it carries out pioneering research, crosses interdisciplinary boundaries, and challenges dominant paradigms. Universities prepare future leaders and teachers, therefore one of the priorities of practical professional preparation is the development of competencies for future teachers towards sustainability and sustainable development. The content analysis of documents relating to teaching study programmes showed the following: 1) competences for sustainable development are generally overlooked; 2) the practical professional preparation of teachers towards sustainability contains gaps and insufficiencies which represent barriers for its implementation in educational practice. The study analyses the competences of future teachers and the quality of their preparation for the practice and implementation of Education for Sustainable Development (ESD).

## INTRODUCTORY NOTES AND OUTLINE OF THE PROBLEM

"A culture that tolerates the plundering of the Earth falls into a conflict with itself," (Kolářsky, 1998, p. 23). Changes needed for overcoming the current ecological crisis can be considered a revolution in sustainability and sustainable development, i. e. a transition from a non-sustainable society towards a sustainable one; one that does not put its own existential prerequisities – the environment – in danger. A change in the way information links, data content, goals, stimuli and feedback are evaluated (valuable enough to serve as a compass for human decisions, actions and behavior) can become the heuristic and practical key (Kolářský & Suša, 1998, Šmajs, 2000, Vladyková, 2015). Based on this, it can be seen that the transformation extends to education and all educational systems. Responsible education, ecological thinking, and 21st century (Anthropocene) culture must absorb the elements of sustainability in all areas of science, education, technology, global economy and cultural strategies. Environmental education in Slovakia is integrated at all levels of education, including institutions of higher education; state and private educational institutions and organizations. The State Educational Institute as the authority designated by the Ministry of Education, Science, Research and Sports of the SR is responsible for fulfilling the educational programme through Environmental Education in Kindergartens, Primary, and High Schools as a cross-cutting topic. The issues of sustainability and sustainable development have become an essential and organic part of environmental education. Unfortunately, in the Slovak environment the topic of Education for Sustainable Development (ESD) is still a marginal one; it is rarely reflected on and discussed (Barton, Dlouhá, 2014). Despite a relatively long tradition of environmentally oriented branches of studies in Central and Eastern European countries, it seems that the Education for Sustainable development concept has not been very successful. Several experts and theorists believe that the reason for this situation probably lies in the fact that it is a fundamentally new type of education – a transdisciplinary and open one. According to Vladyková (2015, p. 109), "complex social issues require hybrid solutions", which further require continuous discourse and cooperation across natural sciences, social and human sciences, and actual practice in civil society (organizational practice, environmental practice, environmental movement). This educational concept (interdisciplinary in its nature) is relatively complicated to transform into specific educational and study programmes; it is more demanding in terms of lecturer competences related to the creativity and development of non-cognitive skills, than in terms of theoretical expertise. Moreover, it represents a challenge to implement the concepts of sustainability and sustainable development into the pregradual training of future teachers without regard to individual study programmes and combinations.

The most recent research shows that merely a minimum and insignificant portion of people as social and moral participants in society live in accordance with the principles of sustainability and act responsibly in terms of the ecology. Evaluation reports on educational practice in Slovak schools showed that environmental education is

  

not implemented on a satisfactory level; insufficiencies were identified on both conceptual and didactic levels (Klimková 2015b; Medal 2015). A systemic and holistic change is needed in the institutional framework; until then, the competence preparation of future teachers for ESD, education for sustainable development, can help fill the gap.
In general, it can be stated that education for sustainable development and the future can play a significant role in schools, because it can link regions, overcome disciplinary boundaries, and facilitate the connection between the local and global dimensions of sustainable development. These disciplines are recognized for their direct and indirect influence on politics; the latter through the education of future politicians. They influence the way future leaders are educated along with history (COPERNICUS Alliance, 2013, p. 2). Educational systems are of key importance for the transition into sustainable development. They determine the level of preparation for teachers, as well as future managers and leaders. Society is not only a sufficiently intelligent recipient of the messages regarding the ecological situation, problems, and sustainable strategies – it is also an active partner in the effective communication with the creators of new initiatives in science, technology, culture and education; as well as in the creation of a project with an ecological impact.

The Decade of Education for Sustainable Development (DESD) strategy and the theoretical evaluation of this process (2015) indicate that since its signing, implementation and application it has become an open area for the whole spectrum of activities, projects, outcomes and discourse. It is proven not only by the significant number of theoretical work that discusses relevant processes, principles, and tools, but also case studies produced by different educational institutions, universities and colleges in Europe and around the world, which implement the Education for Sustainability development.

## THEORETICAL FRAMEWORK OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

Competences of teachers related to sustainability and sustainable development are closely connected to their professional training at universities currently addressing the issue of sustainability. The key role is played by the principles of Education for Sustainable Development (ESD): future thinking, critical and creative thinking, participation and participative thinking, partnerships and systemic thinking (UE4SD, 2015; Bednár, 2015; Klimková, 2015a). Integrative thinking responds to the challenges of sustainable development that are simultaneously global and local and require an awareness of how change in one part of the world can impact upon other parts, as well as an awareness of how choices today can impact tomorrow's world. These challenges are complex and require inputs from a range of disciplines to address them, including perspectives on natural, social and economic systems. Different cultures and world-views can provide valuable insights; at its most fundamental, sustainable development connects individuals and groups to other people, locally and globally, and to their natural environment. Integrative thinking implies ways of thinking and acting that reflect these interrelationships and the creative possibilities that they engender. Systems thinking is a valuable tool in achieving such an integrative approach (UNECE, 2011).

OECD defines sustainable development as a dynamic balance between the economic, social, and environmental aspects of development in the globalized world, or as an economically effective, socially acceptable environmental development in all fields of human activity. The term "sustainable development" was difficult to translate into both Czech and Slovak, and the original version that literally meant "long-term sustainable" was a source of conflicts. The analysis of definitions shows that the discourse and meanings of sustainability and sustainable development are an interpretation of the following facts: it is a transformative and reflexive process with the aim of integrating sustainability values not only into educational systems, but also into our personal and professional lives, organizational life, and sustainable communities. It is a process and a holistic approach to achieving an integration of social, economical, and environmental justice. It is governed by the "less is more" principle (in the context of ecological modernization). It is the key to new ecological businesses. The most important principles include effectiveness, advisability and suitability. The key role is played by expert knowledge and competences.

As a good theoretical base and starting point, the intersection of the theory of organizational ethics and the concept of sustainable development can be used. The pilot platform for social critical research can be the University Educators for Sustainable Development project (Kapitulčinová, D, Dlouhá et al., 2015). This inspiring theoretical and practical project aims to create approaches and opportunities for fellow university teachers to prepare students in all kinds of study programmes and fields of study; develops sustainability and applies its principles in various occupations, being responsible globally.

Sustainability is a term that is defined as follows in The Dictionary of Sustainable Management: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This definition was created in 1987 at the World Commission on Environment and Development (the

  

Brundtland Commission). There are many ways to measure or define sustainability. As described in the book Natural Capitalism, in business, these should include the sustainable development and use of, at least, the following four types of capital: Financial Capital; Manufacturing Capital; Natural Capital; Human Capital. In addition, many organizations use the following criteria to assess sustainable products, services, and other activities: (a.) Social Criteria: Socially desirable; culturally acceptable; Psychologically nurturing; (b.) Financial Criteria: Economically sustainable; Technologically feasible; Operationally viable; (c.) Environmental Criteria: Environmentally Robust; Generationally Sensitive; Capable of continuous learning (The Dictionary of Sustainable Management In Klimková, 2015a).

Over the past decade, the challenge of sustainability and unsustainable consumption, and by extension, climate change as one of the most important symptoms of unsustainability, has fallen increasingly on the individual as a consumer, a principal component and lever of change (Cohen et al. 1998; Dobson 2010; Barr et al. 2011, In Revell, 2013). Regardless, and in line with the neoliberal political economy of Western society, policy responses to unsustainable consumption and climate change continue to focus on the individual as an agent for change by encouraging these "sovereign consumers" to make more sustainable choices. This has led to the notion that "behavioural change is fast becoming the 'holy grail' for sustainable development policy" (Jackson 2005, p. xi).

Achieving transformation covers competences that heading towards organizational society and teachers teachers who have moral leadership competencies. We are not only a global company, but at the same time we are organizational society. Understanding ethical leadership, ethical environment, and culture in the context of sustainability and sustainable development in organizations is a crucial task in the 21st century. Teachers – as moral leaders and as well as key people to prepare future leaders – play a crucial role in forming an organizational environment and culture. Implementation of sustainability and sustainable development into practice moral organization requires specific moral competencies. These may be analogous to the new features of education of ethical leadership (Bednár 2015, s. 77):

- Holistic unmaterialistic mentality - exempted and devoid of the residues of the materialistic, mechanistic, positivistic, utilitarian, Marxist and neo-Marxist concepts that reduced human understanding on himself, world, nature, economy. Since the information has immaterial nature, also a new mentality looks at a person holistically (spirit in the body). It presents person situated in the nature, without which one cannot exist, as well as the person forming the culture and economy not only for her/his good, but also for the welfare of the others.
- Development of moral intelligence - moral intelligence creates one of the constitutive elements of the human being who has the ability to distinguish between good and evil. It seeks to develop moral intelligence so that people have matured into autonomous critically minded and moral evaluation beings.
- Critical and independent thinking - is a basis for the autonomous existence of humans and a medicament against any dictatorship. Thinking is an effort during which it is necessary to improve the selection, sorting, synthesizing the information to achieve good moral judgment and action.
- Creativity development - creativity is a crucial skill of ethical leadership, because it brings in new ideas, procedures, methods, techniques, it creates something different and new. Creativity deviates from the persistent stereotypes and unchangeable technocratic schemes and constructs.
- Focus on practice and practicality - a necessary feature is a compound of theory and practice, respectively the more of practicality and the focus on the action and transformation. The results are not quantum of other articles and books but prosperous companies, families, communities and countries, which simply means amended reality.
- Continual learning - it is a never-ending process of human existence. Learning is not a game; it is effort, labour, openness to new things. It is necessary to learn by the practice and experience, respectively to teach others and educate followers, successors in good work.

These principles lead towards the particular goals of implementing sustainability and sustainable development into organizational ethics, but also result in the following questions: (a) What should the competences of teachers regarding sustainable development be? (b) What kind of leadership, political and ethical tools should be developed in future teachers? Therefore, we need a high quality training for future leaders in different types of organizational practice; a training that would cover all ethical strategies, policies and sustainable development. In the report provided by *Economic Commission for Europe, Committee on Environmental Policy* (ECE/CEP), the key importance is assigned to the fact that an exact set of competences general enough to be applicable to all fields and geographical areas cannot be determined – these competences need to be country-specific and functional in the given context (Klimková, 2015a).

  

**THE CONTENT ANALYSIS OF DOCUMENTS AND STUDY PROGRAMMES IN SLOVAKIA**

It is important to point out that educational systems as well as the higher education sector in the countries of Central and Eastern Europe were falling behind Western countries for a long time due to the long period of ideologization and lack of freedom. Only recent decades have facilitated a fast and intense transformation in this area. However, there are Central and Eastern European countries that still fall behind the West in certain areas that can be illustrated on the turnaround brought upon by ecophilosophy, which introduced and affected ecological thinking, an ecological worldview, the concept of sustainability and education for sustainable development. The ecophilosopical turnaround that took place in the 1960s was represented by the first reactions to the significant changes in life on Earth, attempts to shatter the traditional opinions on the place of man in the world as well as to the utilitarian and instrumental relationship of man towards nature. The first ontological, epistemological and axiological starting points regarding the issue of ecology were formulated. The need of a new ethic that would extend over the demarcation of interpersonal relationships was called for by Richard Routley at the World Congress of Philosophy in Sofia. Its epistemological and axiological overlaps with education allowed for the formulation of a new ontology of nature, the acceptance of an ecoethical imperative, and the realization that nature has its own and intrinsic value. This raised a massive response in the public along with a number of scientific initiatives and educational projects; a number of scientific journals and conferences were created, and last but not least, the environmental movement emerged. However, the first theoretical works dealing with ecological ethics were significantly late in Slovakia: in the 1990s and 2000s (Stekauerová, 1999, 2003; Smolková, 2000).

The sustainability project is integrated and applied exclusively in the curriculum of a small number of specific environmental study programmes (more or less technically oriented): 1) Comenius University in Bratislava, Faculty of Natural Sciences, trains future experts in natural sciences and environmental studies in two study programmes: Environmental Planning and Management and Protection and the Use of Nature and Land; 2) Technical University in Zvolen, Faculty of Ecology and Environmental Studies, UNESCO Department of Ecological Conscience and Sustainable Development, offers the Environmental Management accredited study programme. It is obvious that education for sustainable development is a responsibility of study programmes in natural sciences. Humanities and social sciences in Slovakia deal with this topic only marginally, or even formally declare to address it but fail to do so. The consequences of such attitude for the value orientation of current and future generations will be severe (Klimková 2015a, 2015b). Despite the prevalent opinion that we need cultural and educational strategies leading towards a sustainable society and communities, teaching study programmes and pre-gradual training for teachers fail to incorporate the concept of sustainability. It seems that despite the number of available foreign journals and publication activities addressing sustainability and sustainable development, empirical research in ecological sciences with epistemological and didactic overlap with education, such as e.g. Environmental Science in Europe, Journal of Sustainable Development, Journal of Environment, etc., Slovakia lacks an established sub-area of pedagogy or a journal that would serve as a professional forum for solving a broad spectrum of key questions. We are living in the period of globalization and ecological crisis that requires a shift in the intellectual and educational environment in which evolutionary and ecological literacy would be developed (Vladyková, 2015, p. 37). It opens a new horizon for the humanities, which must contribute to addressing collective needs and interests, education and teaching practice. In the Czech Republic there is a scientific and expert forum for the identification and clarification of relevant and key issues in sustainability (Envigogika journal).

According to recent research (Dlouhá, 2015; UNECE, 2011, UE4SD, 2015), university education does not take into consideration ESD documents and the EU vision of sustainability.

- Education for Sustainable Development (ESD) is merely a marginal issue,
- a part of the curriculum and professional preparation within several environmental study programmes;
- According to the final UNESCO report (2012), ESD failed to achieve the full potential and there are obvious problems in overcoming disciplinary boundaries.

The difference between environmental education and education for sustainable development is considered as major; the key is that there is a conflict between the two educational approaches. J. Dlouhá – J. Dlouhý (2016) state that theorists understand it as follows: environmental education is a non-anthropocentric approach (ecocentric, biocentric, ecological one), whilst sustainable development is anthropocentric in nature. These authors consider the difference between environmental education and education for sustainable development (ESD) lying in the fact that despite the common base they share, both of them represent different evolutionary stages (Dlouhá, Dlouhý 2016). The concept of sustainability (in education) deals with majority opinion because it aims to become the approach shared by most of society (and its educational systems) in all areas of social practice.

  

The amount of research carried out in the area in Slovakia is very small in comparison to the rest of the world; there are research studies that synthesize the knowledge from different disciplines in the context of sustainable development; however, Slovak experience in this area is still insufficient. Therefore, it is important to:

- critically analyse and reflect on the current state and reality of education for sustainable development and the competence profile of future ESD teachers;
- defend and justify the conceptual, structural and didactic reorganization of environmental education towards sustainability and sustainable development;
- Justify and present the innovative concept and potential of ESD, mainly in the context of the pregradual training of future teachers.

Therefore, based on the relevant facts, the authors aim to create theoretical and conceptual preconditions for the competence preparation of future teachers without regard of their study combinations, i. e. humanities, social sciences, natural sciences and technical subjects alike. The above mentioned educational project would fill the gap that currently exists in the pregradual training of future teachers – on both the professional and methodological levels. Such an approach is very demanding in terms of the professional erudition and teaching experience of the authors. However, educational strategies addressing sustainability are an originals strategic base – they represent a relevant competence concept for future teachers.

**TEACHER COMPETENCES FOR THE ANTHROPOCENE**

Current environmental problems and ecological crisis extend across boundaries such as states or regions. They also lack disciplinary boundaries, philosophers and ethicists, biologists, hydrologists, experts in political sciences, anthropologists, and teachers alike share this interest. There are questions regarding the demarcation and limitation of growth, progress, human intervention in ecosystems, the threshold of environmental vulnerability, teaching the future generation to be responsible – humanity has left nothing untouched and it is not reversible. The accelerating production and consumption (hyperconsumption), population boom, domino impact on the biosphere – all of these are changing the face of the planet. However, the world is more of something that cannot be reconstructed by our practice, activities and intervention. The nature of current global society is also changing – it needs to learn how to deal with the challenges of sustainability. Therefore, the new competences of teachers acquired through education for sustainable development (ESD) will become an important factor initiating deep changes in education and upbringing (e.g. UNECE, 2011; COPERNICUS Alliance, 2013; UE4SD, 2015; Dlouhá & Dlouhý, 2015) . These competences are related to the ability to implement responsible cultural strategies in organizational society. This is the major challenge in terms of reconstructing the education that will teach Anthropocene humans what they need to know. Education for sustainable development represents new horizons for education. Why the Anthropocene requires new competences?

The Anthropocene is a period in which mankind is globally influencing the Earth's ecosystem. The most significant feature of the Anthropocene is that "it is the first geological period in which mankind represents the most influential power, and mankind is aware of it" (Vladyková, 2015, p. 112). The concept of the Anthropocene as a new geological period requires a review of human activities and strategies, the understanding of the ecological crisis as a cultural crisis that changes the relationship between man and the Earth (ecosystems); relationships between the culture and nature, the technosphere and biosphere.

The main goal of the educational reforms in the last decades has been to turn the traditional encyclopaedic, directive educational system that required memorizing into a system that would be humanist and ecologically responsible, and last but not least, create valuable knowledge. There is a consensus among certain authors that a future teacher needs to understand the changes that are currently taking place in society and facilitate them. An optimal approach in the designing of professional competences is based on the traditional models whose suitability and reality was empirically confirmed in practice. The basic step is to determine the professional competences that are required for the given occupation and of key importance for both preparatory and lifelong education. Teacher competences are the foundation for creating such a profile for this occupation. A number of authors developed models dividing the competences into certain groups in relation to the student, educational process, and oneself. For illustration, an analysis of the current state in Slovakia, the accepted model can be provided. It consists of 1) professional-subject competences that include the contents of the academic subjects that will be taught by the teaching students; 2) psychodidactic competences that include knowledge from pedagogy and psychology; 3) communication competences; 4) diagnostic and intervention competences 5) management and organizational competences; 6) advisory and consulting competences that individualize their educational influence; 7) self-reflecting competences ( e.g. Slávik, 2012; Spilková, 2004, Kasáčová, B., Kosová, B et al., 2006).

Goodwin and others offers five knowledge domains for teaching (Bolin and Goodwin 1992; Goodwin 2010, In

  

Goodwin & Kosnik, 2013), big ideas that conceptualize learning about teaching as deep and broad, context specific as well as integrated. As lenses for thinking about and organizing for teacher learning – on the part of both novice teachers and novice teacher educators – they can help our students (and us) stretch beyond teaching as an imitative, technical process and push us all to view (and enact) good teaching as the consequence of numerous decisions and reflective practice which grow out of the dialogue, competing agendas, and varied contexts surrounding teaching. These knowledge domains for teaching are: (1) personal knowledge/autobiography and philosophy of teaching; (2) contextual knowledge/understanding learners, schools, and society; (3) pedagogical knowledge/content, theories, teaching methods, and curriculum development; (4) sociological knowledge/diversity, cultural relevance, and social justice; and (5) social knowledge/cooperative, democratic group process, and conflict resolution (Goodwin & Kosnik, 2013).

If the competence related to sustainability and sustainable development did not appear in the models before, the time has come to change it. A reform of the regional educational system largely depends on the quality of the teachers prepared for their future work at universities. The university education of teachers, despite being accredited in accordance with the official requirements, is implemented based on the autonomous decisions of the given universities; however, these are able to react to the changes only to the extent determined by the flexibility of the university management and lecturers (Kosová et al, 2015). In the journey towards the success and effectiveness of the education for sustainable development on different levels of education, the key role is played by teachers that are prepared both professionally and in terms of competences. According to research carried out by several authors (e. g. Eraut, 1994, Korthagen, 2011), in reality, the teacher only uses part of the theoretical knowledge sufficiently integrated in their mind through personal experience and reflection; they subsequently became the dominant way the person translates their theoretical knowledge into practice. This requires both the pregradual and continuous education of teachers to put practical preparation on a new qualitative level through reflection.

The teacher's occupation requires one to be an expert in working with other people in constantly changing educational situations, in a global world, the new situation of the Anthropocene – the relationship between the theory and practice is of key importance. In teaching practice, the theoretical is constantly confronted with the practical; the explicit (obvious) with the implicit (not obvious); subjective and objective knowledge. From the perspective of sustainability, new requirements on the preparation of future teachers arise for them to be able to transform their perceptual knowledge of scientific theories into a conceptualization – an application in their personal educational theory and strategy.
Therefore, it is necessary to integrate new competences for sustainable development in the pregradual training of future teachers. They consist of the following components:

1. Principles of Education for sustainable development (ESD);
2. Epistemic expertise – knowledge as an episteme (conceptual knowledge) that determines what the teacher has to know about sustainability and sustainable development;
3. Performative expertise – knowledge as phronesis (perceptual knowledge, practical wisdom), related to practical abilities, creativity, flexibility, sensitivity to particular situations, resourcefulness, improvisation and filled with moral imagination (e.g. Klimková, 2015a, Bednár, 2015, Svitačová & Hrehová, 2016).

The UNECE Strategy for ESD aims to equip people with knowledge, skills, understanding, attitude and values compatible with sustainable development. To this end it calls specifically for the development of educators' competences in order for them to engage in ESD. The Joint Ministerial Session on ESD held at the Belgrade "Environment for Europe" Ministerial Conference in 2007 recognized the competence of educators as a frequent bottleneck in achieving ESD and agreed that one priority for future implementation of the UNECE Strategy should be developing competences in ESD. The Competences are presented in UNECE document in a table followed by more detailed explanations. The column headings represent essential characteristics of ESD, namely:

a) A holistic approach, which seeks integrative thinking and practice;
b) Envisioning change, which explores alternative futures, learns from the past and inspires engagement in the present; and
c) Achieving transformation, which serves to change in the way people learn and in the systems that support learning (UNECE, 2011, pp. 6 - 9).

Achieving transformation covers competences that operate at three levels: a) Transformation of what it means to be an educator; b) Transformation of pedagogy, i.e., transformative approaches to teaching and learning; c) Transformation of the education system as a whole. Transformation of what it means to be an educator is necessary because education systems are composed of the people who work within them and a key to changing

  

these systems will be educators who are able to change their own practice as critical reflective practitioners. The building of positive relationships between educators and learners is essential. This will require educators to present themselves as fallible human beings rather than people with all the answers. It also requires the ability to empathize with the views and situations of those they educate. Transformative pedagogy draws on the experience of learners and creates opportunities for participation and for the development of creativity, innovation and the capacity to imagine alternative ways of living. It encourages learners to reflect on the impact of their everyday choices in terms of sustainable development.

The clustering of competences for future is inspired by the report of the International Commission on Education to UNESCO. The following framework was chosen as it is comprehensive and presents a meaningful set of categories that reflect a wide range of learning experiences:

a) Learning to know refers to understanding the challenges facing society both locally and globally and the potential role of educators and learners (The educator understands....);
b) Learning to do refers to developing practical skills and action competence in relation to education for sustainable development (The educator is able to....);
c) Learning to live together contributes to the development of partnerships and an appreciation of interdependence, pluralism, mutual understanding and peace (The educator works with others in ways that....);
d) Learning to be addresses the development of one's personal attributes and ability to act with greater autonomy, judgement and personal responsibility in relation to sustainable development (The educator is someone who....) (UNECE, 2011).

## CONCLUSIONS

It is evident that professional training of competent teachers should in this ecological day and age be concerned with ecological morality and environmental literacy. That is why the educational challenges targeted towards the eco-ethical competences should be included in their vocational preparation. The term eco-ethical involves metacognitive and meta-ethical framework, conceptualization, reasons and grounds for the unity of the ecological and ethical – for the cognitive (content-focused), attitudinal (value) and competence-focused (processual, conative) dimensions of eco-ethical literacy.

The current empirically and morally relevant data depicting classroom practice in environmental education at the Slovak primary and secondary schools point towards an evident absence of nature-centeredness in the teacher training. This has severe consequences for the current ecological morality and environmental literacy in children and young adults. We need a useful educational tool to cultivate the nature-centred consciousness and attitudes.

The teacher's occupation requires one to be an expert in working with other people in constantly changing educational situations, in a global world, the new situation of the Anthropocene – the relationship between the theory and practice is of key importance. In teaching practice, the theoretical is constantly confronted with the practical; the explicit (obvious) with the implicit (not obvious); subjective and objective knowledge. From the perspective of sustainability, new requirements on the preparation of future teachers arise for them to be able to transform their perceptual knowledge of scientific theories into a conceptualization – an application in their personal educational theory and strategy. Therefore, it is necessary to integrate new competences for sustainable development in the pregradual training of future teachers. They consist of the following components: Principles of Education for sustainable development (ESD); Epistemic expertise – knowledge as an episteme (conceptual knowledge) that determines what the teacher has to know about sustainability and sustainable development; Performative expertise – knowledge as phronesis (perceptual knowledge, practical wisdom), related to practical abilities, creativity, flexibility, sensitivity to particular situations, resourcefulness, improvisation and filled with moral imagination.

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# THE EFFECT OF CONSTRUCTIVIST APPROACH (THROUGH EXPERIMENTAL STUDIES ON SCIENCEDIRECT AND EBSCO DATABASES)

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**ABSTRACT**
Constructivism in education opposes the idea that all students learn in the same way and transfer of information by teacher will be enough for learning and argues that all individuals learn in their unique way and construct the new knowledge on previous knowledge and experiences. If so, results of teaching through constructivism will be different for every individual and subject. As a result, there are many studies in the literature examining the results and effectiveness of constructivist approach. The aim of this study is to present the tendency of studies selected by given criteria: i) consisting "constructivism", "constructivist" or "constructive" word in its title, ii) available in ScienceDirect and Ebsco databases, iii) employed survey method and iv) carried out from 2005 to 2016 (until March). Snowball sampling will be used to find other studies starting from current ones and going through the past. Documentary analysis will be used as the method of the study while descriptive analysis in order to present the data as it is and content analysis in order to analyze the data deeply will be used as data analysis. As a result, readers will be able to current situation of studies related to constructivism.

**Keywords**: constructivism, experimental studies, document analysis, literature review

## INTRODUCTION

Even if constructivism dates back to Socrates and Platon as a theory, studies on its reflections on the life and especially education gained speed in the beginning of 1990s. In education, constructivism changed the traditional belief that teachers teach and students learn to teachers guide and students learn themselves. It has changed many things in education like how and where we teach, what the roles of teachers' and students' are, etc. In this process of change, the educators have been searching for the most effective methods, techniques and strategies of teaching through experimental studies. While the constructivism started to effect Turkish education system after 2005 curricula reform, in the meanwhile other –developed- countries that adopted it at least 50 years ago than Turkey were searching for the effectiveness of it in education and trying to find better applications.

### The Aim of the Study

The tendencies of the experimental studies on constructivism in international literature might provide some important inferences for scholars. Keeping this in mind, this study aims to represent the tendencies of experimental studies on constructivism in education and provide a chance of comparison to scholars.

### The Problem and Sub-Problems

What is the tendency of experimental studies that focus on constructivism in education and published between 2005 and 2016?

1. What is the distribution of the experimental studies that focus on constructivism in education between 2005 and 2016?
2. Which data collection methods were used in experimental studies focusing on constructivism in education and published between 2005-2016?
3. Who were the samples of experimental studies focusing on constructivism in education and published between 2005-2016?
4. What are the results of the experimental studies focusing on constructivism in education and published between 2005-2016?
5. What are the themes of the experimental studies focusing on constructivism in education and published between 2005-2016?

**METHOD**

This study employs the document analysis method. This method is very beneficial when the aim is to examine how the situations, cases, etc. change over time in a long period (Cohen, Manion, & Morrison, 2007). In data analysis, descriptive and content analysis were carried out on qualitative data. Descriptive analysis is used to summarize and interpret the data collected through many different ways. Content analysis, on the other hand, includes representation of the themes that are not directly seen in the data set but cleared through conceptual coding and classification and of the relationship among these themes (Yıldırım and Şimşek, 2003).

Data Analysis

Miles & Huberman (1994) inter-rater agreement measure was used in order to control the reliability of the coding. The calculated percent is 88 and it is above the minimum expected level which is 70. As a result, the coding is accepted as reliable.

Universe and Sample

Following four criteria were used while sampling the studies:

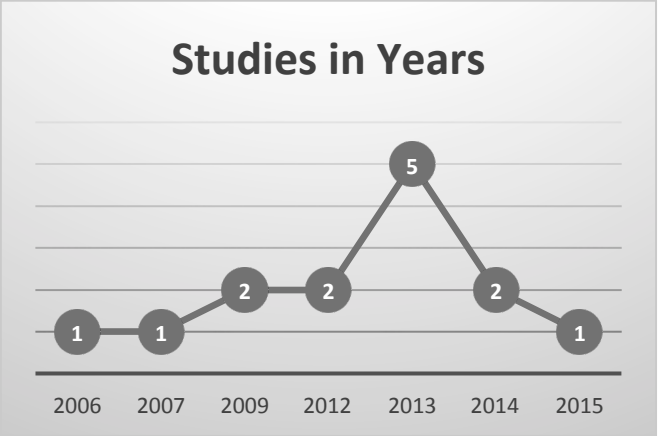
- Indexed in EBSCO and ScienceDirect databases,
- Published between 2005-2016 (until May),
- Including one of the key words in its title
    - Constructivism
    - Constructivist
    - Constructive Education
    - Constructive Approach
- Employed experimental method

As some certain criteria should be met while choosing the studies, purposive sampling method was used as sampling method. While sampling, 5 studies in EBSCO and 11 studies in ScienceDirect database were found. However, in the initial control before the data analysis 2 studies were eliminated as they were out of topic, meaning that they were not related to education context. As a result, the study includes 14 articles.

**FINDINGS**

Sub-problem-1: What is the distribution of the experimental studies that focus on constructivism in education between 2005 and 2016?

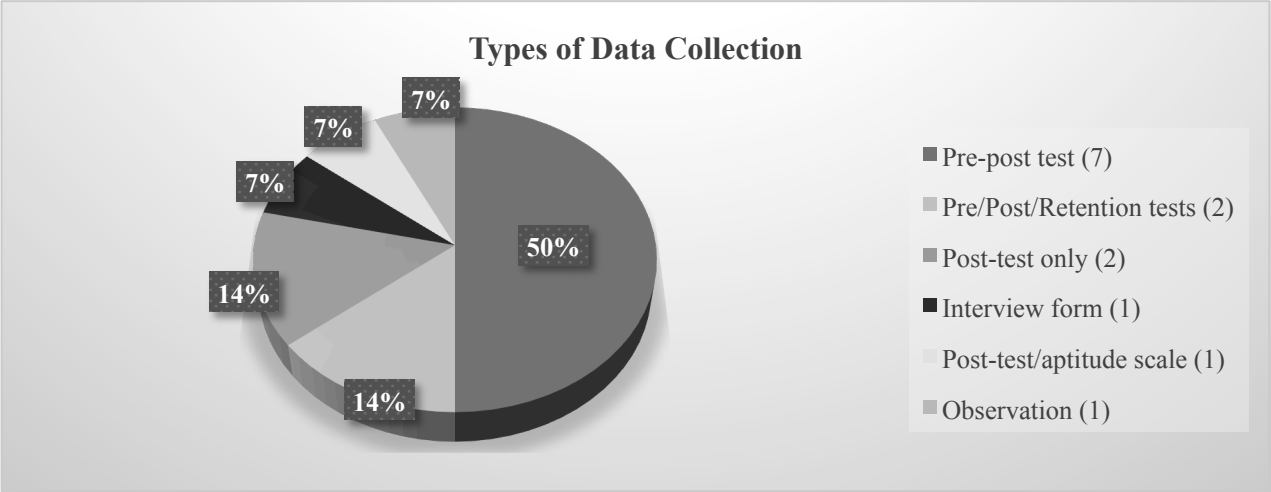
- 2005: not found
- 2006: 1
- 2007: 1
- 2008: not found
- 2009: 2
- 2010-2011: not found
- 2012: 2
- 2013: 5
- 2014: 2
- 2015: 1
- 2016: not found




The total number of studies that are appropriate to the aims of this study is 14. As seen above in Chart-1, no studies to be included in this study were found for the years 2005, 2008, 2010, 2011 and 2016. The year with highest number of studies is 2013 with 5 studies while it is followed by 2009, 2012 and 2014 with 2 studies in each. Only one study was found in the other years that are included in this study, namely 2006, 2007 and 2015.

Sub-problem 2: Which data collection methods were used in experimental studies focusing on constructivism in education and published between 2005-2016?




In these experimental studies, the most common type of data collection is pre-posttest which is naturally a good way to see the difference before and after the interference and used in half of the examined studies (N=7). Following it comes pre-post-retention tests and posttest only methods with 2 studies each. Interview form, posttest and aptitude scale and observation were each used as data collection method in one study.

Sub-problem 3: Who were the samples of experimental studies focusing on constructivism in education and published between 2005-2016?

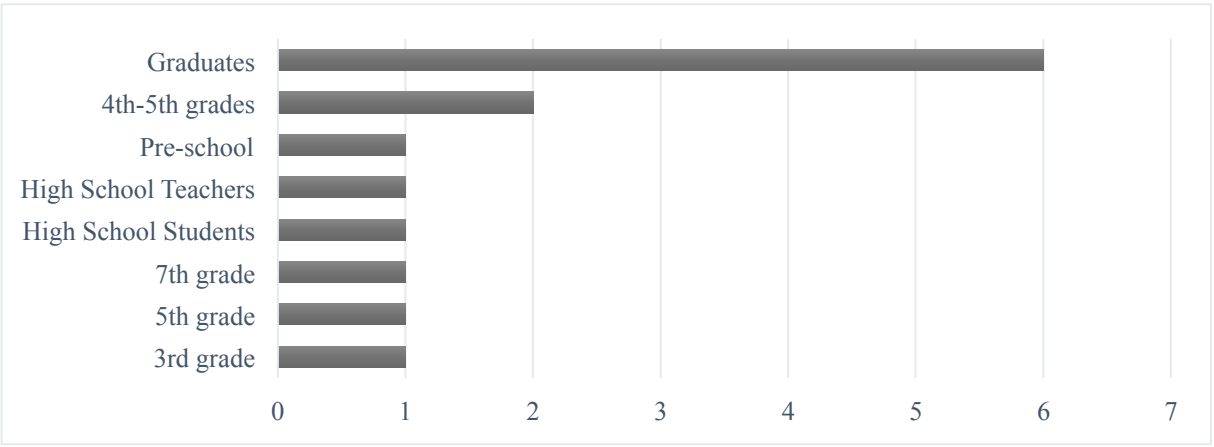



*Figure 1 Samples Used in Studies*

The examined studies include many different samples from different grades and status. The most common sample is graduates with 6 studies while 4th and 5th graders were used together in two studies. Pre-school, 3rd, 5th, 7th grade and high school students were each used as sample in one study while in another one study the sample included high school teachers.

**Table-1** Sample Sizes

| **Sample** | | **Size** | | | | |
|---|---|---|---|---|---|---|
| Pre-school | 10 | | | | | |
| 3rd grade | 60 | | | | | |
| 4th-5th grades | 154 | 64 | | | | |
| 5th grade | 232 | | | | | |
| 7th grade | 128 | | | | | |
| High school students | 60 | | | | | |
| Graduates | 58 | 341 | 105 | 93 | 34 | 26 |
| High school teachers | 24 | | | | | |

As examined studies are experimental, the number of samples used in them is small compared to survey studies. The smallest number of samples is 10 and they are pre-school students. The highest number of samples which is 341 is seen with graduates and in the other five studies with this group the sample changes from 26 to 105. In the

two studies that used fourth and fifth graders together as sample, the number of samples are 64 and 154. In the other studies, the number of sample changes from 24 to 232.

Sub-problem 4: What are the results of the experimental studies focusing on constructivism in education and published between 2005-2016?

**Table-2** Results of the study published in 2006

| Authors | Year | Title | Results |
|---|---|---|---|
| Mary Victoria Pragnell; Teresa Roselli & Veronica Rossano | 2006 | Can a Hypermedia Cooperative e-Learning Environment Stimulate Constructive Collaboration? | The experiment group that interacted through the internet shared more; even if the learning occurred in both groups, web-based form triggered cooperative learning more; experiment group found to be more relax reflect their thoughts and difficulties. |

In constructivism, students' interaction with other students and the teacher is considered to be effective in students' learning. In the study published in 2006, cooperative learning in traditional and web-based classrooms is compared through two groups one of which (control) interacts face to face in the class while the other (experimental) does it on a web-based platform. The results indicate that experimental group shares more with each other, is more active in cooperative learning and find it easier to express their thoughts and the difficulties they experienced (Table-2).

**Table-3** Results of the study published in 2007

| Authors | Year | Title | Results |
|---|---|---|---|
| Anthony J. Gabriele | 2007 | The influence of achievement goals on the constructive activity of low achievers during collaborative problem solving | It seen that cooperative studying of high and low achievers didn't have a statistically significant effect on low achievers. |

The study investigates the effect of cooperative learning which is a significant element of constructivism. The aim of the study was to investigate if the cooperation between low and high achieving students affected the low achievers to a statistically significant level. To do this, pairs from low and high achievers were formed and their achievements were followed.

**Table-4** Results of the studies published in 2009

| Authors | Year | Title | Results |
|---|---|---|---|
| Marie-Christine Toczek; Ludovic Morge | 2009 | Effects of evaluative vs. co-constructive interactions on learning in physics | The experimental group showed higher achievement after the interference. |
| Darrell M. Hull; Terrill F. Saxon | 2009 | Negotiation of meaning and co-construction of knowledge: An experimental analysis of asynchronous online instruction | The teachers in the experimental group who took part in an in-service training that was formed on a constructive approach showed a comparatively higher will of communication than the control group. |

Toczek and Morge (2009) asked control and experimental groups to fill in a table after teaching particles topic in physics class. While controlling the answers of the groups, control group was informed only as true or false for their answers while experimental group were asked to explain their reasons to give those answers by the teacher and they were given evaluative feedback. After the feedback session, both groups were given a post-test and experimental group who received evaluative feedback showed higher achievement that was statistically significant. Darrell and Saxon (2009) found out teachers in the experimental group that received a in-service training which was formed through constructivism showed noticeably higher will of communication than the control group.

**Table-5** Results of the studies published in 2012

| Authors | Year | Title | Results |
|---|---|---|---|
| De Corte, Erik | 2012 | Constructive, Self-Regulated, Situated, and Collaborative Learning: An Approach for the Acquisition of Adaptive Competence | The experimental group was more successful in transferring the information to different situations in a statistically significant level (effect size .31) |
| Francesca Bertacchini; Eleonora Bilotta; Pietro Pantano; Assunta Tavernise | 2012 | Motivating the learning of science topics in secondary school: A constructivist edutainment setting for studying Chaos | According to the results of the post-test, there is a statistically significant difference between experimental and control groups in favor of experimental and when pre-test scores are controlled, the interference to the experimental group is a meaningful predictor of the post-test. |

De Corte (2012) stated a constructive learning environment led to better adaptive competence skills for the experimental group. Bertacchinii, Bilotta, Pantano and Tavernise (2012) explained that the experimental group that received the chaos theory topic in a virtual environment and created their own theory by using audio and video software was more successful than the control group who received the same topic in a more traditional way with the course book and stable images.

**Table-6** Results of the studies published in 2013

| Authors | Year | Title | Results |
|---|---|---|---|
| Hao-Chang Lo | 2013 | Design of Online Report Writing Based on Constructive and Cooperative Learning for a Course on Traditional General Physics Experiments | There is a statistically significant difference in favor of experimental group. |
| Michael Chau; Ada Wong; Minhong Wang; Songnia Lai; Kristal W.Y. Chan; Tim M.H. Li; Debbie Chu; Ian K.W. Chan; Wai-ki Sung | 2013 | Using 3D virtual environments to facilitate students in constructivist learning | There is a statistically significant difference in favor of experimental group who received the information and management systems course in a constructive 3D learning environment. |
| Tiffany Chichester; Karen Hagglund; Elango Edhayan | 2013 | Teaching surgical residents to evaluate scholarly articles: a constructivist approach | There is a statistically significant difference between pre and posttest after the interference which included a workshop designed on constructive principles. |
| I. Garcia; C. Pacheco | 2013 | A constructivist computational platform to support mathematics education in elementary school | A computer-based learning environment which was designed in a constructive approach resulted with an increase in the motivation of students, a more positive attitude towards the lesson and more active students. |
| Jan Moons; Carlos De Backer | 2013 | The design and pilot evaluation of an interactive learning environment for introductory programming influenced by cognitive load theory and constructivism | The results showed a statistically significant difference between pre and posttest of the experimental group and posttests of the control and experimental group that was taught in an interactive learning environment designed in a constructive approach. |

Lo (2013) asked the control group to write a report about weekly studies at hand while the experimental group was asked to do the same thing on an online blog. The reports of the two groups were assessed through a form and all of them are scored. The results showed that experimental groups' scores were higher and the difference was statistically significant. Chau et. al (2013) explained that the control group received the information and management systems course in a traditional class while the experimental group did it in a 3D environment designed on constructive principles. The results showed that there is a statistically significant difference in the post-test in favor of experimental group. Chichester, Hagglund and Edhayan (2013) informed that a workshop on research methods, basic statistics and their applications which was designed in a constructive approach resulted a statistically significant difference in the pre and posttest results of the attendants. Garcia and Pacheco (2013) announced that a computer-based learning environment that was designed in a constructive approach increased students' motivation, developed a more positive attitude towards the lesson and made students more active. Moons and De Backer (2013) compared the experimental who received the introduction to programming course in an interactive learning environment with the control group and found a statistically significant difference between the two.

**Table-7** Results of the studies published in 2014

| Authors | Year | Title | Results |
|---|---|---|---|
| Kwisoon Choe; Sunghee Park; So Yeon Yoo | 2014 | Effects of constructivist teaching methods on bioethics education for nursing students: A quasi-experimental study | When two constructive teaching methods–namely, action learning and cross-examination debate- were compared, both of them were effective in learning and there was a statistically significant improvment in the attitudes of the students towards the lesson. |
| Marina Fridin | 2014 | Storytelling by a kindergarten social assistive robot: A tool for constructive learning in preschool education | A social assistive robot was used in the kindergarten environment in story-telling sessions and children were observed for their social and emotional reactions. Results showed that children interacted with the robot like they did with people and they were happy. |

Choe, Park and Yoo (2014) wanted to compare the effect of two constructive teaching methods on the achievement in and attitudes towards the lesson. They found there was a statistically significant increase in their knowledge and improvement in the attitudes towards the lesson in both methods. Fridin (2014) explained how pre-school students who received story-telling sessions in the kindergarten with the assistance of a social assistive robot interacted with the robot as if it had been a person and be happy.

**Table-8** Results of the study published in 2015

| Authors | Year | Title | Results |
|---|---|---|---|
| Helen M. Amerongen; Theresa A.LeGros; Janet H. Cooley; Ernest P. Schloss; Andreas Theodorou | 2015 | Constructive contact: Design of a successful introductory inter-professional education experience | The attitudes of the attendants of an introductory inter-professional education course improved in a statistically significant degree. |

Amerongen et. al (2015) found that designing an introductory inter-professional education in a constructive approach resulted in a statistically significant improvement in pre and post attitudes of the participants.

Sub-problem 5: What are the themes of the experimental studies focusing on constructivism in education and published between 2005-2016?

**Table-9** Themes of the Studies

| Authors | Year | Theme |
|---|---|---|
| Mary Victoria Pragnell; Teresa Roselli & Veronica Rossano | 2006 | The integration of technology to constructive teaching |
| Anthony J. Gabriele | 2007 | Interaction among students in constructive teaching |
| Marie-Christine Toczek; Ludovic Morge | 2009 | The role of feedback in constructive teaching |
| Darrell M. Hull; Terrill F. Saxon | 2009 | The integration of technology to constructive teaching |
| De Corte, Erik | 2012 | The effect of constructive classroom environment |
| Francesca Bertacchini; Eleonora Bilotta; Pietro Pantano; Assunta Tavernise | 2012 | The integration of technology to constructive teaching |
| Hao-Chang Lo | 2013 | The integration of technology to constructive teaching |
| Michael Chau; Ada Wong; Minhong Wang; Songnia Lai; Kristal W.Y. Chan; Tim M.H. Li; Debbie Chu; Ian K.W. Chan; Wai-ki Sung | 2013 | The integration of technology to constructive teaching |
| Tiffany Chichester; Karen Hagglund & Elango Edhayan | 2013 | Diversifying of teaching activities appropriate to constructivism |
| I. Garcia; C. Pacheco | 2013 | The integration of technology to constructive teaching |
| Jan Moons; Carlos De Backer | 2013 | The integration of technology to constructive teaching |
| Kwisoon Choe; Sunghee Park; So Yeon Yoo | 2014 | Diversifying of teaching activities appropriate to constructivism |
| Marina Fridin | 2014 | The integration of technology to constructive teaching |
| Helen M. Amerongen; Theresa A. LeGros; Janet H. Cooley; Ernest P. Schloss; Andreas Theodorou | 2015 | Interaction among students in constructive teaching |

The most common theme in the 14 studies examined is the integration of the technology into constructive teaching experiences. The number of the studies with this theme is eight and they included web-based, 3D or virtual environment and software as tools. Two studies examined the interaction among the students. Another theme used in two studies is diversifying the teaching activities/methods in the classroom. The role of feedback in constructive teaching and the effect of constructive classroom environment were the other themes in two studies.

## CONCLUSIONS

Constructivism is a wide topic studied in many different ways in the education. When the last eleven years in two broad databases (EBSCO and ScienceDirect) has been searched for experimental studies on constructivism in education, fourteen studies -5 published in 2013, two in 2009-2012 and 2014 and one published in 2006-2007 and 2015 while no studies were found in 2005-2008-2010-2011 and 2016- give an idea about the current trends in this area. The most common data collection method in these studies is pre-posttest that is used in half of the examined studies. The sample that is mostly used in the studies is graduates. This might be due to fact that most of the studies are carried out by academicians as a need of their profession and in university context as it is a

more flexible environment. As the nature of the experimental studies make it difficult to compare high numbers of samples, the samples in examined studies are relatively in small numbers between 10 and 341.

Information technologies supported by the internet has significantly changed both social communication and learning methods (Chai & Fan, 2016). Moreover, there are studies showing that information and communication technologies can support the cognitive development that is required for learning in depth (Bell et. al, 2013; Jimoyiannis, 2010; Barak, 2016). As a result, it is not surprising to see that the most common theme seen in the examined studies is integration of technology to constructive learning/teaching environments and experiences. In more than half of the studies, in 8, the tools as online or offline teaching/learning environments and robots that the technology provides are integrated into constructivist education and positive results are found. This situation is completely understandable when we think that we are in a technology age in which exposure to and use of technology starts at preschool.

In a lesson that is meant to be organized on constructive principles, students should be provided as many different learning opportunities as possible without depending on one single teaching method (Baviskar, Hartle, & Whitney, 2009). That might be why in two studies the aim is comparing more "traditional" teaching in which information is transferred with methods that follow constructive principles –especially constructing the new information on the previous knowledge by students themselves. According to a more current belief, learners are not supposed to be isolated through the learning process and can construct the knowledge together and this is called co-constructivism or social constructivism (Goldhaber, 2000; Reusser, 2012). In two of the studies, student-student interaction has been the main focus and the effect of social constructivism is questioned. While in Gabriele (2007) has not found a statistically significant difference in low-achievers' achievement when they were paired with high achievers, Amerongen et. al (2015) found an improvement in the attitudes of socially interacting people through the course.

Feedback is an important element in teaching-learning process and constructive feedbacks are thought to be difficult to produce and sensitive by the educators as they include emotional and psychological factors in the way they are perceived by the receivers or students (Fong et. al, 2016). The constructive feedbacks are supposed to give students a chance to evaluate themselves and find their own mistakes. Toczek and Morge (2009) express that co-constructive feedback which is in the form of discussing the answers of a fill in the table activity with the teacher resulted better learning than simple correct or wrong form of feedback.

In constructivism, the classroom environment is an important factor in learning and it should give students the opportunity to construct the knowledge themselves in order to be able to transfer the information to new situations (Brooks & Brooks, 1999). Testing it, De Corte (2012) found out that the experimental group that received the lesson in a classroom environment that was designed in a constructive approach had better adaptive competence skills which means success in transferring the knowledge into new situations than the control group receiving a more "traditional" lesson

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# THE EFFECT OF FAST BACKGROUND MUSIC ON TYPING SPEED

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## ABSTRACT
Past research shows music may deliver an ergogenic effect in sport performance. On the other hand, some others debate that background music may hamper work performance. This study took on an investigation as to whether fast music has an effect on typing speed. In recruiting subjects for this study, clerical workers whose daily work involves in typing were recruited for better accuracy in testing typing speed. In the experiment, the participants (N=20) underwent two conditions: typing in a silent condition and another with a fast background music intervention. Their typing scores within two minutes in both conditions were measured and compared. The results revealed significant influences of fast music on typing speed. Thus, the results may be a reference for typing related work such as professional, clerical worker, teacher, students and so forth where music could be used as a tool in improving typing speed.

## INTRODUCTION
DeNora (2000) was perhaps among the scholars who had written a very complete account of how music was involved in the society and how people associate music in many different ways in everyday life. However, as what scholars such as Juslin and Laukka (2004) and Sloboda and O' Neil (2001) perceived, people have different emotional pattern; where music listening was believed to be a necessity in mood adjustment (Van Goethem & Sloboda, 2011). For example, in a study by Schlichting et al. (1970), evidence showed music may affect respiration, pulse, blood pressure and may also relieve fatigue muscle. Some believed that music may promote health via its effect on human cognition. In another study, a physical reaction such as tears shed after music ended has revealed how music affected our psychological state (Sloboda, 1991). Whereas in a study by Yu and Loo (2015), repetitive motif in popular music was analysed and how it plays a role in musical preference was discussed. To what extent music could affect human cognition depends on the music condition and the listening process (Morth & Hargreaves, 1997). When suitable music was played, music could make people enjoy their life (Konechi, 1982).

Drawing more examples to how music may contribute to our daily lives, music listening appeared in the studies of sport psychology research (Gluch, 1993). Karageorghis, Terry and Lane (1999) found that psychophysical performance was affected by music in terms of four determining factors: response to rhythmic pattern, cultural and aesthetical background, musicality as well as association to certain music types. Among these, rhythmic response comes primarily and association to certain music types was the least important factor. In another research, Karageorghis, Jones and Low (2006) found that fast music with a minimum tempo at 120bpm with strong rhythmic patterns had a motivational effect that lifted listeners' spirit. In addition, synchronous music facilitated athletes to perform better by keeping pace adhering to the music tempo resulting in an ergogenic effect; at the same time, fast upbeat music was found to generate a stimulating effect (Terry & Karageorghis, 2006).

  

As such, scholars found that music was able to benefit athletes. In an earlier study, Baumeister (1984) found that music was able to help tennis players relieve stress before their games. In the facet of sport, some scholars put forward that music listening was a beneficial method for elite athletes as music brought out different emotional states and affected their mood, visual, increased arousal, as well as auditory imagery (Bishop, Karageirghis & Loizou, 2007). Studies revealed positive effect when music was used in sports and exercises (Karageorghis & Terry, 1997). Furthermore, music could affect emotions (Gabrielsson, 2001) and this has been tested on controlling athletes' mood prior to a competition (Saarikallio & Erkkilä, 2007). Some other studies looked into the congruence between music and movement in sports such as Loo and Loo (2012) and Loo and Loo (2013) in rhythmic gymnastics. In a more recent study, Loo and Loo (2014) mentioned 'audio capture' where visually perceived movement might be different such as in momentum and climax, due to the effect of music used in accompanying rhythmic gymnastics. In two other studies, Loo and Loo (2013) and Loo and Loo (2015) found that perception over *Taichi* movement might be affected when different music was played due to the congruence between music and movement.

In terms of task performance, different musical parameters such as tempo, pitch range and instrumentation might result in different effect (Stack & Gundlach, 1992) and research showed that music helped improve performance, work efficiency, endurance and power (Edworthy & Waring, 2006; Elliott, Carr & Savage, 2004). On the other hand, although there were studies that proved music was able to divert attention from pain, it could also distract a task completion (Darrow, Johnson, Agnew, Fuller, Uchisaka, 2006).

There were many contradictory enquiries when it came to music played in the background during task performance. Scholars such as Lesiuk (2005) believed that music brought positive effects on task performance. Scholars such as Kirkpatrick (1943), Wokoun (1969), Fox (1971) and Lesiuk (2005) believed that music listening leads to beneficial effects on task performance. According to Lesiuk (2005), it was proven by Oldham that listening to music from radio was able to improve work performance. In addition, music was found to give an effect to systolic blood pressure, inhibit anxiety and increase heart rate (Knight and Rickard, 2001). In a study by Fujigaki (1993), 42% of the design errors that were derived from stress were reduced after music was played which has helped in lowering anxiety. On the contrary, some scholars such as Salame and Baddeley (1989) found that songs played in the background may disrupt the recall of sentence sequence that was presented visually. Similarly, Waters, Komoda and Arbuckle (1985) studied on vocal music and found that music might cause distraction in reading task when music was played too loudly. Conversely, when it came to non-verbal tasks such as tapping, the subjects were not affected although music was played at a high volume. Tam, Chua and Loo (2015) on the other hand found a positive effect on the announcement of ten digit numbers in a rhythmical way is helpful for short term memory.

Scholars such as Bever and Chiarello (1974) also studied background music and its effect on writing task. The scholars explained that writing span and fluency were determined by working memory; and working memory was affected if background music was played while writing. At the same time, Ransdell and Gilroy (2001) revealed that listening to music strongly undermined the fluency and efficiency in word-processed writing; however, subjects who had a background of musical training or possessed high working memory span were less affected by the music played in the background. Although it is evident that music affected task performance and work efficiency, however, Cassidy and MacDonald (2007) stated that introverts performed better than extraverts on five tasks: immediate recall in memory, recalling a list of items, expressing in numbers and recalling acquired information, and a Stroop test that underwent four sound conditions: negative affect, positive affect, everyday noise and silent condition. Negative effect and noise was not beneficial for participants in the experiment. Another study by scholars Jäncke and Sandmann (2010) found that there was no significant effect on verbal learning performance with background music, neither an enhancing nor a detrimental effect. However, Kang and Williamson (2014) mentioned that background music could help to improve performance on language learning tasks especially in Mandarin Chinese.

Reviewing the past studies in music and its effects on task performance, this study explored fast music and its effects on typing speed among clerical workers. Most studies in music psychology revealed that the effects of music were significantly related to our lives. However, relevant information about music listening among clerical workers and its effect on typing speed was limited. Thus, it was important to find

  

out the relationship between fast music and its effect on typing speed among clerical workers. The work efficiency is measured based on characters typed in two minutes.

## METHODOLOGY

Quantitative research allowed measurable results in research used in particularly in but not limited to social activities (Tucker, 1998). This involved analysis that was based on figure. In this study, as what Punch (2014) explained as a feature of quantitative study, amount of objects and numbers calculation could be measured. In this research, an experiment was carried out to collect participants' typing speed with and without music intervention. The data collected was analysed using SPSS. The research design was illustrated in Figure 1.

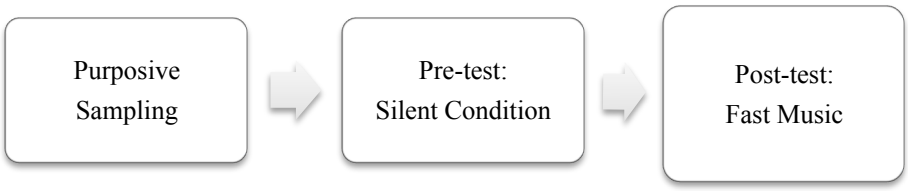


**Figure.1** Research Design

### Participants

Via a purposive sampling approach, the participants were 20 selected clerical workers aged 22 to 56 who worked full-time in various companies. The participants completed a demographic survey in written form before the experiment. The most important precondition of this experiment was to ensure the participants would not be affected by other factors throughout the experiment such as under medication, female participant under menstruation, or with health issues. The participants confirmed this by signing on a consent form. In addition, before the experiment, the participants were not allowed to consume any food and beverages that consisted of caffeine or may release certain hormones, such as chocolate, coffee and tea.

### Sessions

As all computer keyboards might come in different design, which may vary in terms of space and distant between type-key, the experiment was done at the participants' working desk and computer. Each participant went through two sessions: pre- and post-test.

1. In the pre-test, participants' typing scores were recorded in a silent condition.
2. In the post-test, a music intervention was added where a fast music familiar to all participants was played in the background through speaker and the participants' typing score was gathered.

A popular fast music that was familiar to all participants was selected as the independent variable. The participants' typing scores in the pre- and post-test were the dependent variable. The subjects were given several pages of text to type. A choice of English or Malay (national language) text was given so that the participants could choose the language that was more familiar to them. In addition, the content was selected from local dailies, thus avoiding unfamiliar words or terminologies that might slow down any process of typing. They were required to type as much as they could in two minutes. Each text consistsed of 200 to 300 thousand alphanumeric characters at font 12 printed on A4 size paper. Each typed character contributed as 1 point. After the typing score of the pre-test was gathered, participants went through another typing test with music intervention where typing score was gathered again as a post-test.

In the pre-test, the participants were given two minutes to type their selection of text. Their typing speed, facial expression and body movement were recorded. In the post-test, the participants were given two minutes to type another copy of text with the selected fast music played as the background music. Similarly, their typing speed, facial expression and body movement were recorded too. After that, the data collected was entered to statistical software (SPSS) and the results were analysed. After both sessions, participants were required to fill in a questionnaire that provided a quantitative data for analysis.

## ANALYSIS AND DISCUSSION

In terms of survey, most subjects were positive that music induced an energetic feeling during task completion. Table 1 showed the 20 participants' responses to 4 questions in a short survey with Likert

  

scale: 1. strongly disagree, 2. disagree, 3. neutral, 4. agree, and 5. strongly agree. The mean scores of the short survey were gathered.

Based on Table 1, it was found that most respondents deemed that music helped them to feel more energetic in the process of typing (mean score 4.10). Based on the results (mean score 4.45) in the second question, most respondents agreed that they felt different when music was played. This showed that the respondents were aware of the condition. More than half of the respondents submitted answers between "neutral" and "agree" to the fact that music helped them to increase their typing speed (mean score 3.80). In terms of music tempo, rhythm and instrumental arrangement, the selected fast music was thought to induce nervousness in the process of typing through the observation. Nevertheless, the results from the survey showed that most respondents had a neutral answer (mean score 3.65).

**Table 1**: Survey Results

| | **N** | **Minimum** | **Maximum** | **Mean** | **Std. Deviation** |
|---|---|---|---|---|---|
| 1.Music helps me to feel more energetic in the process of typing. | 20 | 3.00 | 5.00 | 4.1000 | .64072 |
| 2.I feel different with the presence of music during typing. | 20 | 4.00 | 5.00 | 4.4500 | .51042 |
| 3.Listening to music helps me increase my typing speed. | 20 | 2.00 | 5.00 | 3.8000 | 1.10501 |
| 4.Fast music makes me nervous when I am typing. | 20 | 1.00 | 5.00 | 3.6500 | 1.42441 |

**Typing Score**

In both pre- and post-test, the participants' typing scores were gathered. In Table 2, the pre-test was labelled as "silent condition" whereas the post-test was labelled as "fast music". Each typed character was counted to contribute to the typing score instead of counting the words typed, as the results might vary in terms of the number of characters in a word. Table 2 also showed the results at every 15-second interval in 2 minutes.

**Table 2**: Results of Pre- and Post-test at each 15-second Interval

| | Type of Music | Mean | Std. Deviation | N |
|---|---|---|---|---|
| Time00_15seconds_characters | Silent Condition | 38.6000 | 14.57973 | 20 |
| | Fast Music | **43.3500** | 17.14113 | 20 |
| Time15_30seconds_characters | Silent Condition | 36.3000 | 14.62190 | 20 |
| | Fast Music | **46.5000** | 20.94981 | 20 |
| Time30_45seconds_characters | Silent Condition | 32.6000 | 14.99263 | 20 |
| | Fast Music | **43.3000** | 11.34205 | 20 |
| Time45_60seconds_characters | Silent Condition | 36.3000 | 15.19730 | 20 |
| | Fast Music | **46.0000** | 20.66016 | 20 |
| Time60_75seconds_characters | Silent Condition | 36.6000 | 15.20872 | 20 |
| | Fast Music | **44.2000** | 15.33349 | 20 |
| Time75_90seconds_characters | Silent Condition | 35.8500 | 17.83927 | 20 |
| | Fast Music | **40.2000** | 18.69590 | 20 |
| Time90_105seconds_characters | Silent Condition | 39.9000 | 15.30359 | 20 |
| | Fast Music | **43.4500** | 21.76785 | 20 |

  

| | | | | |
|---|---|---|---|---|
| Time105_120secon | Silent Condition | 37.9500 | 17.87228 | 20 |
| ds_characters | Fast Music | **41.5500** | 16.36585 | 20 |

According to Table 2, the mean score showed that fast music (43.3500) outperformed the silent condition (38.6000) from 00 to 15 seconds. In the interval of 15 to 30 seconds, the results indicated that fast music (46.5000) outperformed the silent condition (36.3000). Next, fast music (43.3000) surpassed the silent condition (32.6000) from 30 to 45 seconds. Then, from 45 to 60 seconds, fast music (46.0000) outperformed the silent condition (36.3000). Once again, from 60 to 75 seconds, fast music (44.2000) exceeded the silent condition (36.6000). From 75 to 90 seconds, it was shown that fast music (40.2000) outperformed the silent condition (35.8500) too. In addition, from 90 to 105 seconds, fast music (43.4500) surpassed the silent condition (39.9000) as well. Eventually, from 105 to 120 seconds, fast music (41.5500) outperformed the silent condition (37.9500). As described above, results showed that the typing speed was affected by fast music played in the process of typing. In summary, fast music helped improve work efficiency compared to silent condition.

**Table 3**: Relationship between Typing Speed and Fast Music at every 15-second Interval in 2 Minutes

| Effect | | Value | F | Hypothesis df | Error df | Sig. |
|---|---|---|---|---|---|---|
| Factor1 | Pillai's Trace | .135 | .713[b] | 7.000 | 32.000 | .661 |
| | Wilks' Lambda | .865 | .713[b] | 7.000 | 32.000 | .661 |
| | Hotelling's Trace | .156 | .713[b] | 7.000 | 32.000 | .661 |
| | Roy's Largest Root | .156 | .713[b] | 7.000 | 32.000 | .661 |
| Factor1* Fast Music | Pillai's Trace | .228 | 1.353[b] | 7.000 | 32.000 | .259 |
| | Wilks' Lambda | .772 | 1.353[b] | 7.000 | 32.000 | .259 |
| | Hotelling's Trace | .296 | 1.353[b] | 7.000 | 32.000 | .259 |
| | Roy's Largest Root | .296 | 1.353[b] | 7.000 | 32.000 | .259 |

In Table 3, there was no significant difference [F (1,32) = .713; P> 0.05] in the Multivariate Tests[a]. In the meantime, there was also no significant interaction difference between the typing speed and fast music [F (1, 32) = 1.353; p> 0.05].

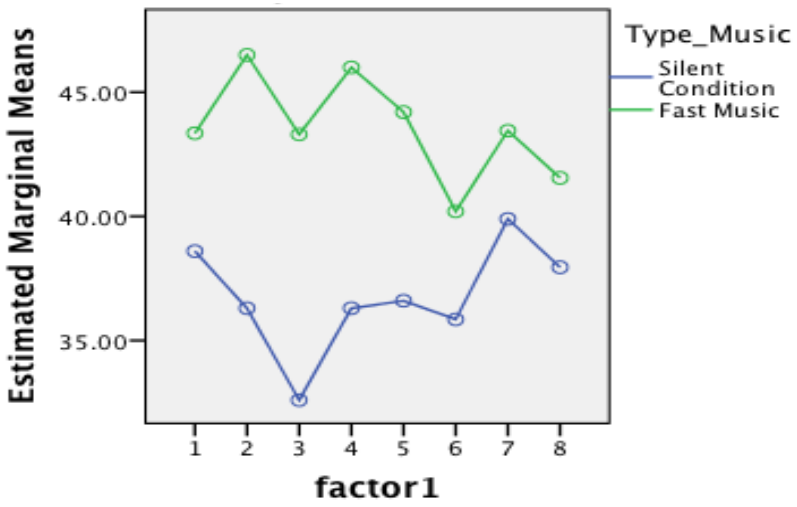


**Figure.2** Comparison of typing speed between Silent Condition and Fast Music

According to Figure 2, the graph line showed that the marginal means of fast music was higher than the means of silent condition. However, Table 3 showed that there was no significant difference in the typing

  

duration. On the other hand, Table 3 and Figure 2 indicated that there was a distinct difference between the silent condition and the condition with fast music intervention.

**Results from Time 30–45 seconds**

**Table 4**: Results from Time 30-45 seconds

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 884.872 | 1 | 884.872 | 4.821 | .034 |
| Within Groups | 6975.028 | 38 | 183.553 | | |
| Total | 7859.900 | 39 | | | |

Table 4 showed that there was a significant difference in the duration of 30 to 45 seconds. The results showed a clear difference between the typing speed and the two conditions.

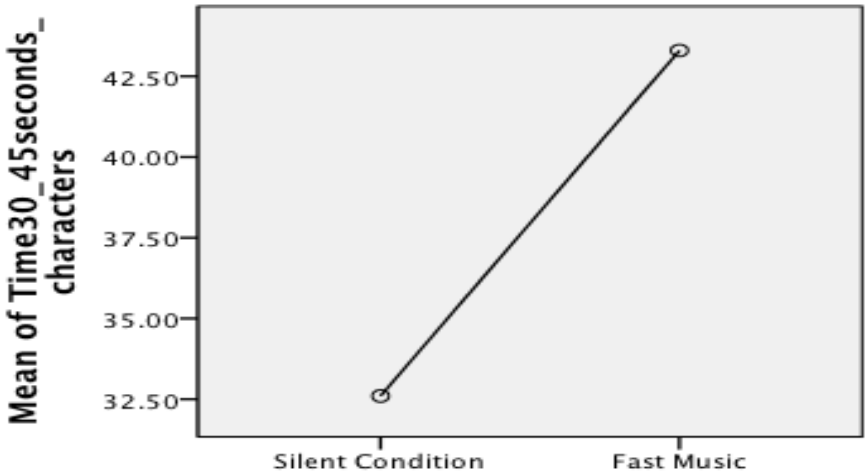


**Figure.3** Comparison of Typing Speed in two Conditions from Time 30-45 seconds

Figure 3 showed the relationship between silent condition and fast music to further explain the results in Table 4. The graph line in Figure 3 showed that fast music affected the participants' typing speed compared to the silent condition.

**Table** 5: Comparison of Typing Speed on two conditions respectively in the First Minute and Second Minute

| | Type of Music | Mean | Std. Deviation | N |
|---|---|---|---|---|
| First Min Characters | Silent Condition | 143.8000 | 50.17296 | 20 |
| | Fast Music | **179.1500** | 59.39633 | 20 |
| Second Min Characters | Silent Condition | 152.4286 | 57.35861 | 20 |
| | Fast Music | **167.0000** | 61.12834 | 20 |

Table 5, displayed the characters typed in the first minute and the second minute of the experiment. Each participant underwent two conditions which were the silent condition and the condition with fast music intervention. The mean score in Table 4 showed that fast music (179.1500) outperformed the silent condition (143.8000) in the first minute. Similarly, fast music (152.4286) exceeded the silent condition (167.0000) again in the second minute.

**Table** 6: Relationship between Typing Speed and Type of Music in the First Minute and Second Minute

  

| Effect | | Value | F | Hypothesis df | Error df | Sig. |
|---|---|---|---|---|---|---|
| Factor1* Type of Music | Pillai's Trace | .125 | 5.426[b] | 1.000 | 38.000 | .025 |
| | Wilks' Lambda | .875 | 5.426[b] | 1.000 | 38.000 | .025 |
| | Hotelling's Trace | .143 | 5.426[b] | 1.000 | 38.000 | .025 |
| | Roy's Largest Root | .143 | 5.426[b] | 1.000 | 38.000 | .025 |

In Table 6, there was a significant relation between the typing speed and the two conditions [F (1,38) =5.426; p< 0.05]. The results indicated that the typing speed was affected by fast music.

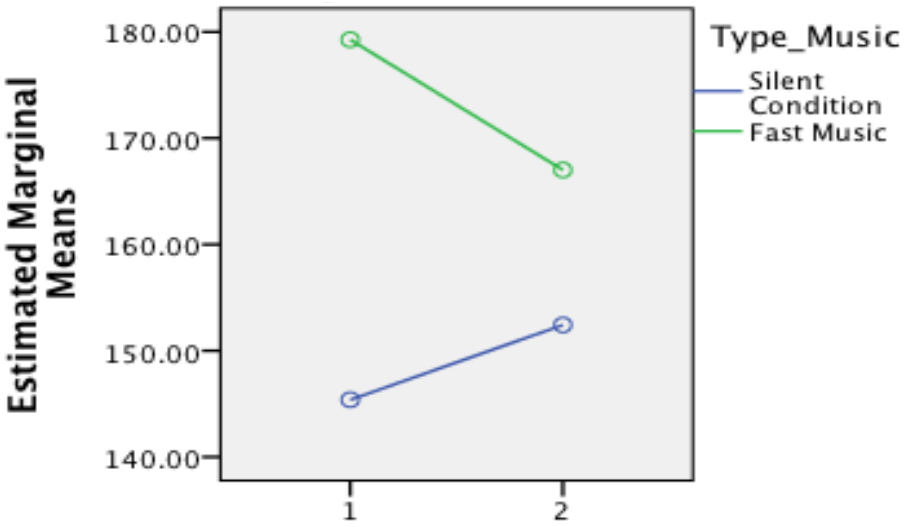


**Figure.4** Comparison of Typing Speed on two Conditions respectively in the First Minute and Second Minutes

The graph line in Figure 4 displayed that the typing speed with fast music intervention was higher than that in the silent condition regardless of the first or second minute of the typing process.

## CONCLUSION

In this study, fast music might induce a stimulating effect in increasing typing speed to a certain extent. However, there was no significant difference in the 2-minute duration in which each 15-second interval was observed. It was observed that during the period of 30 to 45 seconds that there was a greater difference between typing speed in the conditions with and without music. In addition, the mean score and the graph line showed that more typed characters were achieved with the fast music intervention.

Nevertheless, considering the sample size of the experiment, the result of the test might be more significant if a larger sample was recruited. In the survey, although the respondents believed that fast music could help improve their typing speed, it might also induce nervousness in the typing process. Still, most of the respondents felt that fast music could lift their spirits and induce an energetic mood, and this might be the reason of the soaring graph during the period of 30 to 45 seconds. This outcome conformed to the studies by Lesiuk (2005) and Karageorghis, Jones and Low (2006) where music has an effect over task performance.

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# THE EFFECT OF MOTIVATINAL INTERVIEW ON ADULTS DIAGNOSED AS TYPE 2 DIABETES MELLITUS: A SYSTEMATIC REVIEW

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**ABSTRACT**
Typed 2 Diabetes Mellitus(T2DM) is an important public health problem of which prevalence enhance more and more. Self-management and self-care is of importance for preventing acute and chronically complications. The aim of this study is to review studies related to motivational interview (MI) in adults diagnosed as T2DM systematically. This is a qualitative study based on systematic review design based on document analysis of articles. The population of this study consisted of 7621 articles searched by using CINAHL Complete (5093), Medline (640) ve Science Citation Index (1888), Turkish Medicine Serial and Google Academic. By searching based on key words as "Motivational Interviewing", "Type 2 Diabetes Mellitus", " Randomized Controlled", "Quasi- experimental", "Pre-test post-test" "Qualitative phenomenological study based on before and after intervention", articles published in recent ten year time 2006-2016, which have full text and the language of which are either Turkish or English were selected. Thus 16 articles based on selection critaeria consisted of the sample of the study. 10 of the studies were done based on Randomized Controlled, 3 qualitative, 1 translational experimental pre-test post-test, 1 quasi-experimental methods and 1 action study. 7 of the studies were done academic nurses. In the studies reviewed in this study, it was found that there were significant decreases in their adults diagnosed as Typed 2 Diabetes Mellitus (T2DM) and to whom MI program were applied A1c levels after MI intervention, besides in four studies there were significant developments related to adults' diabetes self-management and self care. Additionally, according to the results of 3 qualitative studies, the patients experienced MI interventions stated that individual centered approach helped them to tend to their own resourses in overcoming issues related to their diabetic cares. It is understood that MI program in T2DM has positive effects. It is also understood that it is a necessity to do more experimental studies . Additionally, in- service education programs on MI are thought to be useful to develop diabetic nurses' consultant skills.
**Key Words:** Motivational Interviewing, Type 2 Diabetes Mellitus, Systematic Review

  

# THE EFFECT OF THE USE OF SYMMETRY INCLUDED IN TESSELLATION TECHNIQUES WITH COMPUTER ASSISTED AND ACTIVITIES ON EIGHTH GRADE STUDENTS' ACHIEVEMENT IN TRANSFORMATION GEOMETRY TEACHING

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**ABSTRACT**
In this study, the effect of use of the symmetries included in tessellation techniques in other words reflection, translation, rotation and glide reflection with computer animations and activities on students' achievement in the teaching of eighth grade transformation geometry learning domain has been researched. The achievement test for which expert opinion is obtained and thus whose reliability is determined is applied on students as the pretest. After that, symmetries included in tessellation techniques are shown with an animated PowerPoint slides made with the original figures and students are asked to do tessellations by given them grid papers. At the end of teaching process, students are asked to find the types of symmetry in their drawings. Later, the achievement test is applied on them as the posttest. Having entered into the SPSS, the data is analyzed through Wilcoxon Signed-Rank and Mann-Whitney U tests. In consequence, efficiency of the use of computer-assisted tessellation techniques and symmetries included in tessellation techniques on the increase of eighth grade students' academic achievement has been seen.

## INTRODUCTION

Mathematics is an action of thinking. Compared to daily intellectual needs of a thinking person, mathematics is the name given to the action of formal analysis of the figure, quantity and movement at the highest level and as a result of this action, the accumulation of knowledge (Tezer, 2003). In another definition, mathematics is the science of patterns and orders which help us know the nature and describe it with its unique language based on symbols and shapes (MEB, 2009; Baykul, 2005).

The importance of tessellation was emphasized with this expression by The Ministry of National Education (2005): "Geometry analyzes both figures and their movements. These movements are translation, rotation, reflection and glide reflection. When one or more than one of these are applied on the tessellations, it has been paid attention to the analysis of these movements. In addition to its effects on the development of mathematical concept, knowing characteristic and relations, evaluation and creative thinking, tessellations have significant roles in developing aesthetics and acquiring positive attitude towards mathematics from especially the point of view of being an element of our national culture."

A pattern is called as "shape and number sequences that follow a certain rule" (Souviney, 1994). Mathematics is defined as the science of arrangement and pattern (MEB, 2005). It discovers the pattern, interprets and uses it (Van De Walle, 2004). It is possible to see the examples of the patterns in every area of life: in nature, art, edge decorations, wallpapers, faience coverings, music, architecture (Van De Walle, 2004).

Tessellations contain visual dimension of patterns and concerning motifs (MEB, 2009). In other words a motif is formed by using a pattern whose structural characteristics are not changed and by combining them with types of symmetry (Bassarear, 1995). To make a tessellation in addition to the knowledge of basic geometry, one should know well symmetries included in the tessellation techniques, as well (Johnson and Kashef, 1996).

The first thing that comes to mind is reflection symmetry. Reflection symmetry is either a line symmetry or a plane symmetry. A plane symmetry or line symmetry is formed of point symmetry. After three transformations, rotation,

reflection and translation, the angles, side lengths and areas of the figure do not change. These transformations are generally called as transformations of symmetry. Translation, reflection (line or mirror symmetry), rotation and glide reflection are the types of symmetry.

Moving every point on the shape at the same direction in the same range is called translation or translational symmetry. When a figure is rotated a certain line and after this if there is an appearance of a figure at the opposite side at the same distance, reflection symmetry occurs. Rotating a point or a figure with a specific angle on a plane without any change in distance to the point marked is called rotation or rotational symmetry. The point marked is known as the center of the rotation, the angle as angle of rotation. If a figure coincides to the original after "n" rotations then it has a n-fold symmetry (Britton and Seymour, 1989). If a figure is reflected on a line and then shifted in parallel to this line and still coincides with the original one and then it has glide-reflection symmetry. In glide-reflection neither translational nor the reflection does work alone they must follow each other (Britton and Seymour, 1989).

The term "tessellation" derives from a latin word "tessela" which is either small tile or square stone used in ancient Roman mosaics. Each tessellation is made of a motif (a pattern model). A motif is made by applying types of symmetry on a model. Bringing geometric shapes and motifs together without any space forms tessellation. Different types of techniques are used in tessellation. Among these techniques, one or more than one types of symmetry may be used (Britton and Seymour, 1989; Aktaş and al., 2016). The examples of tessellation made with symmetry included in tessellation techniques are given in the original motifs below (Figure 1 and Figure 2) (Aktaş et al., 2016).

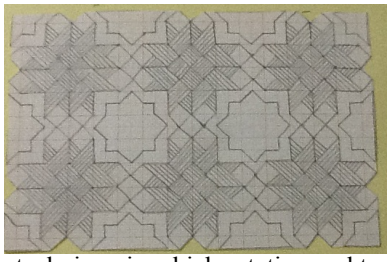


**Figure 1:** Be Whole (A tessellation technique in which rotation and translation are used with a specific angle), Aktaş, M. (Aktaş and al., 2016)

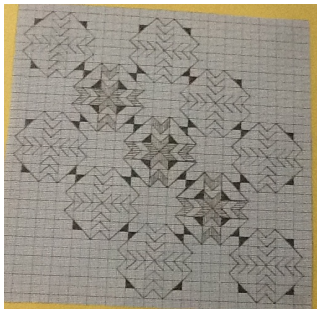


**Figure 2:** Our Hopes and Us (A tessellation technique in which translation is used), Aktaş, B. (Aktaş and al., 2016)

**THE STUDY**

While geometry is useful in many ways in our daily lives, from the beginning of elementary school students don't like it, they are afraid of it and even they fail (Karadeniz and Acar, 2014). Some of the reasons of this fear and failure of them may be lack of learning and not using teaching methods which are appropriate and beneficial for students to learn. To eliminate their fears, understanding their ways of thinking and determine a teaching method accordingly have become necessary. Student learns a pattern formed by using symmetry as s/he makes and experiences it. Students who can understand how to create a tessellation by using types of symmetry efficiently with movements of geometric shapes included in the sub-domain of transformation geometry learning will increase their academic achievements by making meaningful learning in the subject of symmetry with the help of grid paper or similar applications and thus they will

learn mathematics in a more enjoyable way (Aktaş and al., 2016)

This study aims to find out whether use of symmetry included in tessellation techniques with the computer animations and activities has an effect on the student's achievement at eighth grade mathematics lesson transformational geometry teaching. As types of symmetry used in tessellation are given with computer animations in the teaching of geometry, it has been thought that this study will add a new dimension to the researches.

Within scope of this aim, answers to the following questions will be sought.

**1.** Is there a reliable difference between pretest and posttest scores of the group who received the teaching by using symmetry included in tessellation techniques with computer animations and activities?

**2.** Is there a reliable difference among posttest scores by gender of the group who received the teaching by using symmetry included in tessellation techniques with computer animations and activities?

In this study one-group pretest-posttest quasi-experimental design is used. Study is conducted at a private school which falls under the administration and inspection of the Ministry of National Education in Çankaya, Ankara in 2014-2015 academic year. The application is carried out in a secondary school convenient for convenience sampling, one of the purposive sampling methods. The sample of study is consisted of 24 students, 13 of whom are girls and 11 of whom are boys, studying at eighth grade. In the literature there are views of some researchers of the fact that convenience sampling shortens the application process and that this has advantages for the researcher (Patton, 2014; Yıldırım and Şimşek, 2006). In this study, an achievement test with 11 questions based on expert opinion of types of symmetry made with original works by the researcher is used as quantitative data collection tool. Validity of the eleven-question achievement test is determined based on expert opinion and reliability coefficient is found to be .78. Reliability level of the achievement test whose reliability coefficient is more than 70 is significant (DeVelles, 1991). A pretest is applied before the computer-assisted application on those 24 students studying eighth grade. Later, subject of the symmetry included in tessellation techniques with computer animations is taught during two-hour period and students are asked to draw tessellation on the grid papers. After these studies, a posttest is applied on the students. Entered into the statistical analysis software, collected data are analyzed. As the sample size is less than 50, Shapiro-Wilk test is used to determine whether data are normally distributed. Shapiro-Wilk test is a normality test used for the sample size less than 50 (Corder and Foreman, 2014). In normality test of the study, pre-application data ($N=32$, Statistic= .899, $p<0.05$) and post-application data of the achievement test ($N=32$, Statistic= .785, $p<0.05$) are normally distributed. During the process of the analysis of data, Mann-Whitney U test and Wilcoxon Signed-Rank test are used.

Application is carried out during the spring semester of 2014-2015 academic year, at the period the subject is to be taught in annual plan. During the application types of symmetry included in tessellation techniques prepared with original drawings by the researchers are taught by using computer animations (Figure 3, Figure 4, Figure 5, Figure 6) (Table 1).

**Table 1:** Types of symmetries and animation process

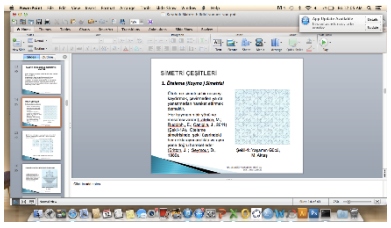
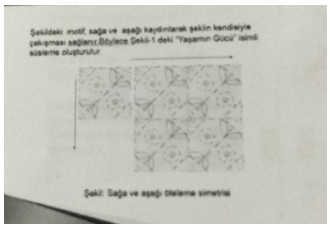
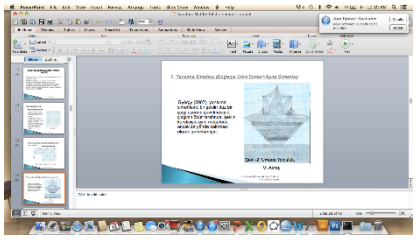
| Types of Symmetry | Process of Animation |
|---|---|
|  |  |

**Figure 3:** An example of translation included in tessellation techniques (Aktaş and al., 2014)



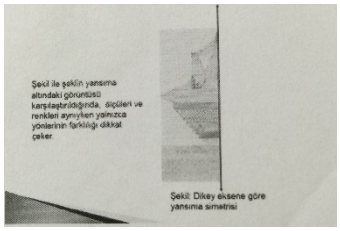
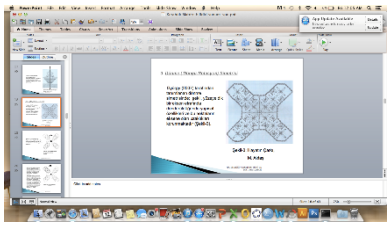



**Figure 4:** An example of reflection included in tessellation techniques (Aktaş and al., 2014)



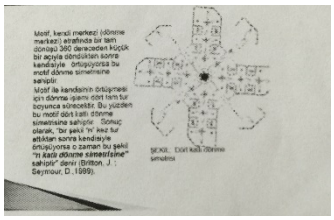
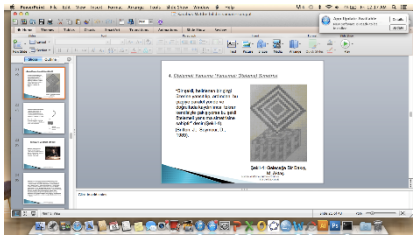


**Figure 5:** An example of rotation included in tessellation techniques (Aktaş and al., 2014)



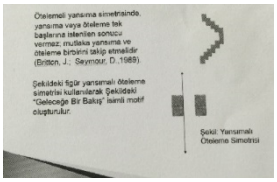
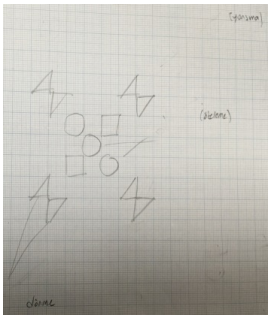
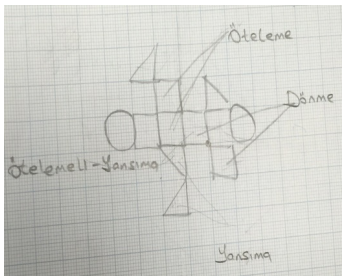



**Figure 6:** An example of glide reflection included in tessellation techniques (Aktaş and al., 2014)

After the teaching of computer-assisted symmetry included in tessellation techniques, students are asked to draw by using types of symmetry included in tessellation techniques on grid paper to analyze knowledge they learn. Three examples of tessellations made by the students are given in Figure 7, Figure 8 and Figure 9. Students could see and show the types of symmetry in their drawings.





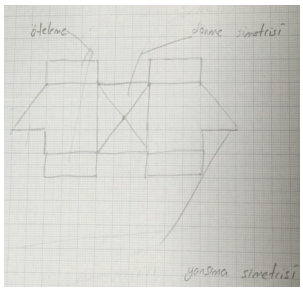




**Figure 7:** Student Drawing 1 **Figure 8:** Student Drawing 2 **Figure 9:** Student Drawing 3

## FINDINGS

This part consists of findings of pretest and posttest of the application of study and suggestions based on these findings.

**1.**Is there a reliable difference between pretest and posttest scores of the group who received the teaching by using symmetry included in tessellation techniques with computer animations and activities?

It has been analyzed whether there is a reliable difference between pretest and posttest scores of the group involved in the application. Results obtained as a result of the analysis are given in Table 2. Significance level of .05 is considered for the comparison.

**Table 2:** The results of Wilcoxon signed-rank test relating to the application of pretest and posttest on achievement

| Posttest/Pretest | N | Mean Rank | Sum of Ranks | z | p |
|---|---|---|---|---|---|
| **Negative Rank** | 1 | 7,50 | 7,50 | 3,658* | ,000 |
| **Positive Rank** | 19 | 10,66 | 202,50 | | |
| **Equal** | 4 | | | | |

*Based on negative ranks

According to the results of Wilcoxon signed-rank test, it has been concluded that there is a reliable difference between pre-application and post-application achievement scores of the students ($z=3.658$, $p< .05$). Considering mean rank of difference scores, it appears that this observed difference is in favor of positive ranks in other words posttest score. In other words, students' achievements have increased after the application.

**2.** Is there a reliable difference among posttest scores by gender of the group who received the teaching by using symmetry included in tessellation techniques with computer animations and activities?

It has been analyzed whether there is a reliable difference among posttest scores by gender of the group involved in the application. Results obtained as a result of the analysis are given in Table 3. Significance level of .05 is considered for the comparison.

**Table 3:** The results of Mann Whitney U test relating to the results of posttest by gender

| GrouAp | N | Mean Rank | Sum of Ranks | U | p |
|---|---|---|---|---|---|
| **Girl** | 13 | 12,38 | 161,00 | 70,00 | ,92 |
| **Boy** | 11 | 12,64 | 139,00 | | |

According to the results of Mann-Whitney U test, it is found that there is not a reliable difference among the posttest scores by gender of the students ($U=70.0$, $p>.05$). This shows that gender is not a significant variable.

## CONCLUSIONS

Teaching of symmetry which has different significance at each stage from primary school to higher education is very important. Knowledge of movements such as shifting and rotating figures is transferred in a more formal way (NCTM, 2000). By this way motivated children discover their characteristics, they decide what to or not to do and they give life and mathematics a new meaning by studying on symmetry and its properties so they gain experience. They begin to see mathematics that exists around them with symmetry properties (Knuchel, 2004). In the literature there are a few works in mathematics in which symmetry is used. In their books, Britton and Seymour (1989) concentrate on symmetry in tessellations. Haak (1976) shows in her article how Escher uses symmetry techniques in his drawings. Mainzer (1996) on the other hand puts emphasis on the historical development of symmetry. Schattschneider (2004) explains the mystery and beauty in every phase of Escher's works. Hokky (2005) on the other hand shows the relation of mathematics with the art in his study. György (2007) explains the application in which types of symmetry are used in his book

entitled "Symmetry". S.Kalajdzievski (2008) dwells upon the plane symmetry and related geometric shape (wall paper models). Conway, Burgiel and Strauss (2008) try to enlighten the points such as symmetry, planar shape and color symmetry subjects while Field and Golubitsky (2009) animate the mathematical concepts with symmetry and chaos on computer emphasizing the extraordinary diversity of geometry. Even after his death in 1972, Escher's works still excite and inspire people all over the world (Schattschneider, 2010). In his study on the seventh grade students, Özyaşar (2013) finds that with the help of computer, an increase on mathematics achievement has been seen and that there is not a reliable difference by gender. It has been thought that this study made with the original drawings will enlighten the following studies and that will contribute to the literature.

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# THE EFFECT OF TRANSFORMATIONAL LEADERSHIP AND TEACHERS' TEACHING BEHAVIOUR ON TEACHING EFFICIENCY

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**ABSTRACT**
The aim of this research was to examine the effect of transformational leadership and teachers' teaching behavior in teaching efficiency of schools under the Office of Khon Kaen Educational Service Area 5, Thailand. A total of 483 samples consisted of 152 school administrators at macro level and 331 teachers at micro level. Researchers employed a quantitative survey design utilizing two types of questionnaires. The hierarchical linear model (HML) analysis was used to test fixed effect and random effect of null model, simple model, and hypothetical model. Results indicated that all the three key variables were highly implemented. Moreover the relationship between transformational leadership as well as teachers' teaching behavior and teaching efficiency were positive and significant at 0.01. At the micro level teachers' teaching behavior could explain the prediction coefficient of the micro level as 87.01 percent. On the other hand, transformational leadership as the macro-level independent variable of intellectual and contingency reward could be used to explain 81.76 percent of teaching efficiency variance. Finally findings of Null Model, Simple Model, and Hypothetical Model indicated the average value of teaching efficiency of 4.388, 4.394, 4.402 and the variance of parameter as 0.01656, 0.01420, 0.00302 respectively.
***Keywords***: Transformational leadership, teachers' teaching behavior, teaching efficiency.

## INTRODUCTION

With the growing need to acquire a sustainable competitive advantage, school organizations have moved toward flattened hierarchies and self-managed teams (Antoni & Hertel, 2009). The use of teams has become an essential feature in many school organizations (Tasa, Taggar & Seijts, 2007) thus transformational leadership has been one of the most cited theories of leadership (Judge & Bono, 2000). Dvir, Eden, Avolio, and Shamir (2002) revealed that transformational leadership is highly effective in terms of teachers' development and performance. A good teacher is expected to be committed to his work, would have the ability to take the initiative. Teacher's personality in the attitudinal sense is a significant factor in teacher's behavior and it has great impact on student's character and achievement. If the teachers are well qualified, well trained and have effective behavior, the organization will achieve its objectives successfully (Shahmohammadi, 2014). Teaching style can be considered as the sum of behaviors. Teaching styles is undoubtedly an important variable staff communication support if through the teaching behaviors they encompass, are characterized by sufficient elasticity and permissiveness designed to create an atmosphere of emulation, reliable, and productive cooperation within the school staff (Frunza, 2013).

Teachers are required to fulfill many roles and perform many duties that may be considered subsidiary. Teaching efficiency is the actual teaching practice encompasses the core roles and duties. The primary purpose of teaching efficiency is to promote student learning that related to instructional methods that have been extensively documented in the educational research literature. Therefore teaching efficiency can cause the change in behavior, attitudes, or capabilities of students (Bilger, Mohr, & Walls, 2002). As a result, the art of teaching does not merely involve a simple transfer of knowledge from teacher to students. Instead, it is a complex process that facilitates and influences the process of student learning. In short, teaching efficiency is estimated on how effective the students understand from his or her teaching (Remesh, 2013).

## LITERATURE REVIEWS

Shahmohammadi's (2014) findings displayed that receptive and honest relationship between teachers and students, the dominance of teachers' self-regulative model for students, teachers' satisfactory effort in order to clarify educational materials, respect and acceptance towards students as well as family success are teachers' teaching behavior that caused the increase of students' self-regulative behavior. In addition, Shahmohmmadi found that teachers' effort in explaining the lesson content is considered a positive element which has positive significant relationship teaching efficiency. Besides Perels and Cole's (2007) findings showed that teachers who practiced collaborative interactive teaching strategies promoted deep-level cognitive processing in their students.

  

On this line of reasoning, teacher as a professional must know the art of communication, understanding others and ability to learn from experiences. They should be able to facilitate learning effectively.

According to Frunza (2014), teaching efficiency for subject-area requires time, effort, a willingness to experiment with different teaching strategies, and an examination of what is effective in teaching. Frunza added that teaching efficiency represent a constant concern in the area of education and communication and through teachers' teaching behavior. Chou, Lin, Chang and Chuang (2013) explored the relationship among transformational leadership style, cognitive trust, and collective efficacy as well as the impact of these variables on team efficiency. Chou et al. conceptualized team cognitive trust as a two-dimensional construct in leader and followers to be two separate process variables in the transformational leadership processes.

## CONCEPTUAL FRAMEWORK AND RESEARCH HYPOTHESIS

The main aim of this research was to investigate the effect of transformational leadership and teachers' teaching behavior on teaching efficiency of schools under the Office of Khon Kaen Educational Service Area 5, Thailand. Therefore this study was conceptualized that transformational leadership of school administrators and teaching behavior of teachers influences the teaching efficiency at macro and micro level. In particular, researchers evaluated the relative impact of transformational leadership that exists at the teachers (micro) and school administrators (macro) levels of analysis on the teachers' teaching efficiency.

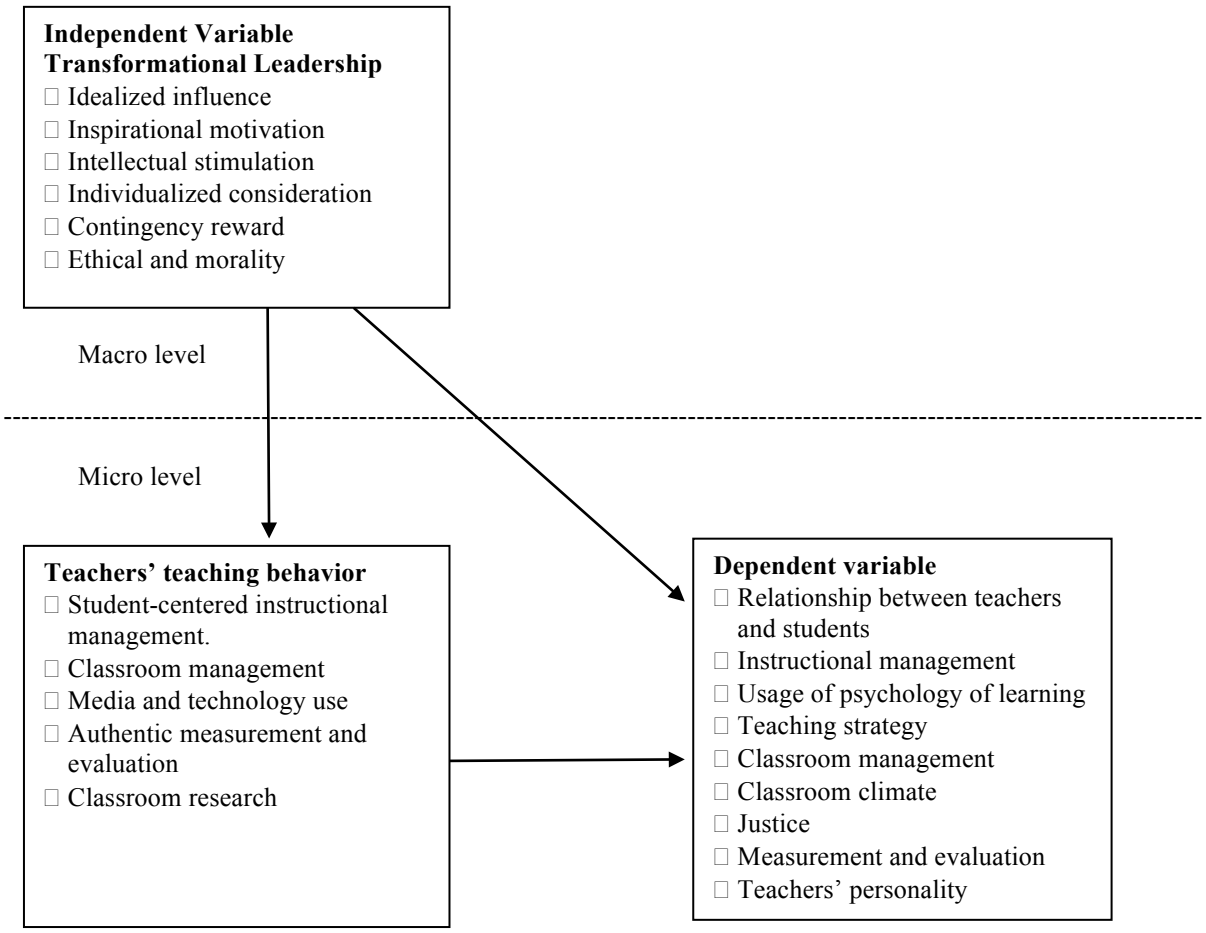


**Figure 1: Research Conceptual Framework**

The variables in this study include transformational leadership, teaching behaviors, and teaching efficiency. Transformational leadership refers to a paradigm in which the school administrator influences the teachers to perform beyond expectations by making them more aware of the importance and value of goals, influencing them to transcend self-interest for the good of the group or organization, and by appealing to their higher order needs (Burns, 1978; Bass, 1985). Researchers conceptualized the transformational leadership model according to Bass (1985, 1995) and Bass and Avolio (1991, 1997) as having six components: idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, contingency reward, and ethical and morality.

  

Idealized influence is a personality or behavior characteristics and attribute which enables a school administrator to instill pride in and respect for the school administrator as well as make him or her, a trustworthy and energetic role model for the teachers (Rowold & Heinitz, 2007). Inspiration motivation is a process through which the school administrator motivates his or her teachers to become committed to and a part of the shared vision in the organization. Intellectual stimulation is a process through which the school administrator stimulates teachers intellectually. Through individualized consideration, the school administrator provides supportive climate in which the individual group member is carefully listened to. This makes it possible to pay particular attention to the individual teacher's particular needs. Contingency reward means an intermingling between school administrator and teacher wherein school administrator supplies rewards to teacher dependent upon particular behaviors and results. Finally school administrator with more complex moral and ethical reasoning are more likely to value goals that go beyond immediate self-interest and to foresee the benefits of actions that serve the collective good (Turner, Barling, Epitropaki, Butcher, & Milner, 2002).

Teachers' teaching behavior in this study are comprised of student-centered instructional management, classroom management, media and technology use, the authentic measurement and evaluation, and classroom research which act as independent variable. On the other hand, teaching efficiency which act as dependent variable including relationship between teachers and students, instructional management, usage of psychology of learning, teaching strategy, classroom management, classroom climate, justice, measurement and evaluation, and teachers' personality. The proposal conceptual framework is shown in Figure 1above.

The first model to test is a Null Model which was conducted on the dependent variables without taking into account any independent variables. To what extent that the fixed effect and random effects on teaching efficiency, null hypothesis 1 was tested:

*H01: There is no fixed effect and random effects of Null Model*

When the micro level variables could be used to explain the teachers' teaching efficiency, researchers would be able to perform to test the effects on Simple Model. To what extent that the fixed effect and random effects on teachers' teaching efficiency, null hypothesis 2 was tested:

*H02: There is no fixed effect and random effects of Simple Model*

Finally, researchers utilized the multi-level analysis to test the fixed effect and random effect of hypothesis model on teachers' teaching efficiency as indicated in Ho3.

*H03: There is no fixed effect and random effects of Hypothetical Model*

**METHODOLOGY**

Researchers employed survey questionnaire as a method to collect quantitative data. A total of 2,666 population of this study was comprised of 258 school administrators at the macro level and 2408 teachers at the micro level from the schools under jurisdiction of the Office of Khon Kaen Primary Educational Service Area 5, Thailand. Multistage sampling technique followed by proportional simple random sampling technique was administered to select samples according to the two levels. A large sample size is needed in order to find accurate group variation while using Hierarchical Linear Modelling (HLM). On this line of reason, the required sample size was 152 samples for the macro level and 331 samples for the micro level according to Kanchanawasee (2011) at 95 percent confident level and fulfilled Hair's (2009) suggestion that sample size should not less than 100, giving a total of 483 samples.

There were two types of survey questions in the form of questionnaire utilized in this study for macro level and micro level respectively. These two types of questionnaire were administered in Thai language to confirm that the respondents understood about the statement. This methods assistances this study in terms of obtaining data more efficiently as time, energy and costs could be decreased (Sekaran 2006), provides an exceptional means of measuring attitudes and orientations in a large population which can, therefore, be generalized to a larger population (Babbie 2002).

The macro level questionnaire consists of 2 sections and 75 questions. Section A was specifically designed by researchers to gauge the transformational leadership of school administrators. A total of six dimensions of transformational leadership were being evaluated, given a total of 30 items. Section B was related to nine desirable teaching efficiency of teachers which had 45 items. These nine desirable teaching efficiencies are comprised of relationship between teachers and students, instructional management, usage of psychology of learning, teaching strategy, classroom management, classroom climate, justice, measurement and evaluation, and teachers' personality. The micro level questionnaire consists of 2 sections and 70 items. Section A was specifically designed to evaluate teachers' teaching behaviors including student-centered instructional management, classroom management, media and technology use, the authentic measurement and evaluation, and

  

classroom research. Section B of micro level questionnaire is the same as Section B macro level questionnaire.

The two set of questionnaires not only sent to a panel of experts for comments and feedbacks but also evaluated with Index of item for checking the congruence (IOC) level. Both set of questionnaires were achieved IOC within 0.67 to 1.00. Therefore text in the instrument was found consistent to the indicators. The panel of experts was selected using the criteria based on their expertise. The three experts are from three important areas namely educational evaluation and measurement, educational administration, and teaching and learning for validation purpose. The panel lists were chosen included professionals, administrators, and practitioner. From the feedbacks returned by the panel, some modifications were made to the original instrument.

Pilot testing of the instruments was carried out to 45 participants, consists of 15 school administrators at macro level and 30 teachers at micro level. All the panels in this pilot study were excluded from the actual study. They were chosen as their structure and population are the same as the actual study. To improve the quality of the items in the instrument, they were also asked to give suggestions and comments on the items in the instrument. Revisions were made based on the suggestions and feedback from the 45 participants. It could be concluded that the instruments were reliable and good to use as the Cronbach alpha value indicated that all the research variables had high Cronbach alpha values as 0.9574 and 0.9804 for macro and micro level questionnaires respectively.

Inferential statistics HLM is utilized in this study to analyze variance in the outcome variables when the predictor variables are at varying hierarchical levels. The purpose of utilize HLM in this study is to explain the relationship of the variables at the same level and interaction between the different levels of each variable on the dependent variable. The results are the high accuracy and low tolerances which can be used to determine the suitability of the model (adequacy of a model) as well.

The data were analyzed with a multilevel structure would reduce the problem of biased summary of the crossing level (aggregation bias) error in calculating the standard error and reduce the variability of the regression coefficients too. In this study, data was analyzed from two levels, namely micro and macro level which can be summarized into three steps as follows:

1) Analysis of the Null Model which is a multilevel model analysis unqualified (Fully Unconditional Model) and is a unique multilevel analysis of model variables. This is to determine which variables are variations within the unit or units sufficient to analyze and identify the influence of independent variables for the next step. $\beta_{0j}$ of the equation is the value that can be changed and is expected to move around between the schools. The following equation will be formed:

Level 1 Model (Within-Unit Model)

$$Y_{ij} = \beta_{0j} + r_{ij}$$

Level 2 Model (Between-Unit Model)

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

(Fixed Effect) (Random Effect)

When $Y_{ij}$ = dependent variable

$\beta_{0j}$ = the intercept of the faculty j

$\gamma_{00}$ = total mean score or average of dependent variable

$r_{ij}$ = standard deviation analysis within the unit

$u_{ij}$ = the discrepancy between the unit of analysis

2) Analysis of the Simple Model is a multilevel model analysis unconditionally (Unconditional Model), with the only variable that is teachers' teaching behaviors (micro level) data by inductive analysis in order to investigate how the variables analyzed, causing the variance between the attached schools. T-test is used to check the fixed effect while $\chi^2$ test used to check the random effect. The variability of parameters has formed the following equation:

Level 1 Model (Within-Unit Model)

$$Y_{ij} = \beta_{0j} + \beta_{1j} X_{ij} + r_{ij}$$

Level 2 Model (Between-Unit Model)

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

(Fixed Effect) (Random Effect)

When $Y_{ij}$ = Teachings' teaching efficiency variable of the school $_{ij}$, teacher i of the school j

$X_{ij}$ = Teachers' teaching behaviors, Teacher i of the school j

$\beta_{0j}$ = constant (Intercept) teacher of school variable j

$\beta_{1j}$ = the regression coefficient of X display on the Y school j

$\gamma_{00}$ = constant of $\beta_{0j}$

  

$\beta_{10}$ = constant of $\beta_{1j}$
$r_{ij}$ = the error in teachers to predict $Y_{ij}$
$u_{0j}$ = the error or residual in predicting the $\beta_{0j}$ school j
$u_{1j}$ = the error or residual in predicting the $\beta_{1j}$ school j

3) Analysis of the Hypothetical Model is a multilevel model analysis of all the independent variables and dependent variable based on the hypothesis formed involving micro and macro levels. T-test is used to test the fixed effect ((Ho: $\beta_{10} = 0$) while $\chi^2$-test to test the random effect of the parameter variance (Ho: Var ($\beta_{01}$) = 0, Ho: Var ($u_{0j}$) = 0). It is similar to the testing of Simple Model.

Level 1 Model (Within-Unit Model)

$$Y_{ij} = \beta_{0j} + \beta_{1j} X_{1j} + \ldots + r_{ij}$$

Level 2 Model (Between-Unit Model)

$$\beta_{0j} = \beta_{00} + \beta_{01} Z_{1j} + \ldots + u_{0j}$$
$$\beta_{1j} = \beta_{10} + \beta_{11} Z_{1j} + \ldots + u_{1j}$$
$$\vdots$$
$$\beta_{kj} = \beta_{k0} + \beta_{k1} Z_{1j} + \ldots + u_{kj}$$

$$R_1^2 = \frac{\text{Var } (r_{ij})(\text{Null Model}) - \text{Var } (r_{ij})(\text{Simple Model})}{\text{Var } (r_{ij}) (\text{Null Model})}$$

When Var ($r_{ij}$)(Null Model) = composition of the variability of $r_{ij}$ to analyze the Null Model

Var ($r_{ij}$)(Hypothetical Model) = the variable component of the analysis $r_{ij}$ Simple Model

## FINDINGS

### *Findings of HMLs*

Micro-level analysis was conducted in two steps. The first model (Null Model) was conducted on the dependent variables without taking into account any independent variables. As indicated in Table 1, the results of fixed effect test showed that the total mean score of the teachers' teaching efficiency was 4.387, which was statistically significant at 0.01. The test of random effect showed significant variations of difference among teachers ($r_{0j}$) and difference among schools ($u_{oj}$) at 0.01 ($\chi^2$ = 199.6). This means the total mean score of teachers' teaching efficiency ($\beta_{00}$) differed from one school to the other school, with difference in the total means of teachers' teaching efficiency from different schools. The variance in approximating the parameter was 0.01656. In other words, the micro level variables could be used to explain the teachers' teaching efficiency. Therefore researchers were able to perform to Step 2 (Simple Model).

$$\rho = \frac{\tau_{00}}{(\sigma^2 + \tau_{00})}$$

When $\tau_{00} = 0.01656\sigma^2 = 0.09462$

Calculate correlation within the school

$$\rho = \frac{0.01656}{0.09462 + 0.01656} = 0.14894$$

**Table 1. Results of null model from fixed effects and random effects**

| **Fixed effects** | **β** | **Standard Error** | **t-test** | **df** | **p-values** |
|---|---|---|---|---|---|
| INTRCPT, $\gamma_{00}$ | 4.387** | 0.020578 | 213.22 | 151 | 0.001 |
| **Random Effects** | ***SD*** | **Variance Component** | $\chi^2$ | **df** | **p-values** |
| Difference among faculties ($U_{0j}$) | 0.1287 | 0.01656 | 199.6 | 151 | 0.005 |
| Difference among students ($r_{0j}$) | 0.3076 | 0.09462 | | | |

*p<0.001

Results of simple model demonstrated the fixed effect utilizing an average slopes and intercepts between the schools. Based on Table 2, the results of fixed effect text showed that the total mean of the teaching efficiency was 4.394 ( $\gamma_{00}$= 4.394, t=582.849), as statistically significant at 0.01. All the independent variables of teachers'

  

teaching behavior found to be positive and significant at 0.001 towards the teaching efficiency. They are student centered instructional management, classroom management, media and technology use, authentic measurement and evaluation, and classroom research. The impact of teachers' student centered instructional management was found to have significant impact with regression coefficient as 0.179 ( $\gamma_{10}$=0.179, t=9.821), indicating that the ways teachers managing their instruction could improve teaching efficiency. The next independent variable of teaching behavior was classroom management, with statistical significance at 0.001 and regression coefficient of 0.088 ( $\gamma_{20}$=0.088, t=4.267), indicating improvement of teaching efficiency positively. This is followed by media and technology use ( $\gamma_{30}$=0.117, t=4.389) and authentic measurement and evaluation ( $\gamma_{40}$=0.202, t=8.505). The final independent variable of teachers' teaching behavior which was classroom research ( $\gamma_{50}$=0.200, t=9.433).

On the other hand, results of random effect showed that the variance component of teaching efficiency as 0.00315 which was statistically significant at 0.01 ( $\chi^2$ test=226.311). This finding revealed that teaching efficiency was varied between schools. Besides media and technology used of teachers' teaching behavior was statistically significant at 0.01 ( $\chi^2$ test=112.3300) with variance component as 0.008. However the other three independent variables of teachers' teaching behavior failed to have significant random effect on teaching efficiency.

**Table 2. Results of Simple Model from fixed effects and random effects**

| **Fixed effects** | **β** | **Standard Error** | **t-test** | **df** | **p-values** |
|---|---|---|---|---|---|
| INTRCPT, $\gamma_{00}$ | 4.394** | 0.00754 | 582.849 | 151 | 0.001 |
| Instruction slope, $\gamma_{10}$ | 0.179** | 0.01819 | 9.821 | 151 | 0.001 |
| Class. Mg slope, $\gamma_{20}$ | 0.088** | 0.02061 | 4.267 | 151 | 0.001 |
| Media slope, $\gamma_{30}$ | 0.117** | 0.02675 | 4.389 | 151 | 0.001 |
| Authe. Mea slope, $\gamma_{40}$ | 0.202** | 0.02372 | 8.505 | 151 | 0.001 |
| Class.Res. slope, $\gamma_{50}$ | 0.200** | 0.02124 | 9.433 | 151 | 0.001 |
| **Random Effects** | ***SD*** | **Variance Component** | **$\chi^2$ test** | **df** | **p-values** |
| Difference among schools ($U_{0j}$) | 0.056** | 0.00315 | 226.1311 | 151 | 0.000 |
| Media and technology use ($U_{3j}$) | 0.119** | 0.01420 | 112.3300 | 151 | 0.004 |

**p<0.01

The macro-level analysis based on the Hypothetical Model is demonstrated in Table 3. The results of fixed effect and random effect analysis are shown as below. At the micro level, the fixed effect analysis showed that the teaching efficiency parameter was 4.402 ($\gamma_{00}$=4.402, t=583.480) which was significant at 0.01. The fixed effect of macro-level independent variable that is transformational leadership, for example intellectual stimulation and contingency reward had significant effects on teaching efficiency. Result revealed that intellectual stimulation with regression coefficient of 0.254 ($\gamma_{30}$= 0.254, t=3.824), as statistically significant positively at 0.01 while contingency reward with regression coefficient of -0.144 ($\gamma_{50}$= -0.144, t=-2.177), as statistically significant negatively at 0.05.

The fixed effect of micro-level independent variable that is teachers′ teaching behaviors had positive and significant effects on teaching efficiency. The impact of teachers' student centered instructional management was found to be significant impact with regression coefficient as 0.167 ($\gamma_{10}$=0.167, t=8.981), classroom management, with statistical significance at 0.001 and regression coefficient of 0.085 ($\gamma_{20}$=0.085, t=3.914), media and technology use ($\gamma_{30}$=0.120, t=4.664) and authentic measurement and evaluation ($\gamma_{40}$=0.201, t=8.685). The final independent variable of teachers' teaching behavior was classroom research ($\gamma_{50}$=0.209, t=10.038).

Likewise, results of random effect showed that the variance component of teaching efficiency as 0.00302 which was statistically significant at 0.01 ($\chi^2$ test=197.1136, p=0.003) at the macro level. This finding revealed that teaching efficiency was varied between transformational leadership of school administrators. However results of random effect at micro level were media and technology used ($\chi^2$ test=104.7581) and authentic measurement and evaluation ($\chi^2$ test=92.299) of teachers' teaching behaviors and were statistically significant at 0.01 and 0.05 with variance component as 0.014 and 0.008 respectively. At the micro level teachers' teaching behavior could explain the prediction coefficient of the micro level as 87.01 percent. On the other hand, transformational leadership as the macro-level independent variable of intellectual and contingency reward could be used to explain 81.76 percent of teaching efficiency variance.

  

**Table 3. Results of hypothetical model from fixed effects and random effects**

| **Fixed effects** | **β** | **Standard Error** | **t-test** | **df** | **p-values** |
|---|---|---|---|---|---|
| INTRCPT, $\gamma_{00}$ | 4.402** | 0.007 | 583.48 | 145 | 0.001 |
| **Macro-level** | | | | | |
| Intel. Sti., slope, $\gamma_{03}$ | 0.253** | 0.066 | 3.824 | 145 | 0.001 |
| Cont.Re., $\gamma_{05}$ | -0.144* | 0.066 | -2.177 | 145 | 0.031 |
| **Micro-level** | | | | | |
| Instruction slope, $\gamma_{10}$ | 0.167** | 0.019 | 8.981 | 145 | 0.001 |
| Class.Mg slope, $\gamma_{20}$ | 0.084** | 0.022 | 3.914 | 145 | 0.001 |
| Media slope, $\gamma_{30}$ | 0.120** | 0.026 | 4.664 | 145 | 0.001 |
| Authe. Mea slope, $\gamma_{40}$ | 0.201** | 0.023 | 8.685 | 145 | 0.001 |
| Class.Res slope, $\gamma_{50}$ | 0.209** | 0.021 | 10.038 | 145 | 0.001 |
| **Random Effects** | ***SD*** | **Variance Component** | $\chi^2$ | **df** | **p-values** |
| Difference among schools ($U_{0j}$) | 0.055** | 0.003 | 197.114 | 145 | 0.003 |
| Media ($U_{3j}$) | 0.117** | 0.014 | 104.758 | 145 | 0.004 |
| Authe.Mea ($U_{4j}$) | 0.890* | 0.008 | 92.299 | 145 | 0.026 |
| Difference among teachers ($r_{0j}$) | 0.107 | 0.011 | | | |

**p<0.01, *p<0.05

## DISCUSSION AND CONCLUSION

Researchers believe that HLM is an important statistical tool for investigating the relationship between transformational leadership, teachers' teaching behavior, and their teaching efficiency. By taking into account the hierarchical nature of educational data, HLM separates variation in teaching efficiency into between-teachers and between transformational leadership of school administrator and then analyzes each component in relation to the other. Thus HLM can offer better statistical adjustments and more accurate estimations and promote better policies and practices.

The outcomes of this study show that all the teachers' teaching behaviors are effective source in improving teaching efficiency. Therefore the effects of teachers' teaching behaviors on teaching efficiency were found at micro and macro level. It is interesting to see how possible teachers' teaching behaviors potentially emerge and structure and together with transformational leadership of school administrators particularly in intellectual stimulation and contingency reward components will provide a greatest impact on teaching efficiency. Finding of this study was congruent with Bootawong's (2009) findings. Bootawong found that school administrators' management behavior had affected teachers' teaching efficiency in schools under the Office of Srisaked Secondary Educational Service Area 4, Thailand.

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# THE EFFECT OF USING REFLECTIVE AND CRITICAL THINKING TEACHING ACTIVITIES TO ACADEMIC ACHIEVEMENT OF STUDENTS IN 7TH GRADE SOCIAL STUDIES CLASS IN THE EDUCATION OF HUMAN RIGHTS, DEMOCRACY, CITIZENSHIP, RESPECT FOR DIVERSITY AND TOLERANCE EARNINGS[1]

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**ABSTRACT**
That innovations and changes made without changing people's basic ideas and believes about teaching and learning in the education system fail is a fact known by everyone. It is seen that there is a need especially for reflective and critical thinking supported activities in the educational activities in order to turn negative happenings into positive. In this study, inferences and predictions are made depending on what kind of data will be obtained after the application of reflective and critical thinking teaching activities in transferin what is taught to real life and in teaching subjets which will never be out of date in social studies education like citizenship, human rights, respect for diversity and tolerance. With the activities that conducted, it is intended for students to understand the subject better with teaching activities, except rote one and readings, by aiming to create different perspectives of students on issues. As a result of this study, the student's learning transferred issues and concepts that are mentioned in the subjects and increasing their internalization levels have also importance. According to the results of this method, a questioning based education program can be prepared in all disciplines at the scope of social studies. Thus, understanding of social studies based on critical and reflective thinking can be developed. The development of this is not enough; also projects about these works can be produced for this to be put into practice. As a result of these projects, studies on behalf of giving sufficient importance to social studies can be planned. In the study, in quantitative researches, experimental model is used at the scope of pretest, posttest and following test. The study group is created, in the selection of the participants who take place in study group certain criteria have been paid attention to. A 60 person experiment and control group which consist 30 participants in each from study group is formed. In the forming of the experiment and control group, random disproportionate element sampling method is used. Participants who have similar features in their socio-economic statutes and academic achievement have been tried to select for experiment and control group. Academic achievement test developed by the researchers is applied to experiment and control groups in the form of pre-test and post-test and t test is used by analyzing the obtained results in SPSS program. As a result, it is detected that the levels of learning of experiment and control groups are different from each other. It is seen that participant's acadeic achievements are higher in the teaching donce by with the reflcetive and critical think activities.

**Keywords:** Democracy, Tolerance, Human Rights, Social Studies, Citizenship

## 1. INTRODUCTION

Against the fluency of time, nothing is thinkable to remain stable. People have been living their lives in a state of constant changing since the first time their existence. When a glance at the pages of history is taken, societies which are unable to adopt to change or unable to regenerate themselves both in terms of technological, social and cultural aspects either are destroyed or survived under the auspices of the ruling power. As a result, changes in undertanding of the nation-government have occurred. But it is seen that in the understanding of the powerful governments dominating the world there haven't been any changes. With the obtained economical and technological power, weapons are being modernized and the understanding of 'how can I cause more casualties to the opponent in a case of war' has been

[1] Produced from a Section of Arş. Gor. Murat Tekiroğlu's Ph.D Study

  

the basic principle. Instead of using available knowledge, technology and power to develop more humane values; using them to destroy universal moral values, to create a continuous conflict, in short destroy the humanity is thought-provoking. In order to change this situation new quests should be done and the world order should be revised.

Creating islands of peace which operate everywhere in the world is necessary to make the habitable world dream true. The most important way to create it is educational activities. Like how dirty water turns into clean water in time when clerar water is added to a container of dirty water, it may be possible to establish a neew order in the world as a result of edcational activities. When this situation is considered, it may come as a fanciful thought and understanding. But if we can read, understand, interpret the events in the history, it will be understood that this understanding is not a fanciful concept and idea at all. The only way to achieve this is through education. It's not possible to bring people into desired format by using pressure and violence. In appearance, it can be assumed that this is happened. But in the slightest authority weakness, incident's real side can be seen. Making it happen can only be achieved through education. Educational avtivities also should be reshaped according to changing world conditions. Reaching to a level which can meet the age's needs should be aimed.

That innovations and changes made without changing people's basic idead and believes about teaching and learning in the aducation system fail is a fact known by everyone. It can be said that there is a need especially for reflective and critical thinking activities in order to turn negative happenings into positive. What reflective and critical thinking based educational activities can bring to individuals? Before the anwer of this question, one need to know what phrases mean.

Reflective thinking; is bearing in mind any thought or default information in an active, insisting and careful way in the lights of foundations which support it and results which may rise. Reflective practice; can be defined as action-developing oriented thinking which is doing this by focusing on our actions. (Day, 1993; Zeichner and Liston, 1996; Cited by: Bakioğlu and Dalgıç, 2014: 10)

According to İpşiroğlu (2002) critical thinking is te most advanced and forward thinking way. Because critical thinking means objective and deeply thinking without obsession. We can distinguish qualified from unqualified, right from wrong through critical thinking. Critical thinking is not a stray thinking activity, it is thinking way which gets to the core of the problem, examines the problems from various angels, tries to understand, can oppose if necessary. The thing making the critical thinking enjoyable is not just the sense of freedom that it gives us but also the excitement of catching, exploring something.

Critical thinking is reaching conclusions by basing observation and information on. (Paul,1993: 21-39) Norris (1985: 97-107) defined critical thinking as student's evaluating their thinking skills and changigng their behaviours by adapting all they know to a topic.

Even though political groups who rule the country change in Turkey the rhetori that education is very important requires continuity. All countries made, raising their citizens as individuals who love their country, have moral and cultural characteristics of the people living in their conutry, is aware of the responsibilities they have to bear as a citizen for the country's development, fulfill their civic duty, know their rights and not hesitating to seek, can think and express freely their thoughts, their main aim. (Kurnaz, 2013: 3) In order to achieve this aim, individuals must be raised who review situations, events,informations, questions, analyzes them by not accepting passively other people's thoughts and opinions, who make comments with new perspective, can think divergently. Making students realize what they've learned and making them make analysis about what they've learned and haven't at the end of the clas so they can look to situation from outside with lenses, are necessary. Student should be able to ask himself the followings:

- The things that I will learn in this lesson, in terms of which ways are important for me?
- Have I really learned the subject?
- What are the factors that make my learning process harder or easier?
- Will I be able to apply the things I've learned about this topic to life?
- What could be the factors that will provide convenience to me or hamper me in applying the things I've learned to life?

With no doubt, there will be changes in individual's outlook on life who asks these questions to himself and seeks answers.

  

Student's asking the mentioned questions above in the teaching of civic education, democracy,tolerance,respect for diversity and other values,can reinforce what is learned in a questioning understanding. An assessment within the frame of questioning, critizing, vents reflecting thinking, have an effect on the academic achievements of students. It mut aldo be emphasized that academic achievement is not the only aim. What is important, to what extent what students learned effective on them and learned elements and values shoukd include the application process in their lives.

## 1.1 Problem Situation

It has been stated above that social studies includes the fundamental issues like citizenship,democracy and humn rights which in particular play an important role in shaping society. When we look to the society it is clearly seen that difficulties are experienced in the teaching of these subjects.

Unfortunately, when we look at the transfering of subjects and values like citizenship, democracy,human rights, repect for diversity it is clearly seen that those are given to students just as concepts and thus when we look at the society and examine the mass media reports it is also seen that students are having a hard time transfering these values to life. To eliminate this negative situation, to continue to social studies ducation in accordance with it's true aim and purpose, critical and reflective thinking supported teaching activities have been planned. With the activities, by aiming to create different perspectives of students on the issues the use of different teaching activities, except the rote one and readings, can be encouraged. At the end of this study, student's learning better the transferred subjects and concepts in these topics and increasing their internalization levels have also importance. And for this, it is thought that reflective and critical thinking supported teachin ativities must take more place in textbooks, especially in social studies education and in the teaching of citizenship, human rights,democracy subjects.

Within the frame of this; 'In 7th grade social studies class in the teaching of human rights, democracy, citizenship, respect for diversity and tolerance concepts does using reflective and critical thinking suppoted activities provide an important contribution to the academic successes of students?' this question constitutes the basic problem of the research.

Sub-problems of the study;

- Is there a significant difference between the pretest scores of experiment and control groups?
- Is there a significant difference between the control group's pretest and posttest scores?
- Is there a significant difference between the experiment group's pretest and posttest scores?
- Is there a significant difference between the posttest scores of experiment and control groups?

## 1.2 The Purpose of The Study

The purpose of creating a experiment and control group in accordance with the problem is to see to what extent and how an impact reflective and critical thinking supported teaching activities did on teaching of citizenship, democracy, human rights and tolerance subjects in the social studies class and to see will there be a significant difference in the result of academic achievement test which will be made at the end of the teaching.

Te purpose of this study is determining the academic achievemts of student's after the use of reflective and critical thinking supported teaching activities in the teaching of citizenship, democracy,human rights, respect for diversity and tolerance subjects in the socail srudies class and revealing whether there is a significant difference between experiment and control groups.

## 1.3 Importance of The Study

It can be said that national education's general purposes and basic principles include human rights and democracy education. In accordance with a aim like that, raising individuals who achieved democracy and human rights awareness who has a sense of citizenship, great responsibilities fall on every institution and organization. Raising a generation which assimilate the values specified in the content rathen than the teaching of citizenship, human rights and democracy subjects which consist of the social studies class content, can applicate these values to all aspects of life, have great importance for the future of the country. Indıviduals has to be brought up who have citizenship sense, have adopted basic universal human values, can show democratical attitude and behaviour in every area, are tolerant,have assimilated that diversity is not a discrimination factor but a cultural wealth. And for this, it is predicted that using reflective and critical thinking supported activities may be beneficial to raise

  

individuals who critize, ask, question, analyze by using different teaching activities, evaluate events with different perspectives,are away from prejudices,can disgress from common ideas,can see the background of the events, are foresighted.

Human beings living in a trouble-free world in peace, tranquility and brotherhood is possible with living their lives within the frame of rights and law, accepting and adopting the universal values and internalizing these. In order to perform this internalizing in overhauling the educational curriculas which exist now and planned to exist in future, reflective and critical thinking supported activities have to take place. With this study, the effectiveness and inaffectiveness of these activities in teaching have been tested. It is seen that in accordance with the obtained results, reflective and critical thinking plays an important role in raising more sensitive citizens. For a habitable world rather than a certain country's citizenship global citizenship phenomenon must be taught to citizens. And at the beginning of this teaching transition process from passive to active citizenship takes place. Raising a citizen, who can call to account in the face of experienced adversities, knows and protects his rights in the best way, has the ability and characteristic which can solve the social conflicts and troubles in peaceful ways, is essential. Thinking critical, questioning, being able to do empathy and interpreting the events with reflective thought are exact elements and values that needed. Introducing these elements and values to society in some way and making them adopted by the society are necesary. So the best way to accomplish this is educational activities and applications. In this respect, critical and reflective thinking supported teaching activities should be given more olace in the teaching of citizenship, democracy, human rights, respect for diversity and tolerance subjects and concepts

## 2. METHOD

In thi section, the pattern of the study, study group, study's sampling, data collection tools, data collection process and analysis methods have been focused on.

### 2.1 The Pattern of The Study

Research patterns are ways to data collection, making analysis, interpretation and reporting in scientific researches. Within these patterns, the one which is created to make research and has different names and procedures; 'Among The Real Test Models The One With The Pre-test – Post-test Control Group Model' is used. The biggest difference of the real test models from pre-test and semi-test models, is the use of more than one group in the research and selection elements at random choice. (Kaptan, 1991; Karasar, 2002; Schumacher and McMillan, 1993; Cited by: Baştürk; 2012: 38) 'Pretest-Posttest Gropu Model' consist of two groups. These are experiment and control groups. Both in experiment and control group's element selection random method has been used. At the first stage of this model, elements tahat take place in experiment and control groups are generated randomly to be equal to each other. Then, each group is subjected to pre-test process and before the application their initial conditions are determined. In the next step, while the concernin apllication is being performed on experiment group, any application is not performed on control group. All variables for the experiment and control group are kept same and only application difference between the two groups is created. And as the final stage, last test is made to obtain measurements of the dependent variablefrom both groups (Baştürk, 2012: 39-40).

### 2.2 Universe/Study Group and Sampling

In this research, study groups are formed. While creating the study group, determined criteria has been paid attention to. First, to create the experiment and control group, Izmir Karabaglar Eserkent Middle School has been selected. There are main factors that are effective in the selection of this school. When this school's student profile is analyzed, the cosmopolitan structure of it in social, cultural and economical ways has constituted an important criterion in the selection. When school's student's homeland distributions are examined, it is detected that there are students from all around the Turkey. Selecting the most crowded middle school in Izmir's most crowded district, Karabaglar, ensured different profiles of students who take place in the study. When school's academic success is evaluated, it is seen as a result of statistical data that in TEOG exam, it is above the Turkey average. In addition, researcher's performing an official duty in this school before have been beneficial to the evaluaion of elements which will improve the study's quality. Because of these reasons, Eserkent Middle School which is in Izmir, Karabaglar district has been selected as the target population of the study. Experiment and control group is created with 7th grade students who are educated in this school. In the selection of total 60 participants who consist of the experiment and control group ''nonrandom purposeful sampling'' method is used. Purposeful sampling is a sampling approach which has no posibility and is non-random. Purposeful sampling allows for in-depth research and selecting rich

  

conditions in terms of information depending on the pupoe of the study. (Büyüköztürk and others, 2013: 90) In the selection of participants who consist of the study group, criteria that is determined before has been paid attention to. In this crtiteris, first of all, 6th grade student's social studies class point verages have been taken into account. The pupils who have best degrees have been identified. With taking opinions of the teachers who attend the social studies class, participant number has been reduced to 60 among these students. These 60 participants have been reduced to 30 participants for each as experiment and control groups. 30 participants experiment; 30 participants control group determined by using ''Disproportionate Element Sampling''. This sampling is called simple, neutral, random sampling. It's English is random sampling (Karasar, 2013).

## 2.3 Data Collection Tools

At the scope of the study, while an academic achievement test which is appropiate for the problems and sub-problems of the research is being conducted, for each earning which is for 15 earning, 4 and 60 questions test is prepared. Prepared test questions are divided into two and applied to 600 students and by combining answers with the questions answers are analyzed in Iteman program. As a result of the obtained data, questions which their validity and reliability are detected and which will determine the levels of student's academic achievement, have been prepared. Questions created according to the indicator Table have been applied to 600 students, as a result of obtained data, considering item power index and item distinctiveness levels especially items, whose index value of item distinctiveness level is above .30, have been selected. If the item power index's value is (p), especially medium-power items who are .40-.60 are included. Dring this assessment the distribution of the arnings has been noted and it has been ensured that two questions from each earning will take place in the test. By this way, the reliability degree of prepared academic achievement test has been tried to increase.

When test items are reduced from 60 to 30, it is seen that KR-21 value which shows the test's reliability level increases. (from 7316 to 7637) It is seen that whereas the standar deviation is declining, the average value of the difficulty of the test is almost the same rate.

## 2.4 Data Collection Process

Within the frame of critical and reflective thought supported teaching activities and lesson plans prepared at the scope of the study, before and after the transmission of earnings. An exam which is developed by the researcher has been applied to experiment and control groups to determine their academic achievement levels and developments after the application. Inferences are made by comparing application results. To the participants in the experiment group, critical and reflective thought supported teaching activities about the earnings have been applied. The methods and techniques used in these activities: negotiated learning, brainstorming, concept stalling tactic, concept mapping, self-questioning, self-evaluation, learning logs, question-answer, question and debate can be given as examples.

***Table 1.*** *Academic Achievement Test Application Timeline*

| ***Creation of Group*** | ***Groups*** | ***Pre-test*** | ***Application*** | ***Post-test*** |
|---|---|---|---|---|
| *Random* | *Deney Grubu* | $O_{1,1}$ | *X* | $O_{1,2}$ |
| *Random* | *Kontrol Grubu* | $O_{1,2}$ | | $O_{2,2}$ |
| ***Time*** | ***September*** | ***October*** | ***November-December*** | ***January*** |

## 2.5 Analysis Of Data

Inferential statistics are used in the collection of quantitative data. Inferential statistics are infering statitics. Statistically infering includes methods for the estimation of the properties of the universe using the information in the sample. While making analysis first of all, normality test is applied. According to normality test results, it is decided which ones will be used among parametric or nonparametric tests. When analyzing quantitative data of the research parametric test are preferred. This is the main cause of the normal distribution of the obtained data and limited number of participants.

Academic achievement test developed by the researchers, are applied to experiment and control groups as a pre-tet and post-test and obtained results are analyzed in SPSS program, t test is applied. And in advance, Kolmogorov Smirnov test is applied to determine whether the data are normally distributed.

  

## 3. RESULTS AND COMMENTS

In this section, results of research problems are given in tables and their interpretations are made. SPSS 23 software is used in the tabulation and analyzing of obtained data.

One sample Kolmogorov Smirnov test is applied to decide which statistical technique will be used in order to make comparison of the participants in the experiment and control group pre-test academic achievement scores. As a result of the obtained analysis it is determined that participant's in the experiment and control group pre-test achievement scores show normal distribution. Therefore, Independent T test, a parametric technique is used to answer the research question. The test results are given in Table 2.

***Table 2.*** *T Test Analysis of The Experiment and Control Group Pre-test Scores*

| ***Variable*** | ***n*** | $\overline{x}$ | ***SS*** | ***t*** | ***p*** |
|---|---|---|---|---|---|
| *Control Group Pre-test Results* | *30* | *16.50* | *2.38* | *.251* | *.802* |
| *Experiment Group Pre-test Results* | *30* | *16.33* | *2.73* | | |

In consequence of Independent Samples T test's analysis statistically significant difference between the results of experiment and control group pre-test in .05 significance level isn't found ($p>.05$). In other words, a judgment, that there isn't a difference between the achievement tests that applied to experiment and control group and both groups have close levels, is made. It is seen that before the application, knowledge levels of experiment and control group was close. And this reflects a favorable situation on behalf of the study's validity and reliability.

Experiment group pre-test and post-test results are given in Table 3.

***Table 3.*** *Experiment Group Pre-test and Post-test Scores T Test Analysises*

| ***Değişken*** | ***n*** | $\overline{x}$ | ***SS*** | ***t*** | ***p*** |
|---|---|---|---|---|---|
| *Experiment Group Pre-test Results* | *30* | *16.50* | *2.38* | *12.83* | *.00* |
| *Experiment Group Post-test Results* | *30* | *25.17* | *2.45* | | |

In consequence of Paired Samples T-Test analysis between pre-test and post-test score points which applied to experiment group statictically a significant difference in .05 significance level is determined ($p<0.05$). Is this difference in favor of pre-test results? When we look at the average value of the pre-test and post-test results to determine whether the post-test results are in favor of it, it is observed that pre-test results are less than post-test results. The correlation between pre-test and post-test scores of the the participants is .168. As a result, it is seen that in the 7th grade social studies class, in the human rights,democracy,citizenship,respect for diversity and tolerance earnings education using of reflective and critical thought supported teaching activities makes a significant impact on academic achievement.

Experiment group pre-test and post-test results are given in Table 4.

***Table 4.*** *Control Group Pre-test and Post-test Scores T Test Analysises*

| ***Değişken*** | ***n*** | $\overline{x}$ | ***SS*** | ***t*** | ***p*** |
|---|---|---|---|---|---|
| *Control Group Pre-test Results* | *30* | *16.33* | *2.73* | *5.98* | *.00* |
| *Control Group Post-test Results* | *30* | *19.90* | *1.88* | | |

In consequence of Paired Samples T-Test analysis between pre-test and post-test score points which applied to experiment group statictically a significant difference in 0.05 significance level is determined. Is this difference in favor of pre-test results? When we look at the average value of the pre-test and post-test results to determine whether the post-test results are in favor of it, it is observed that pre-test results are less than post-test results. The correlation between pre-test and post-test scores of the the participants is .034. As a result, it is seen that in the 7th grade social studies class, in the human rights,democracy,citizenship,respect for diversity and tolerance earnings education using of classic teaching activities which take place in textbooks makes a positive impact on academic achievement. But when differences between experiment group pre-test, experiment gorup post-test and control group pre-test control group post-test are evaluated according to influence degree, it is seen that in experiment group (8.67) and in control group (3.57). In other words, it is seen that teaching activities which applied to experiment group increase academic achievement levels more comparing to activities applied to control group.

  

Experiment and control group post-test results are given in Table 5.

***Table 5.*** *Experiment and Control Group Post-test Scores T Test Analysises*

| *Variable* | *n* | $\overline{x}$ | *SS* | *t* | *p* |
|---|---|---|---|---|---|
| *Control Group Post-test Results* | *30* | *19,90* | *1,88* | *9.33* | *.00* |
| *Experiment Group Post-test Results* | *30* | *25,17* | *2,45* | | |

According to data obtained from Table 5, in consequence of Independent Samples T Test analysis between experiment and control group post-test results in 0.05 significance level statistically significant difference is found. In other words, a judgment that, there is a significant difference between the achievement test results which applied to experiment and control group and each group has different point level, is made. After the application, it is detected that knowledge levels of experiment and control groups are different. It is observed that student achievements are higher in the education with critical and refletive thought supported teaching activities.

## 4. DEBATE

As a result of the researches, it is observed that there are mny studies on citizenship, democracy and human rights education. Besides, it is seen that there are studies intended for critical thinking and reflective thinking especially in the field of education sciences. However, a study on the implementation of critical and reflective thought supported teaching activity model in the transmission of citizenship, democracy, human rights, respect for diversity, tolerance, etc. Subjects and values are not found. Domestic and foreign studies that show similar characteristics to this subject are as follows:

Reed Paul (1998) investigated the effect of critical thinking model to critical thinking skills, tendencies and historical content knowledge of college students. The research was conducted in experimental model. For the collection of research data Enis Weir thinking skill compoition test, California critical thinking rendency scale, analysis and interpretation of studies conducted by students, history thematic exam results were used. In conclusion, a significant difference in the post-tests in favor of experiment group was seen. Also in this study, it was seen that there is significant difference in favor of experiment group.

Kurnaz's (2007) study subject was the effect of skill and content based critical thinking teaching in fifth grade social studies class to critical thinking skils, access and attitudes of students. The research was made on the basis of experimental method's model with pre-test-post-test control group. In the research, quantitative and qualitative approached were used together. As a result of the research, significant differences were found between critical thinking skills of students in the groups where critical thinking skills baed teachin activities were applied and critical thinking skills of students in the groups where teacher book based tecahing activities were applied.

## 5. CONCLUSIONS AND RECOMMENDATIONS

It is seen that instead of using classic teaching methods in the transfering of citizenship, human rights,tolerance,respect for diversity, subjects and earnings that include them to audience studentsusing teaching methods in which theory and application are together and which are appropiate for this age affect academic achievements of students in a positive way.

As a result of the application of reflective and critical thinking supported teaching activities an increase in the interest and willingness of students in the experiment group to learn the subjects have been observed. The obtained results of the academic achievement test confirm this prediction. It has been seen that academic achievement point averages of students in the experiment group are 5.20 higer than the point averages of students in the control group.

It is seen that there is a difference in favor of post-test between pre-test and post-test academic achievement points of students in the control group where calassic methods and textbook activities are used. But this difference is less than the point difference obtained by control group students. The use of reflective and critical thought supported teaching activities affect education more in a positive way. As a result of the observations, it is detected that variations occured in the perspectives of students for earnings and social studies class during the applications. It is observed that especially experiment group students are so willing and are learning the subjects and earnings with joy during the applications. Obtained academic achievement can be regarded as an indicator of this. And it is

  

observed by the researcher that there wasn't much mobility during the applications in the control group.

In the wake of analysis and evaluation of the obtained data, following suggestions can be made:

- While earnings are being transferred to students, teaching activities which must be definitely in attracting style should be planned. This may be considered not only for social studies but for all courses. Subjects that attract interest are learned by students and lessons learned are implemented to life more quickly.
- To croscheck whether reflective and critical thought supported activities become successful or not, by preparing teaching activities in wider and different disciplines, by performing applications on students, in case results are positive in the curriculums that will be created new; leaving more place to critical and reflective thought supported activities can be planned.
- By producing critical and reflective thought supported projects, individual's taking role and education in these projects in many part of the society, can be planned. In particular, these activities can be utilized to create active citizenship sense in society.

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# THE EFFECTIVENESS OF USING EDUCATIONAL TOOLS TO ENHANCE UNDERGRADUATE STUDENTS' LEARNING EXPERIENCE TO COST ACCOUNTING PRINCIPLES: AN APPLIED STUDY

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**ABSTRACT**
Numerous studies show that adult learners learn best by doing. Other studies show that non-traditional learning aids have been beneficial to the learning process. This study tests the use of a creative educational tool, which helps students understand the basic concepts of cost accounting. It is based on using a house design on a sheet of paper as well as tape, scissors and glue to complete the task. Students receive cost templates to record their estimated direct material, labour, and indirect/overhead cost. This template also allows the students to compare the estimated cost to the actual cost for variance analysis. Students would work in groups, where two students would be imitating the role of workers, another student would be a timekeeper, another student would be a warehouse controller, and another as a foreman. The students are tested in basic accounting concepts before using the educational tool, they are allowed to use the educational tool, and they are tested once more (with a similar difficulty but different quiz) after using it. Paired t-test is used to test the significant difference between the students' scores on the two test as an indication to the effectiveness of the educational tool on the students' understanding. The results revealed that there is a significant difference in the students' results after using the educational tool.

## INTRODUCTION

The basic cost concepts and terminology are usually challenging for students to understand. Teaching introductory managerial accounting courses are specifically challenging in that students do not share a common understanding or experiences. One way to overcome the students' lack of experience is to use a class activity that can provide a common framework that the instructor can reference to teach new concepts and thus build students' knowledge. (King & McConnell, 2010). Lippincott & Pergola (Lippincott & Pergola, 2009) further believe that meeting the educational needs of the current generation of students, referred to as Gen Y students, is a pedagogical challenge. Research suggests (Fouché & Visser, 2009) that Gen Y students learn most effectively in environments where they are actively engaged and in control of their learning. It has become essential for instructors to know the best method for instructing Generation Y and providing the opportunity for cognitive retention in the area of accounting (Hicks, 2007). There are other researchers (Fouché & Visser, 2009) who find that the continuous improvement and reducing educators' resisting calls for change in accounting education and developing the teaching methodology can make a difference. Educators resistance to change has been emphasized by Boyd (Boyd, Boyd, & Boyd, 2000) when they mentioned that "it is difficult, consumes our valuable time, and is often in opposition to what they have known or believed".

There are other scholars (Sugar S; Takacs, 1999) (Doyle, 2001) (Rotter, 2004) (Ruben, 1999) (Elizabeth, 2005) who support studies which show that adult learner learns best by doing. Another researcher (Thatcher, 1990) argues that the use of games can significantly contribute to the "acquisition and practice of new methodologies, new skills, new attitudes, and new values necessary to live in a world of change." Games create an interactive learning experience by creating learning episodes in which the learners are active participants, and can reinforce critical information while avoiding rote practice. Another study (Robinson, 2006) showed that games can also motivate many students even those who do not normally study for class to study for games. Also, (Robinson, 2007) concluded that students find it difficult to pay attention when playing the role of the passive receiver in communication but willingly engage in active learning, especially when it involves a social environment. Learning games, especially well designed ones, can help provide appropriate activities that fulfill the goals of the instructor as well as the needs and desires of students. Albrecht supports this in a study (Albrecht, 1995) when he indicates that simulation games will increase students' awareness of the ultimate use for the information that they prepare. Supporting this is another study (Lippincott & Pergola, 2009) finds that the use of non-traditional teaching aids has been shown to be beneficial to the learning process and is becoming more common. The use of games and simulations to teach managerial accounting concepts engages students in the process, helps them

  

relate the concepts to real-world situations, and enhances their ability to retain the knowledge without memorization. The Bedford Committee (1986) and the Accounting Education Change Commission (1990) have strongly supported, along with practicing accountants, the use of innovative teaching techniques. Innovations involve active student participation and focus on the development of critical thinking, communication, and technology skills. (Elizabeth, 2005). However, a study by Hicks (Hicks, 2007) revealed that there is not a statistically significant difference in accounting students' cognitive retention as a result of instructional intervention in the form of games.
This research will be testing the use of an educational tool to stand on its effectiveness in facilitating the understanding of cost accounting basic concepts such as direct and indirect material and labor, overheads allocations, and variance analysis.

**LITERATURE REVIEW**
As mentioned in the introduction that there are numerous studies that investigated the use of non-traditional methods of teaching accounting and cost concepts. Smalt (Smalt, 2000) found that using an accounting game is effective in improving student performance measured by examination scores. Buckhaults & Fisher (Buckhaults & Fisher, 2011) believe that by changing the presentation of accounting, incorporating new ways of teaching, increasing marketing for accounting education, and discovering or identifying different methods of learning, accounting anxiety may be decreased.

Lippincott & Pergola (Lippincott & Pergola, 2009) believes that the use of games and simulations to teach managerial accounting concepts engages students in the process, helps them relate the concepts to real-world situations, and enhances their ability to retain the knowledge without memorization. Student feedback indicates that students felt the simulation enhanced their understanding of job costing and accounting for job costing and was much better than reading the textbook, hearing a lecture, or preparing homework answers. Students also reported that visualizing the process enhanced their learning and kept them from just memorizing the steps. (Lippincott & Pergola, 2009)

There are two types of academic games: simulation games and non-simulation games. (Cruickshank & Telfer, 2001). Non-simulation games are those in which a player solves problems in a subject. According to Moncada, (Moncada & Moncada, 2014) there are more than 20 researchers who examined gamification in accounting education. Games included "Monopoly", "Jeopardy", "Bingo", Puzzles, and others. However, the researchers find that these are competition based games while the educational tool presented in this paper is a simulation game to a real manufacturing environment.
Simulation games are those in which participants are provided with a simulated environment in which to play. These games are intended to provide students with insight into the process or event from the real world which is being simulated (Cruickshank & Telfer, 2001).

This research is based on a simulation of a factory setting without having competition among participants. There are advantages and disadvantages of using educational games as pointed out by (Cruickshank & Telfer, 2001) as follows:
Advantages and disadvantages of simulation games.

- They guarantee participants an experience that is like experiences they would have in the real world.
- They afford opportunities for participants to solve difficult problems themselves rather than to observe the way someone else solves them.
- They provide potentially greater transfer from the training situation to a real life situation.
- They provide a responsive environment. There is always immediate knowledge of how the participant is doing.
- They are psychologically engaging. Participants must make decisions and live with the consequences.
- They are safe.
- They are enjoyable.

Disadvantages:

- Instructors are relatively unfamiliar with simulations and games and consequently hesitant to use them.
- They sometimes require a large amount of time.
- They sometimes focus on experience, which is more supplementary than basic.
- They are less available than traditional teaching and learning materials.
- They can be expensive.
- Like other instructional alternatives, not all participants will like them.
- They often limit the number of people who can play. Thus, some students are left out.

  

In this research, there is no intention to hold a competition among students, rather provide a simulation to an industrial setup. To overcome the drawbacks of simulations, the researchers have designed the game in a way to be simple, takes only a 50 minutes of class time (including time for the quiz) and is to be provided with very inexpensive material and allowing all students to participate in groups. The researchers believe that following such methodology will minimize the drawbacks of using a simulation game.
On the other hand, there are different instructional techniques as classified by (Hicks, 2007) as follows:
Auditory: The first learning style is that of auditory, typically accomplished through various techniques, but primarily lecturing. The lecture is one of the most common methods of instruction utilized in the classroom and may benefit those with the auditory modality. Instructors with classes that contain a large number of students may find this is the easiest method for them to present the material, however, depending on the student this method may not always be effective due to the learning styles of those within the class. Consequently, if only lectures are given, Generation Y students may not be fully engaged in the lecture, thus causing a lost opportunity for learning. (Prensky, 2001)
Visual: Visual learning is concerned with creating systems that learn to analyze and interpret images, both static images, and images that change over time. (Bischof, 2004). As a result, those who are visual learners must take information that is seen and process it into useful information. Visual techniques such as PowerPoint presentations may be able to assist students as visual pictures of the slides may provide an opportunity for better recall (Hicks, 2007)
Kinesthetic: Those with the need to learn by doing are often considered kinesthetic learners. As a result, practice sets, group and individual activities, as well as games and simulations may work best for this group of learners. The idea behind active learning is to engage the students in the material being presented and by doing so create a learning experience that may be more memorable, bring about a deeper understanding and have a more lasting benefit to students.

In this research, the researchers will be using the different learning styles throughout their research to find out the mix of learning styles that facilitate the understanding and retaining the information for the majority of learners.

## DESIGNING THE EDUCATIONAL TOOL

The educational tool is designed in a way to make it easy for the faculty to use and complete in a one 50 minute class. It is based on using a house design on an 11 by 8 inch sheet of paper, tape, scissors and glue to complete the task (the pieces of tape requested by the student and the design of the house represent direct material). Students receive one 11 by 17 inch sheet of paper that allows them to record their estimated direct material, direct labour and indirect/overhead cost. The later sheet allows them to compare the estimated cost to the actual cost for variance analysis as well. (Appendix A shows a sample of the house layout which represents the project for the students. The template the students used to estimate the project costs and record actual cost plus variances is also included.) Students would work in groups, where two students would be imitating the role of workers (who are going to build the model using the material provided) another student would be a timekeeper (where each minute is calculated at a certain dollar payroll amount), another student would be a warehouse controller, and another as a foreman. Before the end of the class, additional information on overheads rates (like utilities, security …etc.) is provided to students. After they build the house model, students are asked to calculate the cost of the model built and to differentiate between the different cost concepts. At another class, the students would utilize the information gathered in the previous class to conduct variance analysis, standard costing and relevant costs and decision-making.

## DEVELOPING OF HYPOTHESIS

The main goal of this research is to test the effectiveness of using the educational tool in enhancing the students' understanding of information related to the basic cost concepts. The researchers are aiming to test the most efficient pedagogy to use the tool, in the long run, to build on this paper in the future. In this paper, after the basic cost concepts are introduced, students are to take a quiz before using the educational tool, then; the students use the educational tool. Students are always reminded by their experience of using the educational tool throughout the following ten weeks and subsequently will take the post quiz. Accordingly, the research hypothesis will be testing the effectiveness of using the tool through measuring the difference of the students' marks in both the pre and post basic cost accounting quiz assuming that they reflect the students' understanding. Accordingly, the following hypothesis is formulated:

$H1_0$: The mean of students' basic cost accounting quiz marks is not significantly different before and after using the educational tool.

  

To test this hypothesis, students are going to be taking a quiz, then; they are going to be using the educational tool. After they complete their task using the educational tool, they are going to take another quiz, which is different, but of the same difficulty level as the first quiz. $H1_0$ will be tested by comparing the results of the students' pre and post quiz using paired sample t-test. It is to be noted that students took the pre-quiz and experienced the educational tool at the beginning of the semester, and then they had the post-quiz towards the end of the semester.

$H1_a$: The mean of students' basic cost accounting quiz marks is significantly different before and after using the educational tool.
The following figure 1 shows the timing of taking the pre-quiz, using the educational tool and post quiz in the two semesters.

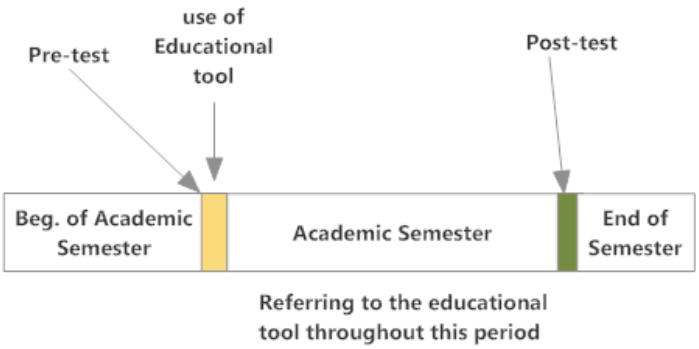


Figure 1: Timing of the quizzes and usage of the educational tool

**DESCRIPTIVE STATISTICS**
There were 60 students who took the pre quiz. From this group of 60 students, 50 students were available to take the post quiz. Each student was identified by an identification number. A number of 7 students forgot their identification number, so their results were excluded. Accordingly, the test was applied to 43 students taught by the same instructor. The results of the pre-test and post-test are summarized as follows:

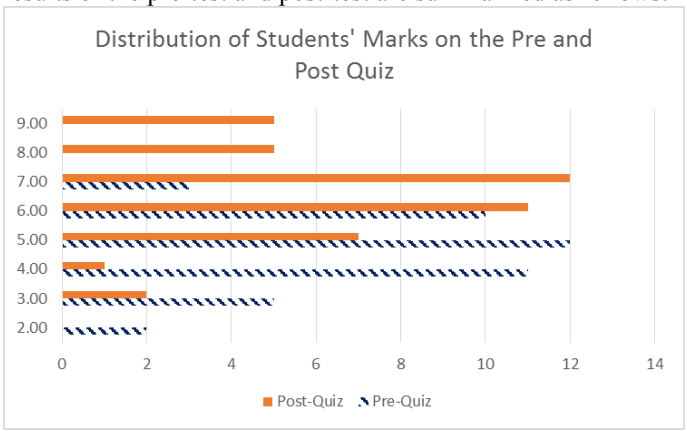


Figure 2: Distribution of students' marks on the pre and post quiz

From the previous figure 2, it is clear that in the pre-quiz, some students' grades started at 2 out of 10, and no students scored above 7 out of 10. In the post quiz, students' results ranged from 3 out of 10 to 9 out of 10. The following Table 1 summarizes the statistical results of the data.

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Pre-test Winter | 43 | 2.00 | 7.00 | 4.7442 | 1.27416 |
| Post-test Winter | 43 | 3.00 | 9.00 | 6.5116 | 1.50194 |
| Valid N (listwise) | 43 | | | | |

Table 1:Descriptive Statistics

  

**HYPOTHESIS TESTING**

To test the hypothesis, a paired sample t-test is used to compare the pre-quiz and post-quiz results for the students who used the educational tool. The following table shows the results of using paired t-test to test the $H1_0$.

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference Lower | Upper | | | |
| Pair 1 | Pre -Quiz- Post-Quiz | -1.76744 | 1.81051 | .27610 | -2.32464 | -1.21025 | -6.401 | 42 | .000 |

Table 2: Testing of hypothesis by using a Paired Sample t-Test

From the previous table 2 and by testing the results of a paired sample t-test, it is found that (M= -1.76744, SD = 1.81051) conditions; t= -6.401, p=0.000. Accordingly, $H1_0$ is rejected and the alternative hypothesis $H1_a$ is accepted which states that the mean of students' basic cost accounting quiz marks before and after using the educational tool is significantly different. The students performed better after using the educational tool.

**CONCLUSIONS AND DISCUSSIONS**

Based on the previous research and testing of hypothesis it is evident that using an educational tool to introduce the cost concepts to students and providing them with hands-on experience had a significant effect on their cost accounting quiz marks which is assumed that it reflects their understanding to the cost basic concepts. Accordingly, it could be concluded that using such an educational tool accompanied by the pedagogy of teaching described in this research has a positive effect on students' understanding. It is the intention of the researchers to continue testing the hypothesis with additional number of students while using different pedagogical approaches, where the same educational tool is going to be tested as follows:

- At the beginning of the semester where students will take the pre-quiz after the basic concepts are covered in class, then they are going to use the educational tool, then they take the post quiz.
- The same as the previous approach, however, the students will take the post quiz towards the end of the semester without referring to the educational tool throughout the semester.
- The same as the previous approach, however, the instructor will be referring to the educational tool throughout the semester until the post-quiz is taken (this approach is used in this research)
- The pre-quiz is taken towards the end of the semester, then the educational tool will be used, then the post quiz is taken.

Several hypothesis will be tested after conducting such experiments to re-test the effect of the educational tool and the effect of the different pedagogical approaches to students understanding.

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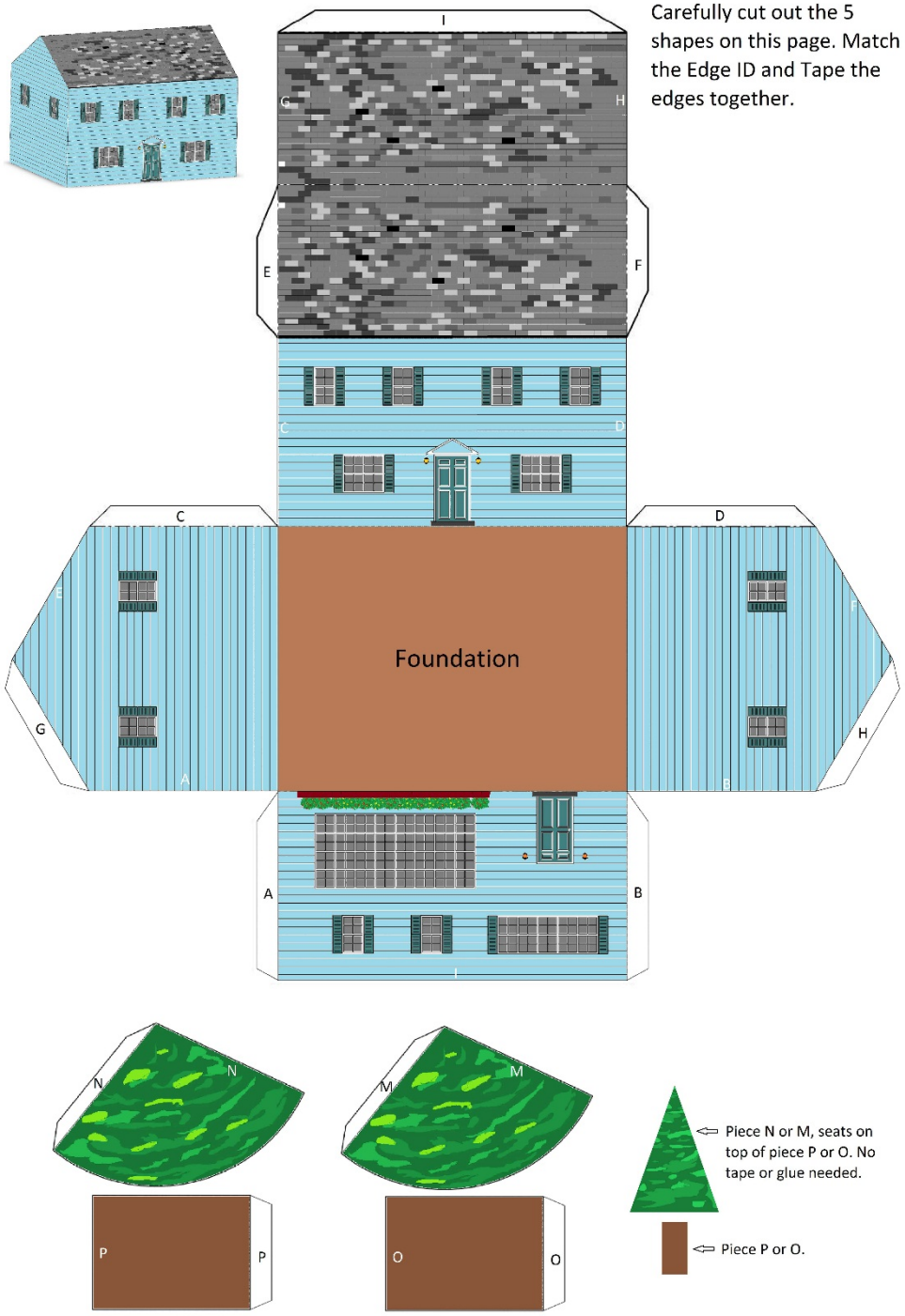
APPENDIX A

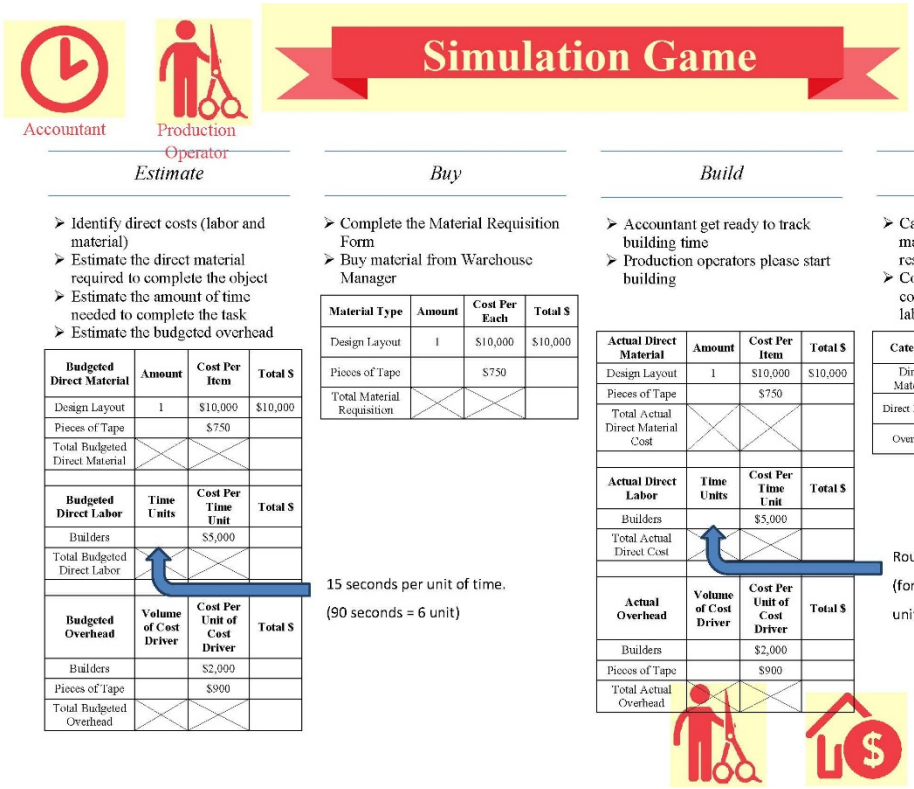
  




Sponsored by a Chartered Professional Accountant Education Foundation of Alberta (CPAEF) grant.

APPENDIX A - CONTINUED



# THE EFFECTS OF EDUCATIONAL COACHING ON STUDENTS' ACADEMIC MOTIVATION, ERROR-ORIENTED MOTIVATION AND EDUCATIONAL STRESS

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**ABSTRACT**
In this study it was empirically investigated the effects of the educational coaching on students' academic motivation, error-oriented coaching and educational stress. The study was conducted on 60 students who had graduated from high school and preparing to university entrance exam. Data were collected from two samples; 30 students (in experimental group) who received educational coaching for a period of five months and 30 students (in control group) who only given seminars on academic motivation, error-oriented motivation, and educational stress. Results from 30 experimental-control group dyads were analysed. The results indicate that the educational coaching is effective on students' academic motivation, error-oriented motivation and educational stress. Findings show a statically significant difference between the academic motivation scores of experimental and control groups on behalf of experimental group. Additionally a statically significant different is also seen between the educational stress scores of experimental and control groups on behalf of control group. Consequently it can be said that the educational coaching sessions increase the students' academic motivation and decrease educational stress.
Keywords: Educational coaching, academic motivation, educational stress

**INTRODUCTION**

Academic motivation is defined as a process for a student starting and maintaining of the action to achieve academic aims (Pintrich & Schunk, 2002, p.5). Practically, motivation is also known as academic engagement and identified as the most influential factor affecting students' performance (Barron & Harackiewicz, 2001). Academic motivation has been shown to positively influence study strategy, academic performance, adjustment and well-being in students in domains of education (Vansteenkiste, Zhou, Lens & Soenens, 2005). Students need to develop motivational thought patterns that contribute to self-regulated learning (Ames, 1990). It is suggested that motivation is the only factor directly impacts academic achievement and all other factors affect achievement through their effect on motivation (Stipek, 2002, p.12). Motivational problems are very widely seen in education processes. Many teachers mention that the students are often not motivated and consequently it is not possible to reach particular aims in education (Ünal-Karagüven, 2012).

The perception of an error as something to be avoided is likely to be rooted in strong, negative affective reactions, as well as the ramifications of that error for self-perceptions and self-evaluations (Schell, 2012). The learning from errors should lead the actor to engage the error assertively, learn what can be learned from it, and move forward beyond it, all while accepting the responsibility for the error's production. Therefore, the error should be perceived as an opportunity for improvement of both one's knowledge about the aspects of the academic education and also the skills necessary to engage successfully it (Keith & Frese, 2005).

Academic learning is one of the most important stress sources among young students worldwide and appears to be quite severe in many countries (Brown, Teufel, Birch & Kancherla, 2006; Tang & Westwood, 2007). Academic stress is a significant contributor to a variety of mental and behavioural disorders, such as depression, anxiety, and suicidal behaviour (Ang & Huan, 2006; Bjorkman, 2007). Academic success-related factors, such as underachievement, pressure from transitional examinations, and study workload are associated with poor mental health and stress among adolescents (Li & Zhang, 2008; Liu & Tein, 2005; Zhang, Tao & Zeng, 2001).

Researchers and practitioners have described several distinct approaches with unique goals and methods. Peer coaching (Showers, 1984), classroom management coaching (Sprick, Knight, Reinke & McKale, 2006), content-focused coaching (West & Staub, 2003), and blended coaching (Bloom, Castagna, Moir, & Warren, 2005) are just a few approaches. Three approaches are especially common in today's schools, 'literacy coaching' (Moran, 2007 & Toll, 2005), 'cognitive coaching' (Costa & Garmston, 2002), and 'educational coaching' (Knight, 2007). Teachers who work as the education coaches have some responsibilities as always they just take a more interactive approach toward them. The coaches relate as partners, not as experts, authorities, or healers. An education coach's job is to support and enhance the students' skills, resources and creativity (Carr, Herman & Harris, 2005, p.81).

Educational coaching is a skill that we should all be developing in order to support and develop our students. Educational coaching is not about telling, it is about asking and focusing. Educational coaching is a professional relationship based on trust where the coach helps the coachee to find the solutions to the problems for themselves (Allison & Harbour, 2009, p.2). The educational coach's job is now to facilitate, to guide students through the process of gathering information, testing its validity or applicability, and creating meaningful

  

conclusions or solutions (Smith, 2002). The classroom is the playing field the students are the team, and the teacher as the coach holds everything together. They motivate students to achieve results by instructing, guiding, and listening to them (Stix & Hrbek, 2006, p.11). The working relationship established between the coach and the coachee appears to be a key process variable. Numerous authors have suggested that a good working relationship constitutes an essential condition for the success of executive coaching (Kampa & White, 2002; Kampa-Kokesch & Anderson, 2001; Kilburg, 2001; Lowman, 2005). However, there are scarcely any reported studies of the effect of educational coaching on academic motivation, error-oriented motivation and educational stress. The purpose of this study is to reveal the effects of educational coaching on students' academic motivation, error-oriented motivation and educational stress.

## METHOD

The study was conducted in experimental design which is one of the quantitative research methods. An experimental research design was used in this study. This study conducted in control grouped post-test design one of the true experimental designs (Creswell, 2014, p.173).

### Sampling Group

The study was conducted in high school students graduated a private school in the Ordu city centre in 2015-2016 academic year. In this school, a preparatory programme for university entrance exam has been continued as well as the high school education programme. The research was carried out on 60 graduated students and they were assigned in two groups randomly. 30 of them was determined as experimental group and 30 of them as control group. In sampling group, the 32 students were females and 28 were males. 18 of them were eighteen years old, 23 were nineteen and 19 were twenty years old. 25 of them had graduated from Science High Schools and 35 from Anatolian High Schools. The sampling group was also determined through a criterion sampling method. Preparation for the university entrance exam was taken as the main criterion. Having university entrance exam previously was taken another criterion.

## DATA COLLECTION TOOLS

The Academic Motivation Scale (Vallerand et.al., 1992), Error-Oriented Scale (Schell, 2012), and Educational Stress Scale (Sun, Dunne, Hou & Xu, 2011) were used as the data collection tools.

### Procedure

*(i)* In the first stage, the experimental and control groups were determined by the equivalent probability assignment.

*(ii)* In the second stage, the educational coaching support was provided to the students in experimental group for a period of five months. A professional relationship was established with students based on trust for overcome the difficulties and were helped them about finding the solutions to problems.

*(iii)* In the third stage, the seminars were only given to the students in control group on academic motivation, error-oriented motivation, and educational stress.

*(iv)* In the final stage, the academic motivation, error-oriented motivation, and educational stress scales was applied the students in two groups and the results were evaluated.

### Data Analysis

Data was analysed by using SPSS 22. Firstly descriptive analysis is made to reveal mean scores and standard deviations. Secondly, independent t test was made to reveal the differences of academic motivation, error-oriented motivation and educational stress mean scores for experimental and control groups.

## FINDINGS

The average scores and standard deviations of students' error-oriented motivation, academic motivation, and educational stress levels are seen in Table 1.

**Table 1.**

*The average scores and standard deviations for academic motivation, error-oriented motivation and educational stress (η=60)*

| *Variable* | *Group* | *η* | $\overline{X}$ | *S* |
|---|---|---|---|---|
| Academic Motivation | Group A | 30 | 5.29 | .48 |
| | Group B | 30 | 5.07 | .74 |
| Error-Oriented Motivation | Group A | 30 | 3.24 | .41 |
| | Group B | 30 | 3.05 | .44 |
| Educational Stress | Group A | 30 | 2.65 | .40 |
| | Group B | 30 | 3.07 | .60 |

In Table 1, it is seen that for experimental group (Group A) academic motivation average score and standard deviation is ($\overline{X}$=5,29, S=.48), for the control group (Group B) is ($\overline{X}$=5,07, S=.74).

  

For experimental group the error-oriented motivation average score and standard deviation is ($\overline{X}$=3, 24, S=.41), and for the control group is ($\overline{X}$=3,05, S=.44). In addition, for experimental group the educational stress average score and standard deviation is ($\overline{X}$=2,65, S=.40), and for the control group is ($\overline{X}$=3, 07, S=.60).

The t-test results are seen in Table 2.

**Table 2**

*The t-test scores for academic motivation, error-oriented motivation and educational stress (η=60)*

| *Variable* | *Group* | *η* | $\overline{X}$ | *S* | *df* | *t* | *p* |
|---|---|---|---|---|---|---|---|
| Academic Motivation | Group A | 30 | 5.29 | .48 | 58 | 1.388 | .004 |
| | Group B | 31 | 5.07 | .74 | | | |
| Error-Oriented Motivation | Group A | 30 | 3.24 | .41 | 58 | 1.753 | .706 |
| | Group B | 31 | 3.05 | .44 | | | |
| Educational Stress | Group A | 30 | 2.65 | .40 | 58 | 3.137 | .042 |
| | Group B | 30 | 3.07 | .60 | | | |

**p<.05**

In Table 2, a statically significant difference is seen [t (59) = 1.388, p <.05] between the academic motivation scores of experimental group (Group A) and control group (Group B) according to the t-test results. The findings can be evaluated as the educational coaching further increase the students' academic motivation levels in experimental group ($\overline{X}$=5.29, S=.48) than the students in the control group ($\overline{X}$= 5.07, S=.74). According to the t-test results [t (58) = 3,137, p <.05] a statically significant difference is seen between the educational stress scores. The findings can be evaluated that the educational coaching had been effective on the students' educational stress in experimental group. And further decrease their educational stress level ($\overline{X}$=2.65, S=.40) than the students in the control group ($\overline{X}$= 3.07, S=.60).

On the other hand, a statically significant difference is not seen between the error-oriented motivation scores of experimental group and control group. According to these results it can be said that the students both in experimental and control groups have similar characteristics to learn from their faults.

**CONCLUSIONS/DISCUSSION**

The findings show that educational coaching is effective on students' academic motivation, error-oriented motivation and educational stress. Similar findings are seen in previous studies conducted by Ames (1990), Karabacak (2010). Educational coaching increases the students' academic motivation. Similarly, in a study conducted by Hawkins (2008) it is stressed that the coaching contributes employee's motivation. Educational coaching applications are effective on students' error-oriented motivations. After the educational coaching applications it was found that the mean scores obtained experimental group are higher than control group. These results are confirmed by the authors such as Grant (2006), Grant, Curtayne & Burton (2009). Educational coaching is effective on educational stress and it reduces the students' educational stress. The findings show that the academic stress scores of students in experimental group lower than control group. Similarly, Tang & Westwood (2007), Lu (2008) asserted that educational coaching is effective to reduce students' educational stress. So it can be suggest that the teachers should be educated in educational coaching. On the other hand, in schools it should be given more importance especially educational coaching applications that students need.

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