INTE

INTERNATIONAL CONFERENCE ON NEW HORIZONS IN EDUCATION

JULY 13-15, 2016 WIEN, AUSTRIA

Proceedings Book

Volume 1

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Published Date: December 4, 2016

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.

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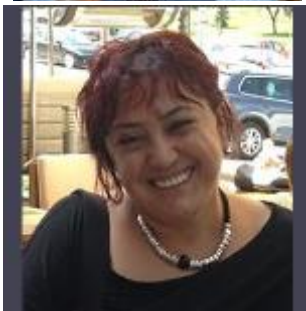
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ABSTRACT

In the present study, the relationship between emotional quotients (EQ) necessary for success in life and addiction caused by computer games which is predicted to improve EQ has been examined.Development of children's EQ levels are very important for success in life. However, computer games, in one hand, help the development of children's EQ, on the other hand, can harm children with improving their addictive behaviors. It is important and necessary to conduct researches on how to prevent it.In the present study relational survey method was applied. The study group was consisted of 224 female and 201 male 7th grade students from three different districts as two separate schools from each one, in İstanbul province. For data collection, a personal information form to gather socio-demographic variables, EQ scale developed by Küçükkaragöz and Kocabaş (2012), and computer game addiction scale for children developed by Horzum, Ayas&Balta (2006). Data analyzed through SPSS 22 software program and in the analysis, independent sample t-tests one way ANOVA, Levene& Tamhane tests for multiple comparisons and Pearson Product Moment Correlation techniques were used. Results pointed out that there are statistically significant relations among EQ test andsubtests' scores, and computer game addiction test and subtests' scores.

INTRODUCTION

Emotionalquotient (EQ) has an important role as intelligent quotient (IQ) as has in lifelong achievements (Tuyan&Beceren, 2004). It can be expected that a person with just IQ but without a developed EQ cannot be happy and successful in his/her life (Gülşen, 2015a; Goleman, 2005). EQ is a combination of personal and social talents & skills of a person & it can be improved at any age (Acar,2002; Gülşen, 2015a).

EQ Components:

1. **Self-awareness**: It is to recognize & understand of a person's own feelings, strengths& weaknesses, needs & motivations (Zel,2008).
2. **Self-regulation:** Under the trend, change & uncertainty, for thoughts & ideas to act relaxed & honest (Bayhan, 2004; Fetihi, 2008).
3. **Motivation**:It means to mobilize the person himself/herself to undaunt despite all the failures, differences & frustrations (Çakar, 2003; Gülşen, 2015b).
4. **Empathy:** To be demonstrated an empathicbehavior is expected to be aware of a person both him/her own & also the connected people's values & characteristics (Mayer &Salovey, 1993 in Titrek, 2007).

Childhood is the most important period for personality development and in this period computers contribute to the child EQ development. Unlike other training or psychological tools, computers have attracted almost all children's attention. Leonard (2003, p. in Ural, 2009), has been called the 21st century as "play age"(p.34).

Öz (2009) has determined an interactive relation between staying away from the social life and computer addiction in his study entitled as "the psychological effects of information technologies on children." Technological dependencies are expressed as not chemical but behavioral dependency style including person-computer interaction. They are also classified as active & passive dependencies. While TV is a good example for passive dependency, computer is an active dependency example. The interactive features of computers such as sound and color effects, and the frequency of events have increased addictive tendencies of people (Griffiths & Hunt, 1995).

Children with high EQ are more successful in computer games than others (Goleman, 2003). However, it's predicted that computer game addiction threatens the educational and social lives of children (Goleman, 2005).

During 12-14 age period individuals have intensive emotions & they need to reflect them to their around. Recently, computer games have satisfied their these demands in a way. Almost in all countries the parents are responsible for the children' game styles. While before 10 years old age just playing prosocial computer games and after 12 years old age all styles of computer games including prosocial, neutral & violent have been allowed to play under the control of parents.

The purpose of the study is to identify the relationship between EQ, necessary for success in life, and computer game addiction which is predicted as improving EQ, on the basis of secondary school 7th grade students whose ages are between 12-14.

Research Questions:
1. Have EQ and computer game addictive levels of secondary school 7th grade students indicated significant differences on the basis of these variables: Gender, family socio economic status (SES), school & district where live in.
2. Is there any significant relationship between EQ and computer game addiction levels of secondary school 7th grade students?

THE STUDY
The study has been conducted in terms of rationale survey method which includes the relationship between variables. The aim of survey method as a research approach is to describe the case in the past & present (Karasar, 2009).
The study group was consisted of 224 female and 201 male totally 425, 7th grade students from three different districts as two separate schools from each one, in İstanbul during the 2013-2014 academic year. Convenient sampling method was used to determine the study group.

Instruments:
1. **Personal Information Form:** Forms included sex, perceived family socio-economic status (SES) level, school, and district where live in.
2. **EQ Scale for Children (EQSC):** The scale with 4 subscales has been developed by Küçükkaragöz&Kocabaş (2012). Its alpha reliability coefficient is .72. Its subscales alpha coefficients as follows: (1) Emotional awareness: .60; (2) empathy: .72; (3) motivation: .59; (4) managing emotions/assertiveness: .84.
3. **Computer game addiction scale for children (CGASC):** It has been developed by Horsum, Ayas&Balta (2006 in Horzum, Ayas&Çakır-Balta, 2008). Alpha internal consistency coefficient is .85. The scale items have high values, factor loads are between .40 and .74. the scale has four subscales :
   a. **Factor 1:** Not to give up playing computer games & disturbed when prevented
   b. **Factor 2:** To imagine computer games & contribute to real life.
   c. **Factor 3 :**To disturb tasks because of playing computer games
   d. **Factor 4:** To prefer other activities instead playing computer games

In the data analysis through SPSS 22 software programindependent sample t-tests, one way ANOVA, Levene& Tamhane tests for multiple comparisons and Pearson Product Moment Correlation techniques were used.

FINDINGS
1. Findings related to Socio-Demographic Variables:
In the study group there were 425 students as 52.6% (224) girls and 47.2% (201) boys. 38.2% of participants in Beylikdüzü district, 33.3% of them in Silivri district and 28.4% of them in Esenyurt district were located.
2. Inferential Findings related to EQ and Computer Game Addiction (CGA) Levels of Secondary School 7th Grade Students:

Table 1: EQ means & t-test findings in terms of gender variable

EQSC	Gender	N	Mean	SD	t	p
Empathy	Female	224	18.633	3.759	5.113	.000
	Male	201	16.801	3.609		
Motivation	Female	224	13.750	2.200	2.024	.044
	Male	201	13.293	2.449		
Assertiveness	Female	224	9.602	3.587	-2.588	.ö1
	Male	201	10.492	3.484		
EQ Total Score	Female	224	55.080	8.391	2.186	.029
	Male	201	53.303	8.340		

There are significant differences in EQ *empathy & motivation* subscales in favor of female students in contrast to *managing emotions/assertiveness* subscale in which differences in favor of male students.

Table 2: Computer game addiction (CGASC) means & t-test findings in terms of gender variable

CGASC	Gender	N	Mean	SD	t	p
Factor 1	Female	224	37.446	10.159	5.187	.000
	Male	201	37.388	9.897		
Factor 2	Female	224	17.290	3.364	6.221	.000
	Male	201	15.049	4.054		
Factor 3	Female	224	13.633	2.167	5.074	.000
	Male	201	12.442	2.666		
Factor 4	Female	224	16.991	3.445	5.504	.000
	Male	201	15.01	3.973		
Total Score	Female	224	85.361	15.892	6.503	.000
	Male	201	74.890	17.299		

Female students represented dependent behaviors toward computer games more than male students in terms of Factor 1 (p=.000), Factor 2 (p=.000), Factor 3 (p=.000), Factor 4 (p_.000) and total scores of computer game addiction scale.

There were no significant differences among EQ test total scores & its four subtest scores of participants in terms of *'perceived family SES, school, & district where live in'* variables. In *perceived family SES* variable there were no significant differences among test scores of computer game addiction (CGA) scale & its subscales.

Table 3 : Computer game addiction (CGASC) means & ANOVA findings in terms of school variable

CGASC	School	N	Mean	SD	F	p
Factor 2	Esenyurt_1	59	15.033	4.266	4.480	.001
	Esenyurt_2	62	15.048	4.575		
	Beylikdüzü_1	79	16.797	3.677		
	Beylikdüzü_2	84	16.916	3.859		
	Esenyurt_1	90	17.066	2.863		
	Esenyurt_2	52	15.576	3.621		
Factor 4	Esenyurt_1	59	15.186	4.154	4.561	.000
	Esenyurt_2	62	14.451	4.276		
	Beylikdüzü_1	79	15.974	4.206		
	Beylikdüzü_2	84	16.773	3.426		
	Esenyurt_1	90	16.886	3.395		
	Esenyurt_2	52	16.576	2.865		
Total Score	Esenyurt_1	59	78.220	17.766	2.768	.018
	Esenyurt_2	62	74.467	17.490		
	Beylikdüzü_1	79	82.063	19.766		
	Beylikdüzü_2	84	83.392	17.383		
	Esenyurt_1	90	82.688	13.856		
	Esenyurt_2	52	78.576	16.652		

There are significant differences among CGA scale totalscores and Factor 2 & Factor 4 subscale scores in terms of school variable. The highest total scores in Beylikdüzü2 and the lowest scores in Esenyurt2 schools were seen. The highest score in Silivri1 school and the lowest score Esenyurt1 school were exhibited for Factor 2 't*o imagine computer games & contribute to real life'* tendency. Tamhane multiple comparison findings were

represented that Beylikdüzü 2 &Silivri1 school students had more tendency in 'to *imagine computer games & contribute to real life (Factor2)'*than Esenyurt2 school students.

The highest scores in Beylikdüzü_1, the lowest scores in Esenyurt_2 schools were seen in Factor4 '*to prefer other activities instead playing computer games.'* Tamhane multiple comparison findings showed tendency in Factor 2 '*to imagine computer games & contribute to real life'*as follows:
(1) Silivri1 school students more than Esenyurt 1 &Esenyurt2 school students,
(2) Silivri2 school students more than Esenyurt2 school students

Table 4: Computer game addiction (CGASC) levels ANOVA findings in terms of district variable

CGASC	District	N	Mean	SD	F	p
Factor 2	Esenyurt	121	15.041	4.409	8.586	.000
	Beylikdüzü	163	16.858	3.761		
	Silivri	142	16.521	3.230		
Factor 4	Esenyurt	121	14.809	4.215	9.798	.000
	Beylikdüzü	163	16.386	3.833		
	Silivri	142	16.760	3.204		
Total Score	Esenyurt	121	76.297	17.652	5.122	.006
	Beylikdüzü	163	82.748	18.531		
	Silivri	142	81.183	15.014		

Tamhane multiple comparison findings were appeared as

(1) Students from Beylikdüzü & Silivri districts compared to students from Esenyurt district had more tendencies in '*to imagine computer games & contribute to real life (Factor2)*.
(2) Students from Beylikdüzü & Silivri districts compared to students from Esenyurt district had more tendencies in '*to prefer other activities instead playing computer games (Factor4)*.
(3) The computer game addiction levels of students from Beylikdüzü were higher than students from Esenyurt district according to total scores.

3.The Relationship between EQ and CGA Levels of Secondary School 7th Grade Students:

Table 5: Correlation between EQSC and CGASC tests & subtests

Subtests	Emotional awareness	Empathy	Motivation	Assertiveness	EQ Total Score	Factor1	Factor2	Factor3	Factor4
Empathy	.250**								
Motivation	.338**	.429**							
Assertiveness	.088*	.138*	.141*						
EQ Total Score	.467**	.758**	.701**	.565**					
Factor1	.153**	.332**	.186**	.250**	.361*				
Factor2	.054*	.136**	.139**	.121*	.186*	.602**			
Factor3	.281**	.313**	.290**	.171**	.379**	.659**	.450**		
Factor4	.139**	.286**	.133**	.108*	.262*	.535*	.509*	.525**	
CGA Total Score	.174*	.336**	.212**	.225**	.369**	.943**	.759**	.752**	.728*

*P<0.05   ** p< 0.01

On the p<0.01 and p<0.05 levels statistically significant positive correlation were found among EQ and CGA tests and also their subtests.

CONCLUSIONS

Emotional Quotient (EQSC) Results: While girls took significantly more points than boys in *'empathy & motivation'* subtests, boys took significantly more points than girls in *'managing emotions/assertiveness.'* These results coincide with some research results done both in Turkey (Mumcuoğlu, 2002; Köksal, 2003: Akkan, 2010: Yurdakavuştu, 2002) and in abroad (Harrod&Scheer, 2005 in Kıran, 2011: Hoe & Jung, 1999 in Köksal, 2003).

The results can be interpreted as female participants being more sensitive to others' feelings, thoughts *(empathy)* and perhaps more eager and ready to help others *(motivation)* than boys. On the other hand, male participants have defended their rights more than females *(assertiveness).* These consequences are parallel to our cultural childrearing attitudes which include differences toward girls and boys. Besides that in *emotional awareness*subtest, the mean scores of boys and girls are similar to each other. It can be suggested that all students are aware of their own feelings.

In both EQ total scores & all subtests scores significant differences were not spotted in terms family SES, school and district where live in. The districts chosen for research are close to each other geographically, besides their socio-economic structures are different from low to high SES. The results did not provide answers to problem about either family or school have affected the children's EQ development.

Any comment as school education or climate not having an impact on the students' EQ levels can be ambitious and exaggerated because school districts are close to each other.

Computer Game Addiction (CGASC) Results:CGA levels of girls were higher than boys. This result is contrary to the other research results in literature. Other research results both in Turkey (İnal&Çağıltay, 2005; Tüfekçi, 2007; Yılmaz, 2008) and in abroad (Klawe, 1999; Sherry, 2001; Fromme, 2003; Gentile, 2009 in Tüfekçi, 2007) found that boys have played computer games and showed addictive behaviors more than girls. In the present research, addictive behaviors were measured together with EQ test, so the findings can have reflected the connections between prosocial style computer games and EQ levels. Bushman (2015b) points out three types of computer games (1) prosaically (2) violent (3) neutral.

According tothe 'district' variable where they live in 't*o imagine computer games and contribute to real life (Factor2)'* scores were observed as the highest level on students from Beylikdüzü and the lowest level on students from Esenyurt. Social, cultural and economic conditions of Beylikdüzü district are wealthier than Esenyurt district. It can be predicted that the environment where they live in can affect the thoughts, dreams and imaginations of students.

Students from Silivri district took the highest scores whereas students from Esenyurt district took the lowest scores in terms of *Factor 4'to prefer other activities instead playing computer games.'* Silivriin comparison with the other districts is out of İstanbul city an in a rural area. However, Esenyurt district has the families with many children and their socio-economic and cultural status are generally lower than the other districts. In this respect, sharing the spare times with friends instead of computers canbe a common habit among children inSilivri.

CGA total test scores were the highest of the students from Beylikdüzü district and the lowest of students from Esenyurt. Most of the students living in Esenyurt cannot have their own computers and computer access can be possible only through internet cafes for them because of their family SES, in contrast to the students from other districts. Based on their economic conditions the addiction scores of these students can be the lowest level. In terms of *'school'*variable 'to *imagine computer games & contribute to real life (Factor2)'*subscale score had the highest level in Silivri_1 school students & the lowest level Esenyurt_1 school students. *Factor 4'to prefer other activities instead playing computer games'*trend was the highest level in Beylikdüzü_1 school students & the lowest level Esenyurt_2 school students. In the total scores of CGA test, the highest scores were observed in Beylikdüzü_2 school students & the lowest scores in Esenyurt_2 school students.

As a result, findings are consistent with the social, economic and cultural conditions of the schools and the districts where the schools in. In other words, students from socially, economically & culturally lowest level Esenyurt district had the lowest scores in Factor2, factor4 and CGASC total points.

The Relationship between EQ and CGA: Positive relations were found among the EQ and CGA test scores and their all subtests' scores. Bushman (2015a) points out that computer games including prosocial behaviors affect EQ in a positive way. Because all subtests of EQ test are related to emotions, children playing prosocial computer games while watching prosocial behaviors can develop empathy &helpful behaviors.

In the symposium (2015) a question about the computer games including violence Bushman expressed that it is hard to prevent the people over 10 years old should not play computer games including violence. Instead the parents and teachers can make children & young people conscious of choosing computer games including prosocial behavior instead of violence.

SUGGESTİONS

It canbe suggested that

- Information related to computer game styles (prosocial, violent, and neutral) and their psychological and behavioral effects on persons should be given to students, parents & teachers.
- Parents should be careful and conduct their children for playing computer games with prosocial behaviors
- Internet cafes in all districts should be checked continuously by authorities, because the students with low SES can access to the computers through internet cafes.
- The computer game styles, aggressive, and anger behaviors of students should be searched in different grade levels.
- The relationship between cyber bullying & cyber victimization can be searched.

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A CASE STUDY ON THE EFFECTS OF TEACHER-STRUCTURED OUT-OF-CLASS ICT ACTIVITIES ON LISTENING SKILLS, MOTIVATION AND SELF-EFFICACY

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ABSTRACT

The current study was designed to investigate the effects of out-of-class ICT activities, which were implemented in a blended style with the regular listening and speaking course, on students' listening proficiency, intrinsic motivation and self-efficacy perceptions related to listening. Both quantitative and qualitative research methods were utilized to have more reliable results. The participants were 26 preparation class students at English Language Teaching Department, Çukurova University. The participants engaged in extensive out-of-class listening activities arranged and assigned by the instructor through a class blog and English podcasts for seven months. Detailed analyses of quantitative and qualitative data revealed that teacher structured out-of-class ICT activities, mainly podcasts in this study, used in a blended design with the regular course has positive effects on students' listening proficiency, intrinsic motivation and self-efficacy perceptions.

INTRODUCTION

The internet explosion and the information and communication technologies (ICTs) at the end of the 20th century opened new opportunities and are bringing about dramatic changes in teaching and learning (Traxler, 2007; Bonk, 2009; Green & Hannon, 2007). New digital technologies and the internet have particularly been effective in the field of language teaching and learning (Kukulska-Hulme, 2006). Research findings (Thorne, Black & Sykes, 2009; Zhao & Lai, 2007) indicate that digital technologies and access to internet offers language teachers and learners a profuse amount of English resources and activities for in and outside the classroom. Taylor and Gitsaki (2001) asserted that using the internet lets students practice English and computer skills at the same time, exposes them to rich input of English used in real life situations, encourages student autonomy, assists students to communicate with native speakers at any time, and enhances their learning motivation through various online activities. Educational researchers often claim that with the widespread use of new technologies and electronic resources, all education has been revolutionized (Baird & Fisher, 2006; Imperatore, 2009); and a paradigm shift is taking place in the approaches to education in terms of method and structure: from teaching to learning, from classroom to real life, from one time training to life-long education, and from stand-alone to networking. New concepts and approaches in learning and the new ICTs have been considered as major forces in this paradigm shift in education (Redecker, 2009).

Although the use of ICTs for education has been of great interest and an important research topic in the last decades, it also brought about debates, speculations and skepticism among educational researchers (Shields, 2011). One basic problem causing conflict is "conceptual and methodological – the conflation of diverse forms of educational technology under the umbrella term ICT" (Livingstone, 2012). Studies focusing on integrating technology in education include overlapping concepts and phrases, such as e-learning, e-supported learning, online learning, web/internet-based learning, technology-enhanced learning, technology-mediated learning, ICT-based learning, blended learning, hybrid learning, m-learning, distributed learning, mixed-mode of instruction, etc.; and the definitions of these terms can differ from one study to another. Another problem causing uncertainty is that each used different types of ICTs, more importantly, different types of integration strategies. Therefore, it is difficult to distinguish which aspects of technologically-mediated learning are effective in any particular situation (Livingstone, 2012). The type of ICTs or the integration strategy of the ICTs which is considered effective in one field may not give the same results in another. In the past, although some researchers claimed that technology has little or no effect on education (Cuban, 2001), there is still a rapidly growing body of research proposing that it has substantial positive impact on education and expected learning outcomes (Oblinger, 2005; Cramer, Collins, Snider & Fawcett, 2007; Punie & Ala-Mutka, 2007; Mosenson & Johnson, 2008; Ducate & Lomicka, 2008; Saeed, Yang & Sinnapan, 2009).

Although this technological revolution has highly ambiguous effects and causes debates among researchers, there is one point upon which all of them agree: technology itself is not a method; and we cannot improve teaching and learning just by putting materials online (Alexander and McKenzie, in Kirkwood and Price, 2005; Henry & Meadows, 2008). What really matters is how creatively and properly it is exploited and constructively integrated in an educational program (Taylor & Clark, 2010). To what extent they serve to fulfill educational goals and the benefits students are likely to gain are more important than the intrinsic characteristics of the

medium itself. Without proper resources, pedagogy, and educational practices, technology might be an obstacle or burden to genuine learning (Chinnery, 2006). 'Many of the results seem to indicate that technology is not nearly as important as other factors, such as learning tasks, learner characteristics, student motivation, and the instructor' (Phipps and Merisotis, 1998 in Kirkwood & Price, 2005). Alexander and McKenzie (in Kirkwood and Price, 2005) stated that along with a range of factors which are necessary for a successful project outcome, the most critical factor is the design of the students' learning experience.

Technology has developed so rapidly that there has not been time to carry out the research needed to determine how best to use these resources in teaching and learning. Many ICTs that were once seen as new and innovative – even sometimes labeled as a fad – are now considered mainstream, particularly in adult education (Oblinger, 2003), therefore, it is important to understand their strengths and weaknesses. So far, ICTs were used in higher education mostly as a supplement to existing teaching and learning practices or sometimes just because they are convenient. Although the research about the integration of ICTs in education is growing, there are still unanswered questions and unexplored aspects of them. Researchers are still attempting to identify important and relevant variables that contribute the educational effectiveness of using technology in education. Studies focusing on the effectiveness of ICTs, generally elaborate on presupposed potential and theoretical benefits rather than presenting evidence to support their claims; the argument is based mainly on theories or assumptions about what ICT can do rather than empirical evidence of what it actually does (Shields, 2011).

Despite the opportunities and potentials ICTs offer for education and growing evidence indicating that they have profound effect on education, they are also presenting challenges in deploying these new opportunities for learning and innovation. There is a clear need for more research on the nature and impact of ICTs, and still much to be done to explore, evaluate, initiate, and formulate strategies that lead to effective practices and rich pedagogical use (Selwyn, Gorard & Furlong, 2006; Smith & Dobson, 2011).

The aim of the present study was to investigate the impact of ICTs as out-of-class activities on Turkish learners' English listening skills, intrinsic motivation in the listening and speaking course and perceived self-efficacy in English listening skills. Utilizing mainly podcasting and blogging in a blended way with regular face-to-face instruction, it was aimed to explore whether or not these tools had a positive effect on Turkish foreign language learners' cognitive and affective progress.

THE STUDY
The present study proceeded from an attempt to find a practical, feasible and effective solution to the problem of inadequacy in listening skills of preparation class students who were enrolled in a five-year-teacher training program at Çukurova University. Therefore, it has the characteristics of both a case study and an action research. The study was based on the principles of the following theories: Constructivism, Computer Assisted Language Learning (CALL), Second Language Acquisition Theory; specifically The Input Hypothesis and Low Affective Filter Hypothesis (Krashen, 1981,1982,1985), and Social Cognitive Theory: Self-efficacy component (Bandura, 1986)

A blended research design, where both quantitative and qualitative methods were used, was adopted to explore the impact of the intervention and the participants' experiences concerning podcast integration as out-of-class activities into the listening and speaking course.

The participants for the current study were 26 preparation class students (19 females/7 males) enrolled in English Language Teaching Department at Çukurova University. Factors such as sex, age, gender and educational background were not taken into consideration since such factors were not the variables of the study. In the teacher training program at Çukurova University, in order to determine the ones who need a preparatory education, a language proficiency test is administered at the very beginning of the education process. According to the results of this test, students can skip the preparatory education or they have to take it because they do not have the desired level of proficiency to start their education from the first grade. The participants, failing to pass the proficiency test, can be considered to be at low-intermediate level. Their similar characteristics were that almost most of them (except one student) came from government schools; they all got prepared for the nationwide university entrance exam focusing on only grammar and reading; they had very little or no listening and speaking experience in English. In the university program, in each preparation class, there are 25-30 students and they have six hours of listening and speaking courses a week. It was quite difficult to help the students improve their listening and speaking skills in such limited class hours.
During the intervention, in addition to the regular listening and speaking course, the participants were exposed to extensive listening activities which were uploaded to the class blog built by the instructor. Each student built a personal blog as well. Every week, the participants listened to at least two, at most four extra listening passages,

completed related tasks (including fill in the blank questions, vocabulary activities, summarizing, transcribing, etc.), and evaluated their own performances through the Intrinsic Motivation Inventory (IMI) (Deci & Ryan, 1982). They did more research about the listening passages they liked, shared what they found on their blog pages, where the other students read their findings and commented about them, and prepared a five-minute presentation for the classroom session. The intervention lasted for 7 months (almost two academic terms including the semester break upon the demand by the students). Two learning logs – the first one after one and a half months later, and the second one towards the end of the study – were also filled out by the participants. At the end of the study, the participants evaluated their self-efficacy perceptions retrospectively and currently, and they were interviewed by the instructor about the advantages and disadvantages of the study.

There were five research questions for this study: 1. Are students involved in out-of-class language learning activities to improve their language skills? If so, what kind of activities are they involved in? 2. Do students make use of ICTs as out-of-class language learning activities? If so, what kind of ICT activities are they involved in? 3. Do teacher-structured out-of-class language learning activities utilizing ICTs contribute to enhancing students' intrinsic motivation in listening? 4. Do teacher-structured out-of-class language learning activities utilizing ICTs contribute to enhancing students' self-efficacy perceptions about their listening skills? 5. Do teacher-structured out-of-class language learning activities utilizing ICTs contribute to the improvement of the students' listening skills?

In order to answer the first and second research questions, an Out-of-class Activities Questionnaire developed by the researcher; for the third research question, the Intrinsic Motivation Inventory) (Deci & Ryan, 1982), learning logs, and the semi-structured interview; for the fourth research question, Self-efficacy Scale (Bandura, 2006), learning logs and the semi-structured interview; and for the fifth research question, three regular achievement tests were used. The Out-of-class Activities Questionnaire, the Intrinsic Motivation Inventory and the Self-efficacy Scale data were analyzed quantitatively, and the learning logs and semi-structured interview data were analyzed qualitatively.

FINDINGS

The quantitative analysis of Out-of-class Activities Questionnaire indicated that the participants were engaged in a range of traditional and ICT out-of-class activities but not at a desired level or, in other words, not to an extent that can make contribution to their language development. The first prominent finding was that the out-of-class activity that our students were engaged in was listening to music (see Table 1). Most of the participants indicated that they performed this activity every day or a couple of times a week. When the content and the language used in lyrics are considered, it cannot be said that listening to music has much to offer to help students improve their language skills. They can contribute a little to vocabulary knowledge at best. From academic point of view, songs cannot help remedy their language deficiencies especially in an academic context. Watching films was the second most common activity that our students performed. This activity can be more helpful in terms of teaching listening, vocabulary, register and other cultural aspects, however, half of the students implemented it very rarely or never. So, less than half of the students were engaged in this activity at a sufficient frequency. Surfing on the internet was the next common activity but only half of the students perform it every day or a couple of times a week. More than half of the students did not perform it at a desired level, including six students who answered 'never', and three students who answered 'very rarely'. It was obvious that the participants did not consider surfing on the internet as a useful activity to improve their language skills. The following most common activity was watching television programs, but less than half of the students performed it 'every day' or 'a couple of times a week'. Most of the students indicated that they were involved in this activity 'a couple of times a month', which can be considered insufficient to be helpful for language improvement. There were three students who answered 'never' for this activity.

Table 1: Frequencies and Percentages of Out-of-class Activities

	Everyday		A couple of times a week		A couple of times a month		Very rarely		Never	
	f	%	f	%	f	%	f	%	f	%
Listening to music	15	57,7	6	23,1	3	11,5	2	7,7	0	0
Watching films	9	34,6	2	7,7	1	3,8	10	38,5	4	15,4
Surfing on the internet	7	26,9	5	19,2	5	19,2	3	11,5	6	23,1
Watching TV programs	7	26,9	3	11,5	10	38,5	3	11,5	3	11,5
Watching videos or listening to the news/stories on the internet	2	7,7	6	23,1	5	19,2	7	26,9	6	23,1
Reading newspapers. magazines on the internet	2	7,7	6	23,1	6	23,1	5	19,2	7	26,9
Conversation with Turkish friends in English	1	3,8	9	34,6	3	11,5	5	19,2	8	30,8
Reading books (novels/short stories)	2	7,7	1	3,8	6	23,1	15	57,7	2	7,7
Listening to the radio	2	7,7	0	0	7	26,9	8	30,8	9	34,6
Reading newspapers	1	3,8	1	3,8	3	11,5	13	50	8	30,8
Chatting with foreigners on the internet	1	3,8	5	19,2	3	11,5	5	19,2	12	46,2
Conversation with foreigners	0	0	1	3,8	4	15,4	12	46,2	9	34,6
Corresponding through e-mail with foreigners	0	0	1	3,8	4	15,4	2	7,7	19	73,1

The other activities employed by our students excluding the ones mentioned above were not practiced sufficiently to contribute to language development of the students. Watching videos or listening to the news/stories on the internet, for example, were employed only by one-third of the students 'every day' or 'a couple of times a week'. Half of the students performed these activities 'very rarely' or 'never'. Reading newspapers, magazines on the internet or reading books were not among the popular activities, either. Only eight out of twenty-six students read newspapers and magazines on the internet; almost half of them performed it 'very rarely' and 'never'. Reading books had even less frequencies; only three out of twenty-six students read books 'every day' or 'a couple of times a week'. Reading newspapers was not popular at all; only one student performed it 'every day', and one student 'a couple of times a week'. The number of the students who never employed it was eight. Listening to the radio was another low-frequency activity; there were only two students who performed it 'every day', and more than half of the students 'never' performed it.

Productive activities such as conversation with Turkish friends, conversation with foreigners, chatting with foreigners on the internet, and corresponding through e-mail with foreigners were the least practiced activities by the students. Half of the students spoke in English with their Turkish friends 'very rarely' or 'never'; and the other half performed it 'a couple of times a week' or 'a couple of times a month'. Conversation with foreigners was performed only by five students 'a couple of times a week' or 'a couple of times a month'; the rest of the participants practiced it 'very rarely' or 'never'. This was an expectable result because, in Turkey, where English is taught as a foreign language, it is quite difficult to meet some foreigners to practice English with. But the

result for chatting with foreigners on the internet was not different: that is it was employed only by six students 'every day' or 'a couple of times a week'; almost half of the students never performed it. The least practiced activity in the study was corresponding through e-mail with foreigners.

Considering all these findings, it can be said that the most common activities among the participants of the present study was listening to music, watching films, surfing on the internet, and watching television programs, which are generally traditional and receptive in nature. The participants were also of the opinion that their poorest skills were listening and speaking although most of these activities are related to listening. Another interesting finding was that on the one hand they believed that these out-of-class activities contributed most to their listening and speaking, on the other hand they stated that their poorest skills were listening and speaking. This was another indication that the out-of-class activities in which they were engaged were not efficient enough to help them improve their weaknesses in terms of language skills. In conclusion, the participants attended a range of out-of-class activities which were traditional and/or including ICTs, but considering the frequency of the participants and the frequency of the activities in the present study, it is obvious that these attempts were not sufficient and efficient to remedy their problems in language learning. The proportion of ICT activities for language learning was quite low. As it was suggested by Lai and Gu (2012), the reasons for not employing out-of-class ICT activities may vary to a great extent ranging from personality traits, learning styles, low proficiency level, technical facilities to context, motivation, unawareness, disbelief in the usefulness of activities, limited knowledge of how to use new technologies for language learning or bad study habits. Whatever the reason for not employing and making use of out-of-class activities, just as Lai and Gu (2012) suggested, these out-of-class activities, especially the ones exploiting the facilities of ICTs, are of great importance to help students improve their language skills; and students should be provided with opportunities, guided and motivated by their instructors to take the utmost advantage of these activities and the time spent out of the classroom.

In order to analyze the Intrinsic Motivation Inventory data, firstly the Friedman Test, which is a non-parametric alternative to Repeated Measures ANOVA was utilized. The Friedman Test results revealed that there was a statistically significant difference in motivation scores of the students ($p < 0.001$).

Table 2: The Freidman Test Statistics for IMI

N	26
Chi-Square	113,789
df	28
Asymp. Sig.	,000

Since the Friedman Test gives an overall opinion but does not pinpoint where the differences occur, the scores were compared by utilizing the Wilcoxon Signed Rank Test. The IMI was administered 29 times in a seven-month period and the duration was divided into equal intervals for the data to be manageable. So, a series of selected score points were compared with each other. In addition to these comparisons, the points where sharp increases or decreases were observed were also compared.
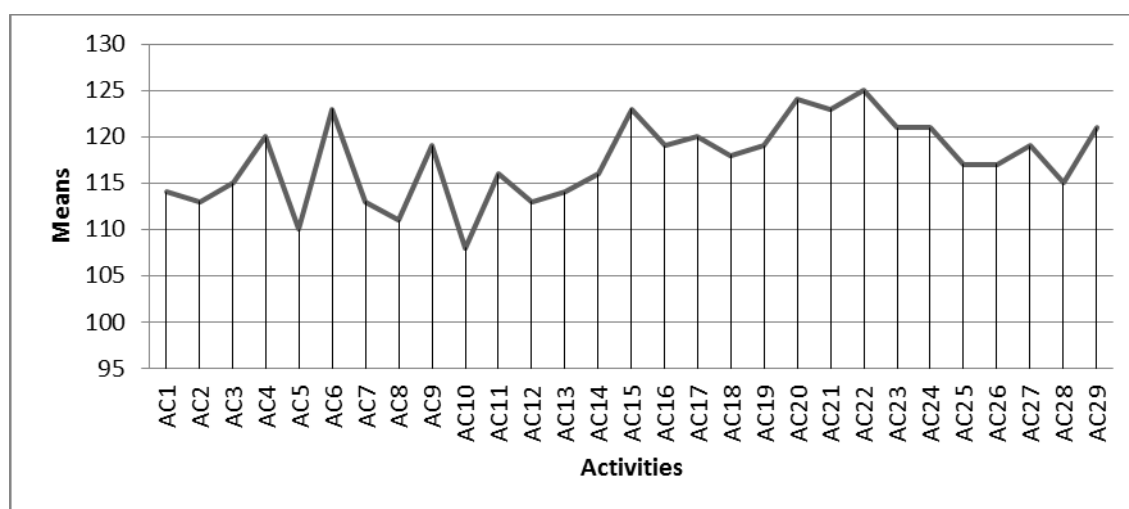
Figure 1. Mean scores of IMI

Figure 1 displays the mean scores of all IMI evaluations. Examining this figure, it can be said that the motivation levels of the participants displayed and increasing trend throughout the study. The comparisons of the selected points utilizing the Wilcoxon Signed Rank Test and whether or not these differences are significant are shown in Figure 2.
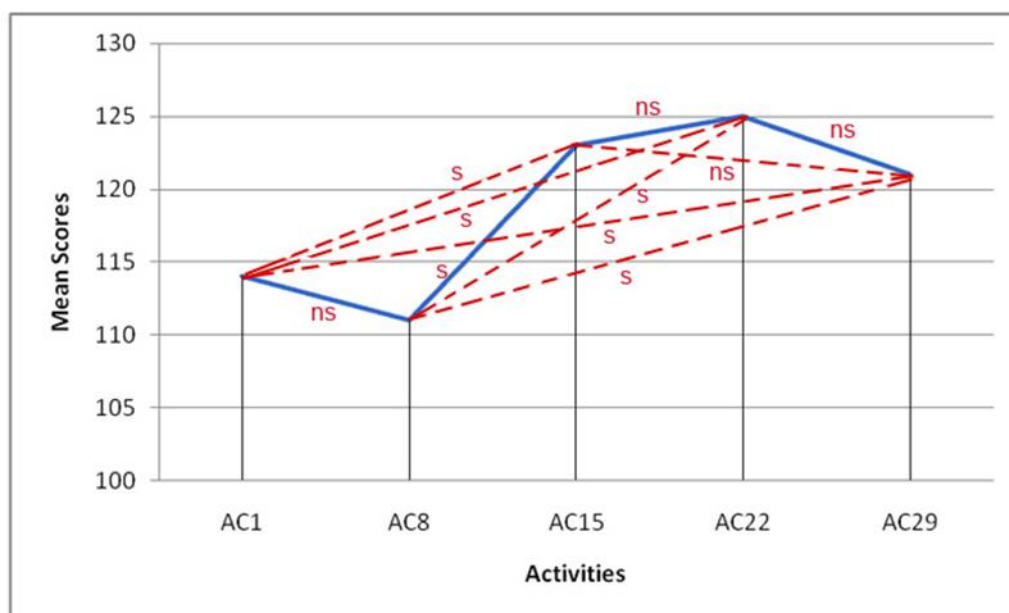
Figure 2. IMI mean scores comparison of selected activities

As can be seen in Figure 2, there was a decrease in the participants motivation levels between 1st and the 8th activities but this decrease was not significant. It was the same between the 15th and the 20th activities and between the 22nd and the 29th activities. The increases between the selected activities were all significant except for the 15th and the 22nd activities. When the whole process is examined, despite the decreases in the participants' motivation levels, it can be said that using podcasts arranged and assigned by the instructor and blogs as out-of-class activities in a blended manner with the regular listening and speaking course may have resulted in an increase in the students' motivation levels. From the qualitative analysis of the learning logs and the interviews, the factors which brought about the increase in motivation were mentioned by the participants as a) the belief in the benefit of activities, b) getting accustomed to the activities, gaining experience and becoming more competent in listening, c) seeing progress not only in listening skills but also in speaking, vocabulary, writing, note-taking and computer skills, pronunciation and general culture, d) developing study skills, e) developing sense of responsibility and self-awareness, f) having an enjoyable learning experience, g) realizing that they could be successful if they spent effort, h) blended and mobile aspect of the study; flexibility, self-paced study, low anxiety, i) timely and constructive feedback from the instructor and her being available in times of need, and j) improving self-efficacy perceptions. The study confirmed the idea that ICT use (specifically podcasts and blogs in this study) in teaching/learning processes along with teacher support and guidance in the light of sound pedagogical principles result in increased student engagement and motivation (Taylor & Gitsaki, 2001; Passey, Rogers, Machell & Mchugh., 2004; Lee & Chan, 2005; O'Bryan & Hegelheimer, 2007; Edirisingha & Popova, 2010; Kavaliauskiene & Anusiene, 2009).

The self-efficacy Scale adapted by the researcher was administered in the end of the study. The scale consisted of twenty-four items, sixteen of which were related to listening skills. The participants were asked to assess themselves first retrospectively, considering their listening and speaking levels at the very beginning of the term when they first came to university, and then to assess their listening and speaking levels for the present time. They assessed themselves through a 10-point scale, where 0 represented "Cannot do at all", 5 "Moderately certain can do", 10 "Highly certain can do". For the analysis of the Self-efficacy scales, the Wilcoxon Signed Rank Test was utilized. The scales were analyzed descriptively and comparatively, only the comparative results are presented here. Table 3 displays the comparisons of pre and post efficacy perceptions of the participants.

Table 3: Comparison of Self-efficacy Perceptions Related to Listening

	Pair	N	Mean	SD	Z	p
1. I can understand most of the speech that instructors use in the classroom.	Pre	26	2,91	1,49	-4,485	0,00
	Post	26	8 ,11	1,42		
2. I can understand a passage in academic language listening from a CD.	Pre	26	1,15	0,78	-4,487	0,00
	Post	26	6,42	1,55		
3. I can understand a passage in daily language listening from a CD.	Pre	26	2,11	1,17	-4,477	0,00
	Post	26	7,53	1,43		
4.I can understand most of the language in radio programs.	Pre	26	2,11	1,30	-4,473	0,00
	Post	26	6,42	1,57		
5. I can understand most of the language in TV programs.	Pre	26	2,38	1,35	-4,482	0,00
	Post	26	6,69	1,43		
6. I can understand most of the language in movies.	Pre	26	2,07	1,32	-4,486	0,00
	Post	26	6,30	1,64		
7. I can understand most of the audio and video files on the internet.	Pre	26	2,38	1,29	-4,472	0,00
	Post	26	7,38	1,32		
8. I can understand academic language better than many students at my level.	Pre	26	1,61	0,98	-4,496	0,00
	Post	26	6,07	1,52		
9. I can understand daily language better than many students at my level.	Pre	26	2,46	1,44	-4,473	0,00
	Post	26	7,26	1,51		
10. Even if I can't understand most of what I listen, I can understand the main idea.	Pre	26	3,19	1,49	-4,475	0,00
	Post	26	7,88	2,00		
11. Even if I can't understand the whole passage, I can answer most of the questions.	Pre	26	1,84	0,96	-4,490	0,00
	Post	26	6,50	1,52		
12. I can summarize a listening passage and talk about it.	Pre	26	1,42	1,17	-4,478	0,00
	Post	26	6,92	1,71		
13. I can guess the meanings of the unknown words from the context while listening.	Pre	26	2,15	1,40	-4,481	0,00
	Post	26	6,57	1,36		
14. I can take detailed notes while listening.	Pre	26	0,73	0,96	-4,475	0,00
	Post	26	5,88	1,55		
15. I can easily concentrate on a listening activity.	Pre	26	1,50	1,36	-4,473	0,00
	Post	26	6,92	1,89		
16. I can improve my listening skills if I study harder.	Pre	26	4,46	3,32	-3,984	0,00
	Post	26	8,38	1,69		

The Wilcoxon Signed Rank test results indicated that there was a statistically significant difference in their views related to their listening self-efficacy perception. Mean scores of their post-perceptions were much higher than their pre-perceptions and the differences were significant at level of 0.00 (p<0.01). The greatest change was observed in the 1st (I can understand most of the speech that instructors use in the classroom.) and the 16th (I can improve my listening skills if I study harder.) items. While the mean score for the 1st item in the pre self-efficacy perception was quite low (2,91), it was considerably high in the post self-efficacy perception evaluation (8,11). Similarly, while their mean score for the 23rd item was 4,46 for the pre self-efficacy perception, the mean score for the post self-efficacy perception evaluation was 8,38. While the mean scores of other items related to listening for the pre self-efficacy perception evaluations ranged between 1 and 3, which were quite low, in the post self-efficacy perception evaluations ranged between 5 and 8, which were at least above the moderate degree.

Increased self-efficacy was also evident in the qualitative data analysis. When the learning logs and the interview given at the end of the study were examined, it was seen that the participants were aware of the improvements in their language skills. In the first learning log, for example, although it was given only one and a half months later after the study started, more than half of the students indicated that they realized they could improve their listening skill by spending effort and studying regularly. This realization probably developed by seeing improvement in their listening skills. Despite the fact that it was too early to expect a significant improvement in their listening skills in such a short time, more than half of the students (57,6%) indicated that their listening skill started to improve. Almost all of them (92,3%) stated that the activities were contributing to their listening skills. Another indication in the first learning log was that more than half of the students (65,3%) stated that they showed interest/put effort in doing the activities, which can be interpreted that they were in the process of building their self-efficacy. As Bandura (1986) stated, self-efficacy is likely to improve when people attribute their success on internal factors, such as effort, persistence, modifiable abilities and effective strategies. When the participants were asked what their future plans for better performance in the activities, more than half of them (65,3%) indicated that they planned to listen more and more. When they were asked whether or not they considered themselves successful in doing the activities, 43,3% of the participants answered "yes", 50% of them answered "partly", and 7,6% of them answered "no". When they were asked about the reasons for feeling or not feeling successful, all their answers were related to internal factors, such as putting necessary effort (15,3%), listening over and over again (15,3%), enjoying activities (11,5%), and gaining more experience through activities (30,7%), for feeling successful. Among the reasons for not feeling successful, only two of them were related to external factors: technical problems (11,5%) and difficulty level of the passages (7,6%). The other reasons were related to internal factors, such as not listening carefully (11,5%), poor listening skill (7,6%), missing classes (3,8%), having no experience related to listening (3,8%), and limited vocabulary (3,8%).

In the second learning logs, which were given at the end of the term, almost all of the participants (96,1%) indicated that their listening skills improved, and more than half of them (53,8%) indicated that they put necessary effort in doing the activities. When they were asked about gains other than language skills, among the answers were raised self-awareness (10%) and developed self-confidence (7%), which can be interpreted as factors that contributed to their sense of self-efficacy. Another indication in the second learning logs was that all participants except for one, considered themselves successful throughout the study, which is a very important factor for building a sense of self-efficacy.

Improved self-efficacy was even more evident in the interviews given at the end of the study. All of the participants asserted that listening to podcasts as out-of-class activities in a blended way with the regular courses contributed dramatically to their language skills, especially to their listening skills. The study had many positive effects on them in many aspects such as improved language skills, increased self-confidence, improved self-awareness, and enriched general culture. These findings also support the idea that using ICTs in educational contexts may result in positive outcomes (Kavaliauskiene & Anusiene, 2009; Taylor & Clark, 2010; Thorne & Payne, 2005).

Throughout the study the students were given three achievement tests at almost equal intervals. The results of the tests were analyzed by utilizing Repeated Measures ANOVA, which is the equivalent of the one-way ANOVA, but for related, not independent groups, and which is the extension of the Paired-Samples T-test. It is used to detect any overall differences between the related means over three or more time points. In other words, the same participants are being measured more than once on the same dependent variable, which is, in this case, exposure to the extra out-of-class ICT listening activities. The analyses for Repeated Measures ANOVA were made using Statistical Package for the Social Sciences (SPSS). Table 4 displays the comparisons of the achievement tests.

Table 4: Comparison of Achievement Test Mean Scores

	Mean	Mean Difference	Std. Error	p
Test 1	48,962	-15,384	3,055	0,000
Test 2	64,346			
Test 2	64,346	-3,654	2,809	0,615
Test 3	68,000			
Test 1	48,962	-19,038	3,639	0,000
Test 3	68,000			

As can be seen in Table 4, the mean score for Test 1 was 48,962 and the mean score for Test 2 was 64,346. The significance level between the first two tests was 0,000, which indicated that there was a significant difference between the scores of two tests since it is lower than 0,001 (p<0,001).

When the mean scores of the second and the third tests were compared, it was seen that the mean score of the third test was higher (68) than the mean score of the second test (64,346). However, this increase is not significant as the significance value is higher than 0,05 (p>0,05). When the mean scores of Test 1 and Test 3 were compared, it was seen that there was a significant increase since the significance value was lower than 0,001 (p<0,001). To sum up, the differences between the mean scores were significant when Test 1 and Test 2 mean scores were compared; not significant when Test 2 and Test 3 mean scores were compared; and significant when Test 1 and Test 3 mean scores were compared.

When the findings of qualitative data analysis were examined, the contribution of out-of-class ICT activities to the participants' listening skill improvement was also evident in their learning logs and interviews. In the first learning logs (which were administered one and a half months later), almost all of the participants (92,3%) stated that the activities were contributing to their listening skills. In the second learning logs, the contribution was mentioned even more strongly; 96,1% of the participants, even those who had little or no expectation from the activities, indicated that the activities contributed to their listening skill to a great extent. In the interviews that were given at the end of the study, all of the participants agreed that listening to podcasts and doing related activities out of class contributed to their language skills, particularly to listening skill, dramatically. These findings support the previous research suggesting that using ICTs as out-of-class activities have positive effects on students language skills (Thorne & Payne, 2005; Sze, 2006; Kavaliauskiene & Anusiene, 2009; O'Bryan & Hegelheimer, 2007)

CONCLUSIONS

The current study revealed that most of the students at ELT Department, Çukurova University start their tertiary education with poor listening and speaking skills. All of the participants in the study stated that their poorest skills were listening and speaking. In order to remedy this problem, consciously or unconsciously, they engaged in various out-of-class activities. They were of the opinion that these out-of-class activities contributed the most to their listening skills and vocabulary. The dilemma here was that although they thought that these out-of-class activities contributed the most to their listening and speaking skills and vocabulary, they thought that their poorest skills were listening and speaking. It can be concluded that the out-of-class activities they were involved in were not efficient enough to offer a solution for their problems. This was not surprising when the most common out-of-class activities of the participants were examined. These activities were listening to music, watching films and TV programs, and surfing on the internet. It cannot be said that these activities are of no benefit at all, but when the language used in lyrics and movies is taken into account, it is obvious that these activities probably will not be helpful enough for achievement in academic contexts. The least common activities were corresponding with foreigners through e-mail, conversation with foreigners in traditional ways and on the internet, listening to the radio, conversation with Turkish friends, reading regular newspapers or on the internet, and reading books respectively. The participants engaged in traditional and ICT out-of-class activities but not at desired/necessary frequencies. As a result, these activities did not contribute to their language skills efficiently. Therefore, limited class hours should be extended to out of class making use of students' nonproductive time, and students should be provided with opportunities through out-of-class ICT activities in order to help them improve their language skills.

One of the aims of the current study was to investigate the effects of out-of-class ICT activities on students' intrinsic motivation. The analysis of Intrinsic Motivation Inventory revealed that assigning students extra listening passages with the aim of improving their listening skills through intense exposure to spoken language helped them to increase/maintain their intrinsic motivation. Although there were some significant and insignificant decreases in students' motivation levels throughout the seven-month-period, the overall motivation level displayed an increasing trend throughout the study. There was a significant difference between the intrinsic motivation level of the students at the beginning and at the end of the study. The intrinsic motivation level of the participants tended to decrease in exam times and when they felt overwhelmed with assignments of all courses they were taking, and when they found the listening passages difficult. However, "difficult" passages were also the source of motivation; most of the students stated that they studied more and more to be able to understand those "difficult" passages. Thus, the previous research (Passey et al., 2004; Al Quasim & Al Fadda, 2013) suggesting that ICT activities, podcasts and blogs in our case, enhance student motivation was confirmed by the findings of the current study.

Another aspect investigated by the current study was whether or not out-of-class ICT activities contributed to students' self-efficacy perceptions related to listening. Analysis of quantitative and qualitative data revealed that there was a significant difference between the initial and recent self-efficacy perceptions of the participants. Particularly depending on the qualitative data findings, it can be said that exposing the students to ample amount of on-line listening materials and related activities in a systematic manner contributed to their self-efficacy perceptions related to listening considerably. As hypothesized by Bandura (1986), self-efficacy beliefs are built and developed out of mastery and vicarious experiences, verbal persuasions and psychological states, the strongest of which is mastery experiences as they provide the most authentic evidence of success. Throughout the study, the participants engaged in a wide range of listening activities and had ample amount of opportunities to have the feeling of success. Success results in building a strong belief in one's personal efficacy, and failure undermines it, especially if failure occurs before a sense of efficacy is strongly built (Bandura, 1986). Providing the participants with abundant of opportunities in which they could feel successful probably helped them change their negative perceptions about their efficacy in listening skills and build a strong sense of self-efficacy. As they indicated in the learning logs, the majority of the participants assessed themselves successful and all of them stated that they had important gains in terms of listening and speaking skills. Discussions about the out-of-class experiences in the classroom and volunteer presentations about the listening activities also provided them with opportunities in terms of vicarious experiences, which is another component of building strong self-efficacy. Combined with realistic and timely feedback by the instructor and peers, all these experiences conduced to enhanced self-efficacy perceptions in listening skills. Since listening and speaking are inseparable components of communication, although it was not primarily aimed to improve through the study, it was also found that the participants' self-efficacy perceptions related to speaking improved as well; there was a significant difference between the initial and recent self-efficacy perceptions of the participants in terms of speaking. This was also evident in the learning logs and the interviews.

The other aspect of the present study was to investigate whether or not out-of-class activities contributed to the participants' listening skill proficiency. Three achievement tests given at almost equal intervals throughout seven-month-period were used to investigate this component of the study. Data analyses revealed that there was a significant difference between the first and the third achievement test scores. This finding supports the previous research suggesting that using technology in education combined with sound theoretical and pedagogical base can enhance student learning.

In addition to the findings above, the qualitative data analysis also revealed that the participants had a very positive attitude towards the ICT use implemented in a blended and systematic manner with the traditional listening course. They stated that the whole implementation contributed not only to their listening skills but also to other language skills such as speaking, pronunciation and vocabulary. The participants also indicated that the study contributed to their general culture, internet skills, self-awareness, self-confidence, sense of responsibility, self-discipline and study skills. This finding supports the previous research suggesting that students have positive attitudes towards the use of ICTs in blended learning environments.

Finally, it should be noted that simply putting listening materials online or giving links to students for self-study without supervising, guiding and evaluating will not be as effective as the systematic integration of materials in the regular course. Previous research agreed on that although advances in technology today has a great potential to help enhance teaching and learning processes, technology per se is unlikely to achieve it. What makes the difference is not the device itself, but the combination of thoughtful second language pedagogy and technology (Chinnery, 2006; Kirkwood & Price, 2006; Henry & Meadows, 2008). Therefore, instructors who have the

purpose of facilitating and enhancing learning through ICTs should have clearly defined goals and develop a design which can provide students with utmost benefits by grounding the design on a sound pedagogical basis.

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A COMPARISON OF THE EVALUATION OF TEACHER CANDIDATES' VIEWS ON CULTURE-MEANING RELATIONSHIP BETWEEN THE YEARS OF 2005-2015

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ABSTRACT

Culture is the body of values which defines and interprets the society it belongs and the life of this society. Culture is a human-specific term which formed by abstract and rational thinking ability. These abstract values become concrete on objects of life. Culture has an alive, self-feeding and regenerative organism, which is dynamic and has its own inner dynamics. Thus, culture has to improve and change. The purpose of this study is to compare the results of a previous study done in 2005 with the same study done in 2015 which involves the evaluation of the thoughts of teacher candidates on the meanings carried by the word "culture". The pattern of this study is determined to be qualitative research method. Data is gathered in the lecture of visual arts for pre-school teaching in the 2014-2015 school year. The teacher candidates are asked for the meanings carried by the culture concept and the data gathered is interpreted by descriptive analysis. The results are compared with the results of the same study done in 2005.

INTRODUCTION

Culture is the moral and material body of values which defines how the society it belongs to perceive itself and life. Culture is the product of communal living. Culture is a system of social and moral values. It is a legacy which is handed down to next generations and an accumulation to be protected. It can be thought and learnt. It is historical, perpetual and social. Culture is an idealized system of rules. It is connective and integrative (Kızıldağ, 2001; Yıldız, 2005). Culture is human-specific and it is formed by human's abstract and rationalist thinking skill. These abstract values concretise at objects of life and show themselves as rules in human relationships. Human is the most important factor of notion of culture. We cannot explain culture without human. Özer (2007), draws attention to human emphasis when explaining culture. Culture is everything that human added to nature and assigned a meaning to. The human seeking a meaning in life, created a second nature with his additions to nature (pp. 10).

Human protected its own species by adapting to changing natural conditions throughout the history. This is a struggle between nature and human. Child particularly mentions the importance of human's ability to adapt when explaining culture. According to Child (1988) culture is the set of rules humans created in order to adapt to their surroundings and consequently maintain their life in changing conditions. The living conditions of human change as a result of the domination process of changing the nature in line with the requirements of human. Culture is the product of a society, but it is also the intellectual productivity of individuals, one by one. Human owes this ability to change to his creative thought. Güvenç specially mentions human's creative thought in the quote "Culture is produced by human's creative activity" (1999).

The cultural values which are carried on to this day came about by developing, being tested and changing throughout ages. In other words, cultural values of a society are not accidental. However, if one side of culture faces past and the other side faces the future. Culture which is formed by human experiences in time, which is effective and determinant in social relationships, harbours change inside as well. Culture has to change according to the need (Kızıldağ, 2001). Traditional rules are not fixed and unchangeable. New experiments inspires humans changes and additions. If these thoughts are deemed worthy, they are conveyed to society, discussed, tested, and added to the collective tradition in the end (Child, 1988).

Culture has a dynamic, living organism which feeds and renews itself and has its own dynamics. Culture has to develop and change like any other living being which does not stay as it is born, which develops and changes. The elements which does not fit into the general structure and incongruous with it are dulled by time. They lose their validity and leave their place to newly formed values. A society has to breathe and produce new cultural values based on human rights in order to live, and continue its existence. Nowadays we are at an age when the societies consisting of different cultures create new values based on human and human rights. Modern humans, are the humans who share the same basic values even though their cultures are different (İpşiroğlu, 1990). Modern human communicates with different cultures and is open to new thoughts, a researcher, and creative. According to Elliot (1981), a culture is evaluated by its contribution to other cultures that are formed later and developing.

THE STUDY

The point of origin of the research is the thoughts of the youth on the context of the word "Culture" who are studying at the last step of the education which is university. The study group of the research consists of students who are in their third year in the major of primary education of a state university in the year of 2015, trained towards being a teacher and who never took visual arts education lecture. Research is carried out with 80 students. The aim is to evaluate the notions that 80 students, who are to be teacher candidates, used to explain the word "Culture" and make a comparison of the same study done in the years of 2002 and 2005. The results of the study done in 2002 were published with the title "Art and Art Education for New Cultural Formation" (Abacı, 2003). Since it is thought that the education they will get in the visual arts education lecture would affect the outcome of the research, the study group was formed by students who did not take the visual arts education lecture. Because, "Art Education" contributes to children and young people to digest and interpret the culture, develop perspective towards cases and events (Abacı, 2007, pp.8).

This research was done in two stages. In the first stage the question "Did the students who are studying at the last step of the education which is university question the meanings contained by the word Culture?" was asked. Based on this question an open-ended survey is applied to 80 teacher candidates who never took art education before. The question of what does the word "culture" express is asked in an open-ended manner. The answers are grouped with the ones that have the same content. The first 15 notion's frequency/percentage evaluations are recorded and interpreted. Because of their ages, it is expected that the teacher candidates are able of thinking in an abstract manner and evaluate the context of notions by separating them from concrete objects and events. In the second phase of the research, teacher candidates were shown the figures circle, square and triangle and they were asked what these figures meant. The answers are grouped as concrete objects and abstract notions and the frequency/percentage while evaluations are recorded and interpreted.

In this research, qualitative research method is used. Qualitative research is the research method in which perceptions and events are presented with an integrated approach in a natural setting and analyzed where qualitative data acquisition methods such as observation, interview, and document analysis are used (Yıldırım and Şimşek, 2013, p45). Because of the fact that, the research is the evaluation of the teacher candidates' answers to the notion of "culture", the model used is descriptive scanning model. Descriptive scanning model is the research approach that aims to explain a situation of the past or present as it is. The event, individual or object that is the subject of the research is tried to be defined as it is in its own environment and without making any effort to change or influence they are monitored and identified (İslamoğlu, 2009, pp. 85). In descriptive scanning model, scientific methods such as monitoring, recording, identification of the relationships between events and generalisation based on unchanging relationships. In descriptive scanning model, aside from the direct evaluation of the case, it is imperative to consult the references and pre-recorded data in the area of research and interpret the results by integrating their findings with own observations (Karasar, 2006, pp.79).

FINDINGS

The notions contained by the word culture are asked to 80 teacher candidates who studied in the years of 2005 and 2015 and who did not take the lecture Visual Arts Education. The teacher candidates are asked to write down ten notions at most. The 15 notions which were seen most frequently in the answers were evaluated.

The findings according to the answers of teacher candidates from the year 2005 and 2015 regarding the culture notion are presented in Table 1 and Table 2.

Table: 1. The notions that teacher candidates of the year 2005 used to explain the word culture

Culture Notions	f	%
Traditions	52	63
Art	45	56.25
Education	32	40
Human	30	37.50
Clothing-Food	17	21.25
History-Past	15	18.75
Common Language	8	10
Individuality -Distinctness	8	10
Life Style	7	8.75
Geography - Area	6	7.5
Being open to new ideas	6	7.5
Values	5	6.25

Rules	4	5
Thought (Philosophy)	3	3.75
Change - Development	2	2.50

When Table 1 is examined, it can be seen that the most frequent answer of the teacher candidates of year 2005 is "traditions" (63%). The second is "art" (56.23%), third is "education" (40%). These are followed by "human" (37.50%), "clothing-food" (21.25%), "history-past (18.75%), "common language (10%), and "individuality-distinctness (10%). The least frequent responses were "life style" (8.75%), "geography-area" (7.5%), "being open to new ideas" (7.5%), "values" (6.25%), "rules" (5%), "thought-philosophy" (3.75%), "change - development" (2.5%). When these results are reviewed it can be seen that the side of the notion of culture that is unchanging and facing past is preferred. Thought, values, modernity, change and development characteristic was not in favour.

Table: 2. The notions that teacher candidates of the year 2015 used to explain the word culture

Culture Notions	f	%
Traditions	63	78.75
Society	62	77.50
Clothing-Food	61	76.25
Language	42	52.50
Values	32	40
Life Style	31	38.75
Art	30	37.75
Thought (Philosophy)	30	37.75
History-Past	30	37.75
Religion	29	36.25
Geography	23	28.75
Education	20	25
Science	8	10
Change - Development	5	6.25
Morals	2	2.5

When Table 2 is examined, it can be seen that the most frequent answer of the teacher candidates of year 2005 is "traditions" (78.75%) again. The second is "society". These are followed by "clothing-food" (76.25%), "language" (52.50%), "values" (40%), "life style" (38.75%), "art, philosophy, history" (37.75%), "religion" (36.25%), "geography" (28.75%), "education" (25%), "science" (8%), "change-development" (5%), "morals" (2.5%),
There are hidden meanings behind the visible aspects of objects and events. To try and give a meaning to what is behind the visible and interpreting it requires abstract thinking ability. Evaluation of the culture notion with its every aspect requires being able to think abstractly. In order to understand whether the 80 teacher candidates are aware of abstract meanings concrete notions contain, a triangle, a circle and a square figures are presented and they are asked about the meanings these concrete figures express. If there is even definition via an abstract notion amongst the answers, the answer is evaluated as defining figures with abstract notions.
Findings regarding the abstract thinking ability of teaching candidates are shown in Table 3 and Table 4 for the teacher candidates of the years 2005 and 2015 respectively.

Table:3. The views of teacher candidates of the year 2005

Circle - Square - Triangle	f	%
Defining figures with concrete notions	64	80
Defining figures with abstract notions	16	20
Total	80	100

According to Table 3, 20% of the 80 teacher candidates defined these figures with abstract notions such as for square, equality and justice; for circle, eternity or cycle; for triangle limitation and conventional thought. Whereas 80% of the teacher candidates named the figures with concrete objects such as tunnel, house, ball, slice of cake, tepee, pine tree, kite, house without a roof.

Table:4. The views of teacher candidates of the year 2015

Circle - Square - Triangle	f	%
Defining figures with concrete notions	52	63
Defining figures with abstract notions	28	35
Total	80	100

According to Table 4, our of 80 teacher candidates 63% of them explained the figures with concrete objects while 35% of them wrote down the abstract meanings the figures expressed.

CONCLUSIONS

In the every grade of education the word culture is thought particularly based on the definition done by the Turkish Language Association. Culture, according to the dictionary of Turkish Language Association (1982) is explained as "All kinds of entities of life, thought and art that are in the position of tradition which form a society's immaterial characteristics, perception and thinking unity". While, in the Turkish dictionary prepared for high schools it is explained as "All of the traditional, thought, living, and art entities which form a society's moral characteristic" (Kuşçu, 2000). In these two definitions, the traditions which would similarize the differences of a society are actually a combination of the society's all social properties. Because of the fact that traditions are the most defining factor of culture in primary and secondary education school books, it is not surprising to see "traditions" in first rank in Table 1 and Table 2. In Table 2, the second rank is art. In reality, art and tradition are opposite notions. Traditions express past and stability, while art expresses future and creativity. However, they come side by side in school books in education process in definition of culture. But, in Table 2, we can see that art has lost its significance in 10 years and fell to seventh rank.

Culture is not universal. It belongs to a society and it contains properties that separate the society from other societies. The most observed property is "language", "clothing-food", and "life style". These concepts are deemed important by the both of the work groups. Thought is an abstract notion which underlies a society's culture. A society exists through thinking, questioning world and universe; creating theories, evaluating and comprehending them; through the motivation for life views. Thought is the essence of culture and this essence comes to life in the life style, art work of the society it belongs to. "Thought" is in one of the lowest ranks in Table 1 with 3.75%, while in Table 2, it is in 8th rank with 37.75%.

The first condition for relaying culture to next generation is education (Özer, 2007, pp.13). "Education" is in the third place in Table 1 with 40% while in Table 2, it regresses to 12th rank with 25%. With the ten years passed, the "education" is no longer seen as a significant component of culture. In addition, while "science" does not even exist in Table 1, it can be seen at 13th rank in Table 2 with 10%.

Since the culture of a society is formed by the communal living of people that lasted centuries; human is one of the most significant components of culture. In Table 1, "human" is listed with 37.50%, while in Table 2 instead of "human" the notion of "society" is preferred by 77.50%. The most important notions required to protect an existing culture are the ones that are related to human. These notions are life style, clothing, food, rules of human relations, and values along with the notions that affect the formation process of culture such as history and geography. However, notions such as novelty, change, and modernity, which are needed in order to relay the culture to future and keep it alive, are not in many teacher candidates' agenda as one can see in Table 1 and 2.

As one can realise in Table 2 notions such as "human", "individuality", "distinctness", "being open to new ideas" are not included, but instead notions that cannot be observed in Table 1 exist such as "religion", "science" and "morals".

It can be seen that the answers to the question for the meanings contained by the word "culture" are under influence of the learnt culture definitions. In the education process the "Culture" notion is not addressed properly. Only learning in definition level was achieved. Well, "How do we think?". Thought is a chain which starts with perception and evolves through concrete to abstract; form to meaning. The data of visual perception is added to one another as design in mind, relate, question, analysis from different perspectives, observation, interpretation, experience, decision, reinterpretation, evaluation, and implementation which leads to explanation of form (Abacı, 2003). This is named, Critical Thinking. Critical thinking is a style of thought which helps us to understand things better. When we are faced with a situation, solving a problem, evaluating a subject, we feel the need to ask questions to ourselves and people across. These questions help us reconstruct our cognitive pattern and understand the things we are trying to learn better (Güven, 2005).

Culture can be defined as understanding and using abstract meanings (Elliot, 1981). Abstract thinking is neither an innate ability nor an ability which is formed by itself. It is developed with education in line with age. As can be seen in Table 2 and Table 4 it can be understood that, most of the 80 teacher candidates does not have the ability of abstract thinking.

According to the result of this research, we can see that the young ones only have efforts for learning the information supplied to them rather than understanding and making a sense of it themselves. This case only coincides with an education system that is based upon teaching and learning.

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A COMPUTERIZED CORPUS ANALYSIS OF THE USE OF PRAGMATIC MARKERS IN KTUCALE AND BAWE

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ABSTRACT
It is an old consensus by now that a computerized corpus-based analysis of semantic prosodic profiles in English language provides various explanations for how EFL learners exploit the target language during their learning process in terms of lexical selection. The prosodic analysis of lexical selections of EFL learners is likely to give us much better means of understanding the acquisition and learning processes of EFL learners as well as the factors influencing these processes (Granger, 2008). This study investigated the semantic prosodic awareness of Turkish EFL learners in terms of using pragmatic markers such as *"I mean, I think, so, well, you know, so on, or so"*. The analysis was done by comparing two argumentative academic corpora, KTUCALE (*Karadeniz Technical University Corpus of Academic Learner English)* and BAWE (*British Academic Written English)*. In order to measure possible overuses and underuses as well as statistical significance, frequency counts and log-likelihood ratios were used. Corpus linguistics software AntConc 3.2.2 and SketchEngine online corpus software interface were used in order to collect data. The data was analysed quantitatively by comparing frequencies and calculating log-likelihood ratios. The results of this study validated that the commonly held view that a limited number of pragmatic features are overly used in the academic argumentative papers of tertiary level Turkish EFL students.
Keywords: pragmatic markers, corpus, frequency, log-likelihood, discourse markers

INTRODUCTION

Corpus is a computer based study of language that is commonly defined as a compilation of language examples that provides authentic data in written and spoken forms for the linguists who analyse and study the language. It helps researchers while comparing the native speakers' use of language to the language learners'; it also gives statistical data such as word list, frequency, collocates, concordance and key words. Reference corpus is the trustworthy corpus comparing to the learner corpus. Basically, reference corpus is the native and main corpus, which provides reference materials and authentic data, while comparing to the non-native or learner corpus, which is researched in order to find out the mistakes, problems, differences or similarities, etc. In this study, semantic prosodic awareness of tertiary level Turkish EFL learners in terms of using pragmatic markers with the help of corpus. When the usage of a word gives an impression of an attitudinal or pragmatic meaning, this is called a semantic prosody (Sinclair, 2000). According to Stewart (2010) semantic prosody is mostly presented as a concept which is inextricably linked with corpus data as corpus data enlightens the less transparent meanings of the words and phrases. In this respect, semantic prosodic usages of pragmatic markers were analysed with the help of corpus data in order to find out their functional usage in case of oral or written language.

"I mean, I think, So, Well, You know, You see, So on and *Or so"* are the target pragmatic markers which were used in this research. The reason of the fact that only these eight pragmatic markers were used in this research is that these pragmatic markers are the most frequent ones which were also used by other researchers in their studies**.** Learners may overuse or underuse certain devices in comparison with native speakers and therefore they sound non-native. With the help of corpus, this difference may be find out in order to create awareness about language usage of the learners.

Semantic Prosody

Semantic prosody has become one of the important notions in Corpus linguistics in recent years. Therefore, it is an essential subject for EFL learners. According to some linguists, this notion is also called as semantic harmony, discourse prosody, pragmatic prosody or semantic association. Louw (1993) describes semantic prosody as a consistent aura of meaning with which a form is imbued by its collocates. So that, each word may have a special function in its context, and even some near-synonym words may not be used interchangeably. Without semantic prosody, words are just considered as single meanings which may not be suitable for writing

or speaking; therefore, the discourse may sound non-native or problematic. In *Table 1* below, the contextual usages of the pragmatic markers were shown with the examples which were randomly chosen from BAWE and KTUCALE corpora.

I mean	BAWE	By autocratic, **I mean** that I am solely responsible for the decision…
	KTUCALE	**I mean** that students should do some activities or…
I think	BAWE	**I think** the pace of the film is interesting.
	KTUCALE	**I think**, a computer cannot take place of teacher.
So	BAWE	**So**, why has this occurred?
	KTUCALE	**So**, I believe that listening helps and facilitates…
Well	BAWE	**Well**, dear Amanda, thou art the most constant wife…
	KTUCALE	**Well**, in this essay, I will reply how to teach…
You know	BAWE	As **you know**, you have been experiencing some chest pain.
	KTUCALE	**You know**, I also use computer program before we…
You see	BAWE	**You see** he knows me!
	KTUCALE	As **you see**, the world's biggest authorities highlight the…
So on	BAWE	It is quite similar to Burke's; the sea, the storm and **so on**.
	KTUCALE	What their needs and objectives are, and **so on**.
Or so	BAWE	Over the last half-century **or so**, there has been dramatic decline…
	KTUCALE	Increasingly, in one of the 800 **or so**…

Table 1. Contextual usage of the pragmatic markers in BAWE and KTUCALE corpora

As it is seen in *Table 1*, the usage of the pragmatic markers are quite similar in case of their semantic prosody. Moreover, all of the pragmatic markers look like spoken forms. In results and discussion part, the semantic prosodic usages of the pragmatic markers in case of their oral and written functions will be explained with the evidence data which were gathered by corpus research.

Pragmatic Markers
In very general terms, pragmatic markers presuppose one speaker and at least one addressee taking part in a speech situation, which they at the same time create and monitor via discourse (Erman, 2001). He also continues listing the features of pragmatic markers that is to mark various kinds of boundaries (to initiate or end a discourse or to effect a shift in topic); to assist in turn-taking in oral discourse; to express speaker attitude; and to achieve intimacy between speaker and addressee. Pragmatic markers, such as *you know, I mean, so, well, like* and *now*, have been studied at great length since the 1980s when corpus became widespread and useful for this kind of studies after spreading of computers with the technological developments. They can be defined as linguistic elements "which do not contribute to the propositional content of the utterance which they modify [and that] are frequent in conversation, where they express the speaker's attitudes to the addressee, negotiate background assumptions, express emotions and contribute to coherence" (Aijmer, 2003). Jucker and Ziv (1998) listed the characteristics of discourse markers in their study.

According to their list, discourse markers are short, phonologically reduced, optional, multifunctional, and a feature oral rather than written discourse. Even in Middle English period, pragmatic markers were used as oral features in language. In one of early articles of Novelli (1957), it was mentioned that pragmatic markers represent informal language; remind the reader that "someone is telling the story, controlling the total effect". Moreover, According to Fraser (1996), any signal that has an effect at the communicative, as opposed to the strictly propositional, level can be considered a pragmatic marker. If such markers are omitted, the discourse is grammatically acceptable, but would be judged "unnatural", "awkward", "disjointed", "impolite", "unfriendly", or "dogmatic" within the communicative context. Creating such a discourse could be "incomprehensible" for the listener, and "mission impossible" for the speaker (Svartvik, 1985). He also continues that as a consequence of their semantic shallowness, they are difficult to translate into other languages. They can be considered as cultural expressions in oral discourse. As a result, it can be inferred from the previous studies that pragmatic markers play a fundamental role in spoken language.

Some researchers use the term commonly 'discourse markers' instead of pragmatic markers. On the other hand, there are many other terms for this expression which were used by the linguists. Brinton (1996) collected different expressions for pragmatic markers from various researchers and linguists: "*comment clause, connective, continuer, discourse connective, discourse-deictic item, discourse operator, discourse particle, discourse-shift marker, discourse word, filler, fumble, gambit, hedge, initiator, interjection, marker, marker of pragmatic structure, parenthetic phrase, (void) pragmatic connective, pragmatic expression, pragmatic particle,* and *reaction signal*".

Research Questions
1. Are the pragmatic markers used mostly in spoken language or written language?
2. Do Turkish EFL learners overuse or underuse pragmatic markers compared to native speakers in academic written language?

METHODOLOGY
The instruments which were used in this study include two different academic written and one spoken corpora; KTUCALE (Karadeniz Technical University Corpus of Academic Learner English), BAWE (British Academic Written English), BASE (British Academic Spoken English). Moreover, two concordance tools were used in order to reach the data; SketchEngine online corpus interface, and AntConc 3.2.2 offline corpus software.

Representation	Corpus	Number of Texts	Average Length of Texts	Total Number of Words
Learner Writing	KTUCALE	196 texts	2,272	509,464 words
Native Expert Writing	BAWE	2897 texts	2,554	6,506,995 words
Native Expert Speaking	BASE	160 texts	7,826	1,252,256 words

Table 2. Corpora Contents of KTUCALE, BAWE and BASE

The learner corpus comes from Karadeniz Technical University Corpus of Academic Learner English (KTUCALE). KTUCALE corpus contains essays which were written by the students of a Turkish university. All of the essays are academic in character and the selected sample for the present comparative study is a total of 509.464 words. The reference and control corpus of similar writing was taken from the British Academic Written English (BAWE) database. This native speaker corpus consists of Academic essays written by British university students and contains 6.506.995 words with the contents range from Arts and Humanities, Social Sciences, Life Sciences to Physical Sciences in three levels of study: undergraduate, graduate and master levels. KTUCALE and BAWE corpora were analysed via AntConc 3.2.2 offline corpus software which is available free online, and it makes possible to gather data such as wordlist, concordance, collocates, frequency and word clusters, etc... As the last corpus, British Academic Spoken English (BASE) was used in order to compare and to find out the use of pragmatic markers whether they are mostly used in spoken or written language. BASE was reached via SketchEngine online corpus interface on which it is possible to gather data from online corpora in various languages, or it is available to upload the personal corpus of the researchers.

In order to compare the three corpora, normalized (standardized) frequencies were calculated. The reason of the use of normalized frequencies is that the raw frequencies do not give the proportional data while comparing at least two corpora because of the difference between corpora contents. In order to calculate the normalized frequencies, the following formula was used; (Standardized Frequency = Raw Frequency x 1.000.000 / Corpora Content). Normalizing the data to one million is optional; furthermore, it can be also normalized to one thousand or one hundred thousand.

Moreover, LL (Log Likelihood) scores of each pragmatic marker were calculated in order to find out the difference between the use of pragmatic markers in the native spoken, native written, and non-native written corpora. LL scores were automatically calculated via online interface of Lanchester University database on the following link; *(http://ucrel.lancs.ac.uk/llwizard.html)*. If the LL score is over 3.84, critical value is 95th percentile; if the LL score is over 15.13, critical value is 99th percentile.

RESULTS AND DISCUSSION
The pragmatic markers, and their raw and normalized frequencies of the three corpora, which are mostly used in spoken or informal language instead of academic language, are listed below in *Table 3*.

	BASE	BAWE	KTUCALE	BASE	BAWE	KTUCALE
	Raw			Normalized Per Mil		
I mean	1052	27	13	840,08	4,1493	25,5170
I think	1501	318	122	1198,60	48,8704	239,4673
So	12790	10478	901	10213,60	1610,2671	1768,5253
Well	3187	50	10	2545,01	7,6840	19,6284
You know	2133	50	37	1703,30	7,6840	72,6253
You see	381	24	9	304,25	3,6883	17,6656
So on	385	145	44	307,45	22,2837	86,3652
Or so	74	34	3	59,09	5,2251	5,8885
TOTAL				**17161**	**1710**	**2236**

Table 3. Raw and Normalized per mil frequencies of the pragmatic markers in three corpora

According to *Table 3*, it is obviously seen in the total normalized frequencies of the three corpora that target pragmatic forms are overly used in spoken corpus. In *Table 4* and *Table 5*, the three corpora were compared with the details and Log Likelihood scores.

	BASE normalized	BAWE normalized	LL score
I mean	840	4	1119.24
I think	1199	49	1316.77
So	10214	1610	6981.11
Well	2545	8	3430.99
You know	1703	8	2270.14
You see	304	4	384.28
So on	307	22	294.58
Or so	59	5	53.63

Table 4. Log likelihood Score of BASE and BAWE

In *Table 4*, log likelihood scores of BASE and BAWE were calculated in order to prove that the pragmatic markers are mostly used in spoken language compared to written one. As it is seen in *Table 4*, all of the LL scores are highly over 15.13 (p<0.01) which is the critical difference value of 99.99th percentile. There is a significant difference between BASE and BAWE, which means that the target pragmatic markers can be considered as the speech-like words and phrases with their oral functions. With this comparison, on the other hand, it also seen in native written corpus that the pragmatic markers are not the forms which are commonly used in academic writings.

	BAWE normalized	KTUCALE normalized	LL score
I mean	4	26	18.03
I think	49	239	136.54
So	1610	1769	7.48
Well	8	20	5.31
You know	8	73	60.07
You see	4	18	9.64
So on	22	86	40.53
Or so	5	6	0.09

Table 5. Log Likelihood Scores of BAWE and KTUCALE

In *Table 5*, log likelihood scores of BAWE and KTUCALE were calculated in order to compare academic writings of the natives of English to the tertiary level Turkish EFL learners' academic writings. According to the table, all LL scores except *or so* are over 3.84 (p<0.05) which is the critical difference value of 95th percentile. Except *or so*, all of the use of target pragmatic markers can be considered as problematic. The situation of *or so* might be caused because of its limited frequency; furthermore, its normalized frequency of KTUCALE was still overused in comparison with BAWE. The use of each pragmatic markers in KTUCALE is five times higher than BAWE in average.

CONCLUSION

With this study, it has been partly proven that tertiary level Turkish EFL learners use some pragmatic markers more than the native speakers of English in their academic writings. The reason of being partly proven is that this is a small scale research which was only applied to KTU students in Trabzon. In order to reach the more general statistics, this research would be applied to the whole country or the main representative regions. The results of the study is quite similar to previous counterpart studies such as Babanoğlu (2014) and Ünaldı (2013).

This overuse by tertiary level Turkish EFL learners may be considered as a problem in the use of English language as they write their academic writings like they speak. In order to reach the advance or native-like level, learners need more awareness and practice about correct usage of the language. This skill may be gained by input such as reading native texts with the attention on the usage of language. On the other hand, lack of practice of reading and writing, and L1 transfer may cause these kind of mistakes. Furthermore, it can be inferred from this research that Turkish EFL learners need more awareness about foreign language usage in academic level.

For further research, pragmatic markers are gender specific and more typical of women's speech (Jucker, 1998). In this respect, the usage of the pragmatic markers by EFL learners can be analysed according to gender or age.

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A CONTENT ANALYSIS OF STUDIES DEVOTED TO PHYSICAL SCIENCES EDUCATION AT PRIMARY SCHOOL LEVEL

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ABSTRACT

The purpose of this study is to investigate the papers published between 2000 -2015 in the field of physical sciences education at primary school level. A total of 114 papers from 38 journals were examined via content analysis. Due to the fact that the number of studies in the field of physical sciences education at primary school level conducted before the year 2000 is very low (5), these studies were not evaluated. Out of 10380 papers published between 2000 and 2015, 114 of them were dealt with. It was ascertained that most of these papers were published in 2013 (15.79%). The smallest numbers were 0 in 2000 and 1 in 2001. In terms of the research patterns, it was found out that these papers were mostly scanning studies. It was seen that the papers that were studied dealt with mostly primary school students, followed by bachelor's degree students doing their degree on primary school teaching. It was also observed that the studies that adopted student and teacher views and included the knowledge and success levels of students came to the fore as research subjects. Scale/inventory, success tests and surveys were mostly preferred as the data collection tools. In the light of the findings, it can be put forward that this study can guide the researchers that intend to conduct studies on primary school level physical sciences education.

INTRODUCTION

Science is the endeavor to examine and identify the beings in an area; make generalizations and principals related to those beings and forecast future happenings by means of these principals. Physical sciences, similarly, deal with the beings and happenings in the nature with the same purpose. Physical sciences can be described as examining the nature and natural events in a systematic way and predicting the not-yet-observed events (Kaptan, 1999).

Physical sciences are made up of pieces of knowledge with different structures such as facts, concepts, generalizations, theories and laws.

The foundation of the improvement of the society and the environment is originally established in primary schools, in Physical Science lessons. In these lessons, students have the chance to deal with and examine the science and nature world that they live in. Indeed, they depend on having a good knowledge of the science and nature world and benefiting from it adequately to adapt to life. In this sense, children gain the ability to think objectively on happenings and situations and make correct judgements via examining their environment with scientific methods at primary school. This ability makes them useful for themselves, their families and the environment (Kaptan, 1999).

By learning physical sciences, people can make predictions on some unobserved events and facts. By learning science-related events, people can perceive what is happening around them correctly, predict what might happen and render life easier. They can approach events and facts with an analytical point of view and make more accurate reason-result relationships. That physical sciences are beneficial in social relationships, technology and individual life and pave way for improvement in students' skill and behaviors are a fact.

Physical sciences lessons play an important role in the process of primary school students' structuring the knowledge and experiences of the nature, which they are also a part of. The aim of physical science education is to train individuals who research, inquire, examine, establish relationships between the daily life and science subjects, can use the scientific method in solving problems of every area of daily life, can look at the world from the point of view of a scientist, can use the nature of science in appropriate ways with an insight of basic scientific concepts, principals, laws and theories (Ministry of National Education, 2005).

Achieving this goal in the national physical science program is possible teaching the students the scientific knowledge concept, implementations and the scientific method that has led to the emergence of physical science concepts as well as teaching them those concepts and leading them to think about those. In this regard, a structuring physical sciences education must also include the development of the scientific knowledge concept of students. Therefore, one of the aims of physical sciences education should be dealing with how scientific knowledge was structured during its formation and the foundations it was established upon (Driver, 1995).

Today's rapidly-moving technology bears the necessity of producing solutions to the environmental problems that technology brings alon (Yaşar and Yıldı-Duban, 2007) as well as the necessity of education physical sciences-literate individuals that can adapt themselves to the fast-changing lifestyle. Physical science-literate individuals are those that have a certain point of view and knowledge on daily life topics, have the skills required to utilize their knowledge when necessary, have a flexible mindset and life-long learners that respect the evidences they are presented (Harlen, 2000). Physical sciences lessons spearhead the way for other lessons in gaining the

students these features. Physical sciences lessons aim to get students to deal with the environment they live in and the universe in a scientific manner. Their easy adaptation to life depends on observing their environment well and learning the ways of establishing reason-result relationships as well as possible (Kaptan and Korkmaz, 2001: 1). An effective physical sciences education leads students to do various researches, evaluate the knowledge they get by making links with their prior experiences, relate the knowledge they have learned in relation with the daily life and solve the problems they encounter. Moreover, thanks to physical sciences education, students can identify their own roles, develop a sense of responsibility, learn how to share and gain the skill of self-expression. This way, students are raised to be physical-science-literate individuals who know how to work in cooperation (Tatar, 2006). Among the aims of physical sciences education are gaining the individuals knowledge, awareness, values and sensitivity towards their environment, adopt a critical point of view in their interaction with the environment and and providing them with the skills required to participate in solving environmental problems effectively and responsibly (Erol and Gezer, 2006).

Accordingly, a quality physical sciences education starting at an early age is essential in terms of individuals' self-realization, developing problem-solving skills, becoming social individuals and taking responsibilities. Based on this, studies devoted to providing students with quality physical science education are of importance. Thus, this study aims at examining the contents of the studies on primary school level physical sciences education. The papers that were dealt with were studied in terms of variables like the topic of the study, the study group, research type and data collection tools. The study sought answers to the following questions;

1- What are the inclinations of the subjects dealt with in the papers?
2- What sort of a distribution is there in the papers with regard to the study group, research type and data collection tools?

METHOD
In this study, the content analysis method was used to investigate the studies devoted to the physical sciences education at primary school level in Turkey between 200 and 2015. The content analysis is a scientific approach that enables objective and systematical evaluation of verbal, written and other materials (Tavşancıl and Aslan, 2001). According to Cohen, Manion and Morrison (2007), content analysis can also be defined as the process of summarizing and identifying the basic content of written information and the messages it includes. A frequently used method in social sciences, content analysis can be defined as a systematical, renewable technique which summarizes books, book chapters, letters, historical documents, newspaper headlines and articles with smaller content categories using codings based on certain rules.

Scanning and Choosing Criteria
To determine the papers to be used for the study, several scanning and choosing criteria were ascertained by the researchers. Following this, the issues of the studies devoted to the physical sciences education published between 2000 and 2015 were scanned.

In accordance with the above-mentioned criteria, each appropriate journal was examined by the researchers and the articles that were attained were tabulated. The papers were compared to check whether each researcher obtained the same papers. Different papers were checked separately based on the criteria to decide whether they could be included in the study, with the aim of maintaining the study's reliability and internal validity.

Following the scanning process, 114 papers that were compliant with the criteria were examined in terms of "research subject, study group size, method of determining the study group, research type, data collection tools and data analysis methods".

FINDINGS
Using the key words determined at the first scanning, a total of 142 papers from 38 journals were chosen. After all the papers were checked by the researcher in accordance with the criteria, 114 papers were decided to be included. An examination of Table 1 which gives the distribution of the papers according to their year of issue shows an increase in recent years. The data in the table shows that the highest number of studies that fit in the criteria of the study were in 2013 (15.79%).

Table 1. Distribution of the Papers Studied According to Year of Issue

Years	Number of articles	%
2001	1	0,88
2002	2	1,75
2003	5	4,39
2004	12	10,53
2005	4	3,51
2006	8	7,02
2007	6	5,26
2008	11	9,65
2009	9	7,89
2010	3	2,63
2011	5	4,39
2012	7	6,14
2013	18	15,79
2014	9	7,89
2015	14	12,28
Total	**114**	**%100**

It can be seen that the physical sciences program of the Ministry of National Education has particularly been altered and there has been an increase in the research numbers following 2004 and 2013.

Looking at the research question "what is the inclination of research subjects?" (Table 2), it can be understood that the subject that was most dealt with was the one in which student and teacher views on physical sciences education were taken - it was handled in 29 papers. Particularly, teacher views on program changes stand out as the most researched topics. Besides this, it is observed that there are 22 papers which are on the knowledge level and success of students in physical science subjects; 19 on the attitude towards physical science subjects; 17 on the teaching on physical sciences subjects; 13 on the self-efficacy and beliefs of teachers; 9 on the physical science misconceptions of students; and 5 on Scientific Process Skills. It was reported that the 22 papers which were devoted to researching the academic success were more of a sum of researches that included empirical studies dealing with a method's effect on success.

Table 2. Distribution of the Research Subjects That Were Dealt With

Subject	Number of articles	%
Views of the Teachers and Students	29	25,44
Achievement level	22	19,30
Attitude	19	16,67
Teaching/ Learning	17	14,91
Misconceptions	9	7,89
Science Process Skills	5	4,39
Other	13	11,40

Examining the papers in terms of research type (Table 3), one can say that the studies were mostly quantitative ones (81) while the number of the qualitative studies was 30. Besides, 3 combined studies were reported to have been done. Whereas 52 of the quantitative studies were made of non-empirical scanning researches, the number of the empirical studies which were conducted with pretest-posttest control group pattern was 29. As for the qualitative studies, it is observed that the qualitative scanning pattern was used in 18 studies; the case study pattern was used in 8 studies; phenomenological research was used in 3 studies and action research was used in 1 study. It was found out in the scanning that the studies in which student and teacher views were taken predominated the studies that were used.

Table 3. Distribution of the Research Type Used

Research Type	Number of articles	%
Quantitative	**81**	**71,05**
Non-experimental	52	45,61
Experimental	29	25,44
Qualitative	**30**	**26,32**
Descriptive Qualitative	18	15,79
Case study	5	4,39
Phenomenological	3	2,63
Action Research	1	0,88
Mixed	**3**	**2,63**

With regard to the data collection tools (Table 4), the majority of the studies (40) were the ones conducted with scale/inventory. In addition, 37 tests, particularly success tests were used and open ended/likert surveys were used in 20 researches. It was also seen that 15 studies with interviews in which semi-structured form was used were performed.

Table 4. Distribution of the Data Collection Tools

Data Collection Tools	Number of articles	%
Scale / Inventory	40	35,09
Information / Achievement Test	37	32,46
Survey	20	17,54
Form of Interview	15	13,16

As the sample group (Table 5), mostly primary school students were chosen (48). Candidate teachers were included in 38 studies. The number of the studies in which primary school teachers took place was 28. As for the sample size (Table 6), 51 researches with a sample of 100 subjects, 34 studies with 51-100 subjects and 29 studies with fewer than 50 subjects were detected.

Table 5. Distribution of Sample Group Type

Sample Group Type	Number of articles	%
Primary Schools Students	48	42,11
Preservice Teachers	38	33,33
Teachers	28	24,56

Table 6. Distribution of Sample Group Sizes

Sample Group Sizes	Number of articles	%
0-50	29	25,44
51-100	34	29,82
101-	51	44,74

CONCLUSIONS

The study analyses 114 studies concerning physical sciences education at primary school level in Turkey, in terms of research patterns, data collection tools, sample types and sample size.

The distribution of the papers in terms of their year of publication shows that there has been an increase in the recent years. The data given in the table reveals that the highest number of studies that match the criteria that were ascertained were in the year 2013 (15.79%). In particular, there was an increase in the number of researches after the years 2004 and 2013, when the physical sciences program was altered by the Ministry of National Education. An examination of the inclination of the research subjects exhibits that the topic that was dealt with the most was the ones that took the views of students and teachers. Under this topic, particularly the teacher views on program changes leap out. Besides this, the number of the studies that inquire into the knowledge levels and success of the students in physical science subjects are also high. Farther, the attitude towards physical sciences subjects is also among the researched topics. A rise in the number of the studies looking at the teachers' self-efficacy and beliefs following the new circumstances that emerged after program changes is also observed. Misconceptions about physical sciences, which are always popular, are also among frequently-examined topics. Scientific Process Skills that came to the fore with the physical sciences program of 2004 has taken its place among the research subjects.

With regard to the types of research, it was found out that mostly quantitative studies were carried out and the reason for this is believed to be the fact that it is easy to collect data in such type of studies. The number of qualitative studies, on the other hand, is low. The fact that particularly the type of scanning is low in quantitative studies is predominant leads to limitations in terms of variety. In empirical studies, generally, pretest-posttest control group pattern is preferred. Here, the most preferred topic is the effect of the new methods and techniques on student success. In qualitative studies, the qualitative scanning pattern is in the foreground.

With regard to data collection tools, the majority of the studies were conducted with scale/inventory. Preferred in terms of being easy to collect data, scales were frequently used in scanning studies. As for the studies which examined the effects of methods and techniques on academic success, Success Testes were used. It was found out that the semi-structured interview form was mainly used to get the views of teachers. The sample groups of the studies consisted mainly of primary school students, followed by candidate teachers and primary school teachers, respectively. The rationale behind these sample groups was being easily accessible. It is believed that this study will guide other studies in the future

In accordance with the findings of the study, the following recommendations were brought up;

•   Physical sciences education, which is getting more and more important, should be examined by more researchers at primary school level

•   At primary school level, more studies should be done, particularly on concept teaching.

•   The number of the studies on the physical sciences education by candidate teachers should be increased.

•   Various methods and data collection tools should be used in studies.

•   Rather than picturing the current situations, studies should look for the gaining the students get from the implementations.

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A DIFFERENT METHOD PROPOSAL TO IMPROVE OF SKILLS AND SUCCESS OF THE SUBTRACTION AT PRIMARY SCHOOLS IN TURKEY

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ABSTRACT
In this study 2nd grade primary school students' skills and success of subtraction especially with borrowing three digit numbers is investigated. Two different models of the subtraction are analyzed. One of them is used in Turkey (1) and the proposed method which is used in Austria (2). The present paper describes the success, both of the subtraction methods to be observed when 16 primary students worked on 10 subtraction problems. These 10 problems were administered repeatedly by means of a class test: In March 2015 firstly the standard Turkish algorithms were introduced and as a pretest examined, afterwards two weeks long two hours in a week Austrian system was practiced and finally they had been examined as a posttest with Austrian system.
Keywords: Mathematic teaching/learning, primary schools, basic mathematic operations, subtraction.

INTRODUCTION
When considering the importance of the four basic operations in mathematics, the psychological studies focusing on subtraction solving are surprisingly scarce compared with those focusing on addition in the literature devoted to cognitive mental arithmetic. The rare studies focusing on subtraction in primary school children (Robinson, 2001) as well as in preschoolers (Siegler, 1987) have reported important individual variability in speed, accuracy, and strategy use. It has been assumed that such variability is comparable to that observed in addition. Nonetheless, the strategy of direct retrieval of the answer from memory, which is the fastest and most accurate strategy, seems to be used less frequently to solve subtractions than to solve additions (Robinson, 2001). The subtraction skill has an important place in learning mathematics which is required to acquire other high level objectives in the mathematics curriculum (Ozder, 2011).

Addition and subtraction are complementary operations. Knowledge of addition combinations has long been thought to facilitate the learning of subtraction combinations (e.g., 8 - 5 = ? can be answered by thinking 5 + ? = 8). Indeed, it follows from Siegler's (1987) model that an associative facilitating effect should make the correct answer the most common response to a subtraction combination, even in the earliest phase of mental-subtraction development.

Subtraction of multiunit numbers has the same three components as addition: (a) One operates on (subtracts) like multiunits, (b) this subtraction can be carried out as single-digit subtraction of the numbers of each kind of multiunit, and (c) trading is required for problems where the sum of a multiunit is ten or more. With addition, one can carry out the addition of like multiunits and only confront component (c), the problem of trading, if the sum exceeds nine. For subtraction, if a trade is necessary, one cannot even begin the subtraction of like multiunits until one has traded. Addition and subtraction are inverse (opposite) operations, and each multidigit addition problem is inversely related to two subtraction problems (those made by subtracting each addend from the sum). One will need to trade in a subtraction problem for any multiunit that was traded in the related inverse addition problem, because the number of that multiunit in the minuend (sum) will be less than the number of that multiunit in the subtrahend (addend being subtracted). Thus, trading in subtraction is just undoing the original trading that was required in addition, because one could not write the whole two-digits um for that multiunit. Therefore, trading in subtraction is just one-for-ten trading to the right, the opposite of the ten-for-one trading to the left that occurs for addition (Fuson, 1990).

Resnick (1992) noted that, starting at about 7 years old, children begin to use a choice strategy: choose between two informal computational strategies to determine differences. In cases in which the numbers are relatively close, such as 7 - 5, counting down ("7; 6 [is one less], 5 [is 2 less], 4 [is 3 less], 3 [is 4 less], 2 [is 5 less]-so the answer is 2") is more difficult to execute than counting up ("5; 6 [is 1 more], 7 [is 2 more]-so the answer is 2"); therefore, children tend to choose the latter strategy.

The above examples demonstrate that subtraction mistakes are caused by defects in the students' prerequisite behavioral objectives. Here the learning defect is due to not knowing the decomposition principle incorrectly. Therefore, while teaching subtraction pre- and post-aspects of the behavioral objectives must be known for effective teaching (Ozder, 2011). Different methods for teaching behavioral objectives related to subtraction skills including the principle of equality and change in decimal-hundred fractions where students make most of their mistakes can be tested (Haylock, 2005).

METHODOLOGY

Research Design: If the digits of the top number (subtrahend) are greater than the digits of the lower number (minuend), then everything is very simple, for example:

$$\begin{array}{r} 9\,7\,4 \\ -\ 8\,5\,1 \\ \hline 1\,2\,3 \end{array}$$

For this calculation in (1) we say: 4 minus 1 is 3, 7 minus 5 is 2 and 9 minus 8 is 1. In (2) is used supplementary method and we say: 1 and 3 is 4, 5 and 2 is 7 and 8 and 1 is 9.

But if the digits of the minuend are greater than the digits of the subtrahend, then everything is quite terrible, for example:

$$\begin{array}{r} 6\,7\,2 \\ -\ 2\,9\,8 \\ \hline ?\,?\,? \end{array}$$

In subtraction method (1) are the children are confused with drawing lines and calculate as:

$$\begin{array}{r} 5\ \ \overset{16}{6}\ \ 12 \\ \cancel{6}\ \cancel{7}\ \cancel{2} \\ -\ 2\ 9\ 8 \\ \hline 3\ 7\ 4 \end{array}$$

2 less 8 is not possible, therefore we take from the 7 tens of subtrahend one ten, must deduct from 7 - 1 and it remains 6 tens, so have 10 + 2 = 12 one count available and can now calculate 12 - 8 = 4. And by the second step also 6 less 9 is not possible, therefore we take from the 6 hundred of subtrahend one hundred, that is 10 tens must deduct from 5 - 1 and it remains 5 hundred, so have 10 + 6 = 16 tens available and can now calculate 16 - 9 = 7. And finally 5 - 2 = 3. So as a result, 12 minus 8 is **4**, 16 minus 9 is **7**, 5 minus 2 is **3**. That is **374**.

This calculation could be done with proposed method (2) as follows:

$$\begin{array}{r} 6\ 7\ 2 \\ -\ 2_1 9_1 8 \\ \hline 3\ 7\ 4 \end{array}$$

8 plus how much is 2, is not possible, therefore it is called 8 plus how much is 12; **4**. So that it is remembered with a small 1 in addition to the 9 by minuend that later also actually by 1 more respectively have to deduct not only 9 but 9 + 1 = 10. 10 plus how much is 7, is not possible, therefore it is called 10 plus how much is 17; **7**. So that it is remembered with a small 1 in addition to the 2 by minuend that later also actually by 1 more respectively have to deduct not only 2 but 2 + 1 = 3. Finally, 3 plus how much is 6; **3**. So as a result, **4** and 8 is 12, **7** and 10 (9 + 1) is 17, **3** and 3 (2 + 1) is 6. That is **374**.

Purpose of Study:
The purpose of this study is to determine the skills and the success of the objectives belonging to the multi digit subtraction with borrowing in the 2nd grade mathematics curriculum of two different methods.

Study Group:
The study was conducted with 2nd grade primary school students at Atatürk Primary School in Kaynarca, Sakarya during the 2014-2015 academic year. There were 16 students in total.

Procedure:
To examine the main purpose, the following research sub questions were asked:

- How are the skills and success in 2nd grade primary school students in three-digit number subtraction before the proposed method?
- Whether the skills and success in 2nd grade primary school students have developed in three-digit subtraction after teaching the proposed method?

For this purpose, considered hypotheses are chosen as follows:

H_0: There is not the statistically significant average success difference between both methods.

H_1: There is the statistically significant average success difference between both methods.

Research Instruments:

Research was conducted with 16 students in 2c class at Atatürk Primary School in Kaynarca, Sakarya and was prepared according to the pretest-posttest model. During the research, the operations below were performed successively.

- All of 16 children were administered a formative test (as a pretest) with following 10 questions:

Q1)	Q2)	Q3)	Q4)	Q5)
783 − 248	615 − 494	921 − 567	512 − 199	1000 − 328

Q6)	Q7)	Q8)	Q9)	Q10)
403 − 154	854 − 798	746 − 248	680 − 334	921 − 145

- 2 weeks with 2 hours in a week teaching were held in the class. Firstly, the proposal method was presented. And then many examples were solved with the participation of students.
- After 2 weeks teaching same questions in pretest were asked again (as a posttest).

Data Analyses:

After collecting the pretest and posttest data, were saved to computer and arranged. After the reliability and validity values of the scales were determined, the phase of data analysis started.

The determination of descriptive statistics for the analysis of data; paired samples t test ($p < .005$) were applied. Excel and SPSS software was used for the data analysis.

Finding and Results:

The posttest data from subtraction timed test served to check whether knowledge of addition combinations plays a key role in mastering subtraction combinations. Following Figure 1 show us how well the children have been involved in a short time and have shown success. For example:

Figure 1. Q3 with both of methods

Question 5 was purposely chosen to look at how the children react. By pretest were all of children confused but by posttest 3 of 16 could answer it true (see Figure 2 and Table 1). One of the children has written under the line: "I have not understood and could not made"

Figure 2. Q5 in pre- and posttest

By pretest, 1 of 16 children answered Q6 correct but by posttest 9 of 16 have been able to create (Figure 3).

Figure 3. Q6 in pre- and posttest

Below the examples are given from some of asked questions which from children were answered in the pre- and posttest (Figure 4).

Figure 4. Some examples from pre- and posttest

This method provides a positive effect on the students to be understood subtraction easily. Furthermore, the method is for the primary school teachers seems assisting them for the subtraction more comfortable describe and explain.

Table 1
Pretest – Posttest Result

Children	Results of the tests: true (T) or false (F) in																			
	Pretest with questions number (Q)										Posttest with questions number (Q)									
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	T	F	F	T	F	F	F	F	F	F	T	F	F	T	F	T	F	T	F	F
2	T	T	T	T	F	F	F	F	T	F	T	T	T	F	F	T	T	T	T	T
3	T	T	F	F	F	F	F	F	T	F	F	T	F	F	F	T	T	F	F	T
4	T	T	F	F	F	F	F	F	T	F	T	T	F	F	F	T	T	F	T	T
5	T	F	F	T	F	F	T	T	T	F	T	T	T	F	F	T	T	T	T	F
6	T	F	F	F	F	F	F	F	T	F	T	T	F	F	F	F	F	F	T	F
7	T	F	F	F	F	F	F	F	T	F	T	F	F	F	F	F	F	F	T	T
8	T	T	T	T	F	F	T	T	F	T	T	T	T	F	T	T	T	T	T	T
9	T	F	F	F	F	T	F	F	T	F	T	T	F	F	F	T	F	F	T	T
10	T	T	T	T	F	F	T	T	T	T	T	T	T	T	T	F	T	T	T	T
11	T	T	T	T	F	F	F	T	T	T	T	T	T	T	F	F	F	T	T	F
12	T	T	T	T	F	F	T	F	T	T	T	T	T	F	T	F	F	F	T	T
13	T	T	T	F	F	F	T	T	F	T	T	T	T	F	F	T	T	F	T	T
14	T	T	F	F	F	F	T	T	T	T	T	T	T	T	F	F	T	T	T	F
15	T	T	T	F	F	F	F	T	F	F	T	T	T	F	F	T	F	F	T	F
16	T	T	F	F	F	F	T	F	T	T	T	T	T	F	F	F	F	F	F	T

For the pretest given true response rates of the students is 47% and posttest is 58%, thus is observed with the proposed method in a short time the increase of the level of success 23%.

In the following tables (Table 2 and Table 3) are presented if there is a statistically significant difference between the dependent groups (paired sample) t-test results between pretest and posttest.

Table 2
Paired Sample Statistics

	M	N	Std. Deviation	Std. Error Mean
Austrian method	5,8125	16	1,93972	,48493
Turkish method	4,6875	16	2,02382	,50595

Table 3
Paired Sample t test

| | Paired Differences | | | | | | | Sig. |
| | Mean | Std. Dev. | Std. Err. M. | 95% Confidence Interval of the Difference | | t | df | (2-tailed) |
				Lower	Upper			
Austrian and Turkish method	1,12500	1,25831	,31458	,45450	1,79550	3,576	15	,003

The paired sample t-test table (Table 3) reveals that there is the significantly scores difference between by pretest used Turkish method and by posttest used Austrian method (p <.005). It determined that the difference is in favor of the posttest and **H₁** hypothesis was accepted. In this case, Austrian subtraction method for the students can be expressed as a positive effect on skills and success.

CONCLUSIONS
Especially in this study was used second method because of the subtraction difficulties for students. After short practice sessions was seen this method is more understandable for the children. Moreover, increases the skills and the success of the children in a short time. So second method seems to be better and uncomplicated and could be overcome the difficulties of subtraction understanding in mathematics.

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A FIELD RESEARCH FOR PROFILE EVALUATION OF MECHANICAL ENGINEERING STUDENTS

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ABSTRACT

It is very important for educational institutions to recognize the student profile in order to achieve outputs of targets and programmes, and effective use of resources. In Mechanical Engineering education, it is necessary to assess the student profile accurately, to properly analyse the reasons, abilities, and expectations for professional preferences, and to achieve outputs of programmes.

In this study, 520 newly registered students at the beginning of the last two academic years to the Under-Graduate Programme of Mechanical Engineering, Yıldız Technical University were given a multiple-choice questionnaire. Then, data were obtained and interpreted to see whether new students had the essential properties necessary for mechanical engineering education. The study was planned to be continued in the following years, and the possible changes in the student profile were planned to be monitored.

It is thought that the data from the questionnaire will guide the programme evaluation, improvement and enhancement studies continued in the relevant departments of other universities, and thus increase the quality of education.

Keywords: Mechanical Engineering Education, Student Profile, Questionnaire.

1. INTRODUCTION

Many profile research studies are conducted in different fields and scopes with similar purposes. These frequent studies allow for monitoring the changes (Ballack S., Botes A., 2003). In the field of education, also, it is important to know the student profile in order to achieve target and programme outputs and efficient use of the resources. Profile studies for university students are of an important function in showing the basic properties and expectations of people on their way to a specified profession (Şenses F., 2005). In addition, knowing the student profile plays an important role in subjects such as relationships between students and academicians, and personal and social developments and self-confidence of the students (Kuh, G., 1995).

In Mechanical Engineering education, it is targeted that students are trained as mechanical engineers who are able to design and conduct analyses productive, self-confident, with a good sense of team working and capable of international competition. Furthemore, students are planned ro be enterprising and researching with professional and ethical values. In a rapidly changing world, it is necessary to train the students for the future by allowing them to acquire skills to think in a better way and competencies in a way that they can cope not with the conditions of yesterday's world, but with a dynamic new World. It is necessary to evaluate the student profile accurately in order to achieve this goal. For instance, it is an important factor in obtaining success that students should start the engineering education after they investigate consciously the department and the profession, and evaluate their desires, personalities, and abilities. Better analysis of reasons and deficiencies of profession selection of students is necessary to achieve educational outputs.

Over the years, differences can be observed in the student profile registered in the mechanical engineering programme because of the changes in the life conditions, in the world and the increase in the number of students registered in the mechanical engineering programmes in our country. Due to the fact that this is the first study conducted in this subject in Turkey, no comparison was possible to be made with the previous years' research results.

In the present study, data were obtained about the reasons for preferring mechanical engineering, levels of willingness, interests in the active education system at the selection stage, and having or lacking the basic properties necessary for the mechanical engineering of students just registered to under-graduate education. Socio-economic statuses were excluded when determining the student profile.

2. METHODOLOGY

Questionnaire method was employed in determining the student profile at the Mechanical Engineering Department. As a sample area, Mechanical Engineering Department in Yıldız Technical University, accepting 225 students between 12500-26500 in the MF-4 point type ranking accordig to the central student placement

exam was selected. The number of students of new registrations became 280 in total as a result of the lateral transfer, vertical transfer, and top student contingents. The relevant questionnaire was circulated among 270 students at the beginning of the 2014-2015 academic year, and to 250 students at the beginning of the 2015-2016 academic year, and the results were evaluated. Since the results were similar in both academic years, average of them was determined. 93% of the students newly registered in the last two academic years in Yıldız Technical University were reached during registration, and a total of 520 mechanical engineering students were applied a questionnaire study with containing 18 multiple-choice closed-end questions. Results of 10 questions containing socio-economic status of the students were excluded from the scope of this article.

3. FINDINGS AND INTERPRETATIONS

In this section, the questions of the questionnaire within the scope of the study, and answers to them in numbers and rates are shown in Tables. .Necessary evaluations and interpretations are made on the findings of the questionnaire.

Table 1. Ranking of mechanical engineering between the professions preferred by students.

Question: What is the ranking of mechanical engineering between the professions that you preferred?

Answer	Number	Rate as percentage
1st preference	373	71.73 %
2nd-5th preference	138	26.53 %
6th preference and below	9	1.73 %

It is widely thought that when people dislike their jobs, neither they can be successful nor happy in that profession. Therefore, the evaluation on the Table 1 is important. It can be seen that the mechanical engineering is a profession that was first to be preferred by 71.73 % of the students, and in the first 5 preferences for the others. It is known that willing, desiring students who start university education because they like the profession will be successful, and quality of education will increase.

Table 2. Factors affecting the selection of the profession of mechanical engineering of the students.

Question: Which of the following are the factors affecting your selection of the profession of mechanical engineering? (Multiple options are marked.)

Answer	Number	Rate as percentage
Better occupational opportunities	238	45.77 %
Better educational opportunities	190	36.53 %
Suitable for my point of the university exam	160	30.21 %
The profession I am most interested in	186	35.65 %
Effect of my family and environment	49	9.42 %
Other	36	6.91 %

On the Table 2, it is seen that students believe that in addition to being interested in the profession, they can get a good education in this department, and as a result, they can have a good job. Concerns of finding a job and making profit may be more important than the ideals of the candidates in profession selection. Although multiple options could be marked, it is seen that, they were able to make their own decisions about profession selection, and that effect of family and relatives was minor.

Table 3. Status of willingness for the registered department or university.

Question: Do you want to change your department or university?

Answer	Number	Rate as percentage
No, I don't.	448	86.15 %
Yes, I do.	41	7.88 %
Unsure.	31	5.96 %

Many factors are important to the student candidates of universities in selecting a department, that is a profession, such as the job opportunities and respectedness of the profession, and in addition, university entrance point, the city of the university to prefer, the name of the university to prefer. On the Table 3, it is observed that the students who selected the profession in their first preference was also satisfied that they were registered in Y.T.U.

Table 4. Status of electronic examination and investigation of the relevant departments of the students before making preferences.

Question: Did you examine the web pages of the relevant department before making preferences? Did you find it sufficient?

Answer	Number	Rate as percentage
No, I didn't.	148	28.46 %
Yes, I did, and found it sufficient.	228	43.84 %
Yes, I did, but found it insufficient.	144	27.70 %

We see on the Table 4 that 72.54 % of the new coming students, made their department preferences by electronic pre-investigation and they were conscious. At the same time, we see that, they had the curious, interest and researching personality that is necessary to be successful. 27.70 % of them even find the information provided insufficient. Taking seriously the transfer of information in electronic environment will help the future students of the departments of mechanical engineering be more conscious, more willing, more skilled, and more capable to increase education quality. It is easy to use written, visual social media opportunities and inform the youth through cooperation of universities and T.M.M.O. for introducing the profession.

Table 5. Knowledge of foreign language of the students who preferred Mechanical Engineering.

Question: What foreign languages do you know? At what levels? (Multiple options are marked.)

Answer	Number	Rate as percentage
English- Advanced	244	46.92 %
English- Intermediate	236	45.38 %
English- Basic	16	3.07 %
German- Advanced	20	3.84 %
German- Intermediate	241	46.34 %
German- Basic	168	32.30 %

French- Advanced	6	1.15 %
French- Intermediate	7	1.34 %
French- Basic	166	31.92 %
Other- Advanced	24	46.15 %
Other- Intermediate	56	10.77 %
Other- Basic	197	37.88 %

On examining the Table 5, it is seen that 92.3 % of the registered students, almost all of them, had intermediate and above knowledge of English. In addition, they had intermediate or basic knowledge of a second language, which should be taken into consideration when revising the foreign language preparation term lesson plans.

Table 6. Students knowledge for general use of computers who preferred Mechanical Engineering.

Question: What is your general level of competence of computer use?

Answer	Number	Rate as percentage
Very good.	183	35.19 %
Good.	272	52.30 %
Moderate.	52	10.00 %
Bad.	13	2.50 %
No knowledge.	0	0.00 %

 New generations grow hand in hand with technology. Therefore, rate of computer use is high. The data seen on the Table 6 are positive for our youth who are future engineers.

Table 7. Knowledge of office programmes of the students who preferred Mechanical Engineering.

Question: What is your general level of competence of office programmes?

Answer	Number	Rate as percentage
Very good.	72	13.84 %
Good.	221	42.50 %
Moderate.	183	35.19 %
Bad.	38	7.31 %
No knowledge.	6	1.15 %

Table 7 shows that the students are good at office programmes. The data from the Tables 6 and 7 should be taken into consideration when revising the contents of the relevant lessons.

Table 8. Distribution of the opinions of the students about their post-graduation plans.

Question: What area do you plan to work at after you graduate?

Answer	Number	Rate as percentage
Academic career.	33	6.34 %
Re- De.	51	9.08 %
Manufacturing.	62	11.92 %
Sale-Marketing.	81	15.57 %
Installation.	12	2.30 %
Other.	63	12.11 %
Unsure.	218	41.92 %

The fact that the students preferred the profession willingly Table 3 implies that they were determined to perform their profession after they graduate. However, as understood from the Table 8, they are unsure about areas. The data on this table will necessarily change in the course of education.

4. CONCLUSION AND SUGGESTIONS

In this research, student profiles were obtained through a questionnaire to 520 students just registered in the department of Mechanical Engineering, Yıldız Technical University in the academic years 2014-2015 and 2015-2016. In this way, beginning competencies of the students were determined. It is thought that the data from the questionnaire will guide the programme evaluation, improvement and enhancement studies continued in the relevant departments of other universities, and thus increase the quality of education.

The below conclusions and recommendations were made:

•   It is seen from Table 1 that students were very eager for the profession, and from the Table 2 is understood that they began their under-graduate education with very positive opinions about the university and the department that they were registered in. This is a satisfying situation. It is known that working with young people who begin university education life with positive opinions increase the quality of education.

•   Today many young people prioritize their own decisions and desires for their job preferences. However, concerns of finding a proper job and making profit may be more important than ideals in selection of professions. As a consequence, in Table 2, the option of better occupational opportunities was marked at the first rank in the factors of profession selection.

•   Transfer of information among the new generation is more through electronic media. In Table 4, insufficiency of webpages were emphasized by 27.70 %. According to this percentage, web pages and social media pages should always be updated, and deficiencies should be eliminated by universities and departments.

•   Table 5 shows information about the knowledge of foreign language levels of the students. It should be taken into consideration when revising the foreign language preparation term lesson plans.

•   Tables 6 and 7 show the competency of students at office parogrammes. The relevant lessons' contents should be revised in accordance with these results.

•   In Table 8, the students are seen to be unsure about the post-graduation profession area selection. Because the students have little knowledge of the profession at the beginning, the result is not surprising. However, it is an important finding to take into consideration. Therefore, the first term of the education plan involves the "Introduction to Mechanical Engineering" course. This course aims the students to know the profession in detail and to establish personal goals. The course has a content to help students to feel themselves as engineers, and also feeling engaged and more efficient adoptation with mechanical engineering with higher motivation.

•   Due to the fact that this is the first study conducted in this subject in Turkey, no comparison was possible with the previous years' research results, and its history was not tracked. It is thought that the present research study will draw attention, and form a base for future studies in this field.

•   According to the obtained data, it is concluded that the students who preferred Y.T.U. Mechanical Engineering Department were willing, open to scientific and technological developments, greatly adapted to the systematic structure of our age.

A PEDAGOGICAL ANALYSIS OF ULVİ CEMAL ERKİN'S IMPRESSIONS "DUYUŞLAR"

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ABSTRACT

This study aims to analyze of the work Impressions (Duyuşlar), composed by Turkish composer Ulvi Cemal Erkin for solo piano in 1937, with a pedagogical perspective. Firstly, to emphasize the importance of the study, the paper provides information about the developments in the field of music in the early years of the Republic of Turkey, first generation composers, called "The Turkish Five", including Ulvi Cemal Erkin, as well as Ulvi Cemal Erkin's life and works. The work, Impressions, is analyzed using the content analysis method. The findings obtained as a result of the analysis are expressed in frequencies and percentages. Impressions includes eleven pieces. At the end of the study, it is found that the pieces which included in Impressions are appropriate for different levels (beginner, intermediate, advanced) of piano education.

Keywords: Ulvi Cemal Erkin, Impressions, Duyuşlar, piano pedagogy, pedagogical analysis, piano education, Turkish Five, Turkish piano literature, music education.

INTRODUCTION

Culture and education of the Republic of Turkey, founded in 1923, has been nationalistic. While intending to found a state based on the concept of Turkish nation after the fall of the Ottoman Empire, Mustafa Kemal Atatürk further aimed to create the inventive art of the new state. As being the branch of art, which has affected the peoples in the fastest way throughout history, music was ranked the first among the reforms of Atatürk. It was prescribed to create a music, which was originated from Turkish folk music, but was also giving voice to a contemporary and universal language (İlyasoğlu, 2007).

The first generation in the Contemporary Turkish music, known as "Turkish Five" was composed of composers who had been listening to the traditional Turkish music during their childhood, then got to know polyphonic music by way of education, and all of whom applied the knowledge they had attained in the European countries they had been in their own works. Turkish Five is composed of Cemal Reşit Rey (1904–1985), Hasan Ferid Alnar (1906–1978), Ulvi Cemal Erkin (1906–1972), Ahmed Adnan Saygun (1907–1991), and Necil Kazım Akses (1908–1999). These composers contributed in all dimensions to the music art in the Republican Turkey to gain its identity in terms of global criteria. They served as educator, incorporator of musical institution, instrument master, and maestro. Turkish Five did not carry out collective studies under the roof of a certain institution. The common aim in their individual activities was to make compositions in the western form and technique based on the modal, melodic, and rhythmic structure of Turkish music (İlyasoğlu, 2007).

The element of folklore was adopted as a new dimension of music in the 20th century music. Colors and rhythmic texture of the folk music brought a new dimension in the new music. Turkish folk melodies and the modal character of Turkish music, as well as its structure within *aksak* (halting) rhythms started to draw the attention of the musicians. Introductory studies of the first generation of Turkish composers involved the conversion of not only the melodies and rhythms of Turkish folk music in monophonic structure, but also the modal structure and mystic atmosphere of the classical Turkish music directly into polyphony, and attainment of a system getting closer to European music forms. Collection and notation of folk melodies, and their examination and assessment, too, altogether constituted a significant source. While clearly conveying the traditional elements, the first generation of composers was under the influence of the musical movements from the foreign countries where they had been taught (İlyasoğlu, 2007).

First polyphonic works, having pursued Atatürk's views with regard to national music, emerged mostly in the form of the polyphonic play of the folk melodies in the major composing techniques. Unique works were composed by way of applying folk melodies and the traditional elements of the modal music therein. Among these introductory works, in which French impressionist writing technique was used, may be listed as Cemal Reşit Rey's *"On iki Anadolu Türküsü"* (1926) and *"Enstantaneler"* (1931), Ulvi Cemal Erkin's *"Beş Damla"* (1931), *"Duyuşlar"* (1937) ve *"Köçekçeler"* (1943), Ahmed Adnan Saygun's *"İnci'nin Kitabı"* (1934), and Necil Kazım Akses' *"Minyatürler"* (1936) (Tunçdemir, 2007).

Works of Contemporary Turkish Music, which have not only been derived from the values of traditional Turkish music, but also benefited from the accumulation of the international music, reveal the unique perceptions of their composers. The applicable sound system in this sort of works is not traditional, but of international validity; the structure is not monophonic, but polyphonic; sense of composition is not local-regional-denominational, but national and universal with its dimensions comprising those aforementioned. In these works, metrics, forms, and modal series of Turkish music have been applied in a contemporary perception (Sun, 2007).

Life and Works of Ulvi Cemal Erkin

Ulvi Cemal Erkin was born in 1906. He was introduced to the piano by his mother at an early age. When he was seven he became a private student of Adinolfi. From primary school he was a student at Galatasaray Lyceê. In 1935, after graduating from Galatasaray, he earned a scholarship of the Turkish Ministry of Education and went to study in Paris. At the Paris Conservatory he studied piano under Camille DeCreus and Isidor Philipp; harmony under Jean Gallon and Counterpoint under Noel Gallon. In 1929, he continued his education at the Ecole Normale de Musique where he became a student of Nadia Boulanger. Upon graduation in 1930, he returned to Turkey. His first position was as an instructor of piano and composition at the Musiki Muallim Mektebi (School for Music Instructors). In 1932 he married he married Ferhunde Erkin who was a piano teacher and a celebrated pianist. In 1936 he was appointed head of the piano department at the newly founded Ankara State Conservatory. He also worked as the director of the conservatory from 1949-1951 (İlyasoğlu, 2007). He worked as a piano teacher between 1930-1972 in Ankara State Conservatory. Also he was a piano teacher Gazi Education Institute for twenty five years. Some of his students were Seniha Ark, Ferit Tüzün, Suna Cerrahoğlu (Korad), Oya Köker, Banu Perk, Semra Pekman (Kartal), Bahar Tokay, Ersin Onay and Hilal Apaydın (Dicle) in the conservatory (Çalgan, 2001).

Ulvi Cemal Erkin was a virtuoso pianist as well as the composer of a great works which include ballet music (Keloğlan), orchestral works (e.g. Köçekçeler), chamber music, concertos, voice, choir music (İlyasoğlu, 2007; Kolat, 2007). He also translated many opera librettos to Turkish (Kolat, 2007). He conducted the Ankara Opera Orchestra for a while. He received the following honors and medals: Palm Academique (France, 1950); Légion d'honneur medal "Chevalier" (France, 1959); Ordine Al Merito della Republica Italiano (Italy, 1963); Légion d'honneur "Officier" (France, 1970), State Artist (Turkey, 1971). He was also honored by Sevda Cenap And Foundation's Gold Honor Medal, post-mortem, in 1991 (İlyasoğlu, 2007).

Besides the impact of post-romantics and impressionists, Ulvi Cemal Erkin's music displays the vitality of Turkish folk dances and a mystical atmosphere drawn from the traditional modes. He emphasized rhythmical force in his works, using the Turkish aksak rhythms meticulously. He is the only Turkish composer whose complete works have been performed and almost all of them released on compact discs (İlyasoğlu, 2007). He died in 1972.

Piano Works of Ulvi Cemal Erkin

The works having been composed by Ulvi Cemal Erkin for the piano are listed in the table as follows (İlyasoğlu, 2007):

Piano and Orchestra Music	*Solo Piano*
- Concertino (piano and orchestra) (1931) - Piano Concerto (1942) - Symphony Concertante (piano and orchestra) (1966)	- Five Drops (1931) - Seven Easy Pieces for Children (1937) - Impressions (1937) - Sonata (1946) - Six Preludes (1965-1967)

Duyuşlar (Impressions)

Ulvi Cemal Erkin composed Duyuşlar (Impressions) in 1937. It is a pioneer work of a pioneer composer. The pioneering quality of the work does not only stem from its function as being one of the first mature examples of the Turkish piano literature, but also from its "progressive" compositional approach –which can be felt more evidently in the movements in which the folk tunes are crafted. The work can be considered as a mature work of the composer because it features all characteristics of Erkin's personal style with its pure modal approach, firm formal structure and rhythmic dynamism. Impressions is one of the most performed and admired works of the composer (Kolat, 2007).

This work was premiered ten years later by Ferhunde Erkin, a famous Turkish pianist and wife of Ulvi Cemal Erkin. The composition was printed by Ankara State Conservatory and it was not distributed for general sale. It was republished in 2006 by Sun Yayıncılık. Although it was not distributed properly, *Duyuslar* has been popular among pianists, piano teachers and students. It has been recorded and distributed by Turkish and international labels (Pepperland Recordings, 1994; Hungaraton, 1995; Kalan Müzik, 2008) (Serdaroğlu, 2011). In the album, modes and rhytmic patterns of Turkish folk music are considered quite individually. With its skilful construction and its piano texture which revealing at once that it comes from hands of a mature pianist, Impressions is one of the most outstanding instances of 20. century Turkish piano literature (Kolat, 2007).

Duyuşlar (Impressions) consists of eleven pieces: (1) Oyun (Game), (2) Küçük Çoban (The Little Shepherd), (3) Dere (The Brook), (4) Kağnı (The Oxcart), (5) Oyun (Game), (6) Marş (March), (7) Şaka (The Joke), (8) *Allegro agitato*, (9) *Allegro*, (10) Ağlama Yar Ağlama (Weep Not, My Love), (11) Zeybek Havası (Zeybek Tune). Each piece has different titles and different atmospheres (Kolat, 2007). Each piece provides a range of technical and musical challenges. Depending on the level of the student, one piece may be chosen or it can be performed as a complete group (Serdaroğlu, 2011). According to Gökbudak's (2013) eight graded approach No. 2, No. 3, No. 4 and No. 8 are appropriate for second grade of piano education; No. 5 and No. 7 are appropriate for fourth grade of piano education ; No. 1 is are appropriate for sixth grade of piano education. According to Pamir's (1987) eleven graded approach No. 2, No. 3, No. 4 and No. 8 are appropriate for seventh grade of piano education. At the same time the whole albume is appropriate for eighth grade of piano education (Pamir, 1987).

No. 4 Kağnı (The Oxcart) is among the most frequently performed works in the music departments in Turkey (Aydıner, 2008). Two of the pieces from this group No. 2 Küçük Çoban (*The Little Shepherd)* and No. 11 Zeybek Havası *(Zeybek Tune)* are especially popular. The Little Spepherd is technically very simple. It is composed without a meter and notated without bar lines. It should be performed in an improvisatory manner. The student should feel the soul behind the notes and try to perform accordingly. *Zeybek*, the last piece in *Duyuşlar*, is marked *allegro moderato*. Considering the heroic and solemn character of the dance, the student should restrain from playing it too fast. Following the dance tradition, an irregular meter 4+5/8 is used throughout the composition. The form is based on the repetition of A section. The introduction and the main A section reflects the character of the dance with *forte* and *fortissimo* dynamic level. They should be played in a stately manner. In these sections, playing chords that are made of four notes in open hand position may be challenging for a student with smaller hands. The contrasting sections represent softer melodic lines. In these sections, playing the melody in a musical manner without using *rubato* and playing broken chords in left hand part is also challenging. *Zeybek*, with its epic style would be a good addition to the late intermediate piano repertoire (Serdaroğlu, 2011).

METHOD

Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)* comprises the target population of this study. This work is consisted of eleven pieces. Content analysis was made in this study, in which general screening model was applied. Categorical type of content analysis was preferred as being suitable to the purpose of this study. Categorical analysis in general means to be the division of a specific message into units at first, and having these units grouped in categories in accordance with predetermined criteria thereafter. In the categorical analysis, frequency of the categories is determined. The intensity and significance of a specific element may thereby be understood (Tavşancıl & Aslan, 2001). In accordance with the purpose of this study, Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)* is analyzed by way of splitting it into seven categories, namely as *technique, meter, note value, tempo, harmonic/polyphonic structure, dynamic, difficulty level*.

FINDINGS

In this section, Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)* is analyzed by way of splitting it into seven categories, namely as *technique, meter, note value, tempo, harmonic/polyphonic structure, dynamic, difficulty level.* The data regarding these categories were sorted out in consideration of the features being possessed by each and every piece contained in the respective work, and presented in tables. The attained data were assessed in view of piano pedagogy.

Table 1: Analysis of the Techniques in Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)*

TECHNIQUE		THE PIECES CONTAINING THEM	f	%
Articulation Techniques	Legato	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	11	100
	Staccato	1, 5, 6, 7, 8, 9	6	54
	Tenuto	2, 4, 10, 11	4	36
Other Techniques	Cross Hand Technique	4, 8, 10, 11	4	36
	Left-Hand Chord Playing	1, 5, 6, 8, 9, 10, 11	7	64
	Right-Hand Chord Playing	1, 4, 5, 6, 8, 9, 10, 11	8	73
	Using Sostenuto Pedal	11	1	9

Reviewing the table with regard to the articulation techniques in the work named *Duyuşlar*, the pieces within the work involve legato technique by 100%, *staccato technique* by 54%, *tenuto technique* by 36%. In view of the table with regard to the other techniques involved in the work named *Duyuşlar*, the pieces within the said work involve *cross hand technique* by 36%, *left-hand chord playing* by 36%, *right-hand chord playing* by 73%, *sostenuto pedal using* by 9%. It may thereby be said that, this work may to a large extent be effective on bringing in the *legato* technique in the piano education.

Table 2: Analysis of the Meters in Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)*

METER		THE PIECES CONTAINING THEM	f	%
Simple Meter	2/4	3, 4, 6	3	27
	2/8	5	1	9
	3/8	1, 7, 9, 10	4	36
	4/8	1, 5, 9	3	27
Compound Meter	9/8	8	1	9
	12/8	8	1	9
Aksak Meter	5/8	1	1	9
	7/8	1, 7	2	18
	8/8	10	1	9
	9/8	7, 11	2	18
Metric Change		1 (7/8, 5/8, 4/8, 3/8) 5 (4/8, 2/8) 7 (7/8, 9/8, 3/8) 8 (12/8, 9/8) 9 (3/8, 4/8) 10 (8/8, 3/8)	6	54
No Meter		2	1	9

In view of the table with regard to the number of meters consisted in the work named *Duyuşlar*, the pieces within the work seem to involve the following number of meters: *2/4* by 27,5%, *2/8* by 9%, *3/8* by 36%, *4/8* by 27,5%, *9/8* by 9%, and *12/8* by 9%. Aksak meter 5/8 by 9%, 7/8 by 18%, 8/8 by 9%, and 9/8 (2+2+2+3) by 18%. Metric change by 54% is also seen in Table 2. Piece 2 has no meter. It may further be said according to this table that, the pieces within the work named *Duyuşlar* are written in numbers of simple, compound and aksak meters different from each other.

Table 3: Analysis of the Note Values in Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)*

NOTE VALUE	THE PIECES CONTAINING THEM	f	%
minim	3, 4, 5, 6, 11	5	45
crotchet	1, 2, 3, 4, 5, 6, 7, 9, 10, 11	10	91
quaver	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	11	100
semiquaver	2, 3, 5, 6, 7, 9, 10, 11	8	73
demisemiquaver	2, 6, 9, 10, 11	5	45
dotted crotchet	1, 4, 5, 7, 8, 9, 10, 11	8	73
dotted quaver	2, 6, 9, 10, 11	5	45
dotted semiquaver	11	1	9
double dotted quaver	2	1	9
acciaccatura	1, 2, 5, 7, 8, 10, 11	7	64

In view of the table with regard to the note values consisted in the work named *Duyuşlar*, the pieces within the work seem to involve the following note values: *minim* by 45%, *crotchet* by 91%, *quaver* by 100%, *semiquaver* by 73%, *demisemiquaver* by 45%, *dotted crotchet* by 73%, *dotted quaver* by 45%, *dotted semiquaver* by 9% and *double dotted quaver* by 9%. Additionally *acciaccatura* by 64%. It may thereby be said that, the most frequently used note values are quaver, crotchet, semiquaver and dotted crotchet in this work.

Table 4: Analysis of the Tempo in Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)*

TEMPO (according to the tempo markings)		THE PIECES CONTAINING THEM	f	%
Speed	Slow	2, 4, 10	3	27
	Moderately	11	1	9
	Fast	1, 3, 5, 6, 7, 8, 9	7	64
Tempo Changes	Ritardando	1, 8	2	18
	Rallentando	9, 10	2	18
	Accelerando	5	1	9
	Allargando	11	1	9

In view of the table with regard to the tempo (according to the tempo markings) and changes in tempo involved in the work named *Duyuşlar*, the pieces within the said work involve the slow tempo by 27%, moderately tempo by 9%, fast tempo by 64%, while they involve tempo changes of by *ritardando* 18%, *rallentando* by 18%, accelerando 9% and allargando 9%. It may thereby be said that, the most frequently used tempo is fast.

Table 5: Analysis of the Harmonic and Polyphonic Structures in Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)*

HARMONIC/POLYPHONIC STRUCTURE	THE PIECES CONTAINING THEM	f	%
Modal	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	11	100
Homophonic	1, 2, 3, 4, 5, 6, 8, 9, 10, 11	10	91
Polyphonic	7	1	9

In view of the table with regard to the harmonic and polyphonic structures involved in the work named *Duyuşlar*, the pieces within the said work seem to be of *modal* structure by 100%, and of *homophonic structure* by 91%, and *polyphonic structure* by 9% as well. When they are used in the contemporary music according to the sound system of equal intervals, the modes being accepted as original modes are named as artificial modes generated from the original (Yöre, 2012). Accordingly the harmonic structure of the work named *Duyuşlar* written for the piano is characterized as modal.

Table 6: Analysis of the Dynamics in Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)*

DYNAMIC	THE PIECES CONTAINING THEM	f	%
Piano pianissimo *(ppp)*	10	1	9
Pianissimo *(pp)*	1, 2, 3, 4, 5, 6, 8, 10	8	73
Piano *(p)*	1, 2, 4, 5, 6, 8, 9, 10, 11	9	82
Mezzopiano *(mp)*	4	1	9
Mezzoforte *(mf)*	1, 2, 3, 4, 5, 6, 9, 10	8	73
Forte *(f)*	1, 4, 5, 6, 7, 8, 9, 11	8	73
Fortissimo *(ff)*	1, 5, 6, 8, 11	5	45
Fortississimo *(fff)*	1, 5	2	18
Fortissississimo *(ffff)*	5	1	9
Crescendo	1, 2, 3, 4, 5, 6, 8, 9, 10, 11	10	91
Decrescendo	1, 2, 3, 4, 6, 8, 9	7	64
Accent	1, 5, 6, 7, 8, 9, 11	7	64

Reviewing the table with regard to the dynamic, in the work named *Duyuşlar*, the pieces within the work are seemed to involve *piano pianissimo* by 9%, *pianissimo* 73%, *piano* by 82%, *mezzopiano* by 9%, *mezzoforte* by 73%, *forte* by 73%, *fortissimo* by 45%, *fortississimo* by 18%, *fortissississimo* by 9%, *crescendo* by 91%, *decrescendo* by 64% and *accent* by 64%. In view of this table, in which the dynamics appertained to the work named *Duyuşlar* seem to involve a wide range from *piano pianissimo* to *fortissississimo*, it may be said that, this work may be helpful in order to bring the dynamics in the piano education.

Table 7: Analysis of the Levels in Ulvi Cemal Erkin's work named *Duyuşlar (Impressions)*

LEVEL	THE PIECES CONTAINING THEM	f	%
Beginner	2, 3, 4, 6, 8	5	46
Intermediate	1, 5, 7	3	27
Advanced	9, 10, 11	3	27

Reviewing the table with regard to the difficulty level, in the work named *Duyuşlar*, the pieces within the work are seemed to beginner level by 46%, intermediate level 27% and advanced level 27%. In view of this table, it may be said that, the pieces which included in Duyuşlar are appropriate for beginner, intermediate level and advanced levels of piano education.

CONCLUSION

Ulvi Cemal Erkin's work named *Duyuşlar* is pedagogically analyzed by way of splitting it into seven categories, namely as *technique, meter, note value, tempo, harmonic/polyphonic structure, dynamic, difficulty level.* The following conclusions have been attained from the aforementioned analyses:
Duyuşlar (Impressions) may to a large extent be effective on bringing in the legato technique in the piano education. The pieces within the work named Duyuşlar (Impressions) are written in numbers of simple, compound and aksak meters different from each other. The most frequently used note values are quaver, crotchet, semiquaver and dotted crotchet in this work and the most frequently used tempo is fast. Duyuşlar (Impressions) is a modal structured work. The work is helpful in order to bring the various dynamics (a wide range from *piano pianissimo* to *fortissississimo)* in the piano education. It is found that the pieces which included in Duyuşlar are appropriate for beginner, intermediate and advanced levels of piano education.

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A PHENOMENOLOGICAL STUDY TO FUGURE OUT THE MAKING ABSTRACT PAINTING

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ABSTRACT

This study is a phenomenological research to be performed in order to understand the motivations for making abstract paintings; to question the place of the abstract painting within the art education; to contribute new practices which may be applied in all the periods of the art education. As a qualitative research method the phenomenology was preferred by considering its various common characteristics with the abstract art. The semi-structured interviews were achieved with the participants selected among abstract painting tendencies and the data to be obtained were analyzed thematically. The reasons of the participants to make abstract paintings were different from each other and it was seen that the education they had become prominent among those reasons. The participants offered various suggestions on abstract painting applications in art education and these suggestions were included in the conclusion part where they were also discussed.

INTRODUCTION

Art is the most comprehensive field which reflects the person's cultural life and personal experiences. No other lesson, field or experience can make the person gain the values which art can bring in this sense. Dewey (1934) characterizes art as an experience that animates life. This is an intrinsically valued concept which takes the most important place in a person's life and enables the recognition of the highest emotional experiences (Narrator: Kırışlıoğlu,2002,p 47). Every art activity shows the interest between a specific subject and object thus all that are called as a work of art expresses the interpretation towards this interest. This object-subject relationship and artist's interpretation is different in every art style. For example; what the artist of the renaissance and neo-classic art sees when looking at objects, is rather what her/she thinks than the actual image. In impressionism color and light impressions are taken and interpreted on the canvas. So, as a modern sense of art what is the artist's interpretation, grasp of reality in abstract painting? (Tunalı, 1960).

The first incidence of the word "abstraction" happened with the German philosopher Worringer's 1908 doctoral dissertation (Abstraction and Einfühlung) According to him abstract in brief meant, the building on the basis of sensible forms and by demystifying the forms. The abstract-abstraction hypotheses of Worringer will have helped Kandinsky, Mondrian, Malevich and Klee who are regarded as the pioneers of abstract art. Although the identity of the person to have painted the first abstract painting is debated in art history, Kandinsky mentions that he did not understand Monet's "Haystacks" at first glance in the impressionists gallery, but adds that he was very impressed by the light and texture and started thinking on abstract painting. In the same years Daniel Rossie and Czechoslovakian artist Kupka also started abstract experimentations

When art history is examined as well as having many abstract painters there are many art movements (such as non-figurative, abstract expressionism) which share the same understanding but interpret abstraction differently (such as geometric - non-geometric). The artist partaking in these movements tell that despite having different abstract styles, technical processes their core aim is to reach the "essence" We had mentioned that abstract painting concept was being mentioned in art about a century ago. So, how are the art tendencies (abstract painting perceptions, work technique and processes) of

- Artists and art teachers who abstract paint?
- What can be the different activity suggestions regarding abstract painting in art teaching?

The goal of this study is to obtain answers for these questions, provide ideas to artists working with the same style and contribute to the field of art teaching.

THE STUDY

Pattern

The study was realized by phenomenological pattern which is one of the qualitative research methods The research process followed within the scope to this pattern is given in figure 1
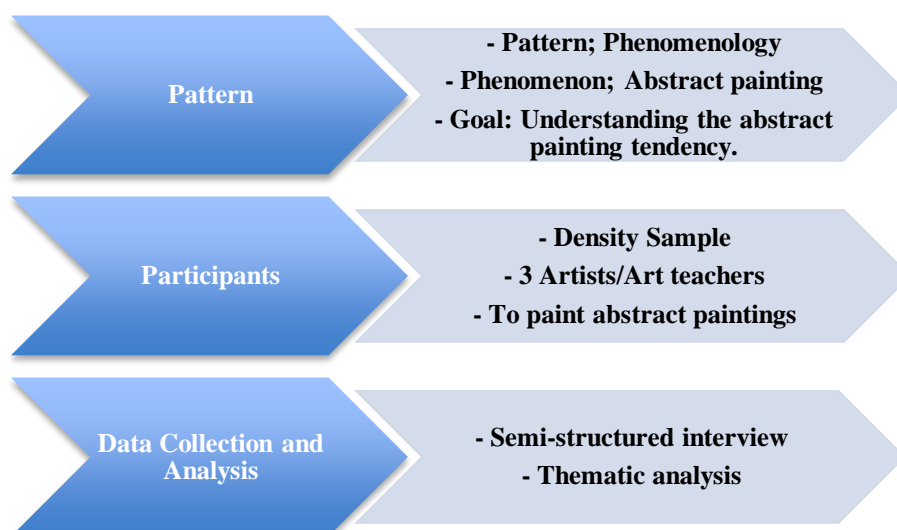
Figure 1. Research Process

According to Patton (2002), there is " the essence of essence in hypothesis and shared experiences in phenomenological research. These gems are general meanings which are understood through a frequently experienced phenomenon" Phenomenology targets the direct data of knowledge. Targets the examination of phenomenon (something seen when known) and to understand by thoroughly researching the aforementioned " thing itself" (Lyotard, 2007). According to Creswell answers for two questions are pursued with this method:

-   What are the experiences and perceptions regarding this phenomenon?
-   What are the settings and conditions of this experience regarding this phenomenon? (Narrator Ersoy, 2014)

While the phenomenon in this study is " the abstract painting tendency" interviews with three participants were realized in order to learn the "abstract painting" perspective and the work settings-conditions of artist/art teachers who experienced this phenomenon. Because phenomenological interview is the primary data collection method for obtaining the core structure underlying the experience. Firstly the researchers must discover his/her personal judgments and perspectives and set them aside and reconsider the phenomenon accordingly (Merriam,2013)

At the same time this method was chosen for this study in contemplation of similarities between abstract painting and phenomenology. These similarities;

-   the aim of extracting essence (the thing itself) rather than style by abstract painting in art and phenomenology in philosophy or as a method,
-   being inherently unprejudiced, unpresuppositioned,
-   being more subjective in their selves compared with other movements,
-   the endeavor of understanding the spiritual by interpreting experiences

etc.

Participants

Qualitative studies are often made with purposeful small samples and sometimes even with one sample (Patton, 2014) Participants in this study have been chosen by the intensity sample method within the purposeful sample methods. An intensity sample includes information loaded situations showing the chosen phenomenon. The researcher seeks sufficiently intense samples to describe the interested phenomenon. Regarding the research's contribution to art training the participants were chosen among art teachers who paint abstract paintings. Because in addition to understanding the concept of abstract painting performance the study aims to discuss abstract art's place in art training and to find new application ideas which can be implemented at every level (pre-school, secondary and higher education) of art training.

It was determined that out of 27 instructors performing at the fine arts training department of a university's education faculty in the 2015-2016 academic year, 5 were working on abstract painting and they were requested to be voluntary participants by giving them information on the research subject. 3 instructors ranging from 30 to 40 years accepted the request for interview and semi-structured interviews took place. In the semi-structured interviews first questions regarding the participants own perceptions, experiences of abstract painting were asked then questions regarding the place of abstract art/painting in art training were asked. The interviews were conducted on different days by different researchers.

Data Collection
The main data collection process within the phenomenological research pattern generally includes interviews conducted with people who have experience regarding the phenomenon (Creswell, 2013) The interview is used as the best shortcut to learn the knowledge, thought and behaviors on various topics and the possible reasons of these   While the interview method differs according to the number of participants, research subject and individual or group interview depending on the research, it can be classified as structured or semi-structure or not structured interviews depending on the strictness of the applied rules. Interview are semi-structured in qualitative researches thus must be compromised of open end questions so that the participant can describe the world he/she perceives in his/her own words. This interview type helps opening the subject with different questions and helps shaping new ideas on the subject during the conversation process. For this reason semi-structured interviews were conducted with the participants. Specialist opinion was taken when determining priority interview questions and importance was given to the consistency between research questions and questions asked to the participants. Below are the interview questions asked to the participants as main headings:

- What can you say about abstract art or abstract painting?
- How did you start abstract painting?
- Why abstract painting?
- Are there any abstract artists who you like, be influenced or follow? Who are they?
- What can you say about the place of abstract painting in art training?

The interviews were conducted individually between 25 to 50 minutes. Voice recorders were used as data collection tools during the interview and the notes taken by the researcher during the interview contributed to the study by means of forming new sub questions for following interviews. Questions emerging during the interview are as follows:

- Can you tell us about your paintings, work technique and the materials you use?
- Do you think wok titles are important in abstract painting?
- How is the viewer's general reaction to your paintings? Would you share your experiences with us regarding this?
- What can you say when figurative painting experience and abstract painting experience is compared?
- How can different applications be made regarding abstract painting in art training?
- Do you think it feeds from different art branches?

Data Analysis
The findings obtained from semi-structured interviews were analyzed thematically. Thematic analysis was realized within the below stages; firstly voice recording obtained from the semi-structured interviews were turned into texts by the researcher. Codes were extracted by reading the texts several times, categories were formed with gathering the codes by associating them within themselves and themes were created.

FINDINGS
The data obtained by semi-constructed interviews within the scope of the study were thematically analyzed and two themes were created with findings which were reached in understanding the participants tendency towards abstract painting. As shown in figure 2, these are the effects of personal areas of interest and received art training
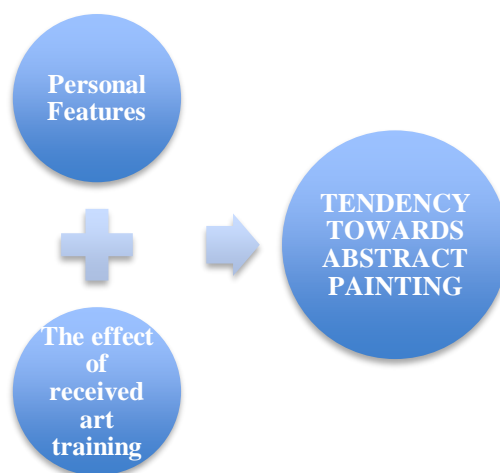
Figure 2. Understanding tendency towards abstract painting

1. Participant; tried to describe his tendency towards abstract painting by firstly touching upon his/her character, mentioned that he chooses to speak less in everyday life and thinks that this effects his/her artistic expression. Addressed that the films that he/she likes to watch and music he/she likes to listen are products that "mention a lot with little things" and this is exactly what he/she wishes to do in painting. Expressed that the art training he received was main graphic art design, graphic has an intense influence in his/her paintings, forms his works by combining only colors and lines.

2. Participant; when explaining the reason for his/her incline towards abstract painting mentioned that he/she was a type who did not like to express his/her feelings and thoughts directly and indicated that he/she thinks abstract painting allows this much more that realist painting. Said that he/she focused on basic design within the received art training and line and spot is a priority for him/her regarding pictorial expression.

3. Participant mentioned that he/she is interested in physics and math's and as the setup these sciences are to tackle abstract objects he/she distanced from reality in painting and inclined towards the endeavor of direct expression of the order. He/she mentioned that he/she was oppressively forced to work in a realistic style in the art training he/she received, has a dissident attitude in life and likes experimentation and added that these were effective in his/her tendency towards abstract painting.

When describing their work processes, participants 1 and 2 stated that they used oil or acrylic paint on mostly canvas or hardboard surface whereas participant 2 mentioned that he/she used earth, glue, various paints on various surfaces as canvas, wood, metal and emphasized that he did not limit himself regarding material. Malevich, Mondrian and Kiefer are the names which outstand regarding the influences of participants. It has been seen that the participants are likeminded regarding the "not being understood" problem during the presentation process and that there is more need for narrative art in the presentation of abstract paintings when compared to realistic paintings. They mentioned the importance of historical knowledge and the cultural environment when abstract painting or understanding abstract painting.

Participant 2. replied to **"What can you say about abstract art or abstract painting?"** as:

" When talking about abstract painting, I think that mm the abstract painting is created without mm an object which is not a figure mm without the concern regarding an emulation to any object or subject mm a shaping of the feelings and thoughts at a given time mm maybe on a canvas on any object. In other words I believe that some things which are hiding under our feelings and thoughts and which are under the psychology feeling thoughts at a given time are transferred there. And mm I think of course color, line, figure, dot every basic design aspect is effective and important in this "

the above answer was given. The answer of participant 3 is like this;

"In general terms from abstract painting I primarily understand non-figurative, non-expressive painting. Mm I understand a painting, a kind of painting type framework which does not intend to show the appearance of tangible mm real objects but mm represents what how the artist mm or the audience understands these.

" Participant 2 gave the below answer to **"Why abstract painting"**

".. abstract art is actually, I mean when we look at it is more convenient in generating different emotions in every person But a realism or when we paint an object the feeling there is very little, of course different thoughts may come up there too but for instance a scene is more or less fictionalized. For instance a war scene, the painful mm expressions there, the expressions gestures of people and the chaos the explosion there can arouse similar feelings in many people. Bu I think different connections can be made in abstract art. Participant 3 gave the below answer to the same question;

" Mm because I especially like math's or mm physics and the setup of these sciences are the objects which they are involved with, these objects are actually abstract Despite physics being seen as the base for reality mm after Einstein mm (laugh) this material reality idea was broken. For instance he showed that two abstract objects never touched and never can touch each other. Has very interesting experiments. In that case where is the substance of this physical reality? Does it really exist? Or is everything a conceptual formation? Mm these questions came up. Mm what was I saying ah yeah my interests coming from physic and math's guided me towards there not from the object directly but from the expression structures of the object in a phenomenal sense independent of its object mm. In solving reality if you're mm in to the perspective of physic laws in fact you're involved in optic laws. I mean you are interested in the objectification, singularisation, illustratisation of such an abstract thing by optic laws. In fact it's the same thing you're doing. Its substantiating on an abstract base. Now you know how they always say abstraction (laugh) In this base mm I was picturing realistic scenes and this time distancing the thing from the object and distancing it from its appearance, I guess I moved into an abstract approach when I tried to express the order directly."

this was his/her reply.

" Participant 3 replied to **"What can you say about the place of abstract painting in art training?"** as;

" Mm now this is important, and important thing What I generally saw in our art training is its towards studying and illustrating the objects physical features, generally our first training is like this. This can be correct I mean according to the externalist view our mental contents mm basically can depend on our external environment, this

is a generally accepted view. Mm however even if this is true at the basic level, artistic and aesthetic expression ontologically tries to reach higher layers. Mm how can I put it it's a more supreme value so its abstract it has to have an expressive capacity doesn't it, student? Well you can actually do this with thing too, with reality too mm I mean it is possible to express any abstract entity such as honor, heroism here it is democracy I don't know faith or loyalty by using abstract objects. This is not its only tool of course, it has mm other methods mm too it is possible to establish a giant expression shape I'm sorry style by illustrating objects spiritual features not physical ones. Mm this is a duty which can be performed with a superior cognitive ability mm for students. Therefore mm the goal of our training should be in inverted comas we can say more abstract pictorial mm ability. Here of course I believe under the circumstances we need to mm shift our training from style mm to content with regards to the state today."

 gave the above sentences as a reply and when asked **"How can different applications be made regarding abstract painting in art training?** the below recommendations he/she made are worth considering;
" Mm for example despite being and old method phenomenology is developing yet there are thousand types of it now but in its most primitive was since way back from Husserl sorry.. Of course the thing coming out of Husserl mm can be done like I mean applied by students. You know like we just talked can we ask to draw a picture of how does it feel like to be a bat. By teaching them phenomenology method to them directly we can tell them to make something using this, for instance when making a chair we can ask them to paint us what it feels to be a chair instead of what a chair physically looks like. Yes its not that hard is it mm only modern, now it will be sufficiently enough if not more than enough to apply models and approaches mm that gives weight to content and spiritual dimension and motivates them which is not modern anymore (laugh)."

CONCLUSIONS
Upon the analysis of the data collected from semi-structured interviews conducted with the participants in the research, many factors were seen to effect the tendency towards abstract painting It was seen that the artists personal features and the art training they received played a key role among these By describing how their personal features, characters and areas of interests were reflected to their works, the participants gave information on the art braches, artists they were influenced by, the technical materials they used, conveyed the relationship between their abstract painting tendency and the art training processes they received.

The participants mentioned the importance of art history knowledge, the current cultural environment, the cultural development level of individuals when abstract painting or understanding abstract painting. They stated that in art training, from start to higher education the different applications which may be implemented should not only serve to bring up artists, but also contribute to form a good audience. 3. It is worthy of consideration that the participant's suggestion that with a special research, the subject of brain analysis being made with the development of today's technology could be better understood and phenomenology cans be used as an art training method.

As a suggestion that can be brought in consequence of the research; in order to discover the more specific reasons of abstract painting tendency, video recorded interviews can be made where participants can describe their paintings or "clinical interviews" which are used as an interview technique in qualitative researches can be conducted to ask the conveyance of feelings and thoughts during painting. Interdisciplinary common researches (like psychology) can enable a better understanding of the topic by providing different perspectives.

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A QUALITATIVE STUDY ON THE EDUCATIONAL BELIEFS OF PRESERVICE TEACHERS

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ABSTRACT

The aim of this study is to determine educational beliefs of preservice teachers. The data were collected by interviews, a method used in qualitative researches. A semi structural interview form was designed by researchers. Final version of the interview form was prepared in accordance with the suggestions of experts. The purposive sampling method was used to select participants who were volunteers. The interviews were carried out face to face with each participant. A voice recorder was also used with the permission of the participants. The audio recordings were transformed into a written text and then they were examined through descriptive analysis. According to the results, most of the participants agree with that " education provides people an opportunity to know themselves and it also supports freedom of individuals". The leading reason is that education contributes to individuals' self actualization process. More than half of the participants disagree with that "education is a process in which teacher transfers unchanging universal values and knowledge to students." The leading reason is that universal values are not impartial and objective. Most of the participants disagree with the idea that education is a student-centered, disciplined and subject-centered process. According to the participants, it is because education leads students to rote learning by this way. The findings were discussed within the framework of the related literature.

Keywords: Educational beliefs, educational approaches, teacher candidates.

INTRODUCTION

The concept of belief can be defined as finally accepted forms of ideas on a certain subject and stereotyped attitudes (Kağıtçıbaşı, 2006). Beliefs are final judgements related to objects, events, facts or situations. While philosophy provides people an opportunity to think about their personal beliefs, values, judgements and moral characteristics, it also helps people to understand matters related to their identity, existence, reason for existence, meaning of existence and future situation. With philosophy, the following question is examined: What is important for a person and a society? Thanks to this question, philosophical views and attitudes are attained and they are associated with the reality (Demirel, 2009). The individual forms the basis of philosophy and education. Both philosophy and education focus on problems that people face in the processes of developing self knowledge and interacting with others and solutions of these problems (Şişman, 2000). In order to train individuals that will become conscious enough about their lives and problems they can face, it is very important to define goals and content of education. Therefore; an individual needs to know the meaning and purpose of life (Büyükdüvenci, 1991). At this point, philosophy of education comes into play. The subject area of philosophy of education includes all the factors that play a role in defining educational goals, solving educational problems and guiding education (Büyükdüvenci, 1987; Fidan and Erden, 1998). There are five educational philosophies that have been accepted as educational beliefs: "Existentialism, Perennialism, Essentialism, Progressivism and Reconstructionalism". According to existentialism, the following concepts stand in the core of education: Individuals become aware of their freedom and with the freedom of choice, individuals are responsible for their own personal development. Education should provide individuals various opportunities during their self actualization process. Teachers should refrain from imposing their own ideas on their students. Instead, they should provide situations that inspire the students to create their own ideas by using discussion method. According to perennialism, the focus of education is to train individuals in line with unchanging truths and values. Teachers act as the authority. Teaching classics of art and literature is very important.

Essentialism that is believed to follow traditional approach to education aims at adapting individuals to the society via cultural transmission. Subject area stands in the core of essentialism. Knowledge is transferred from teachers to students. Progressivism that occured in reaction to essentialism, emphasizes on student-centered learning. Students reach the information by themselves. In this process, teachers guide the students. On the other hand, according to reconstructionalist approach that is viewed as an extension of progressivism, education is seen as a vehicle for social change (Sönmez, 2008; Gutek, 2006). As people's beliefs shape their behaviours, it is important to get information about the educational beliefs of preservice teachers and the role that they will adopt as an inservice teacher. Turkish education system has moved from teacher-centered model to student-centered model since the implementation of the new curriculum that was developed in line with the constructivist approach in 2006. Although, the curriculum offers student-centered activities during the teaching-learning process, it is proposed that this approach hasn't been adopted adequately in-class activities for some reasons (Önen, Erdem, Uzal and Gürdal, 2011; Demirtaş, 2012). In this case, it is believed that these problems will continue if preservice teachers have teacher-centered educational beliefs. In order to contribute preservice teachers to adopt student-centered education approach, their educational beliefs should primarily be defined. Therefore; the aim of this research is to define educational beliefs of preservice teachers.

METHOD

This is a qualitative study in which the data are collected by interviews, a method that is widely used in social studies in order to examine unobservable behaviours, emotions, attitudes, beliefs, intentions and perceptions of a person (Merriam, 2013; Yıldırım and Şimşek, 2008). After conducting a thorough review of literature, the researchers designed an interview form that consisted of five open ended questions assessing educational beliefs respectively: Existentialism, Perennialism, Essentialism, Progressivism and Reconstructionalism. Views' of Preservice teachers were gathered through the questions including the following themes about education: "Education provides people an opportunity to know themselves and it also supports freedom of individuals", "Teachers transfer unchanging and universal values and knowledge to students", Education is a student-centered process and it trains individuals who will shape the world", "Education is a society-centered process. It shapes social reforms and it creates a sense of world depending on common values." The purposive sampling method was used to select participants who were volunteers. Study group is consisted of 19 preservice teachers. After the final version was prepared in accordance with the suggestions of experts, the interviews were carried out face to face with each participant. A voice recorder was also used with the permission of the participants. The audio recordings were transformed into a written text and then they were examined through descriptive analysis. In descriptive analysis, research questions, dimensions and questions that are asked in interview and observation processes were taken into account and then the data are presented (Yıldırım and Şimşek, 2008; 224). The answers were classified under the categories of " I agree, because..." and " I disagree, because…"

FINDINGS

Preservice Teachers' Views about educational beliefs are illustrated in tables below.

Table 1. Preservice Teachers views about education "It provides people an opportunity to know themselves and it also supports freedom of individuals."

Theme/Category	Codes	n
I agree. Because…	It contributes to the development of the individual's personality. *(T6, T8, T11, T12, T17)*	5
	The Individual explores himself/herself. *(T10, T14, T16, T17, T19)*	5
	The individual shapes his/her own life by himself/herself. *(T1, T5, T13, T19)*	4
	Students' levels of learning increase. *(T3, T6, T14)*	3
	Individuals get rid of the definite patterns of the education system. *(T1, T8)*	2
	The individual realizes his/her interests and abilities. *(T10, T12)*	2
	The student is positioned at the center of education. *(T3, T4)*	2
	The quality of education increases. *(T5)*	1
	The individuals' social interactions increase. *(T9)*	1
	Individuals develop different thinking skills. *(T14)*	1
I disagree. Because…	This is a kind of idea that doesn't fit the education system. *(T7, T15, T18)*	3
	I don't believe that the idea can be put into practice in education. *(T2)*	1

According to table 1, sixteen of preservice teachers agree with the idea about education "It provides people an opportunity to know themselves and it also supports freedom of individuals". In contrast, three of preservice teachers disagre with the idea. The following three views are the most important reasons for agreeing: It contributes to the development of the individual's personality, the individual explores himself/herself. The

individual shapes his/her own life by himself/herself. On the other hand, the reasons for disagreeing are depended on the views that the idea doesn't fit the education system and the idea can not be put into practice in education. Below are some examples of expressions:

"A student who knows himself/herself follows a path that is suitable for his/her character. It provides students education of a higher quality. In this way, the student can determine a route map for himself/herself." (T5)

" Self knowledge increases the efficiency in learning. It helps people to improve themselves." (T6)

"Education helps people to know themselves. Thanks to education, people can think in a more different and free way than others and they learn new things about life and themselves." (T14)

" I don't think that today's education system sets students free. In contrast, it puts students in certain, narrow patterns. I don't agree that it gives an opportunity to students for developing a self knowledge as it transfers information directly." (T18)

Table 2. Preservice teachers' views about education " Teachers transform unchanging universal values and knowledge to students."

Theme/ Category	Codes	n
I agree. Because…	Value judgements should be taught by teachers.(*T1, T5, T6, T7, T9, T18*)	6
	Universal values are very significant in training individuals. *(T9, T14)*	2
	Information is transferred everyone in this way. *(T3, T14)*	2
	This information forms universal culture. *(T7, T14)*	2
	In this way, the individual is prepared for the social life. *(T5)*	1
	Individuals are fully trained. *(T6)*	1
	Moral values are stable. *(T1)*	1
I disagree. Because..	Universal values are not impartial and objective. *(T2, T8, T10, T15)*	4
	Teachers are not qualified enough to transfer universal values. *(T11, T12, T13, T19)*	4
	National values should remain in the forefront. *(T8, T16)*	2
	Creativity and Freedom are restricted. *(T15)*	1
	Education should be subjective. *(T17)*	1
	Education should mostly include up to date information. *(T4)*	1

According to table 2, eight of preservice teachers agree with the idea that "Teachers transfer unchanging universal values and knowledge to students." In contrast, eleven of preservice teachers disagree with the idea. The statement of "Value judgements should be taught by teachers" is the most important reason for agreeing. On the other hand, the most important reason for disagreeing is that universal values are not impartial and objective and teachers are not qualified enough to transfer universal values. Below are some examples of expressions:

"Moral values are rules that have survived from past to present and will survive from present to future. This rules are thought by teachers. This is the right thing to do." (T1)

"When today's education system is considered, it is seen that universal values are not impartial and objective." (T2)

"I don't think that teachers are qualified enough in this subject. They teach scientific knowledge and it is not in the scope of universal knowledge." (T12)

" I think that education should be subjective. Each individual should have a chance to learn what he/she wants to learn instead of unchanging universal values." (T17)

Table 3.Preservice Teachers' views about education " It is a student-centered, disciplined and subject centered system."

Theme/ Category	Codes	n
I agree Because…	In some circumstances, education should be in this manner *(T10, T11)*	2
	Students learn subjects better. *(T1)*	1
	Education becomes organized. *(T1)*	1
I disagree Because…	Students should be positioned at the center of education. *(T5, T6, T13, T14, T16, T17, T18, T19)*	8
	It leads students to rote learning and learning can not be achieved *(T2, T3, T4, T9, T12, T14, T19)*	7
	It hinders students' development. *(T3, T12, T18)*	3
	A generation who thinks and searchs can not be trained in this way. *(T5, T15,*	3

T18)		
This education system trains monotype people. *(T7, T15)*		2
Individuals should be trained according to their interests and abilities. *(T17, T19)*		2
Learning by doing should be emphasized. *(T6, T14)*		2

According to table 3, while two of preservice teachers agree with the idea that education is a disciplined and subject centered system, seventeen of them disagree. As the reasons for agreeing, they stated that in some circumstances, education should be in this manner. In this manner students learn subjects better, education becomes organized. On the other hand, the most important reasons for diagreeing are that students should be positioned at the center of education and It leads students to rote learning and learning can not be achieved. Below are some examples of expressions:

"Actually students must be positioned at the center of the education. Students must learn by doing. Thanks to this learning style, permanent learning can be achieved. Therefore; teachers shouldn't be positioned at the center of the education system." (T14)

"I think education system has problems in achieving knowledge acquisition and it also supports rote-learning."(T2)

"I think that this education system is a failure because it totally leads students to rote learning. This kind of an education causes a system in which only interested students attend the lessons and learning can not be achieved by the others." (T4)

".. a teacher centered, disciplined and subject centered education system can only train students who are monotype, fabrication and don't have the ability to think." (T15)

Table 4. Preservice teachers views about education " It is a student centered system and it trains students who will shape the world."

Theme/ Category	Codes	n
	It is important for personal development. *(T5, T10, T12, T16, T17, T19)*	6
	It trains people who are beneficial to the society. *(T6, T8, T9, T12, T13)*	5
	Learning becomes permanent. *(T3, T4, T11, T14)*	4
	It makes learning easier. *(T3, T4, T15)*	3
I agree Because…	It trains individuals who have different points of view. *(T7, T17)*	2
	It trains qualified individuals. *(T5, T11)*	2
	Education becomes fruitful. *(T6)*	1
	Subjects are learnt better. *(T1)*	1
I disagree Because…	I don't agree this system can be put into practice in education. *(T2, T18)*	2

According to Table 4, while seventeeen of preservice teachers agree with that "education is a student-centered system and it trains students who will shape the world", two of them diagree. The most important reason for agreeing is that it paves the way for personal development and it trains individuals who are beneficial to the society. On the other hand, they disagree with the idea because they believe that this system can not be put into practice in education. Below are some examples of expressions:

"In education, student must be positioned at the center of the system. Students must be trained according to their needs, interests and abilities. Only in this way students' development can be supported. Otherwise, the system can not be beneficial to students. Teachers should give a chance to the students for improving self knowledge, self understanding and self expression" (T19)

As the student centered education system will be more beneficial and fruitful, individuals who are trained in this manner will create more beneficial works for the society." (T6)

As the student centered education situates the students as the primarily active role, learning is more permanent and more comprehensible in such a system." (T4)

"Thanks to this system, individuals who have different points of view and a broad perspective can be trained and I think this is what it should be like." (T7)

"I wish such an education system could be put into practice but teacher centered education has been going on and i don't believe that it would change in the future." (T2)

Table 5. Preservice teachers' views about "Education is a society-centered process. It shapes social reforms and it creates a sense of world depending on common values"

Theme/ Category	Codes	n

I agree Because…	It fuels social development in every respect. *(T8, T10, T12, T13)*	4
	Individual becomes effective in life. *(T5, T9, T12)*	3
	Needs of society are met. *(T12, T17)*	2
	Education gets rid of being monotonous. *(T1, T9)*	2
	Social status is acquired. *(T6)*	1
	It is important that common values must be adopted by everyone. *(T3)*	1
I disagree Because…	Education must be individuallized. *(T7, T14, T15, T16)*	4
	Education mustn't only be society centered. *(T18, T19)*	2
	Education isn't enough to shape social reforms. *(T11)*	1
	This idea can not be successful because of pluriformity in society. *(T2)*	1

According to Table 5, ten of preservice teachers agree with the idea that "Education is a society-centered process. It shapes social reforms and it creates a sense of world depending on common values" . In contrast, eight of them disagree. Their most frequent reason for agreeing is that in this way, social development can be achieved in every respect. On the other hand, their most frequent reason for diagreeing is that education must be individualized. Below are some examples of expressions:

" Education must be in relation with the common structures and life styles of the society. Because I think that education must aim to develop society in every respect. Societies are tried to be saved from being degenerate though education" (T10)

"Education is the life itself. A student can find everything related to life in education. Students are prepared for the life through education. In some way, they learn how to live." (T9)

"I think that every individual of a society don't have to share the same ideas but they can live together in spite of their differences. An individualized and a qualified education system shapes the society automatically. I mean that society centered education isn't needed" (T7).

"Of course education is important for the social values but I don't think that society must be positioned at the center of an eduation system. People shouln't be limited in order to create a sense of world depending on common values. Everyone must be trained according to their own characteristics." (T15)

CONCLUSION AND DISCUSSION

The results of this study that was conducted in order to define preservice teachers' educational beliefs are as follows:

1. Most of the preservice teachers agree with that " Education provides people an opportunity to know themselves and it also supports freedom of individuals." The primary reason is that education gives people opportunity to reach self actualization.

2. More than half of the preservice teachers disagree with that "Education is a process in which teacher transfers unchanging universal values and knowledge to students." The primary reason is that universal values are not impartial and objective.

3. Most of the participants disagree with that "Education is a student-centered, disciplined and subject-centered process." According to the participants, it is because education leads students to rote learning by this way.

4. Almost all the preservice teachers agree with that "Education is a student-centered system and it trains students who will shape the world". The primary reason is that it paves the way for personal development and it trains individuals who are beneficial to the society.

5. More than half of the preservice teachers agree with that "Education is a society-centered process. It shapes social reforms and it creates a sense of world depending on common values". The primary reason for agreeing is that in this way, social development can be achieved in every respect.

In the analysis of the results, it can be concluded that preservice teachers respectively adopt progressivism, existentialism and reconstructionalism. However, it is seen that they genereally disagree the ideas related to perennialism and essentialism. Therefore, it can be concluded that views of the preservice teachers who form the study group are mostly in relation with the modern education rather than traditional education. When the educational beliefs literature was examined, similar results were encountered. In the studies of Alkın-Şahin and Tunca& Ulubey (2014) it is revealed that preservice teachers adopt modern educational philosophies in high levels in terms of educational beliefs while they adopt traditional educational philosophies in low levels. Moreover, it is found out that there is a significant relationship between educational beliefs and critical thinking tendencies. In addition, a research that was conducted by Altınkurt, Yılmaz and Oğuz (2012) revealed that teachers adopt essentialism less than others. Similarly, a study conducted by Çelik and Orçan (2016) also showed that while the least adopted educational philosophy was the essentialism, the most adopted one is existentialism. Yılmaz and Tosun's study (2013) revealed that while existentialism is the closest educational philosophy for the teachers, essentialism is the farthest one and it is also stated that teachers feel closer to the modern educational philosophies. On the other hand, there are some other studies in which educational beliefs

are related to specialities of teachers and teaching-learning approaches. In a study conducted by Okut (2009), it is concluded that there is a signicant relationship between educational beliefs and the degree of having personal characteristics and interpersonal communication of effective teachers. In addition, it is stated that teachers' educational beliefs are based on their experiences and knowledge that they had during their preservice education. On the other hand, another study that was conducted by Biçer, Er and Özel (2013) showed that there is a significant relationship between epistemological beliefs and educational beliefs of preservice teachers. Baş's (2015) study on educational beliefs and teaching & learning conceptions of teachers revealed that teachers who adopt modern educational philosophy have constructivist conception. Similary, it is concluded that teachers who adopt traditional educational philosophy have traditional teaching and learning conception. Educational beliefs of teachers also affect classroom activities. To conclude, approaches implemented during preservice education of teachers may affect their educational beliefs and as a result, they may reflect adopted beliefs to their students through classroom activities during teaching and learning process. With this regard, it may be suggested that teacher training programs should mostly include activities that base on modern educational approaches during teaching and learning process. In addition, further qualitative researches may be conducted by forming a large sample group of teachers from different branches.

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A RESEARCH ON INSTITUTIONAL SOCIAL RESPONSIBILITY PROJECTS EXECUTED IN THE MATTER OF EDUCATION

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"If there is a belief which can't be figured apart success, that belief is that great success can't be achieved unless one bears great responsibility." Anthony Robbins

ABSTRACT

Together with developing world, needs, charges and responsibilities also are changing. At the age we are in holdings, enterprises, corporations and organisations had become charged to do community oriented works now. In this regard, those mentioned units had transformed to state that they felt themselves responsible to give they took from people to people again. Corporations especially had tended towards social responsibility stusies to be able to addres their target groups before societ within the context of public relations activities and to establish a bridge in between. As change in time also cause change in expectations, now corporations had concentrated on social responsibility studies to be able to be approved in society and to continue their existing prestiges, instead of contenting teirselves just with commercial activities. Thus, also the importance of the concept called institutional social responsibility had increased in the century we live.

Within this frame, to research efforts made in social responsibility studies executed in the area of "education" is forming the subject of this study. From the point of view of mentioned notion, a sample had been formed through coincidental choice of ten of institutions becoming prominent in society in this study. According to the research done through web sites of these ten institutions included the sample, examples to the studies institutions executed in educational area had been given by telling their institutional social responsibility understandings and policies, and their contents had been tried to be expressed. While existance of institutional social responsibility policies in six institutions included the study had been drawing attention, it had been determined that Business Bank of Turkey's (Türkiye İş Bankası) and Turkcell's institutional social responsibility activities accomplished in educational area were more different than the other eight institution and realized in areas more than one.

KEY WORDS: Institutional social responsibility Project, education, corporate reputation, public relations.

INTRODUCTION

Today making just trade investments had stopped being an accepted idea for enterprises, corporations and organisations. Now an understanding like giving what was taken from society to the society again is in question. Emergence of a philosophy like that had done groundwork fort he concept called institutional social responsibility. So, institutions had become not only having the idea to produce good and service, but also sharing a certain part of the income obtained from mentioned goods and services with their environments (clients, employees; in short society). This situation is both a situation increasing reputations of those institutions and an understanding that contributed studies' being sustainable.

Within this scope, what were done about "education" as part of intitutional social responsibility studies which became one of the popular areas of recent times had been discoursed in this study. With the thought that development level of a society was connected with education, the topic "education" had been preferred in order to primarily and especially put forth what kind of studies institutions did in this area. Thus, ten of institutions which became prominent in recognition level in society under the areas they were in service had been coincidentally chosen. A research had been done over web sites of these institutions, their institutional social responsibility understandings and policies had been surveyed, and activities related institutions realized under the topic "education" had been told with samples.

CONCEPTUAL FRAMEWORK

Effort to etablish a common ground with target market within the scope of public relations applications that adopted materializing the goals of the institutions will be a continuum easing caring the balance of benefits and reaching the goal. In this sense, within the context of public relations studies, out of their benefits, institutions

had become accepting existance of society and dealing with social problems. This situation is forming the foundation of social responsibility behaviour.

Balta Peltekoğlu (2012: 189) is pointing out that one of the main tasks of public relations was to establish a connection between social realtions and public relations for enhancing the image of Corporation, institution, organisation etc. Within this framework responsibilities of institutions are stepping in. Hunt ve Grunig had classified institutions' responsibilities as main tasks of the organization, considering the effects of organization's activities on the ones out of the institution, and dealing with the solution of common social problems that were not related with the organization (Balta Peltekoğlu, 2012: 190).

Eren (1987: 110) made a definition widening the area and the extent of social responsibility concept. Hereunder, social responsibility is:

> "An institution's following a labor strategy and policy that were appropriate with economical and legal conditions, work ethics, and expectations of related people and institutions inside and around of the institution, and making happy and satisfied its partners. Institution's developing and following a policy appropriate with eonomical conditions, and using the sources that country commended to it to use efficiently and productive, express the necessity to make production with quantity and quality appropriate with society's needs. Appropriateness to legal conditions is institution's not acting contrarian to the laws, regulations, enactments, manners and customs, and other regulatory provisions of the society it was active in. With respect to work ethics, it includes subjects like keeping prices at reasonable level, abstaining from opportunism, abstaining from unfair competition and advertisements that doesn't reflect the thruth, treat honestly against demanders etc." (Cited by: Geçikli, 2010: 154).

Good and service production is not the only duty of institutions and organisations. There are also responsibilities of them inthe subject to create a more liveable world by the result of goods and services they produced, to make contribution to development of the society they lived in (Güzelcik Ural, 2006: 34). In this regard, institutions should not only be organizations producing goods and services, but also thinking employees' peace and welfare, being sensitive to social events, and aiming to give the best service to the consumer. Briefly, institutions should continue their lives as organizationswhose social dimension also progresses along with being at the forefront in technical and economical meaning (Sabuncuoğlu, 1992: 13). And enhancing this situation a little more, Okay and Okay (2007: 507) approach about the weightiness of social responsibility studies in the activities of the institution. According to this, external studies had become important as well as in house studies. Because, institutions are organizations which not only have an economical value, but also have responsibilities against society as a social entity beside that.

Sönmez (2004: 479) gathered common points emerged in institutional social responsibility definitions in four headlines. Accordingly, institutions also have responsibilities against society in addition to producing good and service to earn profit. There are attempts to contribute to the solution of social problems among these responsibilities. Enterprises have responsibilities against not only shareholders, but also their social environments. And at last, enterprises not only focuse on economical values, but also serve to human values.

In brief, as social responsibility is said; institution's making sacrifice in a certain ratio from the profit it obtained in order to contribute society by thinking the society and acting responsible and sensitive against society come into mind (Kazancı, 1997: 38; Rao, 2010: 165; Yavuz, 2008: 151; Okay, 2008: 198; Özden, 2008: 36). In addition to sensitiveness against society, responsibilities institutions fulfilled against in-hoe and external shareholders (clients and employees) are also understood (Saraf, Singhai, Payasi, 2012: 89). Besides, institutional social responsibility is a notion continuously in change according to the needs of society, interrogating, related with institutional environment (Cited from Chapple and Moon, 2005 by Ertuna and Tükel, 2009: 146).

Together with the increase in sensitiveness against society, social responsibility understanding also had started to enhance. Points among the reasons of enhancement in this understanding had been classified by Geçikli (2010: 155-156) like that:

- Increasing social pressure about preventing environmental pollution,
- Governments' making laws and regulations about social problems,
- Society's and institutions' desire to use natural sources that were poor,
- Institutions' desire to produce good and service that will satisfy society's needs,

- Institutions' will to leave a good impression before society,
- Enhancement in labor unions and their impact areas,
- Particitive management's gaining importance,
- Specialists' getting involved in management with enhancement in professional management,
- Personnel's getting better motivated and increase in productivity,
- Corporates' becoming multi-playered,
- Enhancing and changing communication technologies,
- Diversified market tools,
- Costumers that became conscious,
- Institutions' having difficulty against laws introduced about environment, employee, customer, etc.,
- İncrease in case and pressure of society on profit-oriented institutions,
- Corporates' seeing that they were not alone in designating their policies, programmes and values,
- Customers' taking in consideration other features beside quality and cheapness while making product choice,
- Institutions' undertaking social responsibility activities with the wish to increase and continue their reputation.

Together with enhancement in social responbility understanding, social responsibility areas had borned. Accordingly, Balta Peltekoğlu (2012: 191) is summarizing which headlines enter into institutional social responsibility area enhanced by Archie Caroll like that:

> "*Ekonomical responsibilities:* Corporate's use sources efficiently and productive, gain profit, and contribute to national economy. *Legal responsibilities:* Corporate's movement coherent with laws, statutory rules and orders, and also regulatory provisions of the society it is in and carries on the activity. *Moral responsibility:* To keep prices at modest level, to abstain from unfair competition, and corporate's fulfilling its responsibilities against people and institutions around it. *Social responsibilities:* Corporate's paying regard to common interests of the society it owned its existance as well as its own interests, and behaving sensitive against social problems."

As it is seen, now today success of institutions had stared to be evaluated not only with their activities in commercial area, but also with their contribution to the society they live in in terms of legal, moral and social dimensions. When viewed from this aspect, it is understood that there was "social improvement" inside the idea of institutional social responsibility. So, institutional social responsibility is not a kind of charity, but a viable policy supporting the goals in the long term; not a project, but a management approach trying to determine social needs and subjects; not a kind of expenditure, but an investment understanding with recycling; an understanding that will return profit and contribute to its maintainability, beyond the idea to make profit (Işık, 2013: 115; Argüden, 2002: 9).

It is possible to count holdings, great business groups and non-governmental organizations and foundations that were in cooperation with these companies among main actors who were effective in organizational area today in the meaning of institutional social responsibility. Situations emerged as results of internationalization, too, had increased the propagation in this matter. On the other hand, also regulations providing legal basis prepared by government and the European Union to ease the studies of associations and foundations that institutional social responsibility was emerged for had come into prominence. From this aspect, it is possible for institutional social responsibility studies to be evaluated as new propagation area in Turkey (Alakavuklar, Kılıçaslan, Öztürk, 2009: 130).

There are many advantages for institutions to have institutional social responsibility consciousness and continue their way with this consciousness. Geçikli (2010: 168-169) had classified these mentioned advantages like that:

- Creating a better social environment contributes both the society and the institution. Execution of social responsibilities is habitable environment and labor opportunities from the point of society. When viewed the situation from the aspect of the institution, its being an institution appreciated before society means produced goods and services to find customers more easily.
- Institution's voluntary attendancy to social activities will mean government to do less supervision.
- Institutions are extensions of modern societies. Mutual interaction of institution and society won't affect institution's activities. In this sense, institution won't be in danger list in case it executed the wishes of the interest group.

- If an institution having innovative capacity shows tendency to social problems, some studies which seemed to the institution as it is costly in conventional meaning will return as profit.
- In case of institution's giving support to institutional social responsibility studies; a positive public opinio image will be created among its customers, employees and investors; namely their shareholders.
- As institution use its own sources to solve social problems, that causes its reputation rise in the society.
- It is thought that social responsibility feelings of institutions having too much social power would increase, too.
- Institution aiming good relations in society will be beneficial and successfull in the long term in an improved environment.
- Institutions executing their social responsibilities satisfy public opinion's expectations by accomplishing their moral responsibilities and take step that was necessary to solve existing social problems.

Considering preceeding benefits, it is possible to say that institutional social responsibility projects had positive effects on institutional image and reputation. In this respect, while situation in question is supporting enterprices for their social responsibility projects, also mentioned projects will support the needs of society at the same time. On the other hand, social reponsibility projects that would be effectuated being correspond with enterprice's activity area will increase the efficiency degree of the study, too. Thus, a more efective institutional reputation will form. Besides, it is also known that institutions having economic potential achieve social responsibility studies in different areas. This kind of studies are secualr and contribute institution to gain new institutional values. Social responsibility studies have an importantm role in developing a mutual understanding between institution and its target markets.

Like it is in the world, in Turkey, too, growing number of institutions are giving importance to social responsibility concept and studies in that direction. Together with itself, institutional social responsibility is an extensive are which aimed to obey the laws, take responsibility of results of their activities and make contribution to sustainable development. This situation brings institutions obligation to act economic, legal and ethical. Institutional social responsibility also contributes to social and cultural areas. Recently, with the aim to form a more liveable environment, a more educated, rich in social life, a healthy society inclined to the art, projects making contribution to the areas of culture, art, environment, education and sports are realised. In this frame, as institutions' reputation is increasing, many problems, too, are becoming solved at the same time.

Sense of social responsibility institutions had is actually related with their understandings about education, too, to some extent. Because education is one of the most important layers for an institution as well as a person to comply with the society. Knowledge, skill and understanding obtained for being able to keep up with social life is called education. So, if it is necessar to give a broad meaning to education, it is possible to interperete it as adaptation of individuals and institutions to social process. In short, process to gain and improve intended behaviours is called education. Şişman (2007: 51) is mentioning that human being existed in society and so there was an interaction of a social process between education and institutions at the stage of human being's accommodation with institutions of the society he or she lived in.

Education is important to be able to make cotribution to the habitated society. Because, one can only be useful by using gained knowledges at the right time. As evaluated in the manner of institutional social responsibility, activities in educational area become important for institutions to be profitable to the society they existed in, give back what they took from it and make its future sustainable.

METHOD

Education is a concept important for a contry's development. As well as the government, other agencies and institutes are bearing a great charge and responsibility in society's being made conscious on this matter and having equal opportunities. Therefore, to search what kind of "educational" activities were slotted in istitutions within the context of institutional social responsibility understanding is forming the goal of this study. Accordingly, coincidentally choosing institutions that were active within the context of institutional social responsibility projects in Turkey and had come into prominence before society, projects related institutions performed on the subject of "education" had been tried to be briefly told in the study.

Accordingly, 10 institutions which was active in areas like economy, nutrition, communication, technology, etc. and whose familiarness levels were high before society in these activity categories had been coincidentally chosen. These chosen institutions are forming the sample of the study. There are Arçelik, Ciner Group, Doğan

Holding, Eti, Koç Holding, Sabancı Holding, Türkiye İş Bankası (Business Bank of Turkey), Turk Telekom, Turkcell and Zorlu Holding in the sample.

What kind of an understanding and policy about social responsibility the said institutions had had been tried to be determined by primarily searching their web sites in the study. Then what kind of a social responsibility project the said institutions performed within the area of "education" had been investigated. In this sense, starting from existing situation, informations gathered through web sites of related institutions had been interpreted.

FINDINGS AND COMMENTARY

Institutional Social Responsibility Project Samples Executed On Education

Institutional social responsibility understandings and policies of ten instituions taking place in the sample of the study had been cited respectively and samples they implemented within the matter of "education" had been told downwards.

Arçelik, had expressed its thoughts about education on its internet page like that and had abstracted its studies done in this area:

> "To reach desired development level across the country, the crucial condition is raising an effective and common awareness about education. Through education, it is possible to solve many social problems in advance and provide significant contributions to the country regarding resources utilization. Knowing that individual development must be supported in the early stages of childhood, the Company started the "Standing United for Education with Arçelik A.Ş." project in 2004. Conducted jointly with the Ministry of Education, this project targets primary school students. With this project, the Company aims to improve the education and development standards of 200 thousand children, who come from disadvantaged families and study at 300 regional primary boarding schools, as well as to ensure that these children become valuable members of society. Focused on the personal development of students, the program consists of the following projects: Our Rooms, They Were Children, Too, Support and Education for Teachers, Arçelik Education Scholarship and Voluntary Family Association." (http://www.arcelikas.com)

Other than this study of Arçelik, "Tiny Hands Holding Pencils" project in which stationery needs of studens were compensated within the body of Educational Volunteers Foundation of Turkey (TEGV) had recently been carried into effect. A great interest was shown to this campaign organized to compensate stationery needs of 155.000 children from eraser to paper, from pencil to scissors. Çelik and Çeliknaz keyholders had been presented to the people who attended the campaign that lasted one month.

It is understood that scholarships given with the aim to contribute the education of children whose financial situations weren't good were at the forefront in the core of the institutional social responsibility Project Arçelik brought out on the matter of education.

As we look at the website of Ciner Group to examine the informations about the Group's institutional social responsibility studies, it had been seen that studies brought out in educational area were presented under three headlines. Accordingly, there headlines "Environmental Education Projects", "Trainings and Coarses" and "Support to Education and Training" take place in the page.

As informations that took place under the headline "Environmental Education Projects", it had been understood that Ciner Group who started off with the slogan "We are Turkey" aimed to contribute to social growth as well as economical and cultural life of the country, realized social responsibility projects in many different areas like environment, education, sports with Sabah Newspaper which was included within the body of this corporate since April of 2007, and there were projects like "One Morning Many Things Change" and "Clean Internet Campaign" among them. However, today any other project hadn't been encountered. It had been seen that in-house and out of the institution educations were mentioned under the headline "Trainings and Coarses". And under the headline "Support to Education and Training", education activities done till today had been told. According to this, rehabilitation centers had been established, school buildings had been supported and 2,5 million TL scholarship had been given to approximately 1000 children of martyrs and 400 students (http://www.cinergroup.com.tr/social/egitim-ve-ogrenime-destek).

From informations given above and narratives in the web site, Ciner Group's institutional social responsibility projects in educational area had been determined that they were mostly carried out with the aim to give scholarships.

As Doğan Holding's institutional social responsibility understanding was reviewed, that statement in its web site is striking:

> "For Doğan Group corporate social responsibility is about managing business processes to create a positive impact on society. Transparency, fairness, accountability and responsibility are central to the processes of all Doğan companies that work for the public interest with a consumer focus. To create economic value for each stakeholder under fair conditions is of great importance to the Group. Doğan Group firmly believes that a strong, respected and modern society can be created through efforts of generations that honor universal values and are able to contribute to the solution of social and economic issues; thus aims to help raise modern generations through its social responsibility activities. Appreciating that a company's value is measured by what it gives back to the society, Aydın Doğan, the founder of Doğan Group, established Aydın Doğan Foundation in 1996. Dedicated to support and improve education, arts and culture, the Foundation has built educational institutions and sports facilities, supported these institutions to provide high quality education, organized national and international competitions and awarded prizes." (http://www.doganholding.com.tr)

Doğan Holding's istitutional social responsibility project implemented in educational area is carrying the name "Daddy Send Me to School". Project had been started with the aim to avail all daughters of education right in 2005. With the mentioned project, progress of dorm managers and responsible teachers had also been aimed while contributions were made to the education of students. An education programme had been organized by Bahçeşehir University within this scope. "Daddy Send Me to School" project had won approximately 30 prizes since the day it started until today.

In consequence of investigating Doğan Holding's web site, it is understood that "institutional social responsibility" understanding was important as there was a special explanation about this headline from the related web site. As explanations about mentioned group's Project on the area of "education" was reviewed, it is especially seen that education of daughters who couldn't go to school because of substance defect was given predicence. But, it had been predicted that not only contributing students' education, but also education programs to raise managers and teachers were cared about at the same time. In this contexxt, different dimensions of the mentioned institution's approach to education in the matter of social sensivity are attracting notice.

As ETİ's internet page was reviewed, it had been determined that no expression explaining their institutional social responsibility projects was seen, but projects were presented under sub-headings. Accordingly, it had been seen that headline of the Project related with education was given as "Yellow Bicycle". This Project that started in Eskişehir in 2014 had continued in Istanbul in 2015. Safe bicycle drive educations given in primary schools had been realized within the scope of the project; while teaching children who didn't know tor ide bicycle how to do it, children who knew how to ride bicycle had practical applications that would improve drive control (http://www.etietieti.com/eti-sari-bisiklet-projesi).

ETİ's institutional social responsibility Project in "education" area have an aim different than other institutions. Because it is understood that going out of social responsibility projects especially focused at giving scholarships, it was aimed to teach how safe riding practice that children performed in their spare times could be.

Reviewing web site of Koç Holding that was active in many areas, it is seen that institutional social responsibility consciousness was explained like that:

> "…With an enrooted corporate culture, Koç Holding is a member of the Turkish business community, especially in one of its strongest social aspects: Each year, Koç Holding supports many various social sharing projects through corporate citizenship awareness. Koç Holding funded many projects to advance society's quality of life where the Holding operates and works with the aim to fulfil our obligations towards our employees and their families, our local community, and our other stakeholders. As Koç Holding, we continue being one of themotive forces of our country in economic growth that is among the most important componentsof social responsibility with steps we took for evolution of new sectrors and with our global brands. Alongside with many other matters, the Holding gives important services and invests predominantly in the areas of education, health, culture, arts and environment. We are encouraged by the fact that any investment we make in these

areas fills a void in our country's development. Contributing to society and considering our growth as an integral part of the development of our society, constitute our basic philosophy. To create sustainable effects with our studies, we pay attention the projects we supported to be long-running, create benefit in social manner and support permanent virtue. Alongside with supporting and introducing environmental and social projects, we share the studies we implemented with public opinion in accordance with an extension of social sensivity through our Corporate Social Responsibility reports we were publishing since 2007 with the aim to conduce to individuals'improveents, take part in development of local economies and make economic progress sustainable." (http://www.koc.com.tr/tr-tr/kurumsal-sosyal-sorumluluk)

Thanks to "Cooperation Protocol to Advance Vocational Training" realized by Koç Holding on the matter of "education and signed with Ministry of National Education in 2006 especially with the goal to increase qualified workforce, "Vocatıonal Hıgh School, Issue of Country" project is standing out for solution of our country's unemployment issue. Within the context of the Project, it is aimed to create awareness in every section of society in the matter of importance of vocational technical education and taking the lead, to spread seeds of cooperation between government and business world. Scholarship and apprenticeship opportunities had been given to the students by the project. Model created and successes obtained in the end of the project were presented as pilot Project in international arena.

After Doğan Holding, the second institution that made a wide explanation in its internet page about the direction of its institutional social responsibility project understanding had been Koç Holding. This situation is valuable in respect to show that the said institution had social responsibility philosophy and regarded it. Koç Holding also had brought this aspect to forefront in its social responsibility Project, too, as it is doing works especially devoted to industry. Because it is actually aimed to train employees for small and medium sized enterprises (KOBIs) and provide convenience for those trained personnels' employment with "Vocatıonal Hıgh School, Issue of Country" Project. With this aspect, contribution to national economy is indirectly done.

As Sabancı Holding's web site is explored, it is seen that its social responsibility policies were described like that:

> "The Sabancı Group accepts acting in accordance with the social responsibility awareness constituting a part of its core values, such as modesty, respect to humans and being close to the public, as a fundamental and unchangeable element of its management approach. Within this framework, we expect all entities constituting the Sabancı Group to manage their activities within the framework of an understanding of economic, social and environmental responsibility and to keep developing the society on their agenda as a priority. We do not see the scope of our social responsibility approach limited with our business activities and their effects. We define our social responsibility approach and our priorities regarding this matter by taking into consideration what is best for the society and the environment. We pay special care to be pioneers in activities for the protection of democracy, human rights and the environment. As the Sabancı Group, the SA-Ethics we prepared and implement within the framework of the Corporate Social Responsibility Principles guides us in the way we do business." (https://www.sabanci.com/tr/sosyal-sorumluluk/sosyal-sorumluluk-ilkelerimiz)

As it is evaluated within the context of institutional social responsibility policy, it is understood that Sabancı Holding was sensitive like Doğan Holding and Koç Holding. Because it is understood from aforesaid expressions that it made a special explanation about this matter. But as Sabancı Holding's institutional responsibility projects on education are reviewed; it is seen that university, education institution, dormitory, teacher's lodge, acholarship, seminar-conference and fire training center activities came into the forefront. It is understood that mentioned activities showed dissemination to the cities in Turkey-wide and studies continued. No special project item had been encountered beyond this.

In the conclusion of a brief investigation made over Türkiye İş Bankası's internet page, it is seen that it was an institution that had much more institutional social responsibility consciousness than other institutions and permanently made more prospective studies. Institutional social responsibility policy of mentioned institution is explained like that in its internet page:

> "Our Bank that bore pioneer role in evolution of social life as well as economic growth since its establishment, continues its support in this area with its entrenched social responsibility understanding. Our bank stil continues its social responsibility activities

created in a long-runner, prevalent and sustainable structurein the areas of education, environment, culture and art. Our Bank is among the institutions which signed Global Norms Compact and Ethics and Reputation Association Membership Declaration." (http://www.isbank.com.tr)

As evaluated within this aspect, it is understood that Türkiye İş Bankası had institutional social responsibilitypolicy and understanding like Doğan Holding, Koç Holding and Sabancı Holding. And this situation helps the value of this institution increase in this manner.

Institutional social responsibility projects that Türkiye İş Bankası realized about education are classified under the headlines "Chess", "81 Students From 81 Cities", "Show Your School Report And Take Your Book" and "Other Education Projects".

As web site of related bank is reviewed, these informations given under the headline "Chess" are remarkable: Bank had undertaken main sponsorship of Turkish Chess Federation. Its goal there is that chess had serious contribution to children's and young ones' mental developments. At the same time, there is the oal to preserve them from harmful habits, too. As a result of this activity of the bank, chess lessons were taken into curriculum in primary schools. While number of chess classes opened Turkey-wide is approaching to 15.000 within this frame, source books had been sent by the Bank for these classes. Other than this, activities like "Chess Festival For Teenies Under the Age of 8", "Turkey Little Ones Chess Championship", "Turkey Stars Chess Championship", "Playing Free Chess Through Playchess.com" and "Türkiye İş Bankası Super Chess League" had been realized.

As details of the project with the headline "81 Students From 81 Cities" is reviewed, it is understood that there was an agreement signed between the Bank and Darüşşafaka (Ottoman Secondary School for Orphans). According to this, it is seen that children whose financial possibility were poor and had no parents were given opportunity to have full scholarship and boarding education from 5th class to the last class of high school.

Bank, had started "Show Your School Report And Take Your Book" project as 2007-2008 school year was ending with the aim to increase the opportunity for more reading children to reach qalified books and the number of rogatory youngsters and so to createequality of opportunity. This Project had become the greatest book campaign realized until today.

Actualized activities of the Bank within the scope of "Other Education Projects" are these: "Firefly Mobile Education Unit" project realized in 2001. There is an education and free activity room with 12 computers within the scope of this project. 6 hours of computer and 6 hours of free activity lessons are given here. Within the context of "Golden Youngs" Project continueing from 1971 till today students up to the amount equal to the age of the bank among the students who got into university are awarded every year. Again within the scope of "Education Grant For Earthquake Victim Students" it is continued to give education grants to the students who were damaged in 1999 Great Marmara Earthquake. Dormitory for girls of 150 people and dormitory for boys of 150 people had been built to bind up wounds after Van Earthquake, within the scope of "Building Dormitory to Van 100th Year University" project. Carrying into effect the project "Building Dormitory to Erzurum Technical University" with a similiar project, dormitory for girls of 150 people had been built.

It is seen that there were too much and various projects producing institution under the headline "education", in consequence of investigating web site of Türkiye İş Bankası. This situation can be perceived both as importance institution gave to institutional social responsibility project and a sign of sophistication of its consciousness level in the matter of education. As evaluated within this aspect, it is seen that mentioned institution not only settled with giving scholarships and remained intensive against problems emerged with social and geographical reasons, but also aided the needers and gave support to education and science.

Türk Telekom is explaining its institutional social responsibility understanding with these words:

"As Türk Telekom Group, we offer in use the information technologies that were main driving force for sustainable economic growth and social reconstruction in every corners of Turkey, and contribute all sections which couldn't attain social life because of economical, social and physical reasons to access information with products and services we developed. We support United Nations Sustainable Development goals with our way of doing business and Institutional Social Responsibility Perojects. Being the leader of ICT sector that took on an important task in society's access to information, we bring to life social responsibility projects as well as products and services we developed to support disadvantaged groups in accessing information. With our project 'Life is Easy with Internet', we introduce adults over the age of 35 who couldn't utilise opportunities offered by internet to online world in priority cities for development. We carry into effect Accessive Tivibu to offer TV joy, and

Telephone Library project to offer experience to comfortably read books at their homes to our visually impaired customers. We help visually impaired ones to be able to wander comfortably in indoors with our Voice Steps application which was a operatör independent application having informating and guiding features. With 'Daylight Project' which involved early intervention training that improved existing visual abilities of underseeing children, we work for all people with need to be able to reach this education." (https://www.turktelekom.com.tr)

Türk Telekom's most known institutional social responsibilty activity in the matter of education consists of 52 schools and 76 Türk Telekom education buildings it opened into service in all four sides of Turkey. These places in where a modern education medium was offered were transferred to National Ministry of Education by Türk Telekom. Thousands of students graduate from these schools and education buildings every year. As evaluated in this regard, it is seen that Türk Telekom, too, had institutional social responsibility understanding like Doğan Holding, Koç Holding, Sabancı Holding and Türkiye İş Bankası. It is understood that deficient aspect beside this positive aspect of this institution was that its social responsibility understanding about "education was limited only with building constructions.

Turkcell's institutional social responsibility understanding has been explained as "*We fulfill our responsibility to society with projects we supported in different areas like education, culture, art and sports since the day we established. There lies the responsibility it felt against its social partners consisted of shareholders, employees, customers, vendors, non-governmental organizations, universities and media in the foundation of Turkcell's social responsibility understanding.*" (http://www.turkcell.com.tr/tr/hakkimizda/sosyal-sorumluluk /egitim).

"Turkcell Big Data Hackathon", "Those Who Wrote the Future", "Snowdrops", "Turkey Money Box For Van", "Turkcell Planethouse and Science Center" are the headlnes attracting attention among Turkcell's education projects.

"Turkcell Big Data Hackathon" project is an activity that lasted 2 days and realized in May the 23rd and 24th, 2015. Accordingly, it is composed of two parts: code and project competitions. "Those Who Wrote the Future" Project has been started in order to offer equality of opportunities through bringing technology to every point of Turkey in 2013. Project continue to widen with its increasing content day by day, participants and increasing potential. Aim of the Project is to make Turkey a pioneer country in the issue of software development. "Snowdrops" Project had been brought to life in 2000. It is aimed within the scope of the project for girls who couldn't continue their education because of their families' financial incapabilities to supply equality of opportunity in education and to make them careerist, open horizoned 'individuals'. More than 100 thousand scholarships were given until now. "Turkey Money Box For Van" project is an activity started with the aim to get life and education back into circulation in Van after the earthquake. A Teacher Campus and a Dornitory had been built and scholarships had been given to 100 students studying in Industrial Vocational High Schools within the scope of the project. In IPRA Golden World 2012 Awarda, this Project won "UN Special Prize" given by United Nations. In addition to being an education center, "Turkcell Planethouse and Science Center" project had started its activities in December 2010 as a center that triggered children's' and young ones' curiosities, increased their interests about science, people of every ages would be able tol ive their spare times with quality and fun, and was supported with social activities.

It is seen that Turkcell that was active in area of communication, too, adopted institutional social responsibility understanding just like Doğan Holding, Koç Holding, Sabancı Holding, Türkiye İş Bankası and Türk Telekom. On the other hand, it is understood that social responsibility awareness under the headline of "education" was varied. It has been determined that it called attention to different units of education like Türkiye İş Bankası with this aspect. Accordingly, it is seen that Turkcell acted sensitive against social events, paid regard for equality of opportunity in education, and strived for technology to become widespread in all mediums with education.

As Zorlu Holding's web site was reviewed, no information has been encountered directly devoted to institutional social responsibility projects. A part related with the headline "Social Responsibility" is drawing attention there. And as informations given under this part were reviewed, it has been seen that there were given informations mainly about scholarships about education given to the students and schols built in various cities. It has been determined that there was no special project headline further to that (http://www.zorlu.com.tr/tr/toplumsal-sorumluluk).

Although Zorlu Holding is an institution which became famous in Turkey, it can be seen as a diminution that there existed no explanations about institutional social responsibility policy in its web site. Similiarly, remaining

limited the responsibility projects in the area of "education" just with giving scholarships and constructing buildings, too, can be interpreted as the said institution didn't leave enough time for its activities in this area.

CONCLUSION

Institutional social responsibility understanding can be outlined as giving back again what you took from society. As evaluated within this framework, institutions are obliged to not only produce good and service, but also make studies in areas the society they lived in needed at the same time. Increasing the reputation of the institutions at the same time, this obligation helps them about being sustainable.

After sharing literatüre informations about institutional social responsibility concept, what kind of activities those ten institutions totally chosen indiscriminatingly on the area of "education" within the scope of institutional social responsibility projects were investigated on their web sites. Activities in question are tried to be summarized with samples.

It is seen that institutions examined within the scope of the study were different from each other in terms of institutional social responsibility policy and understanding. Accordingly, it is understood from special explanations six of the ten institutions taken into examination in their internet pages that mentioned policy and understanding were settled in them. Those six institutions are Doğan Holding, Koç Holding, Sabancı Holding, Türkiye İş Bankası, Türk Telekom and Turkcell. However, there encountered no explanation for institutional social responsibility understanding by no means in four institutions (Arçelik, Ciner Grup, ETİ and Zorlu Holding) included in the study.

On the other hand, it had been determined that a social responsibility project about "education" was executed in all institutions included in the study. However, as activities realized in educational area were investigated in detail, differences between institutions attracts notice. Accoordingly, it is seen that education understanding in institutions was mostly limited with giving scholarship and building constructions. It was understood that Türkiye İş Bankası and Turkcell came into prominence among the institutions enriching social responsibility understanding about edcation. It was determined that more than one headline of educational activities were realized in mentioned two institutions. With this aspect, these two institutions become different than the others.

While explaining institutional social responsibility, Capriotti and Moreno (2007: 85) are calling attention to an institution's relation with different target groups it addressed in fulfilling its certain responsibilities and economical, social and environmental duties; executiong its responsibilities in terms of clearness and ethical conduct in informing; management; development in goods, services and jobs; and evalution and control in fulfilling these responsibilities. As evaluated within this context, it is possible to say that institutions included in the study were in an effort to create a consciousness in their target groups and worked for making their reputations sustainable in their studies about "education" they performed under the name of social responsibility.

With this study, what kind of activities institutions realized under the headline of "education" was investigated within the context of institutional social responsibility projects through ten institutions. However, either number of institution chosen or issue headline can be extended in similiar studies after this one. Thus chance to reach more information can be obtained. Institutional social responsibility undrstanding is a very important situation for institutions and organizations for their studies' permanence and for their perception by society to go in positively. So, it is thought that activities that would be done in these areas after this would be more attention grabbing.

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A RESEARCH ON THE CONTRIBUTION OF PRIMARY AND SECONDARY EDUCATION TO   HUMAN RIGHTS CONSCIOUSNESS LEVEL OF HIGH SCOOL GRADUATES IN TURKEY

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ABSTRACT
Human rights, regardless of nationality, residence, gender, ethnic origin, color, religion, language, disability, age or status, are the rights of all human existence. Since the first person, respect for human rights has been important in every age but the states which violate the human rights have been at the stage of history for many years. Continuing search for human rights was often due to riots.   The first written document with an emphasis on human rights published in the United States' Declaration of Independence in 1776. Then, in 1789 'Declaration of Human Rights' was published. About human rights practices between countries, the publication of these papers did not bring the desired standards. Individual objections and resist in this regard was not effective.

Today, it seems that states's assurance to the human rights is not sufficient. As a result of globalization and advances in communication technologies, people around the world react to a breach in the world's most remote corner. International civil society organizations monitor human rights violations by showing activity, documenting, distribute and constitute a response to the international arena. Human rights are excluded from the territory of the states   by several agreements. European Convention on Human Rights System is an example of this. Thus, human rights, has been the problem of the international community of states from being a domestic job. Human rights practices have become an item for limiting the sovereignty of the states. The international community bearing a collective responsibility to protect human rights can make an armed intervention if necessary. NATO in Kosovo in 1999, on this basis, bombed Belgrade to end human rights violations. Nowadays, the international community's got to be a party in Libya to end human rights violations in this country is based on the grounds. Nowadays, the intervention of the international community in Libya is based on the grounds to end human rights violations in this country.

The first step in the protection of human rights in a country is a knowledge-based better understanding of human rights. At first glance, this suggests 'school'. Courses related to human rights in public schools in Turkey with the contribution to the students' daily lives are a matter to be investigated. The purpose of this study is to search answers for "How students perceive the basic concepts of human rights? How they interpret today's developments in terms of human rights? To what extent the students are adjusting the concepts of human rights in their lives? "questions and to share needs to be done to educate the students with better understanding about human rights.

Keywords: Key words: Human Rights, Education, School, Democracy

INTRODUCTION
Generally, the term "human rights" refers to those rights that are considered universal to humanity, regardless of citizenship, residency status, ethnicity, gender, or other considerations. (Tanör, 1994: 14; Uygun,1996, Kocaoğlu 1997; Donnelley, 1995: 22; Duman, Yavuz ve Karakaya, 2010: 77).

The Universal Declaration of Human Rights (UDHR) is a milestone document in the history of human rights. Drafted by representatives with different legal and cultural backgrounds from all regions of the world, the Declaration was proclaimed by the United Nations General Assembly in Paris on 10 December 1948 The Universal Declaration of Human Rights (UDHR) as a common standard of achievements for all peoples and all nations. It sets out, for the first time, fundamental human rights to be universally protected. The Universal Declaration of Human Rights (UDHR) was also approved by Turkey at 6 April 1949 (Resmi Gazete,1949:1020).

Today, human rights are more commonly viewed as basic to our identity as human beings; they are no longer typically framed in monarchial *or* theological terms. And they are mutually agreed upon on a flexible basis, not dictated by a permanent authority. Under the auspices of the U.N. High Commissioner for Human Rights, there are nine fundamental human rights treaties to which all signatories have agreed to hold themselves accountable. In practice, there is no fully binding enforcement mechanism for these treaties; they are aspirational, much as the Bill of Rights was prior to the adoption of the incorporation doctrine. And, much like the Bill of Rights, they may gain power over time.

Differences between human rights and civil liberties are not always especially clear. This allows for a great deal of disagreement regarding what human rights are, and whether basic quality-of-life concerns such as housing and health

care should   be   considered   part   of   the   human   rights   framework.

The aim of this study is to measure human rights knowledge and conscious level of the first grades students of Selçuk University in Konya to find out the contribution of human rights related courses in the secondary schools to the students. 378 first grades students from various faculties of Selçuk University attended face to face interview to answer 25 items of the survey.

2. THE RELATION BETWEEN HUMAN RIGHTS AND EDUCATION
Rights in education conceptually refer to the necessary frameworks such as curricula, democratic governance structures and equal provision of resources in the education system etc. that are needed in the creation of an educational process of teaching and learning which guarantees the individual the benefits of the right, for example the acquisition of skills, competencies and abilities needed to live a meaningful life. The right to education and rights in education are important for the outcomes and effects on society obtained through education. This refers to the potential benefits of shared democratic values and commitment in a society with active, critical and socially responsible people. It is important to note, however, that there are many other factors (family life, gender, culture etc) than school that can influence the outcomes and effects on society. (Bowen,1977, Başaran,1982:15,16)

2.1 Basic Principles and Objectives of Human Rights Education
The World Conference on Human Rights considers human rights education, training and public information essential for the promotion and achievement of stable and harmonious relations among communities and for fostering mutual understanding, tolerance and peace" (Vienna Declaration and Programme of Action, Part II.D, para. 78).

In accordance with these instruments, which provide elements of a definition of human rights education as agreed upon by the international community, human rights education can be defined as education, training and information aiming at building a universal culture of human rights through the sharing of knowledge, imparting of skills and moulding of attitudes directed to:

1. The strengthening of respect for human rights and fundamental freedoms;

2. The full development of the human personality and the sense of its dignity;

3. The promotion of understanding, tolerance, gender equality and friendship among all nations, indigenous peoples and racial, national, ethnic, religious and linguistic groups;

4. The enabling of all persons to participate effectively in a free and democratic society governed by the rule of law;

5. The building and maintenance of peace;

6. The promotion of people-centred sustainable development and social   justice.

    Human rights education encompasses:

        (a)   Knowledge and skills — learning about human rights and mechanisms for their protection, as well as acquiring skills to apply them in daily life;

        (b)   Values, attitudes and behaviour — developing values and reinforcing attitudes and behaviour which uphold human rights;

        (c)   Action — taking action to defend and promote human rights.

With a view to encouraging human rights education initiatives, Member States have adopted various specific international frameworks for action, such as the World Public Information Campaign on Human Rights, focusing on the development and dissemination of human rights information materials, the United Nations Decade for Human Rights Education, 1995-2004 and its Plan of Action, encouraging the elaboration and implementation of comprehensive, effective and sustainable strategies for human rights education at the national level, and the International Decade for a Culture of Peace and Non-Violence for the Children of the World (2001-2010). http://www.unhchr.ch/huridocda/huridoca.nsf/(Symbol)/A.52.469.Add.1%20and%20Corr.1.En?

In 2004, the Economic and Social Council, welcoming Commission on Human Rights resolution 2004/71, requested the General Assembly to proclaim, at its fifty-ninth session, a world programme for human rights education, to begin on 1 January 2005 and to be structured in consecutive phases, in order to further focus national

human rights education efforts on specific sectors/issues periodically identified by the Commission on Human Rights.

2.2. Human Rights Education in The World

After the Universal Declaration of Human Rights Resolution was adopted by the United Nations in 1948, the first establishment to give an international focus to human rights education was by UNESCO in 1974 and Human rights education has now come to the fore (Alfredsson, 1997, 219).

An international congress, entitled "Human rights teaching", was held in Vienna in 1978. At this congress, it was clarified that human rights could not be dealt with separately from citizenship, political, economic and social rights. This congress suggested that the aims of human rights education should be as follows (Muntarbhorn, 1998,281):

1. Improvement of attitudes that support cooperation, respect for human rights and tolerance.
2. The foundation of national and international institutions that can provide information on human rights
3. Development of methods and tools for improving individual consciousness by taking the human rights up from both social and political aspects in national and international arena.

Furthermore, in the Vienna congress, it was suggested that human rights education should be thought as an interdisciplinary approach integrating its subjects within various lessons and disciplines. (Gülmez,1998, 31-57) Human rights education was analysed in its content and documentation dimensions at the international Malta Conference in 1987, and discussed comprehensively. Decisions regarding the principles of improvement of human rights education were made at the Malta conference and it was determined that formal and informal education should be improved with regard to human rights subjects (Muntarbhom, 1998). Human rights education was taken up comprehensively at the "International Montreal Congress on Human Rights and Democracy Education" and some important relationships between human rights and democracy were established.

At this congress, it was declared that objective characteristics of people should be taken into account while determining the scope of formal and informal education programs. it was reported that individuals, groups and societies in different parts of the world having different needs, may need different education programs in the area. Taking these differences into account, it was reported that information, documentation and education materials should be arranged in various ways to satisfy the various needs. It was also suggested that human rights education should be started with the comprehensive participation of individuals, groups, families, societies, educators, and entire institutions in the areas of education, students, youngsters, the mass media, employers and labour unions, political parties, parliamentarians, officials, independent national and international organizations, the united Nations, Human rights headquarters, and UNESCO etc "It was also declared that it would be convenient that the human rights, humanitarian laws, democracy, and rules of law should form the contents of formal and informal education programs" (Alfredsson, 1997, 219).

After the Montreal congress, which was participated in by 171 countries, an action plan on human rights education was read, and the participants developed a special program for human rights education and also a number of strategies in Vienna in 1993. Furthermore, it was determined that studies for formal and informal education program encouraging tolerance and consciousness raising should be practised and educational opportunities should be provided (Nowak, 1997). Suggestions and findings were collected under the title "decisions made in human rights education." This convention resulted in agreement "to develop activities in human rights education - the decision made for the declaration for JO Years in United Nations on Human Rights Education" (Gülmez, 1994, 171). With the decision of United Nations general committee, the period from 1st January 1995 to 2004 was proclaimed the " 10 Years in United Nations on Human Rights Education. 1995-2004". Within this framework (10 Years in United Nations on Human Rights Education), an activity plan related with human rights and democracy was prepared. Countries' responsibilities were determined with regard to how democracy and human rights education should be presented in this activity plan.

Human rights education is not an independent course and is generally included in other courses in the world. Rather than human rights, individual responsibilities were emphasised in these courses. Many countries in the world give human rights education at primary school level. Special programs were prepared in Canada and in the United States and these countries cover human rights generally in the history and politics lessons in the secondary education curriculum. On the other hand, European countries cover it in history, religion, geography, citizenship, literature, language and social science courses. Human rights courses are given in citizenship courses in Middle East, Asian and Pacific countries (Muntarbhorn, 1998, 286-87). In higher education, human rights education is either mandatory or optional in the law faculties of universities in many countries. Optional human rights education (as an elective course) tends to be more popular. As a matter, of course human rights subjects are attached to many law courses. Human rights education has also been included in the courses at social sciences, teacher training faculties, as well as health and medical faculties, and the Human Rights institutes of various institutions and master's programs in university institutes (Muntarbhorn, 1998, 289-293).

2.3. Human Rights Education in Turkey

Improvements in human rights in Turkey have been affected by those in the world but they are very slow in comparison. In the republican period of Turkish democracy, rights and freedoms were considered part of courses on "Civics (as a subject taught in schools)", "Natural and Social Science", "Social Science" and "Turkish". Issues of rights and freedoms were attempted in "Civics", "Knowledge of Citizenship", "Citizenship and Human Rights Education", and "Democracy and Human Rights" courses in secondary education. However, importance was only given to rights and freedoms in these courses until 1998. Human rights were also attached to courses such as "Natural and Social Science", "Social Science", "Turkish", "Painting", "Religion and Ethics. Human rights as a subject has been included in the primary and secondary school curriculum as an independent course since 1998. Amongst higher education programs, it can be seen that human rights subjects and education arc either mandatory or optional courses at law faculties. However, human rights education at university, in post graduate programs and institutes is insufficient. In some divisions of teacher training faculties, human rights issues were covered under the title of "democracy education". The week that includes the 10th December has been commemorated as human rights week at schools since 1983. The main purpose of this commemoration is to raise consciousness of teachers, students, and parents. Informal education is given by government and private institutions for special purposes outside of the curriculum of the schools to satisfy educational demands of specials groups. Examples of informal education arc "in-service training, driving courses, education given through media, and family education. Institutes, political parties, mass media, local administrations, clubs, unions, employers, public institutions and other independent organizations mostly arrange informal education in countries throughout the world (Muntarbhorn, 1998). Because it is designed to meet the needs of special groups, informal education curriculums vary. For example, human rights education curriculums have been arranged for people subjected to violence, gamins, soldiers, members of the police, civil servants, high level managers in private institutions, and workers at all levels. This variety of human rights education is also seen in the variety of materials available. Human rights education has been provided through cartoons, plays, advertisements and commercials, newspapers and magazines, posters, special telephone lines, radio, television, and other audio visual media tools, besides seminars and courses. Because informal curriculums arc in separate pieces and are not systematic, developing and improving them is very difficult. Curriculums prepared by inexpert people and institutions cannot be helpful (Muntarbhorn, 1998).

The promotion of democratic citizenship and human rights in the education system is vital for all countries in Europe, including Turkey. From heightening awareness of both rights and responsibilities to developing critical thinking, such competencies need to be continuously developed and promoted. Education for human rights and fundamental freedoms are therefore important in order to create a democratic society which must be guaranteed to all new generations from pre-school age onwards. Turkey has committed itself to the promotion of democratic citizenship and human rights education not only in international and regional declarations and conventions but also in its national legislation. Internationally, Turkey has carried out various activities during the United Nations' Decade for Human Rights Education (1995-2004). Turkey is also party to related Council of Europe political agreements, including Recommendation 12 (2002) of the Committee of Ministers and Recommendation 1849 (2008) of the Parliamentary Assembly. Nationally, the National Education Basic Act directly refers to respect for human rights among the general aims of education. Furthermore, National Council of Education have highlighted time and again in its recommendation documents the importance of the development of democratic behaviour, free thinking and tolerance through curriculum and extracurricular activities. (http://ec.europa.eu/enlargement/pdf/turkey/ipa/2009/tr2009_013601-democratic_citizenship_and_human_rights_education_en.pdf)

The Turkish National Committee for the Decade for Human Rights Education has established a framework for human rights education and suggests a need for sub commissions to investigate human rights education at all level of formal and non-formal education. Projects arc needed in citizenship, democracy and human rights education to attain the following objectives:
 • Developing curriculums for pre-school, primary school, secondary school, higher education and teacher training education,
• Developing in-service teacher training courses for human rights education,
• Training curriculum developers for human rights education,
• Developing human rights materials for all school levels.
Democracy and human rights education affects the school curriculum, teacher training programs, educational materials, and the whole educational system. Preparing a good curriculum is not in itself sufficient. Suitable teachers and the system itself require development.
The National Committee on the Decade for Human Rights Education was responsible for drafting the Human Rights Education Programme of Turkey for 1998-2007, which included the introduction into the curriculum of "Citizenship and Human Rights" courses in primary school and "Democracy and Human Rights" courses in secondary schools. The former course was made compulsory and introduced into the curriculum in 1998. It is taught for one hour a week in both

grade 7 and 8. The latter elective course was introduced in 1999 and is taught for the same amount of time. An examination of these courses, in light of the previous scrutiny of the National Security Course, reveals further tensions between the Turkish notions of democracy, human rights and the Turkish national identity. These tensions can be seen at a basic level within the concept of democracy as it is taught in schools, but also in the gaps between what is taught, what is practiced and what is legislated. Republicanism, which is the one of Kemalism's Six Arrows, states that sovereignty of the people is absolute and is the "only legitimate power over the nation represented in a parliamentary system" (Arjmand, 2008, p. 156). Democracy in Turkey is constructed in this fashion and is taught explicitly in schools today in the course "Democracy and Human Rights and implicitly taught in the "Citizenship and Human Rights" course. An analysis of the textbooks used reveals a high emphasis on rights, democracy, tolerance and responsibilities (Kepenekçi, 2000), further reflecting the ideology of the nation (Suarez & Ramirez, 2007) and the ideology of the supranation in education.

2005 also marked the year where a major curriculum reform initiative was launched. Of the eleven objectives listed, none of them mention human rights education. On the other hand, one of the stated objectives is "to enhance citizenship education" (Aksit, 2007, 134), demonstrating that concerns over national identity (especially in the face of the rise in human rights discourse in education) remain strong, at least at the primary and secondary levels. These contradictions illustrate the tensions in the discourse between human rights and citizenship based on a national identity. Nevertheless, in the national curriculum, both the traditional citizenship education courses and the more recent human rights education courses exhibit distinct flaws (Çayir, 2007; Altınay, 2004), which fail to address global and local concerns. Many universities have thus reacted to this perceived failure of the primary and secondary levels by implementing courses for their students, which seek to provide both knowledge and skills of human rights and citizenship.

3. METHOD
3.1. The Sample
The sample of the survey contains 367 students which were selected randomly from various faculties of Selçuk University. Like similar studies, easy sampling method was used to collect data in this study because of providing quick access to a large amounts of data sampling (Cui vd., 2003; Zhou, 2004). The universe of the study was limited to the students of some faculties of Selçuk University in Konya. During the implementation of the application of the survey for two months, 367 questionnaires were achieved.
3.2. The Hypothesis of the Survey
To find out the contribution of primary and secondary education to human rights consciousness level of students who attend first grades of the faculties, following hypothesises are developed:

Hypothesis 1: Students who attend the first grades of the faculties of Selçuk University have enough awareness and consciousness of human rights.
Hypothesis 2: Education of the families of the students affects consciousness of human rights of the students
Hypothesis 3: Living place of the families of the students affects consciousness of human rights of the students
Hypothesis 4: Gender of the students affects consciousness of human rights of the students

4. FINDINGS
4.1. Sample
Demographic statistics of the sample are given in the following graphs and tables which summarizes the properties of the sample:

Graph 1: Gender distribution of the sample (%)
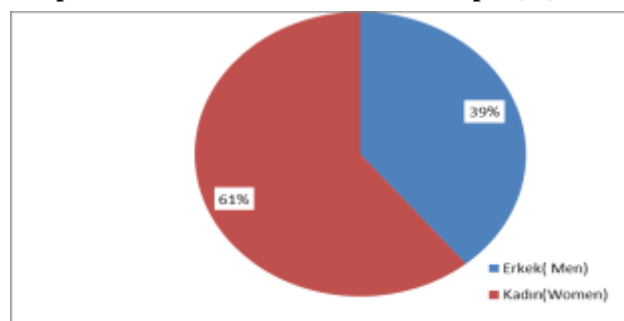
Gender distribution of the sample is adjusted to be proportional to total number of the students in first grades of faculties of Selçuk University. Because of this, the percentage of women in the sample is taken as %61

Graph-2 : Age groups of of the participants
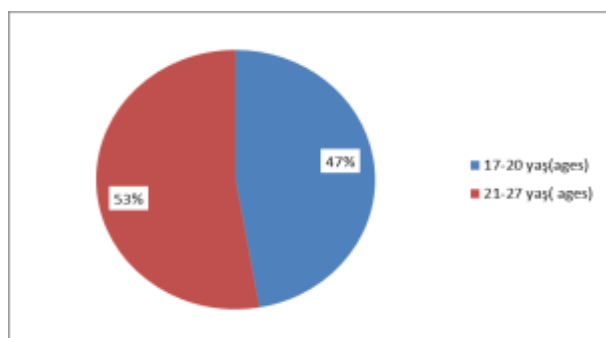
New graduates of secondary schools in Turkey are between 17-20 age groups in Turkey. 47% of the participants is new graduates. More than half of the survey is between 21-27 ages.

Table 1: Marital status distribution of the participants (%)

Evli (Married)	Bekar(Single)	Boşanmış(Divorced)
1%	98%	1%

Graph -3 : Home city distribution of the participants
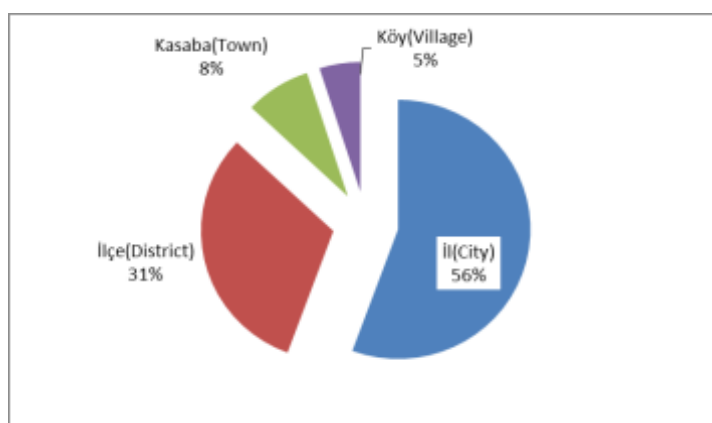
Only %5 of the participants lives in villages. As to statistics of Education Ministry of Turkey, %4 of the family of the graduated students from secondary schools lives in villages in 2012. When considered from this point of view, the sample represents whole country. (http://sgb.meb.gov.tr/www/milli-egitim-istatistikleri-orgun-egitim-2012-2013/icerik/79)

Graph-4 : Family job distribution of the participants
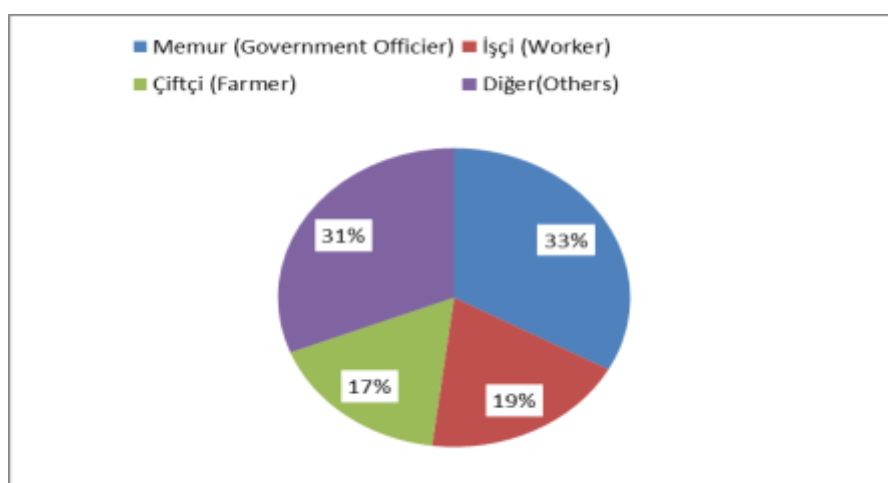
4.2. Reviews on the Hypothesis of the Survey

 In order to determine knowledge and consciousness of human rights of the sudents, 20 items were asked to the participants. First 15 items were in the form of a 5 -likert scale. As to the evaluation criteria of this likert scale "Strongly disagree" shows 1 point, "disagree" shows 2, "undecided" shows 3, "agree" shows 4 and "strongly agree" shows 5 point.

Items 5,8,11,13 and 15 are negatives so they are evaluated reversely from 5 to1. Last 5 items of the survey are" Yes-No" questions which designed to measure human right awareness of the participants.

Hypothesis 1: Students who attend at the first grades of the faculties of Selçuk University have enough awernasses and consciousness of human rights.

Firstly, to reveal whether the hypothesis is true or not, the answers of the participants for items that measure awareness of human rights have been analasied.

Table 2 : The pergentages of the answers of the participants for the items which measure awareness of human rights

No	Items	Participants (367 students)		
		Yes	**No**	**No Idea**
16	Is Turkey one of the countries that approved Europe Human Rights Declaration?	78%	7%	15%
17	Have you ever read Universal Declaration of Human Right?	22%	73%	4%
18	Do you exactly know your fundamental rights and liberties	81%	12%	7%
19	Do you believe that everybody should appeal to top level in case an obstackle when he/ she uses a legal right?	90%	7%	3%
20	Do you know that you may directly appeal to Human Right Office or send your complaint using a request box when you are subject to a violation of right?	44%	44%	12%

Students are not responsible for Universal Declaration of Human Right in secondary schools. Item 17 is intentionally replaced in the survey to measure truthfulness of the participants. So the low score of the item 17 had been expected. By looking the scores of the items 16, 18 and 19, we can say that students know their fundamental rights and liberties.

   But as to the low score (44%) of 20th item, half of them don't know how they use their rights. 12 % of "No Idea" answer of this question shows that students are not sure about appeal procedures. In secondary schools, to give performance homework including to appeal to Human Right Office may be useful to remedy this before they come to universities.

As a result, students have enough awareness about human rights but they don't sufficiently know true way to follow when they face a violation of right.

Secondly, the answers of the participants for items that measure consciousness of human rights were analasied. These items were evaluated with 5- likert scale starting from 1 to 5. Arithmetical means and standard deviations of these items are given at the following table.

Table-3: Arithmetical means and standard deviations of the questions that measure human rights consciousness level (Item 5, 8, 11, 13 and 15 is evaluated from 5 to1 and other items are evaluated from1 to 5)

No.	Items	367 students		Comment
		A.M	S.D	
1	Do you believe that "Everyone is entitled to all the rights and freedoms without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status"	4,28	1,22	
2	"Everyone has the right to freedom of communication. The exercise of this freedom may be subject to the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime." As to this, do you approve the interceptions for preventing bribery and corruptions?	3,68	1,28	
3	"No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks. " As to this article, do you feel confidence in laws that they will save you from violation of right in your daily life?	3,19	1,21	

4	"Everyone has the right to freedom of thought, conscience and religion" Do you agree that schools and work places should reserve a room for prayers of all religions?	3,35	1,52	Individual differences are high.
5	Do you agree with the idea that covered head women can attend at universities or workplaces at the state by following the directives of legal authorities?	3,75	1,51	Individual differences are high.
6	Do you agree the article "Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay"?	4,14	1,15	
7	"Men and women of marriageable age have the right to marry and to found a family, according to the national laws governing the exercise of this right." As to this article, do you think that marriage for honour is a violation of a human right?	4,34	1,08	
8	*Do you agree with the idea that s*ending only boys to universities is an acceptable idea for low income level families	4,46	1,10	
9	"No one shall be required to perform forced or compulsory labour." *Do you agree with the idea that governments don't follow this rule in case in the situations of disasters or big crises?*	3,02	1,41	Individual differences are high.
10	Depending on your daily life experiences, do you believe that there is enough respect to human rights?	2,46	1,16	
11	Do you agree with the idea that having different political opinion with a friend finishes friendship relation?	4,21	1,15	
12	Do you give money as a loan to a foreign national man or woman who is in your class or lives next to your home?	4,10	1,08	
13	There is no need for anybody who charged with a criminal offence to be informed promptly. Because he or she will be informed at the trial. Do you believe that above idea is fit with human rights declerations?	4,20	1,24	
14	"Everyone has the right to freedom of movement and residence within the borders of each State." As to this article, foreign nationals have the right to occupy and freedom of movement in the country as to legal procedures. Do you agree with this?	2,59	1,33	.
15	There are 80 passengers in a ship at the sea. 79 of the passengers are killer. You have the possibility to sink this ship into the water. Do you believe that the sink of this ship is a good idea?	3,75	1,59	Individual differences are high.
	Average	**3,70 (%74)**	**1,27**	Good consciousness

As can be seen from the table that the average point of the student for the items that measure consciousness of human rights   is 3,7 (74 %). This average level shows that students have good consciousness when they come to university.

By looking the low scores of item 3 and 10, we can say that students are skeptical about human rights abuses. Similarily, the low score of item 9 shows that human rights violations done by governments can be acceptable sometimes.

By looking the high scores of item 7 and 8, we can say that students are opposed to gender apartheid.

Item 4,5,9 and 15 has higher standart deviation that means some students have extraordinoryt opinions about the use of human rights. Consequently, we can say that students who attend the first grades of the faculties of Selçuk University have enough awareness and consciousness of human rights. So the first hypothesis of the survey is true.

Hypothesis 2: Education of the families of the students affects consciousness of human rights of the students

 To reveal the truthness of the hypothesis2, participants divided into two distinct groups. First group contains the students who one of the parents of them has a bachelor degree (101 students), second group contains the students who one of the parents of them has not got a bachelor degree (266 students).

The answers of two groups of the items that measure consciousness of human rights were analasied. Two groups were subjected to Independent Samples t-test using SPSS 17.0 program as to the total points of the students. After controlling the normality of the sample, the independent two-sample t-test is used to test whether the means of two samples are significantly different from each other. Statistics of t – test are given in the following tables.

Table-4 : Group Statistics as to total point

Education	N	Mean	Std. Deviation	Std. Error Mean
Group 1	101	75,3	7,158	,712
Group 2	266	73,5	8,489	,521

The mean for each of the two groups in the "Group Statistics" section shows that the average point for group 1 is 75,3, versus 73,5 for group 2.

Table-5 : Independent Samples Test as to total point

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	3,220	,074	1,654	365	,099	1,575	,952	-,298	3,447
Equal variances not assumed			1,785	212,446	,076	1,575	,882	-,164	3,314

For equality of variances, sig value is 0,74 >0,050, so we say that two groups have equal variences. If we find the p-value for the hypothesis test for the difference in means, we look in the column labeled "Sig. (2-tailed)" in the "t-test for Equality of Means" section, and in the first row (labeled "Equal variances assumed"). Sig. (2-tailed) = 0,099 >0,050 implying that the difference in means is not statistically significant.

In addition to this, two groups were subjected to Independent Samples t-test using SPSS 17.0 program as to item points whether groups are significantly different from each other based on items.

Table-6: Arithmetical means and standard deviations of the items that measure consciousness of human rights as to the groups (Item 5, 8, 11, 13 and 15 is evaluated from 5 to1 and other items are evaluated from1 to 5)

No.	Items	Group 1		Group 2		Comments
		A.M	S.D	A.M	S.D	
1	Do you believe that "Everyone is entitled to all the rights and freedoms without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status"	4,35	1,17	4,25	1,24	
2	"Everyone has the right to freedom of communication. The exercise of this freedom may be subject to the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime." As to this, do you approve the interceptions for preventing bribery and corruptions?	3,86	1,26	3,61	1,28	
3	"No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks. " As to this article, do you feel confidence in laws that they will save you from violation of right in your daily life?	3,02	1,22	3,25	1,20	
4	"Everyone has the right to freedom of thought, conscience and religion" Do you agree that schools and work places should reserve a room for prayers of all religions?	3,55	1,45	3,27	1,54	
5	Do you agree with the idea that covered head women can attend at universities or workplaces at the state following the directives of legal authorities?	3,84	1,52	3,72	1,51	
6	Do you agree the article "Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay"?	4,35	1,03	4,07	1,18	
7	"Men and women of marriageable age have the right to marry and to found a family, according to the national laws governing the exercise of this right." As to this article, do you think that honour marriage is a violation of a human right?	4,36	1,15	4,34	1,05	
8	*Do you agree with the idea that s*ending only boys to universities is an acceptable idea for low income level families	4,74	0,81	4,35	1,17	Sig<0,05 Sig. (2-tailed) <0,05

9	"No one shall be required to perform forced or compulsory labour." *Do you agree with the idea that governments don't follow this rule in case in the situations of disasters or big crises?*	3,17	1,44	2,96	1,40	
10	Depending on your daily life experiences, do you believe that there is enough respect to human rights?	2,36	1,20	2,50	1,15	
11	Do you agree with the idea that having different political opinion with a friend finishes friendship relation?	4,19	1,19	4,21	1,14	
12	Do you give money as a loan to a foreign national man or woman who is in your class or lives next to your home?	4,18	1,07	4,08	1,09	
13	There is no need for anybody who charged with a criminal offence to be informed promptly. Because he or she will be informed at the trial. Do you believe that above idea is fit with human rights declerations?	4,30	1,25	4,17	1,24	
14	"Everyone has the right to freedom of movement and residence within the borders of each State." As to this article, foreign nationals have the right to occupy and freedom of movement in the country as to legal procedures. Do you agree with this?	2,51	1,30	2,62	1,34	
15	There are 80 passengers in a ship at the sea. 79 of the passengers are killer. You have the possibility to sink this ship into the water. Do you believe that the sink of this ship is a good idea?	3,68	1,62	3,78	1,57	
	Average	3,76	1,21	3,67	1,25	

As can be seen from above table that,

- Two groups have good consciousness of human rights
- Two groups have different opinions only at item 8. We can say that students who one of the parents of them has a bachelor degree is more sensitive about educational rights of women.
- "Education of the families of the students affects consciousness of human rights of the students "hypothesis is rejected. There is no statistically significant difference between two groups.

Hypothesis 3: Living place of the families of the students affects consciousness of human rights of the students

 To reveal the truthness of the hypothesis3, participants divided into two distinct groups. First group contains the students whose families live outside a city (163 students), second group contains the students whose families live in a city (204 students),

The answers of two groups of the items that measure consciousness of human rights were analasied. Two groups were subjected to Independent Samples t-test using SPSS 17.0 program as to the total points of the students. After controlling the normality of the samples, the independent two-sample t-test is used to test whether the means of two samples are significantly different from each other. Statistics of t – test are given in the following tables.

Table-7 : Group Statistics as to total point

Living place of family	N	Mean	Std. Deviation	Std. Error Mean
Group 1	163	72,9	9,210	,721
Group 2	204	74,9	8,400	,588

The mean for each of the two groups in the "Group Statistics" section shows that the average point for group 1 is 72,9, versus 74,9 for group 2.

Table-8 : Independent Samples Test as to total point

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	,267	,606	-2,218	365	,027	-2,0435	,9212	-3,8550	-,2319
Equal variances not assumed			-2,196	331,91	,029	-2,0435	,9307	-3,8743	-,2126

For equality of variances, sig value is 0,606 >0,050, so we say that two groups have equal variences. If we find the p-value for the hypothesis test for the difference in means, we look in the column labeled "Sig. (2-tailed)" in the "t-test for

Equality of Means" section, and in the first row (labeled "Equal variances assumed"). Sig. (2-tailed) = 0,027 < 0,050 implying that the difference in means is statistically significant. To find item differences between two groups, they were subjected to Independent Samples t-test using SPSS 17.0 program as to item points.

Table-9: Arithmetical means and standard deviations of the items that measure consciousness of human rights as to the groups depending on living places (Item 5, 8, 11, 13 and 15 is evaluated from 5 to1 and other items are evaluated from1 to 5)

| Item No | Living place of family | | | | Comment |
| | Group 1 Outside City | | Group 2 City | | |
	A.M	S.D	A.M	S.D	
1	4,25	1,24	4,29	1,21	
2	3,61	1,30	3,74	1,25	
3	3,12	1,16	3,24	1,24	
4	3,17	1,57	3,49	1,48	Sig (0,91) > 0,05 and Sig.(2-tailed)= 0,046< 0,050 There is difference between groups
5	3,66	1,52	3,82	1,51	
6	4,09	1,20	4,19	1,11	
7	4,42	1,01	4,29	1,13	
8	4,56	0,94	4,37	1,20	Sig(0,01)< 0,05 and Sig.(2-tailed)= 0,98 > 0,050
9	2,77	1,38	3,21	1,41	Sig(0,553) > 0,050 and Sig.(2-tailed)=0,003 < 0,050 There is difference between groups
10	2,56	1,09	2,38	1,21	
11	4,20	1,09	4,22	1,20	
12	3,97	1,18	4,21	0,99	Sig(0,036) <0,05 and Sig.(2-tailed)= 0,038 <0,050 There is difference between groups
13	4,13	1,27	4,26	1,22	
14	2,50	1,35	2,67	1,31	
15	3,66	1,60	3,83	1,57	
Mean	3,64 (%73)	1,26	3,75 (%75)	1,27	Sig(0,267)<0,05 and Sig. (2-tailed)=0,029 < 0,050 There is difference between groups

As can be seen from above table that,
- Two groups have good consciousness of human rights
- Two groups have different opinions   at items 4, 9, 12.
- Living places of the families of the students affects consciousness of human rights of the students. That is hypothesis 3 is accepted. There is statistically significant difference between two groups.

To explain the differences between two groups, items which imply the differences are given at following table.

Table-10: Arithmetical means and standard deviations of the items that measure consciousness of human rights as to the groups (Item 5, 8, 11, 13 and 15 is evaluated reversely)

| Item No | Living place of family | | | | Items which have difference |
| | Group 1 Outside City | | Group 2 City | | |
	A.M	S.D	A.M	S.D	
4	3,17	1,57	3,49	1,48	"Everyone has the right to freedom of thought, conscience and religion" Do you agree that schools and work places should reserve a room for prayers of all religions?

| 9 | 2,77 | 1,38 | 3,21 | 1,41 | "No one shall be required to perform forced or compulsory labour." *Do you agree with the idea that governments don't follow this rule in case in the situations of disasters or big crises?* |
| 12 | 3,97 | 1,18 | 4,21 | 0,99 | Do you give money as a loan to a foreign national man or woman who is in your class or lives next to your home? |

Above items measure disagreements on implementing of some human rights. Students whose families live in a city (Group 2) got higher points than group 1 from above items. As a result, we can say that students whose families live in a city are more tolerant on implementation differences of human rights than another group.

Hypothesis 4: Gender of the students affects consciousness of human rights of the students

To reveal the truthness of the hypothesis 4, participants divided into two distinct groups. First group contains male students (142 students), second group contains female students (225 students). The answers of two groups for the items that measure consciousness of human rights were analasied. Two groups were subjected to Independent Samples t-test using SPSS 17.0 program as to the total points of the students. After controlling the normality of the samples, the independent two-sample t-test is used to test whether the means of two samples are significantly different from each other. Statistics of t – test are given in the following tables.

Table-11 : Group Statistics as to total point

Gender	N	Mean	Std. Deviation	Std. Error Mean
Men	142	72,93	8,910	,748
Women	225	74,68	8,710	,581

The mean for each of the two groups in the "Group Statistics" section shows that the average point for men is 72,93, versus 74,68 for women.

Table-12 :   Independent Samples Test as to total point

	Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	1,182	,278	-1,82	365	,070	-1,711	,942	-3,563	,141
Equal variances not assumed			-1,81	294,86	,072	-1,711	,947	-3,574	,152

For equality of variances, sig value is 0,278 >0,050, so we say that two groups have equal variences. If we find the p-value for the hypothesis test for the difference in means, we look in the column labeled "Sig. (2-tailed)" in the "t-test for Equality of Means" section, and in the first row (labeled "Equal variances assumed"). Sig. (2-tailed) = 0,070 >0,050 implying that the difference in means is not statistically significant.

To find whether there are item differences between two groups, they were subjected to Independent Samples t-test using SPSS 17.0 program as to item points.

Table-12: Arithmetical means and standard deviations of the items that measure consciousness of human rights as to the groups depending on living places (Item 5, 8, 11, 13 and 15 is evaluated from 5 to1 and other items are evaluated from1 to 5)

Item	Men		Women		
No.	Mean	Std. Deviation	Mean	Std. Deviation	Comments
1	4,19	1,271	4,33	1,187	
2	3,69	1,385	3,68	1,205	
3	3,24	1,232	3,15	1,193	
4	3,47	1,570	3,27	1,492	
5	3,82	1,545	3,71	1,495	
6	4,12	1,158	4,16	1,146	
7	4,01	1,268	4,56	,880	Sig. (2-tailed) <0,05 There is difference between groups
8	4,06	1,309	4,71	,847	Sig. (2-tailed) <0,06 There is difference between groups
9	2,96	1,513	3,05	1,347	
10	2,59	1,178	2,38	1,147	
11	4,04	1,248	4,31	1,074	Sig. (2-tailed) <0,05 There is difference between groups
12	4,07	1,115	4,12	1,066	
13	4,14	1,230	4,24	1,249	
14	2,58	1,421	2,60	1,271	
15	3,76	1,646	3,75	1,550	

As can be seen from above table that,
- Two groups have good consciousness of human rights
- Two groups have different opinions at items 7,8,11 which are related with individual rights. Women got higher points from those items than men. So, we can say that women are more sensitive about their rights.
- "Gender of the students affects consciousness of human rights of the students" hypothesis is rejected. There is no statistically significant difference between two groups.

5. CONCLUSION

The study was implemented in faculties of Selçuk University in Konya with 367 first grade students to find out their awareness and consciousness of human rights. Firstly, we found out that first grades students have
enough awareness about human rights but they don't sufficiently know true way to follow when they face a violation of right. Consequently, hypothesis 1 "Students who attend the first grades of the faculties of Selçuk University have enough awareness and consciousness of human rights." is accepted. Depending on this finding, we can say that graduates of secondary schools in Turkey, come to universities by carrying enough knowledge, awearesness and consciousness of human rights. We also found out that human rights violations done by governments can be more easily acceptable by the students. We can say that students are opposed to gender apartheid and students may propose extraordinoryt opinions about the use of human rights.

As to the education of the families of the students (Hypothesis 2), students were divided two indepentend groups. First group contains the students who one of the parents of them has a bachelor degree (101 students), second group contains the students who one of the parents of them has not got a bachelor degree (266 students). Two groups were subjected to Independent Samples t-Test by using SPSS. According to the results of t-test, there is no statistically significant difference between two groups about consciousness of human rights of the students. The hypothesis "Education of the families of the students affects consciousness of human rights of the students "is rejected. But it became clear that students who one of the parents of them has a bachelor degree is more sensitive than group 2 about educational rights of women.

As to the living place of the families of the students (Hypothesis 3), students were divided two indepentend groups. First group contains the students whose families live outside a city (163 students), second group contains the students whose families live in a city (204 students). Two groups were subjected to Independent Samples t-Test by using SPSS.

According to the results of t-test, it is found that living places of the families of the students affects consciousness of human rights of the students. That is, hypothesis 3 is accepted. There is statistically significant difference between two groups. After examining the items of the survey to clear differencies, we found out that students whose families live in a city are more respectful of foreign settlements and are respectful of different beliefs. We can also say that students whose families live in a city would be more tolerant about applications of local authotories than other groups in case a big crise.

As to the gender of the students (Hypothesis 4), students were divided two indepentend groups as men(142 students) and women(225 students). Two groups were subjected to Independent Samples t-Test by using SPSS**.** According to the results of t-test, "Gender of the students affects consciousness of human rights of the students" hypothesis is rejected. There is no statistically significant difference between two groups. But it became clear that female students are more sensitive than male students about woman's rights.

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A STUDY OF AUGMENTED REALITY TECHNOLOGY ACCEPTANCE IN NURSING COLLEGE

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ABSTRACT

The study's objectives are 1) To study factors influencing augmented reality technology perception in nursing colleges 2) To study factors influencing augmented reality technology acceptance in nursing colleges 3) To study the relationship and impact of factors influencing augmented reality technology perception and acceptance in nursing colleges. Samples (random sampling) comprise 296 nursing students of 4 nursing colleges (Army, Navy, Air Force, Police, each contributing 74), second semester, 2015 academic year. Data are collected via questionnaires and subjected to statistical analysis to find mean ($\overline{X}$), standard deviation (S.D.), Pearson Correlation Coefficient, and Multiple Regression Analysis. The result reveals total factors influencing augmented reality technology perception are at a high level ($\overline{x}$ =4.8). The most influential factor is ease of use ($\overline{x}$ =4.54), followed by playfulness ($\overline{x}$ =4.53), usefulness ($\overline{x}$ =4.4 6), compatibility with past values, desires and experiences ($\overline{x}$ =4.4 4), and comparative advantage to prior technology ($\overline{x}$ =4.4 4).Relationship between technology acceptance and perception is positive with p-value less than $\alpha = 0.01$ while perception factors influencing augmented reality technology acceptance in learning activities is less than $\alpha = 0.05$. In conclusion, comparative advantage and compatibility with past value/experience are the most influential factors in technology acceptance followed by playfulness, usefulness and ease of use. The equation can be written as:

Technology acceptance $= 0.104 + 0.797$(ease of use) $+ 0.125$ (usefulness) $+ 0.203$ (compatibility) $+ 0.262$ (comparative advantage) $+ 0.130$ (playfulness)

Key words: Acceptance / Augmented Reality / Nursing College

INTRODUCTION

Education is the key to develop people. To make people capable of learning, having desirable traits and living happily in society, teaching and learning activities must be constantly adapted to the changing technologies. Learners must learn to search knowledge and information outside the classroom as well. Education institutions must make sure that teaching and learning activities incorporate appropriate technology in line with the nature of learners in the 21st century.

Prof.Dr. Vijarn Panich (2012)'s book "How to Teach Learners in the 21st Century" noted that people in the 21st century must start learning since kinder garten to university and throughout their lives. Learning activities comprise 3R x 7C; 3R being Reading, wRiting, aRithmetic and 7C being Critical thinking & problem solving, Creativity & innovation, Cross-cultural understanding, Collaboration, teamwork & leadership, Communications, information & media literacy, Computing & ICT literacy, and Career & learning skills. Education framework for the 21st century must incorporate modern technologies into learning/teaching activities to keep pace with globalization.

Augmented Reality (AR) is a variation of immersive virtual reality is augmented reality where a see-through layer of computer graphics is superimposed over the real world to highlight certain features and enhance understanding (Isdale, 2001). Azuma (1999) explains, "Augmented Reality is about augmentation of human perception: supplying information not ordinarily detectable by human senses." And Behringer, Mizell, and Klinker (2001) explain that "AR technology provides means of intuitive information presentation for enhancing the situation awareness and perception of the real world." So AR is an advanced technology developed by integrating the real world and the virtual world together via software and related hardware interface such as webcam, PC and others. The augmented reality pictures and animation can be displayed on computer's screen, smartphone's screen, projector's screen and other display devices. The display can be easily manipulated by users for still 3D image, animation and it can be accompanied by sound, depending on the media type. The technology can be used to design an interactive learning course, which is interesting, convenient and entertaining. It can be accessed via a smartphone which is a mobile device, enabling users to learn at any time, any place.

From this perspective, the researchers are interested in the study of augmented reality technology acceptance with the purpose of adopting this technology to design an interactive course in the context of nursing colleges.

OBJECTIVES

1) To study factors influencing augmented reality technology perception in nursing colleges
2) To study factors influencing augmented reality technology acceptance in nursing colleges
3) To study the relationship and impact of factors influencing augmented reality technology perception and acceptance in nursing colleges.

HYPOTHESIS

H_1: Factors influencing augmented reality technology perception are related to technology acceptance in nursing colleges in Bangkok.

H_2: Factors influencing augmented reality technology perception can impact technology acceptance in nursing colleges in Bangkok.

METHODS

The study is a quantitative research, utilizing survey. The population are 1,120 students in 4 nursing colleges (Army, Navy, Air Force, Police) at a Bachelor degree level, from Year 1-4 who were studying 2nd semester, 2015 academic year. Samples (random sampling) are 296 students (each nursing college contributing 74) derived from Taro Yamene method at a confidence level at 0.95 and sampling deviation at 0.05.

The research tool is a questionnaire with 5 level rating scale to reflect samples' opinions on factors influencing augmented reality technology acceptance in learning activities. The tool's scale reliability of internal consistency is measured by Cronbach's alpha = 0.75.

Once the questionnaire has been checked for reliability, the questionnaire is sent to targeted samples to be answered online. The data collection period is about 1-2 weeks. The data are then subjected to statistical analysis using SPSS program to find frequency, percentage, mean and standard deviation.

To test the perception factors in relation with technology acceptance, Pearson correlation is performed. To test the perception factors impacting technology acceptance, Multiple Regression Analysis is performed.

RESEARCH FRAMEWORK

Perception factors impacting acceptance
-Ease of use
-Usefulness
-Compatibility
-Relative advantage
-Playfulness

Augmented reality technology acceptance steps
- Knowledge
- Persuasion
- Decision
- Implementation
- Confirmation
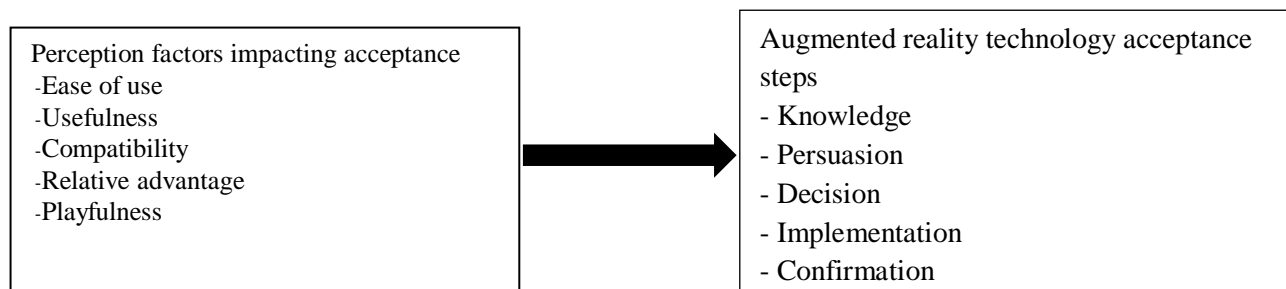
Adapted from Technology Acceptance Model (Davis, 1992)

RESULTS

1) There are 300 students replying to the questionnaires, 284 females (94.70%), 16 males (5.30%), most are 18 years old (116 students or 38.7%), the youngest are 17 (16 students or 5.30%). The majority is 2nd year students (117 or 39%), followed by 3rd year students (100 or 33.33%) while 1st year students comprising only 33 or 11%. All respondents (100%) have had prior E-learning experiences.
Note: Only 296 sampled students are used.

Table2: Factors influencing augmented reality technology perception.

Factors influencing augmented reality technology perception	$\bar{x}$	(S.D.)	Rating scale	Level
Ease of use	4.54	0.62	very high	1
Playfulness	4.53	0.55	very high	2
Usefulness	4.46	0.57	high	3
Compatibility with past values, experiences	4.44	0.55	high	4
Relative advantage	4.44	0.54	high	5
Total	**4.48**	**0.57**	**high**	

From table 1, the samples' total factors influencing augmented reality technology perception are at high level ($\bar{x}$ =4.8). Considering individual factor, at the very high level the most influential factor is ease of use ($\bar{x}$ =4.54),

followed by playfulness ($\bar{x}$ =4.53), at the high level is usefulness ($\bar{x}$ =4.46), compatibility with past value, desire and experiences ($\bar{x}$ =4.44), and comparative advantage to prior technology ($\bar{x}$ =4.44).

Table2: Result of augmented reality technology acceptance.

Augmented reality technology acceptance	$\bar{x}$	(S.D.)	Rating scale	Level
Decision	4.53	0.57	very high	1
Implementation	4.53	0.55	very high	2
Knowledge	4.50	0.55	very high	3
Persuasion	4.47	0.59	high	4
Confirmation	4.40	0.56	high	5
Total	**4.49**	**0.56**	**high**	

From table 2, total factors influencing augmented reality technology acceptance are at a high level ($\bar{x}$ =4.49). Considering individual factor, at the very high level the most influential factor is decision ($\bar{x}$ =4.53), followed by implementation ($\bar{x}$ =4.53) and knowledge ($\bar{x}$=4.50), at the high level is persuasion ($\bar{x}$ =4.47), and confirmation ($\bar{x}$ =4.40).

Testing hypotheses results

Testing H$_1$: Factors influencing augmented reality technology perception are related to technology acceptance in nursing colleges.

H$_0$: Factors influencing augmented reality technology perception are not related to technology acceptance in nursing colleges.

H$_1$: Factors influencing augmented reality technology perception are related to technology acceptance in nursing colleges.

Table 3: Result of relationship between technology acceptance and perception

		Acceptance	Ease of use	Usefulness	Compatibility	Comparative advantage	Playfulness
Acceptance	Pearson Correlation	1	.433**	.522**	.542**	.627**	.509**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	296	296	296	296	296	296
Ease of use	Pearson Correlation	.433**	1	.329**	.247**	.360**	.292**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	296	296	296	296	296	296
Usefulness	Pearson Correlation	.522**	.329**	1	.386**	.406**	.407**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	296	296	296	296	296	296
Compatibility	Pearson Correlation	.542**	.247**	.386**	1	.358**	.304**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	296	296	296	296	296	296
Comparative advantage	Pearson Correlation	.627**	.360**	.406**	.358**	1	.395**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	296	296	296	296	296	296
Playfulness	Pearson Correlation	.509**	.292**	.407**	.304**	.395**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	296	296	296	296	296	296

**. Correlation is significant at the 0.01 level (2-tailed).

From table 3, Relationship between technology acceptance and perception is found with the following factors: Ease of use, playfulness, usefulness, compatibility with past experiences, and comparative advantage to prior technology. Relationship coefficient (r) ranges from 0.247 to 0.627 on the positive side. Samples (N=296) and p-value Sig (2-tailed) = 0.000 which is less than prescribed $\alpha = 0.01$ Therefore, relationship between technology acceptance and perception is positive at the significant level $.0.01$

Testing H_2: Factors influencing augmented reality technology perception can impact technology acceptance in nursing colleges.

   H_0: Factors influencing augmented reality technology perception do not impact technology acceptance in nursing colleges.

   H_1: Factors influencing augmented reality technology perception can impact technology acceptance in nursing colleges.

   Multiple regression analysis is performed to test the hypothesis to find regression coefficient value (p-value) .

   Table 4: Result of regression analysis to test the hypothesis

Factors influencing augmented reality technology acceptance	B	Beta	t	p-value
Constant	0.797		4.360	0.000
Ease of use	0.104	0.137	3.347	0.001
Playfulness	0.125	0.157	3.561	0.000
Usefulness	0.203	0.267	6.398	0.000
Compatibility	0.262	0.343	7.801	0.000
Comparative advantage	0.130	0.189	4.421	0.000
R= 0.773	**Adj R^2 =0.59**		**Std Error of Est =0.192**	
F= 87.176	**Sig.= 0.000**		**Durbin Watson=1.832**	

*Statistically significant at 0.05

From table 4, Adjusted R Square) Adj R^2 ($= 0.59$ when multiplied by 100 resulting $= 59$, signifying that perception factors can accurately predict technology acceptance 59%. Durbin Watson $=1.832$, ranging from 1.5 to2.5, signifying deviation value conforming to regression analysis scope. Considering p-value with Sig $= 0.000$ less than prescribed $\alpha =0.05$, H_0 is rejected. In conclusion, equation of regression analysis predicting technology perception factors impacting technology acceptance can be written as:

   Technology acceptance $0.104 + 0.797 =$(ease of use) + 0.125 (usefulness) + 0.203 (compatibility) + 0.262 (comparative advantage) + 0.130 (playfulness)

From the equation, B is Regression Coefficient at constant value at the Y intersection = 0.797, with ease of use = 0.104, a positive value. It can be interpreted that when controlling acceptance factors (ease of use, usefulness, compatibility, comparative advantage, playfulness) with the rise of 1 standard unit of opinions, the acceptance factor changes $,0.203 ,0.125 ,0.104 0.262$ and 0.130 respectively. In conclusion, comparative advantage and compatibility can impact technology acceptance at a very high level, followed by playfulness, usefulness, and ease of use.

DISCUSSION

The study of augmented reality technology perception and acceptance in the context of learning and teaching activities in nursing colleges yields the following:

(1 The samples' total factors influencing augmented reality technology perception are at high level. When considering each factor, sampled students' opinions give a very high level rating for ease of use, followed by playfulness, while giving a high level rating for usefulness, compatibility and comparative advantage respectively. This result is in line with Jirawat Wongthongchai's "Study of 2d Barcode Technology Perception Factors on Technology Acceptance" yielding a high level for Gen Y users, with the highest rating for comparative advantage, followed by playfulness, compatibility, ease of use, and usefulness respectively. The study found that there is a relationship between perception and acceptance and that perception can impact 2d barcode technology acceptance.

(2 Total factors influencing augmented reality technology acceptance in nursing colleges are at a high level. When considering individual factor, sampled students' opinions give a very high level rating for decision, implementation, and knowledge, while giving a high level rating for persuasion and confirmation. This result is

in line with Nawaphon Kaewsuwan, Chanthana Viriyavejjakul and Krissana Khiddee's "Study of Factors Impacting Acceptance of Education Technology of Teachers in Maung Phatthalung Municipality Schools" which found 1) Technology acceptance by the teachers is at a high level 2) Factors impacting technology adoption are also at a high level, comprising school's social environment, school administrators' support, media facility availability 3) Factors, impacting technology adoption and statistically significant at .05 level, comprise school's social environment) x_1 , (school administrators' support) x_2, (media facility availability) x_3 ,(all together can predict with accuracy 59.20%. There was also a study by Narin Damnui, Sunthorn Vithoonphot and Sureena Matayong "Factors Impacting Games Platform Acceptance of Blind Students" found that Technology Acceptance Model has good potential to impact teacher's attitude. The factors are 1) hardware/software ease of use 2) perception of usefulness in learning activities. Other theories don't consider these 2 factors. Orathai Luenwan's study "Personal and Work-related Factors Impacting IT Technology Acceptance in the Workplace" found that ease of use and usefulness impacting acceptance at a high level while gender and income factors also have acceptance impact but work-related factors have no impact on technology acceptance.

RECOMMENDATION

The study reveals that technology perception factors influence sampled nurses' technology acceptance. Therefore, an interactive course should utilize appropriate technology that yields comparative advantage, ease of use, and convenient access for the learners' lifestyles.

RECOMMENDATION for FUTURE STUDY.

1. Select new sample group with different lifestyles such as teachers and learners in private institutions.
2. Study other factors and variables that influence perception such as satisfaction, socio-economic status and culture.

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A STUDY OF GIFTED STUDENTS' MOTIVATION FOR ACHIEVEMENT IN MATHEMATICS

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ABSTRACT
Mathematics is a science or a subject faced by everyone during their compulsory education, which either they like or hate or perhaps suffer anxiety because of it. Achievement motivation; is a desire, a need, an expectation for achievement, and unfortunately reaching achievement may not always be easy (Umay, 2002). In case of gifted students, the condition is to prepare and apply programs that appeal to their characteristics and requirements. This study was conducted with the aim of determining how a differentiated curriculum would affect their motivation for achievement in mathematics. In this study, "Achievement Motivation Scale" developed by Umay (2002) was used, validity and reliability studies of the scale were completed. The scale is made up of two parts. The first part is made up of seven items, the second part which aims at evaluating the level of achievement motivation is made up of triple rated fourteen items. The sampling of the study made by using control group pre-test final-test design model is made up of by 20 gifted students in 5th grade, 10 of which took part in experiment, while the other 10 in control group. Analyses were made in accordance with the sub-problems of the research and it was established that a differentiated curriculum that is prepared according to levels, interests and requirements of gifted students increases their achievement motivation.

Keywords: Gifted student, differentiated mathematics teaching, achievement motivation.

INTRODUCTION

Achievement motivation and the desire to succeed are needs and expectations. Once a person is successful, he/she will always want to be successful. The way to success requires effort, patience and endurance (Umay, 2002). According to achievement motivation theory, there are two basic requirements for an individual to be motivated. One of these requirements is to avoid failure, the other is the need for success (Göc, 2010).

McClelland defines achievement motivation as, "an endeavour for doing things in a better way by taking as well, perfectionism standards into consideration" (McClelland and Koestner, 1992). In cases where hope for achievement is high and fear of failure is low, achievement motivation of the individual tends to be high. When powers of these two feelings are equal, achievement motivation level is medium, and achievement motivation is low when fear of failure is high (Umay, 2002).

Students relate their success to the efforts they make and when they fail, they believe that they will be more successful if they study more. On the contrary, students who relate their success and failure to external and uncontrollable variables end up explaining their success with easiness of the task and luckiness factor, and their failure with their lack of skills or their unluckiness. As a result, they don't make more effort to be successful (Erden and Akman, 1995). A student who is successful at school and is proud of himself/herself would also want to maintain his/her achievements out of school (Göc, 2010).

All children have various needs. Gifted children however, have needs both similar to their peers and special needs peculiar to them which are very important for them. At school, they want to study at a level that will appeal to their intelligence, and usually they end up spending most of their time at school with activities that meet their needs at a minimum level (Dağlıoğlu, 2004). Gifted students' education is very important all over the world, for the future of any country and of humanity. Gifted students are significantly different from their peers in terms of their characteristics and needs so, they need to be supported with different educational programs (Hunsaker, 1994; Feldhusen, 1997; Renzulli, 1999; Clark, 2002; Horn, 2002; Retrieved from Bakioğlu and Levent, 2013).

When our motivation for achievement is high, we participate in any activity voluntarily. When our tendency to avoid failure is high, we avoid the activity and if we are obliged to do the activity, we do it in a way that will minimalize the possibility of failure (Brophy, 1998; Retrieved from Selçuk, 2004). The case of gifted students is not very different either. The purpose of the study, is to prepare a differentiated mathematics program for gifted

students in accordance with their characteristics and to analyse the effects of this program on gifted students' motivation for achievement. With this purpose, the questions below were asked.
Problems of the Research:

1. What are the students' achievement motives like?

2. Are there differences between students' pre-test scores?

3. Are there differences between students' final test scores?

4. What is the improvement of control group students' achievement motivation in mathematics like?

5. What is the improvement of control group student's achievement motivation in mathematics like?

METHODS
This section includes detailed information about this research's model, sample, procedure, data collection instrument, and data analysis.

Research Model
Control Group Pre-Test Final-Test Experimental Design Model was used in this study (Balcı, 1997; Kaptan, 1998; Karasar, 2005). In the experiment group, a differentiated mathematics curriculum was applied by using educational materials, while there was no interference with the instruction of the control group. The effect of learning with the help of differentiated program on gifted students' achievement motives in mathematics was attempted to be defined. The experiment design used in the research is shown in Table 1.

Table 1. Experiment Design

Groups	Pre-test	Experiment Design	Post-test
G1 (Experiment)	AMS	Differentiated curriculum	AMS
G2 (Control)	AMS	Program of MEB	AMS

Population and Sample
The population of the research was made up of 5th grade gifted students studying in two different classes in a formal education primary school in Turkey. Groups were matched and students were divided into two groups which are; experiment group and control group. The distribution of the sampling is shown in Table 2.

Table 2. Frequency and Percentage Distribution of Students Participating in the Research According to Gender

GROUPS	FEMALE		MALE		TOTAL
	f	%	f	%	
EXPERIMENT	3	30	7	70	10
CONTROL	2	20	8	80	10
TOTAL	5		15		20

Procedure
When 5th grade achievements targeted by National Education Ministry was studied; it was observed that these achievements were quite below the achievements that must have been acquired by gifted students. It is possible to

say, when cognitive developments of gifted and skilled students are considered, that readiness levels of these students are two or three grades higher than this grade. Instead of activities that are simple for their level, these students were given open-ended activities that are more extensive and complex, requiring high level thinking about 'Fractions', which is a subject in 5th grade curriculum. The models used in differentiation dimension of the program (content, process and product) are Grid Curriculum Model developed by Kaplan (Kaplan, 1986) and Parallel Curriculum Model developed by Tomlinson et al. (2009)

Data Collection Instrument

Achievement Motivation Scale (AMS) developed by Umay (2002) was used in the study, the reliability and validity studies were conducted. Achievement Motivation Scale is made up of two parts. The items in the first part of the scale were questions written by Umay (2002), in order to question basic concepts about achievement motivation. In the second part of the scale used in the survey, there are fourteen items that have choices such as; "often", "sometimes", "never" out of which the students are expected to choose the one that suits them. These items are used to assess achievement motivation levels of students who are expected to have high levels of achievement motives. Reliability coefficient was indicated as $\alpha =, 75$ and the reliability coefficient in the survey was found to be .80.

Data Analysis and Interpretation

In accordance with the general aim of the study, SPSS 16.0 was used for the statistical processing of the data collected. Mann Whitney-U test and Wilcoxon Signed Rank Test techniques were used in data analysis.

FINDINGS AND INTERPRETATION

The findings will be analysed based on the five basic questions which make up the problem of the research.

The findings with regards to the first problem are explained in Table 3.

Table 3. Defining Values of Group Achievement Motivation Scale Scores

Achievement Motivation Scale	N	X	Ss
Pre-test Control	10	15,60	3,27
Experiment	10	15,00	3,43
Post-test Control	10	14,90	4,65
Experiment	10	21,70	5,63

As seen in Table 3, Achievement Motivation Scale pre-test score average of gifted students in the experiment group is 15, 00, final-test score average is 21,70. Control group students' achievement motivation pre-test score average is 15,60, final-test score average is 14,90.

The findings as to the second problem are shown in Table 4.

Table 4. Results of Mann- Whitney U Test Made for Achievement Motivation Scale Pre-test Scores of the Groups

Pre-test	N	Mean Rank	Sum of Ranks	U	Z	P
Control	10	11,00	110,00			
				45,000	-,381	,704
Experiment	10	10,00	100,00			

As a result of non-parametric Mann Whitney-U Test, conducted with the aim to define whether groups differ significantly in terms of pre-test Achievement Motivation Scale score averages or not, no significant difference

was found (U=45,000; p>.05). Depending on this data, it is possible to say that the groups are equal in terms of Achievement Motivation Scale pre-test scores.

The findings concerning the third problem are shown in Table 5.

Table 5. Results of Mann- Whitney U Test Made for Achievement Motivation Scale Final-test Scores of the Groups

Post-test	N	Mean Rank	Sum of Ranks	U	z	P
Control	10	7,25	72,50			
				17,500	-2,466	,014
Experiment	10	13,75	137,50			

As seen in Table 5, as a result of non-parametric Mann Whitney-U Test, conducted with the aim to define whether groups differ significantly in terms of final-test achievement Motivation Scale score averages or not, statistically significant difference (U=17,500; p<.05) was found between control and experiment groups, which is to the advantage of the experiment group.

The findings concerning the forth sub-problem are shown in Table 6.

Table 6. Results of Wilcoxon Test Made for Control Group Achievement Motivation Scale Pre-test Final- Test Scores

	Ranks	N	Mean Rank	Sum of Ranks	Z	P
Control Group Pre-test- Post-test	Negative Ranks	5	5,30	26,50		
	Positive Ranks	4	4,62	18,50	-,476	,634
	Ties	1				
	Total	10				

As seen in Table 6., as a result of the non-parametric Wilcoxon Test, conducted with the aim to define whether there is a significant difference between Achievement Motivation Scale pre-test and final-test score averages of control group students or not, no statistically significant difference (z=-,476;p>.05) was found.

The findings concerning the fifth sub-problem are shown in Table 7.

Table 7. Results of Wilcoxon Test Made for Experiment Group Achievement Motivation Scale Pre-test Final- Test Scores

	Ranks	N	Mean Rank	Sum of Ranks	Z	P
Experiment Group Pre-test-Post-test	Negative Ranks	1	1,00	1,00		
	Positive Ranks	8	5,50	44,00	-2,547	,011
	Ties	1				
	Total	10				

As seen in Table 7, as a result of the non-parametric Wilcoxon Test, conducted with the aim to define whether there is a significant difference between Achievement Motivation Scale pre-test and final-test score averages of experiment group students, the difference between sequencing averages *(z=-2,547;*p<.05) was found to be statistically significant.

CONCLUSIONS AND RECOMMENDATIONS

It has been observed that, the differentiated mathematics program applied, has increased scores of experiment group, however, there was a decrease in final test scores of control group students. This result makes us think, when this group with different characteristics and educational requirements is not within the suitable educational environments, there is a decrease in their achievement motives, which will affect their success. People who experience success once, always want to be successful (Umay, 2002). This is the same in the case of gifted students, however as indicated, when they are not within the learning environment which is suitable to their characteristics, unfortunately their achievement motivation will decrease.

When intergroup final test results are analysed, a significant difference to the advantage of experiment group was found and it is possible to say that, the differentiated instruction method applied to the experiment group is much more effective for students' achievement motives than the National Ministry curriculum applied to the control group. So, it can be said that the differentiated curriculum increased experiment group student's motives for achievement in mathematics.

As Yeh (1991) reported from Atkinson, there is a positive correlation between academic success and achievement motivation, in other words; the higher achievement motivation is, the better the academic success is. Achievement motivation affects academic success positively, and provides the student to be successful, not only at school but during any period of his/her life. As Açıkgöz (2000), reported from Gage and Berliner, it was established in a study that of students with same IQ levels, but different success levels, the ones with better success levels had also higher achievement motives. As achievement motivation is not an innate and unchangeable "characteristic" (Heckhausen, 1967; Veroff and Velloff, 1980; Retrieved from Umay, 2002), the indicators must be carefully followed in order for teachers who regulate the learning environment, to be familiar with student's achievement motives and increase them. The result of the research supports this condition. Then, the necessity for specially designed differentiated instructional programs for this group of students whose learning is faster than ordinary students is obvious.

Suggestions:

1. Further research can be made as to how differentiated mathematics programs specially prepared for gifted students affect success and affective factors
.
2. Educational environments that will meet gifted students' requirements must be provided.

3. Expectations of the family and the society are factors that affect achievement motivation (Turner, Johnson, 2003; Li, 1993). High expectations as to gifted students such as "He/She will do it anyway!" affect their achievement motivation negatively. This must be emphasized during parent instruction.
4. Teachers of gifted students must be experts in this issue.

Acknowledgements

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say, when cognitive developments of gifted and skilled students are considered, that readiness levels of these students are two or three grades higher than this grade. Instead of activities that are simple for their level, these students were given open-ended activities that are more extensive and complex, requiring high level thinking about 'Fractions', which is a subject in 5th grade curriculum. The models used in differentiation dimension of the program (content, process and product) are Grid Curriculum Model developed by Kaplan (Kaplan, 1986) and Parallel Curriculum Model developed by Tomlinson et al. (2009)

Data Collection Instrument

Achievement Motivation Scale (AMS) developed by Umay (2002) was used in the study, the reliability and validity studies were conducted. Achievement Motivation Scale is made up of two parts. The items in the first part of the scale were questions written by Umay (2002), in order to question basic concepts about achievement motivation. In the second part of the scale used in the survey, there are fourteen items that have choices such as; "often", "sometimes", "never" out of which the students are expected to choose the one that suits them. These items are used to assess achievement motivation levels of students who are expected to have high levels of achievement motives. Reliability coefficient was indicated as $\alpha =, 75$ and the reliability coefficient in the survey was found to be .80.

Data Analysis and Interpretation

In accordance with the general aim of the study, SPSS 16.0 was used for the statistical processing of the data collected. Mann Whitney-U test and Wilcoxon Signed Rank Test techniques were used in data analysis.

FINDINGS AND INTERPRETATION

The findings will be analysed based on the five basic questions which make up the problem of the research.

The findings with regards to the first problem are explained in Table 3.

Table 3. Defining Values of Group Achievement Motivation Scale Scores

Achievement Motivation Scale	N	X	Ss
Pre-test Control Experiment	10	15,60	3,27
	10	15,00	3,43
Post-test Control Experiment	10	14,90	4,65
	10	21,70	5,63

As seen in Table 3, Achievement Motivation Scale pre-test score average of gifted students in the experiment group is 15, 00, final-test score average is 21,70. Control group students' achievement motivation pre-test score average is 15,60, final-test score average is 14,90.

The findings as to the second problem are shown in Table 4.

Table 4. Results of Mann- Whitney U Test Made for Achievement Motivation Scale Pre-test Scores of the Groups

Pre-test	N	Mean Rank	Sum of Ranks	U	Z	P
Control	10	11,00	110,00			
				45,000	-,381	,704
Experiment	10	10,00	100,00			

As a result of non-parametric Mann Whitney-U Test, conducted with the aim to define whether groups differ significantly in terms of pre-test Achievement Motivation Scale score averages or not, no significant difference was found (U=45,000; p>.05). Depending on this data, it is possible to say that the groups are equal in terms of Achievement Motivation Scale pre-test scores.

The findings concerning the third problem are shown in Table 5.

Table 5. Results of Mann- Whitney U Test Made for Achievement Motivation Scale Final-test Scores of the Groups

Post-test	N	Mean Rank	Sum of Ranks	U	z	P
Control	10	7,25	72,50			
				17,500	-2,466	,014
Experiment	10	13,75	137,50			

As seen in Table 5, as a result of non-parametric Mann Whitney-U Test, conducted with the aim to define whether groups differ significantly in terms of final-test achievement Motivation Scale score averages or not, statistically significant difference (U=17,500; p<.05) was found between control and experiment groups, which is to the advantage of the experiment group.

The findings concerning the forth sub-problem are shown in Table 6.

Table 6. Results of Wilcoxon Test Made for Control Group Achievement Motivation Scale Pre-test Final- Test Scores

	Ranks	N	Mean Rank	Sum of Ranks	Z	P
Control Group Pre-test- Post-test	Negative Ranks	5	5,30	26,50		
	Positive Ranks	4	4,62	18,50	-,476	,634
	Ties	1				
	Total	10				

As seen in Table 6., as a result of the non-parametric Wilcoxon Test, conducted with the aim to define whether there is a significant difference between Achievement Motivation Scale pre-test and final-test score averages of control group students or not, no statistically significant difference (z=-,476;p>.05) was found.

The findings concerning the fifth sub-problem are shown in Table 7.

Table 7.   Results of Wilcoxon Test Made for Experiment Group Achievement Motivation Scale Pre-test Final- Test Scores

	Ranks	N	Mean Rank	Sum of Ranks	Z	P
Experiment Group Pre-test-Post-test	Negative Ranks	1	1,00	1,00		
	Positive Ranks	8	5,50	44,00	-2,547	,011
	Ties	1				
	Total	10				

As seen in Table 7, as a result of the non-parametric Wilcoxon Test, conducted with the aim to define whether there is a significant difference between Achievement Motivation Scale pre-test and final-test score averages of experiment group students, the difference between sequencing averages *(z=-2,547;*p<.05) was found to be statistically significant.

CONCLUSIONS AND RECOMMENDATIONS
It has been observed that, the differentiated mathematics program applied, has increased scores of experiment group, however, there was a decrease in final test scores of control group students. This result makes us think,

when this group with different characteristics and educational requirements is not within the suitable educational environments, there is a decrease in their achievement motives, which will affect their success. People who experience success once, always want to be successful (Umay, 2002). This is the same in the case of gifted students, however as indicated, when they are not within the learning environment which is suitable to their characteristics, unfortunately their achievement motivation will decrease.

When intergroup final test results are analysed, a significant difference to the advantage of experiment group was found and it is possible to say that, the differentiated instruction method applied to the experiment group is much more effective for students' achievement motives than the National Ministry curriculum applied to the control group. So, it can be said that the differentiated curriculum increased experiment group student's motives for achievement in mathematics.

As Yeh (1991) reported from Atkinson, there is a positive correlation between academic success and achievement motivation, in other words; the higher achievement motivation is, the better the academic success is. Achievement motivation affects academic success positively, and provides the student to be successful, not only at school but during any period of his/her life. As Açıkgöz (2000), reported from Gage and Berliner, it was established in a study that of students with same IQ levels, but different success levels, the ones with better success levels had also higher achievement motives. As achievement motivation is not an innate and unchangeable "characteristic" (Heckhausen, 1967; Veroff and Velloff, 1980; Retrieved from Umay, 2002), the indicators must be carefully followed in order for teachers who regulate the learning environment, to be familiar with student's achievement motives and increase them. The result of the research supports this condition. Then, the necessity for specially designed differentiated instructional programs for this group of students whose learning is faster than ordinary students is obvious.

Suggestions:

1. Further research can be made as to how differentiated mathematics programs specially prepared for gifted students affect success and affective factors
   .
2. Educational environments that will meet gifted students' requirements must be provided.

3. Expectations of the family and the society are factors that affect achievement motivation (Turner, Johnson, 2003; Li, 1993). High expectations as to gifted students such as "He/She will do it anyway!" affect their achievement motivation negatively. This must be emphasized during parent instruction.
4. Teachers of gifted students must be experts in this issue.

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A STUDY ON AWARENESS AND DEMANDS OF PARENTS CONCERNING CAREER AND VOCATIONAL EDUCATION OF SPECIAL-CLASSES IN MIDDLE AND HIGH SCHOOLS

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ABSTRACT

The purpose of this study is to provide direction for interrelated career and vocational education between school and family by investigating awareness and demands of parents concerning career and vocational education of special-classes in middle and high schools. Based on the subjects above, this study conducted questionnaire on 216 parents of middle and high schools in Busan Metropolitan City and Gyeongsangnam-do, and used 214 copies on research analysis. To this end, this study set research subjects as awareness of parents for career and vocational education of special-classes in middle and high schools and demands of parents for career and vocational education of special-classes in middle and high schools. The questionnaire used in this study was modified and supplemented according to the purpose of this study by referring to precedent studies that it contains total 35 questions of 6 questions on basic background, 11 questions on awareness of career and vocational education, and 18 questions on demands for career and vocational education. Data was analyzed using SPSS 22.0 Statistical Program and conducted X2(Chi-Square) test by grade level of middle and high schools. The results are as follows. First, for awareness of parents for career and vocational education of special-classes in middle and high schools, most parents knew about the career and vocational education and were aware of the importance of conducting the career and vocational education. Secondly, for demands of career and vocational education of special-classes in middle and high school, hours of career and vocational education, educational objective, and priority area showed significant difference by grade level. Then, parents of middle school students wished for aptitude, disability characteristics, and demands of students and parents to be applied when setting goals of the career and vocational education. Furthermore, the demands – regarding teacher, school, and institutional framework - for career and vocational education are as follows. They demanded professional knowledge in career and vocational education and evaluation ability for career and occupation from teachers, increased hours of field training and professional vocational skill education from school, and expanded employment opportunities as an institutional framework.

INTRODUCTION

After graduating from high school career and vocational education is emphasized that even limited career, and seems to be the low employment rate of students with disabilities. For the financial independence of disabled students to figure out what the cause of low employment and vocational training, careers and parties and host of opinions and systematic and education. There is a need for effective vocational education and career(Yi, Seong-Yong & Kim, Kyeong-Hwa, 2010).

In a career and vocational education for successful operation of the family environment, disabled students of school environment should be considered, and the community environment, their parents and families of disabled students Members participating in education and supporting important(Kim, Ga-In, 2012).

The purpose of this study is to provide direction for interrelated career and vocational education between school and family by investigating awareness and demands of parents concerning career and vocational education of special-classes in middle and high schools. To this end, this study set research subjects as awareness of parents for career and vocational education of special-classes in middle and high schools and demands of parents for career and vocational education of special-classes in middle and high schools.

METHOD

Subject of study

Based on the subjects above, this study conducted questionnaire on 216 parents of middle and high schools in Busan Metropolitan City and Gyeongsangnam-do, and used 214 copies on research analysis.

Table 1: Characteristics of the parents surveyed

	Sortation	Middle School	High School	Total
Relationship with children	Father	24(24.0%)	21(18.4%)	45(21.0%)
	Mother	72(72.0%)	82(71.9%)	154(72.0%)
	Grandparents	4(4.0%)	6(5.3%)	10(4.7%)
	Etc(Facility Chief)	0(0.0%)	5(4.4%)	5(2.3%)
Parents' age	20s	0(0.0%)	2(1.8%)	2(0.9%)
	30s	5(5.0%)	1(0.9%)	6(2.8%)
	40s	73(73.0%)	60(52.6%)	133(62.1%)
	50 and above	22(22.0%)	51(44.8%)	73(34.1%)
The gender of the children	Male	63(63.0%)	83(72.8%)	146(68.2%)
	Female	37(37.0%)	31(27.2%)	68(31.8%)
Children's school year	First grade	24(24.0%)	34(29.8%)	58(27.1%)
	second grade	35(35.0%)	55(48.2%)	90(42.1%)
	Third grade	41(41.0%)	25(21.9%)	66(30.8%)
Type of disability in children	visual impairments	1(1.0%)	1(0.9%)	2(0.9%)
	Deaf	5(5.0%)	2(1.8%)	7(3.3%)
	Intellectual disability	57(57.0%)	76(66.7%)	133(62.1%)
	Physical disability	6(6.0%)	8(7.0%)	14(6.5%)
	Emotional and behavioral disorder	6(6.0%)	3(2.6%)	9(4.2%)
	Autism	11(11.0%)	14(12.3%)	25(11.7%)
	Communication disorders	1(1.0%)	0(0.0%)	1(0.5%)
	Learning disorder	13(13.0%)	10(8.8%)	23(10.7%)
		100	114	214

Data analysis

The questionnaire used in this study was modified and supplemented according to the purpose of this study by referring to precedent studies that it contains total 35 questions of 6 questions on basic background, 11 questions on awareness of career and vocational education, and 18 questions on demands for career and vocational education. Data was analyzed using SPSS 22.0 Statistical Program and conducted X2(Chi-Square) test by grade level of middle and high schools. The results are as follows.

RESULTS

Table 2: Cognitive level on the career and vocational education

Cognitive level / In accordance with the school division		Familiar	Somewhat familiar	Normal	Do not know	Don't know a stroke	M (SD)	t
Middle School (N=100)	N	36	40	18	6	0	4.06	
	(%)	(36.0)	(40.0)	(18.0)	(6.0)	(0.0)	(0.89)	
High School (N=114)	N	38	56	11	7	2	4.06	0.011
	(%)	(33.3)	(49.1)	(9.6)	(6.1)	(1.8)	(0.91)	
Total	N	74	96	29	13	2	4.06	
	(%)	(34.6)	(44.9)	(13.6)	(6.1)	(0.9)	(0.90)	

First, for awareness of parents for career and vocational education of special-classes in middle and high schools, most parents knew about the career and vocational education and were aware of the importance of conducting the career and vocational education. Also, there were many opinions that special teacher needs to be a main agent of the career and vocational education.

Table 3: Career start between vocational education and time

In accordance with the school division / Period		Middle School (N=100)	High School (N=114)	Total	χ^2
From kindergarten	N	5	3	8	
	(%)	(5.0)	(2.6)	(3.7)	
Special classes in elementary school	N	40	32	72	
	(%)	(40.0)	(28.1)	(33.6)	13.216**
Special classes in middle school	N	50	55	105	
	(%)	(50.0)	(48.2)	(49.1)	
Special classes in high school	N	5	24	29	
	(%)	(5.0)	(21.1)	(13.6)	

** $p < .01$

On the other hand, we could find the difference in awareness by grade level about the beginning period and the place of career and vocational education. Parents of middle and high school students perceived that the career and vocational education needs to start from middle school, and in contrast, many parents of high school students answered that career and vocational education may start from high school. For place of education, parents of middle school students wanted for it to be conducted in job training institutions outside of school and parents of high school students wanted for it to be conducted in real workplace.

Table 4: Career and Vocational Education of time

In accordance with the school division Time		Middle School (N=100)	High School (N=114)	Total	χ²
1 to 3 hours	N	41	28	69	
	(%)	(41.0)	(24.6)	(32.2)	
4 to 6 hours	N	41	51	92	
	(%)	(41.0)	(44.7)	(43.0)	8.175*
7 to 9 hours	N	12	22	34	
	(%)	(12.0)	(19.3)	(15.9)	
More than 10 hours	N	6	13	19	
	(%)	(6.0)	(11.4)	(8.9)	

* $p < .05$

Secondly, for demands of career and vocational education of special-classes in middle and high school, hours of career and vocational education, educational objective, and priority area showed significant difference by grade level. For hours of education, parents of middle and high school students demanded 4~6 hours and many parents of high school students demanded more than 7 hours.

Table 5: Career focus between vocational education and content

In accordance with the school division Priority content		Middle School (N=100)	High School (N=114)	Total	χ²
Professional life	N	46	46	92	
	(%)	(46.0)	(40.4)	(43.0)	
Job search	N	18	20	38	
	(%)	(18.0)	(17.5)	(17.8)	0.912
Job readiness	N	16	21	37	
	(%)	(16.0)	(18.4)	(17.3)	
Design course	N	20	27	47	
	(%)	(20.0)	(23.7)	(22.0)	

Then, parents of middle school students wished for aptitude, disability characteristics, and demands of students and parents to be applied when setting goals of the career and vocational education. On the other hand, parents of high school students responded that aptitude, disability characteristics, and efficacies of education as employment and entering school need to be considered. Also, many parents of both middle and high school students responded that training of daily living and social adjustment are the areas that career and vocational education needs to focus on. Especially, more parents of high school students demanded the support of employment than the parents of middle school students.

CONCLUSIONS
Furthermore, the demands – regarding teacher, school, and institutional framework - for career and vocational education are as follows. They demanded professional knowledge in career and vocational education and evaluation ability for career and occupation from teachers, increased hours of field training and professional vocational skill education from school, and expanded employment opportunities as an institutional framework.

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A STUDY ON TEACHER MOTIVATION LEVELS BASED ON INTRINSIC AND EXTRINSIC MOTIVATION FACTORS

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ABSTRACT

The aim of this study was to examine the motivation levels of elementary, secondary and high school teachers from public schools in Elazığ, Turkey based on intrinsic and extrinsic motivation factors. The degrees of impact that intrinsic and extrinsic motivation factors have on teacher motivation were investigated in different work places and places of duty. Teachers' motivation levels were studied based on Herzberg's dual factor theory. As the intrinsic factor, teacher views on motivation factors and their satisfaction levels were measured. The study group included 771 randomly selected teachers who were working at public elementary, secondary and high schools located in the center, districts and villages of Elazığ. These teachers were asked to respond to Kelecioğlu, Bilge and Akman's (2006) Teaching Staff Work Satisfaction Scale (TSWSS). The findings showed that male teachers had higher intrinsic and extrinsic motivation than females. There was no difference between the intrinsic and extrinsic motivation levels of teachers aged differently. Single teachers had higher intrinsic and extrinsic motivation levels than married teachers. Furthermore, social sciences teachers had higher intrinsic satisfaction scores than science teachers. Both intrinsic and extrinsic motivation levels were higher among teachers with 1-5 years of work experience than those with 6-10 years of experience. Finally, teachers working at the city center had higher intrinsic and extrinsic motivation levels than those located in villages.

Anahtar sözcükler: Job satisfaction, motivation, instinct Motivation, Extrinsic Motivation

INTRODUCTION

Turkey follows global changes, has adopted EU membership as a national goal, and keeps abreast of educational developments by making necessary regulatory adjustments for international exams such as the TALIS, PISA, TIMMS and PIRLS. The importance given to the education sector is particularly on the rise to be able to raise the human power needed to meet the country's development goals. As a result, the number of teachers in employment is also increasing quickly. Work satisfaction is a prerequisite for teachers to function adequately. Sergiovanni and Starratt (1998) emphasized the association between teacher work satisfaction and student success (Bilge, Akman and Kelecioğlu, 2007). Work satisfaction is the relaxing and comforting emotion that individuals seek to derive from their total work environment, such as from the work itself, administrators, other staff and work organization (Cribbin, 1972). The match between the expected rewards from work and the actual ones may reveal the level of work satisfaction. Work satisfaction occurs when the characteristics of the job corresponds to the wishes of an employee (Davis, 1982:96; Gülşen and Gökyer, 2016:298).

THE STUDY

The concept of motivation has been derived from the English and French word "motive". Its Turkish equivalent is *güdü* or *saik*. Motive is a power with three basic qualities: mobilizing, continuing the motion, and pushing it in the positive direction. Motivation is the sum of the efforts to continuously mobilize one or more people in a certain direction (Eren, 1989:388). It includes values, needs, tensions, and expectations (Sikula, 1973; Eroğlu, 1996:246). The relationship between motivation and satisfaction is a mutual interaction. A satisfied person has the environment needed to be motivated. In the same vein, a motivated person can find peace of mind and pleasure as a result of his efforts and actions (Eroğlu, 1996:252).

Robbins (1998: 145) evaluates motivation in two different dimensions: individual and organizational. Accordingly, motivation has been defined from the individual perspective as the effort made to reach aims, and from the organizational perspective as one's desire to display the utmost effort to reach organizational goals and meet various organizational needs. One of the most important duties of an administration is to identify and eliminate the hardships faced by individuals whose needs are not met (Gökçe et al., 2010: 233).

It is very common in the fields of industrial and organizational psychology to explain work satisfaction based on employees' motivation levels. According to this, as motivation level increases, so do work performance and satisfaction (Smither, 1998). Herzberg's motivation-hygiene theory stands out among other theories that emphasize the importance of individual motivation levels for work satisfaction (Hampton, 1972; Smither, 1998; Bilge, Akman and Kelecioğlu, 2007).

In the motivation-hygiene theory, the factors that have a role in work satisfaction are gathered in two clusters: Herzberg maintains that the motivating factors that guide actual behavior and bring motivation and satisfaction are placed in the first cluster. The presence of this type of factors encourages employees and enables them to embrace their job and workplace. Examples of such motivating factors include success and due recognition from seniors; increased self-esteem and confidence; control over work; increased responsibility, authority and power as an indicator of trust in the employee; finding the job appropriate and fit for one's personal qualities, knowledge and skills; and an organizational structure that allows promotion (Robbins and Judge, 2013). The motivating factors may also be seen as "intrinsic factors" owing to their relationship with basic psychological needs (Davis, 1982). The hygiene elements in the second cluster are related to work environment and conditions. Meeting the hygiene factors does not have a motivating effect per se. It only prevents dissatisfaction. Their existence makes one's life conditions healthy, while their absence leads to dissatisfaction. These factors are also known as "extrinsic factors" (Bilge, Akman, Kelecioğlu, 2006). They include company rules and policies, type and quality of methods, relationships with employees, salaries, other benefits, work conditions and safety (Gökyer, 2015:172).

Social, economic and psychological factors play a major role in selecting the teaching profession. Professional success it depends on the social class and character of the teacher, as well as other school-related factors (Havighurst and Neugarten, 1967; Bursalıoğlu, 2010:42). Daily interactions with students and co-workers, as well as never-ending educational needs lead to pressure and stress (Frieseron et al., 1988). Teachers today are expected to prepare students for a fast-changing technological society and tackle the various problems of this society. In return for this difficult and challenging job, teachers are generally not presented with opportunities to develop themselves professionally and remain underpaid in many countries (Scwap et al., 1986; Akçamete et al., 2001). Without a doubt, teacher motivation is affected negatively by their unmet needs and expectations, and lacking job satisfaction (Gökay and Özdemir, 2010). Teacher expectations are one of the factors that shape their role. The expectations of teachers from administrators, students, parents, and the state make up one part of the school's social climate. These expectations depend particularly on the leadership behaviors of the school principal (Bursalıoğlu, 2010). Nartgün, Kocabay and Aksay (2004) found that the most significant negative effects on teacher job satisfaction were caused by being underpaid, poor economic conditions in schools, and neglecting success.

In this study, work motivation was examined with a view to Herzberg's dual factor motivation theory. Herzberg's theory links intrinsic motivation to the content of work, and views them as tools that motivate individuals for work. The other factor, extrinsic motivation, is categorized under the heading tools that reduce work-related dissatisfaction (Dündar et al., 2007: 6;Yıldırım and Arslan, 2015).

The study sought answers to the following research questions about teachers' intrinsic and extrinsic motivation:

      1. What are the intrinsic and extrinsic motivation levels of teachers?
      2. Do the intrinsic and extrinsic motivation factors of teachers working at Elazığ city center, districts and villages vary based on gender, marital status, age, experience, title, branch, workplace and place of duty?
      3. What is the direction of the relationship between intrinsic motivation and extrinsic motivation factors?

METHOD

This study was conducted with 771 randomly selected teachers who were working at public elementary, secondary and high schools located in the center, districts and villages of Elazığ during the Fall term of the 2015-2016 school year. Of the participants, 43,1% were females, 56,9% were males; 69,4% were married, 30,6% were single. The age distribution of respondents showed that the biggest group, 35,4%, was those aged 21-30. Teachers with 5 years and less work experience comprised 33,9% of the participants. Considering title, the biggest group (73,5%) was teachers, followed by specialist teachers (14%). Of the participants, 12,5% were teacher candidates. Those teaching social sciences comprised 63,3% of the sample. While 53,6% were working at city centers, 40,2% were working in districts, and 49,2% were working at high schools, 27,4% at elementary schools and 23,5% at secondary schools.

The data collection tool consisted of two sections. The first included questions to identify participant demographics, and the second included Kelecioğlu, Bilge and Akman's (2006) "Teaching Staff Work Satisfaction Scale" based on Herzberg's dual factor theory. The scale was used on receiving permission. It has two dimensions: intrinsic and extrinsic. The scale included a total of 25 items, 14 in the intrinsic dimension and 11 in the extrinsic dimension. Responses to the TSWSS made use of the Porter approach. Respondents replied to each item in two stages: (a) to what extent the situation in each item is currently present in the workplace and (b) what the ideal situation should be. TSWSS has been graded from 1 to 5, with 1 indicating the least and 5, the most. A smaller difference between (a) and (b) shows high work satisfaction. Findings about the reliability of the TSWSS are as follows: The Cronbach Alpha coefficients for internal consistency were .92 for the intrinsic dimension, and .90 for the extrinsic one. At the end of the first factor analysis, item 14 in the intrinsic dimension (my work is not a routine) was removed from the scale as it had a factor loading value below .30. The second factor analysis showed that the scale had a single dimension and 13 items (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13). The KMO of this dimension was ,938, Bartlett's Test of Sphericity 5143,504 and the variance accounted for 51,44% The factor loading values of the items in this dimension varied between .40-.59. The factor analysis involving the extrinsic dimension led to the removal of item 25 (my work brings me extra pay as incentive) from the scale as its factor loading value was below .30. The second factor analysis showed that the scale had only one dimension and 10 items (15, 16, 17, 18, 19, 20, 21, 22, 23, 24). The KMO of the dimension was .933, Bartlett's Test of Sphericity 3754,147 and the variance accounted for, 54,48%. The factor loading values of the items in the dimension varied between .36-.63.

The form devised by the researchers included questions about participants' gender, age, marital status, experience, titles, branches, workplace and places of their duty. The data collected in the study were analyzed by using SPSS 21.0. To begin with, the responses yielded intrinsic and extrinsic satisfaction scores. The intrinsic and extrinsic mean scores and standard deviations of groups were calculated based on the variables in the personal information form. In comparing the groups, Mann-Whitney and Kruskal Wallis H-Tests were used (Büyüköztürk, 2009). Prior to the analyses, whether intrinsic and extrinsic satisfaction scores were distributed normally was tested by using the Kolmogorov-Simirnov (K-S) test. The results showed that the scores on the scale were not normally distributed and that non-parametric tests would be used.

FINDINGS

Research Question 1: What are the intrinsic and extrinsic motivation levels of teachers?
The arithmetic means and standard deviations of intrinsic and extrinsic satisfaction scores in relation to the variables in teachers' personal information forms are given in Table 1.

Table 1: Arithmetic means and standard deviations of intrinsic and extrinsic satisfaction scores in relation to the variables

Variables	n	Intrinsic		Extrinsic	
		Means	Ss	Means	Ss
Gender					
Female	332	3,5312	,79566	3,5208	,81080
Male	439	3,5628	,79749	3,5660	,78139
Marital status					
Married	535	3,5453	,77912	3,5195	,77280
Single	236	3,5581	,83570	3,6079	,83847
Age					
21-30	273	3,4819	,81673	3,4915	,83410
31-40	272	3,5407	,78705	3,5501	,74854
41-50	179	3,6257	,78562	3,5693	,77919
51 and over	47	3,6976	,74888	3,7582	,84991
Seniority					
1-5 year	261	3,5463	,78508	3,5712	,83687
6-10 year	145	3,3335	,81136	3,3843	,72306
11-15 year	124	3,6308	,77654	3,5924	,72953
16-20 year	109	3,6435	,80874	3,5096	,84333
21 year and over	132	3,6374	,77594	3,6632	,77942
Tıtle					

Candidate teacher	96	3,6086	,79721	3,6629	,77689
Teacher	567	3,5239	,80458	3,5317	,79436
Expert teacher	108	3,6290	,74969	3,5210	,80554
Branch					
Science sciences	283	3,4783	,78978	3,5047	,77382
Social sciences	488	3,5903	,79804	3,5708	,80523
Workplace					
City center	413	3,5547	,80685	3,5030	,78178
District	310	3,5839	,75883	3,6352	,78701
Waist	48				
Positions					
Prımary School	211	3,6425	,72490	3,6588	,71728
Middle School	181	3,5150	,73660	3,5063	,75656
High school	379	3,5136	,85721	3,5032	,84622

Research Question 2: Do the intrinsic and extrinsic motivation factors of teachers working at Elazığ city center, districts and villages vary based on gender, marital status, age, experience, title, branch, workplace and place of duty?

The Mann-Whitney U test was conducted to compare teachers' intrinsic and extrinsic satisfaction scores in relation to gender, marital status, and branch, which appeared in two categories in Table 1. The results are shown in Table 2. The MWU value obtained by comparing teachers' intrinsic satisfaction scores according to their branches was significant (62834,000; p<0.05). The intrinsic satisfaction scores of social sciences teachers were higher than those of natural sciences teachers. The intrinsic satisfaction scores of both groups were higher than their extrinsic satisfaction scores. Significant differences did not exist in the intrinsic and extrinsic satisfaction scores of teachers when other variables were concerned.

Table 2. MWU Values

Variables	Intrinsic				Extrinsic			
	Mean Rank	Sum of Ranks	U	p	Mean Rank	Sum of Ranks	U	p
Gender								
Female	378,48	125655,50	70377,500	,415	378,20	125561,50	70283,500	,397
Male	391,69	171950,50			391,90	172044,50		
Marital status								
Married	383,41	205123,50	61743,500	,626	376,08	201202,50	57822,500	,062
Single	391,88	92482,50			408,49	96403,50		
Branch								
Science sciences	364,03	103020,00	62834,000	,037	372,85	105517,50	65331,500	,212
Social sciences	398,74	194586,00			393,62	192088,50		

Table 3. Kruskal Wallis H results concerning the intrinsic and extrinsic satisfaction scores of teachers with different years of experience

Variable	Intrinsic						Extrinsic			
	n	Mean Rank	sd	χ^2	p	Sig. Difference	Mean Rank	χ^2	p	Significant difference
Seniority										
1-5 year	261	214,72	1	6,686	,010	1-2	216,09	8,423	,004	1-2
6-10 year	145	183,31				MWU= 15994, 500	180,84			MWU= 15636,500

The Kruskal Wallis H test was performed to test whether the mean scores of two or more unrelated samples varied significantly, and the Mann Whitney U test was performed to determine which group caused the significant difference (Table 3). The mean of ranks showed that the intrinsic motivation levels of teachers with 1-5 years of experience (mean of ranks = 214,72), was higher than those with 6-10 years of experience (mean of ranks = 183,31), and similarly, the extrinsic motivation levels of teachers with 1-5 years of experience (mean of ranks = 216,09) was higher than those with 6-10 years of experience (mean of ranks = 180,84).

Table 4: The Kruskal Wallis H-Test results of the intrinsic and extrinsic satisfaction scores of teachers with different years of experience

Variable	Intrinsic						Extrinsic			
	n	Mean Rank	sd	χ^2	p	Sig. Dif.	Mean Rank	χ^2	p	Sig. Difference
Seniority										
6-10 year	145	122,53	1	8,093	,004	2-3	124,37	5,883	,015	2-3
11-15 year	124	149,58				MWU= 7181,500	147,43			MWU= 7448,500

Table 4 reveals that the intrinsic motivation levels of teachers with 6-10 years of experience (mean of ranks =122,53) were lower than those with 11-15 years of experience (mean of ranks = 149,58), and similarly, the extrinsic motivation levels of teachers with 6-10 years of experience (mean of ranks = 124,37) were lower than those with 11-15 years of experience (mean of ranks = 147,43).

Table 5: The Kruskal Wallis H-Test results of the intrinsic and extrinsic satisfaction scores of teachers with different years of experience

Variable	Intrinsic						Extrinsic			
	n	Mean Rank	sd	χ^2	p	Sig. Dif.	Mean Rank	χ^2	p	Sig. Diffirence
Seniority										
6-10 year	145	115,90	2	11,441	,003	2-4	124,37	6,250	,044	2-4
16-20 year	109	142,93				MWU= 6221,000 P=,004	147,43			MWU= 6960,000 p=,104

It can be seen in Table 5 that the intrinsic motivation levels of teachers with 6-10 years of experience (mean of ranks =115,90) were lower and more meaningful than those with 16-20 years of experience (mean of ranks = 142,93), but no difference existed between their extrinsic motivation levels.

Table 6. The Kruskal Wallis H-Test results of the intrinsic and extrinsic satisfaction scores of teachers with different years of experience

Variable	Intrinsic						Extrinsic			
	n	Mean Rank	sd	χ^2	p	Sig. Dif.	Mean Rank	χ^2	p	Sig. Diffirence
Seniority										
6-10 year	145	125,20	3	13,427	,004	2-5	123,08	12,629	,006	2-5
21 year and over	132	154,16				MWU= 7569,000 p=,004);	156,49			MWU= 7261,500p =,006

Table 6 shows that the intrinsic motivation levels of teachers with 6-10 years of experience (mean of ranks =125,20) were lower and more meaningful than those with 21 years and more experience (mean of ranks = 154,16), and similarly, the extrinsic motivation levels of teachers with 6-10 years of experience (mean of ranks =123,08) were lower and more meaningful than those with 21 years and more experience (mean of ranks = 156,49). The Kruskal Wallis H- Test performed to see whether teachers' intrinsic and extrinsic motivation levels varied with respect to age and title showed that the scores of groups did not vary significantly.

Table 7. The Kruskal Wallis H-Test results of the intrinsic and extrinsic satisfaction scores of teachers from different workplaces

Variable	Intrinsic						Extrinsic			
	n	Mean Rank	sd	χ^2	p	No Sig. Dif.	Mean Rank	χ^2	p	Sig. Diffirence
Workplace										
City center	413	357,27	1	,495	,482		347,07	4,931	,026	1-2
District	310	368,30				MWU= 62061,000p= ,482	381,90			MWU= 57847,000 p=,026

As can be seen from Table 7, no significant difference existed between the intrinsic motivation levels of teachers working at city centers and those working in districts. However, the extrinsic motivation levels of the former (mean of ranks = 347,07) were lower than the latter (mean of ranks = 381,90), and the difference was in favor of district teachers. A significant difference was not detected between the intrinsic and extrinsic motivation levels of this latter group of teachers.

Table 8. The Kruskal Wallis H-Test results of the intrinsic and extrinsic satisfaction scores of teachers from different workplaces

Variable	Intrinsic						Extrinsic			
	n	Mean Rank	sd	χ^2	p	No Sig. Dif.	Mean Rank	χ^2	p	No Sig. Diffirence
Workplace										
District	310	184,34	1	5,057	,025		183,95	4,277	,039	
Waist	48	148,26				MWU= 5940,500	150,77			MWU= 6061,000

Table 8 shows that the intrinsic motivation levels of teachers working in districts (mean of ranks = 184,34) and those of teachers working in villages (mean of ranks = 148,26) varied significantly in favor of the former. Similarly, the extrinsic motivation levels of teachers working in districts (mean of ranks = 183,95) varied significantly from those of teachers working in villages (mean of ranks = 150,77) in favor of the former. Regarding workplace, no significant difference existed between the intrinsic and extrinsic motivation levels of elementary, secondary and high school teachers. However, both intrinsic and extrinsic motivation levels of elementary teachers were higher than those of secondary and high school teachers. High school teachers had higher intrinsic and extrinsic motivation levels than secondary school teachers.

Research Question 3: What is the direction of the relationship between intrinsic motivation and extrinsic motivation factors?

Table 9. Correlation between intrinsic and extrinsic motivation

		Internal	External
Internal	Pearson Correlation	1	,684**
	Sig. (2-tailed)		,000
	N	771	771
External	Pearson Correlation	,684**	1
	Sig. (2-tailed)	,000	
	N	771	771

Correlation is significant at the 0.01 level (2-tailed).

Table 9 shows that there was a moderate, positive and significant relationship between teachers' intrinsic and extrinsic motivation. r=0.684, p<.01. Accordingly, it may be concluded that as intrinsic motivation increases, so does extrinsic motivation. Considering the determination coefficient (r^2=0.46), 46% of the total variance in extrinsic motivation seems to stem from intrinsic motivation.

CONCLUSIONS

The study found that male teachers had higher intrinsic and extrinsic motivation levels than women. Brown (2007), on the other hand, concluded otherwise when he observed higher levels of intrinsic motivation among female teachers. While certain studies have concluded that women have higher work satisfaction (Hodson, 1989; Kelly, 1989), others maintain that males have higher levels (Friesen, Holdaway and Rice, 1983; Mccaslin and Mwangi, 1994; Varca, Shaffer and McCauley, 1983; Bilge, Akman and Kelecioğlu, 2007). Bilge, Akman and Kelecioğlu (2007) state that the work satisfaction of male and female academics did not vary. The variable of age did not lead to any difference in intrinsic and extrinsic motivation levels. Sloane and Ward (2001), on the other hand, age and gender varied the work satisfaction of academics. Young male academics were found to have higher levels of work satisfaction than their female counterparts, while female academics over 35 had higher work satisfaction levels than their male counterparts. These results contradict with those of the present study. While some studies did not find a significant relationship between age and work satisfaction (Karlıdağ, Ünal and Yoloğlu, 2000; Yıldız, Yolsal, Ay and Kıyan, 2003), others have found an association between them (Çetinkanat, 2000; Esen, 2001; Öncel, 1998). Bilge, Akman and Kelecioğlu (2007) found higher

intrinsic satisfaction among older academics than younger ones. In this study, single teachers were found to have higher intrinsic and extrinsic motivation levels than married ones. However, Kemaloğlu (2001) concluded that married instructors had more work satisfaction than single ones, and those with children had more work satisfaction than childless ones. Öncel (1998) found higher work satisfaction among single instructors than others (Bilge, Akman and Kelecioğlu, 2007). Öncel's results corroborate those of the present study. Bilge, Akman and Kelecioğlu (2007) concluded that the work satisfaction of academics did not vary with respect to marital status. In this study, the intrinsic satisfaction scores of social sciences teachers were higher than those of natural sciences teachers. Considering branch of teaching, Öncel (1998) also found that social sciences instructors had higher work satisfaction than those in natural sciences. This result reflects those of this study. However, Bilge, Akman and Kelecioğlu (2007) reported lower work satisfaction levels among social sciences workers than among science and engineering workers due to extrinsic factors.

Teachers with 1-5 years of experience have higher intrinsic and extrinsic motivation levels than those with 6-10 years of experience. Also, teachers with 6-10 years of experience have lower intrinsic and extrinsic motivation levels than those with 11-15 years and 21 years or more. The intrinsic motivation levels of teachers with 6-10 years of experience are lower than those of teachers with 16-20 years of experience. Similarly, while there are studies that have reported a positive relationship between experience and work satisfaction (Çetinkanat, 2000; Esen, 2001; Kasapoğlu, 1999), there are also others that claim no such relationship exists (Musal et al., 1995; Yıldız et al., 2003; Bilge, Akman and Kelecioğlu, 2007).

Teachers' intrinsic and extrinsic motivation levels do not vary with respect to their title. While some previous studies have concluded that increased academic title also increases work satisfaction and the lowest levels of work satisfaction exist among research assistants (Çetinkanat, 2000; Esen, 2001; Karlıdağ et al., 2000; Kasapoğlu, 1999; Oran, 1989), others have found no such relationship between academic title and work satisfaction (Tosunoğlu, 1998; Yıldız et al., 2003; Bilge, Akman and Kelecioğlu, 2007). The results are contradictory. Considering that teachers were given the legal right to the titles of specialist and head teacher only once with an exam in 2005, that there is no systematic career rise opportunities, and that these titles do not bring and social or career benefits other than a minimal pay rise, it is no surprising finding that teachers see no link between having a title and performance or work satisfaction.

No significant difference was found between the intrinsic motivation levels of teachers working in districts and city centers. On the other hand, district teachers had higher intrinsic and extrinsic motivation levels than village teachers. This may have been due to the low life standards, limited social activities and unmet expectations of teachers in villages. The extrinsic motivation levels of district teachers were also higher than those working in the city center. Kaya, Yıldız and Yıldız (2013) observed that teachers working in the district of Princes Islands had higher extrinsic motivation levels than those in Güngören. These results mirrors those of the present study. They may be attributed to factors such as the short distance between school and the home, being far from crowded cities and traffic noise, small classroom size, better communication in smaller schools, closer friend relations, more solidarity between employees, ease of meeting responsibilities, equal distribution of work, and clear expectations. Though not significant, a difference was found between the intrinsic and extrinsic motivation levels of elementary teachers and secondary and high school teachers. Elementary teachers had higher intrinsic and extrinsic motivation levels than both others, and high school teachers had higher intrinsic and extrinsic motivation levels than secondary teachers.

According to the results of the Teaching and Learning Study Turkish National Report (2008), evaluation and feedback has very little financial impact and bears no relation to career development in many countries, including Turkey. Many teachers have stated that successful and effective education does not bring rewards or get appreciated. It has also been stated that the lack of feedback after teacher evaluation may hinder benefits from the "evaluation" process. Therefore, evaluation needs to be more clearly related to teacher performance, career development, development activities and financial rewards. More than half of the teachers state that principals do not use effective methods of teacher evaluation. They also state that feedback and incentives such as monetary rewards, salary rise, attendance in professional development activities, promotion, or a positive change in the profession are never used. Evaluation and feedback have been reported to have positive influence on teachers' work satisfaction and instruction.

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A STUDY ON THE ENVIRONMENTAL PERCEPTION AND KNOWLEDGE LEVELS OF PRE SERVICE SCIENCE TEACHERS ACCORDING TO THEIR CLASS LEVEL

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SUMMARY

Environmental education; is the development process of a world community which possesses sensitivity and interest towards the environment in its entirety and problems related to the environment, and the knowledge, behavior, motivation and skills to work towards solving current problems individually and collectively and for future prevention. (Öztürk et al, 1998:98). It is inevitable that programs with the essential element of education instruction and teachers who are the practitioners of these programs contribute to the formation of students' environmental literacy. On this point, the program applied by pre service teachers, during the process of teacher training, is also of great importance. This study was carried out with the objective of presenting the perceptions of the pre service teachers about the environment and determining their level of knowledge about the environment. The study was on 251 officially registered teacher candidates conducted on the 1st, 2nd, 3rd and 4th grades in the academic year 2015-2016 at the Faculty of Education's Department of Science Teaching at Hacettepe University. In the study the Environmental Literacy Scale's sub-dimensions for knowledge and perception was used as a data collection tool. This study was descriptive. In the result, no significant differences in the level of knowledge and perception according to the candidates' parental educational level and class level were observed. It emerged that the candidates' being members of environmental organizations was low, it was judged that the organizations need to promote themselves.

INTRODUCTION

It can be said that the concept of the environment first began to be widely used in the field of education in the second half of the 1960s, with the increase of environmental problems and the threat that they began to pose to humankind. The concept of the environment has a complex structure and it is difficult to define the limit of this concept in some respects (Uşak, 2006:3; Özdemir, 1997:17). Overall, the meaning of the environment is the external environment in which living being live and maintain relations. (Çepel, 1992:38; Ertürk, 1994:6, Ministry of Environment, 1998:1). The environment; it encompasses both people's mutual relations with other living beings, as well as the economic, social, cultural, historical, etc., relations with one another. As a whole we can consider the environment as external factors which affect and are effected by people.

People, who are an integral part of the environment, are of crucial importance in establishing an environmental balance. People's benefit and harm to the environment cannot be ignored. In this framework/context, the education of individuals at every level has gained importance in order to have a livable environment. Changing and developing technologies, human behavior is having an affect the natural order of the environment, at the end results that will be to the detriment of individuals once again will be presented. On this point, the objective of this study is to determine how people perceive the environment and whether it is necessary to reveal/present information about the environment. The group of the study conducted; they are teacher candidates of Science, both who have received university level education and also those who are closely interested in the environment, and those who are responsible for improving the level of environmental knowledge and awareness of students in later life.

METHOD

The environment is one of the main titles of Science Education. Within the scope of the curriculum of pre service science teachers, the main objective of this study was to determine the environmental knowledge and past knowledge gained according to values and perceptions of their class levels, their genders and the educational levels of their parents. The Environmental Literacy Scale was used as a data collectioninstrument in this study. This scale consists of 4 sub-tests including knowledge, attitude, behavior and perception. In the study the lower dimensions of the scale were used for knowledge and perception. In the study the lower dimensions of the scale were used for knowledge and perception. For the reliability of the sub-tests of the Turkish version of the Environmental Literacy Scale it was calculated at values between 0.71-0.78 by the Wisconsin High School Environmental Survey by Karatekin (2011). 11 questions related to date size are included within the scope of the

study. Within the dimension of perception, there were questions related to the frequency of activities carried out by teacher candidates and their level of concern about environmental issues. In this study, it is demonstrated whether people are a member of environmental organizations and are subscribed environmental organizations. The study was on 243 officially registered teacher candidates conducted on the 1st, 2nd, 3rd and 4th grades in the academic year 2015-2016 at the Faculty of Education's Department of Science Teaching at Hacettepe University.

The study seeks to answer the following questions:

1) Is there a statistically significant difference in the perception levels of the environment of the students who are studying at the Department of Science Teaching depending on the class level?

2) Is there a statistically significant difference in the level of the environmental knowledge of students studying at the Department of Science Teaching according to their class level, mother's educational level, and father's educational level?

3) What is the level of participation in environmental activities depending on the class level of students studying at the Department of Science Teaching?

4) What is the situation of membership of an environmental organization depending on the class level of students

Class level	Father's level of education				Mother's level of education				Total
	Primary school Graduate	Middle school Graduate	High school Graduate	University Graduate	Primary school Graduate	Middle school Graduate	High school Graduate	University Graduate	
1	8 %11,6	12 %17,4	27 %39,1	22 %31,9	27 %39,1	8 %11,6	27 %39,1	7 %10,1	69 %100
2	14 %19,4	15 %20,8	24 %33,3	19 %26,4	29 %40,3	14 %19,4	16 %22,2	13 18,1	72 %100
3	14 %25,9	5 %9,3	21 %38,9	14 %25,9	21 %38,9	9 %16,7	18 %33,3	6 %11,1	54 %100
4	8 %18,1	13 %27,1	8 %16,7	19 %39,6	17 %35,4	12 %25	14 %29,2	5 %10,4	48 %100

studying at the Department of Science Teaching?

TABLE 1: . Distribution according to the class levels of pre service teachers and parental educational level
A total of 243 pre service teachers participated in the study. Upon looking at the parental education pArofile of the participating teacher candidates, it was determined that their mothers are mostly primary school graduates, whereas their fathers are often high school graduates.

Descriptive Statistics and Anova Results for Knowledge Level Descriptives

		N	Mean	Std. Deviation	Std. Error
Mother level of education	1.Class	69	3,20	1,08	,12
	2. Class	72	3,18	1,15	,13
	3. Class	54	3,17	1,08	,14
	4. Class	48	3,15	1,038	,14
	Total	243	3,16	1,09	,06
Father level of education	1. Class	69	3,91	,98	,11
	2. Class	72	3,67	1,07	,12
	3. Class	54	3,65	1,14	,15
	4 Class	48	3,7917	1,14777	,16
	Total				,06
		243	3,7572	1,07695	

TABLE 2: Knowledge level according to parental education level

No significant differences were observed in the level of knowledge of the pre service teachers according to their parental education level

RESULTS

Question Title	Class Level				Total
	1	**2**	**3**	**4**	
Habitats	66 %95,7	69 %95,8	48 %88,9	48 %100	235 %95,1
Source of carbon monoxide	7 %10,1	5 %6,9	6 %11,1	9 18,8	27 %11,1
Source of electricity production	26 %37,7	10 13,9	24 %44,4	16 %33,3	76 %33,3
Fluvial and marine pollution	58 %84,1	63 %87,5	48 %88,9	48 %100	217 %89,3
Renewable sources	61 %88,4	44 %61,1	31 %67,4	38 %79,2	174 %71,6
The ozon layer	42 %60,9	39 %54,2	28 %51,9	31 %64,6	140 %57,6
Rubbish	48 %69,6	49 %68,1	38 %70,4	33 %68,8	168 %69,1
Environment-related government agencies	36 %52,2	44 %61,1	36 %64,8	30 %62,5	145 %59,7
Household waste	61 %88,4	56 %77,8	38 %70,4	38 %79,2	193 %79,4
Extinction	60 %87	60 %83,3	46 %85,2	39 %81,3	205 %84,4
Nuclear waste	19 %27,5	15 %20,8	24 %44,4	15 %31,3	73 %30

TABLE 3: The percentages of answering to the questions presented in the knowledge dimension based on the class level of pre service teachers

11 questions were posed to test the knowledge of pre service teachers. Approximately 89% and higher of all the students answered correctly the question about animal habitats, 84% and over the question about how rivers and seas are polluted, and approximately 81.3% and higher the question about what could be the reasons for the extinction of animals. Whilst the correct answer percentage of the teacher candidates to the question related to renewable energy was 88.4%, it is noteworthy that this ratio was 61, 67 and 79 percent for the 2nd, 3rd and 4th grades respectively. While they are knowledgeable about household waste and rubbish (79% average), the vast majority appear to be inadequately informed about sources of carbon monoxide and nuclear waste. 4. This ratio was determined as 18.8% and 31.3%, even among students. There was no significant difference between class levels in the results of the one-way Anova analysis.

Question Title	Mother's level of education				Father's level of education			
	Primary school Graduate	Middle school Graduate	High school Graduate	University Graduate	Primary school Graduate	Middle school Graduate	High school Graduate	University Graduate
Habitats	89 %94,7	41 %95,3	71 %94,7	30 %96,8	42 %95,5	43 %95,6	77 %96,3	69 %93,2
Source of carbon monoxide	8 %8,5	6 %14	9 %12	4 %12,9	5 %11,4	5 %11,1	10 %12,5	7 %9,5
Source of electricity production	34 %36,2	10 %23,3	26 %34,7	6 %19,4	13 %29,5	16 %35,6	25 %31,3	22 %29,7
Fluvial and marine pollution	82 %87,2	41 %95,3	65 %86,7	29 %93,5	39 %88,6	43 %95,6	68 %85	67 %90,5
Renewable sources	68 %72,3	29 %67,4	57 %76	20 %64,5	29 %65,9	33 %73,3	53 %66,3	59 %79,7
The ozon layer	58 %61,7	25 %58,1	57 %76	17 %54,8	25 %56,8	25 %55,6	43 %53,8	47 %63,5
Rubbish	59 %62,8	29 %67,4	40 %53,3	23 %74,2	23 %52,3	35 %77,8	63 %78,8	47 %63,5
Environment-related government agencies	59 %62,8	23 %53,5	57 %76	20 %64,5	30 %68,2	21 %46,7	49 %61,3	45 %60,8
	71 %75,5	34 %79,1	43 %57,3	30 %96,8	32 %72,7	36 %80	64 %80	61 %82,4
Household waste	83 %88,3	37 %86	58 %77,3	24 %77,4	38 %86,4	42 %93,3	67 %83,8	58 %78,4
Extinction	29 %30,9	13 %30,2	61 %81,3	10 %32,3	14 %31,8	13 %28,9	19 %23,8	27 %15,5
Nuclear waste			21 %28					

TABLE 4: The distribution of correct answers given to the questions presented in the knowledge dimension based on the class level of pre service teachers

Upon looking at the table, it can be observed that the fathers of the teacher candidates who gave the most correct answers were university graduates and their mothers were primary school graduates. In the results of the one-way Anova analysis, there was no significant difference between parental educational levels and the candidates answering correctly.

Environmental pollution	states of concerns			
	1	2	3	4
Air pollution	65 %94,2	62 %86,1	51 %94,5	45 %93,7
Noise pollution	54 %78,3	53 %73,6	41 %75,9	36 %75
Automobile emissions	64 %92,8	62 %86,1	48 %88,9	44 %91,7
Harmful waste	68 %98,5	69 %95,8	53 %98,2	47 %99.9
Unhealthy drinking water	68 %99,9	69 %95,	853 %99,9	47 %99,9
Global warming	67 %97,1	69 %95,8	53 %99,9	47 %99,9
Industrial pollution	68 %98,5	68 %94,4	53 %99,9	46 %99,5
Depletion of the ozon layer	66 %99,8	70 %99,8	53 %99,9	47 %99,8

TABLE 5: The distribution of the states of concern about environmental pollution by the pre service teachers according to class level

In the table above, it can be seen that the teacher candidates were quite concerned about being opposed to environmental pollution. While almost all of the candidates are concerned about environmental pollution, they are most concerned with the depletion of the ozone layer. However, there was no significant difference in the results of analyses done between the class levels.

Activity	Situation of participation in activities			
	1.Class	2.class	3.Class	4.Class
Camping	4 %5,7	6 %8,3	4 7,5	2 %4,2
Outdoor walking	63 %91,3	64 %88,9	48 %88,9	48 %88,9
Bird watching	31 %44,9	19 %26,3	12 %22,3	12 %25
Fishing	6 %8,6	4 %5,6	4 %6,3	3 %6,3
Hunting	3 %4,3	2 %2,8	3 %5,6	4 %8,3
Watching environmental documentaries	39 %56,5	53 %73,6	37 %68,5	32 %66,7
Reading environment-related books and magazines	32 %46,3	40 %55,6	37 %68,5	28 %58,3
Visiting environmental websites	31 %44,9	42 %58,3	38 %70,3	29 %60,5
Participating in activities of civil society **organisations working on the subject of the environment**	13 %18,8	10 %13,9	5 %9,3	4 %8,4

TABLE 6: Distribution according to class level of the situation of participation of pre service teachers in the activities

Upon referring to the table, the condition of participation in activities of second grade teacher candidates appears to be more. While it can be observed that the activity which the candidates did the most was outdoor walking, the number of candidates who engaged in fishing, camping and hunting was low.

Organization	Situation being a member			
	1.Class	2.Class	3.Class	Class
TEMA	10 14,4	14 %19,5	14 %25,9	14 %29,3
AKUT	1 %1,4	0 %0,0	4 %7,5	0 %0,0
GREENPEACE	2 %2,9	2 %2,8	5 %9,3	4 %8,3
WILDLIFE PROTECTION	6 %8,7	5 %7,0	5 %9,3	8 %16,7
ÇEVKO	2 %2,9	0 %0,0	3 %5,6	1 %2,1
TÇV	1 %1,4	1 %1,4	4 %7,4	3 %6,3
TÜRÇEV	1 %1,4	1 %1,4	4 %7,4	10 %4,1

TABLE 7: The situation of pre service teachers being a member of an organization according to class level

According to the table, the participation of teacher candidates in any environmental organization is extremely low. It appears that students are most interested in TEMA as an environmental organization. The rate of participation was determined to be approximately 26% and 29% among 3rd and 4th grade students.

CONCLUSIONS and RECOMMENDATIONS

This study was limited to the teacher candidates of the Department of Science Teaching at Hacettepe University. Within the scope of the course at Hacettepe University, the lessons along with the education that the students were receiving had a great influence on the answers given by them. In spite of the 3rd grade receiving an environmental educational course in the second semester, the answers given by the 4th grade differed from other grades. The pre service science teachers who are interested in the environment have been effective in the level of concern. Membership of organizations is very low. Some of the organizations were not known. Although significant differences occurred according to grade level. The educational level of the families did not make a noticeable difference in the environmental opinions of the candidates. It was aimed to demonstrate the differences between other subject teachers of the study and department in which it was carried out.

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A STUDY ON THE RELATIONSHIP BETWEEN CONFLICT RESOLUTION BEHAVIORS & EMPATHY LEVELS OF UNIVERSITY STUDENTS

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ABSTRACT
Conflicts in interpersonal relations are inevitable. When conflicts are solved in a negative way the interrelations is deteriorate whereas solving them in a positive way strengthes the interrealtions among people. While the empathy levels of people are increasing the probability of conflict resolutions in a poaitive way progresses as well. In the present study, the conflict resolution styles & empathy levels of university students were examined in terms of different variables & the relationship between them. The data gathered from 451 students from five different univerities & 8 different departments during 2014-2015 academic year Spring semester in İstanbul. The personal information form, empathy trend scale (Bora & Bayson,2007) and conflict action styles inventory (Karadağ & Tosun, 2014) were utilized. Data analyses were done by using SPSS-21 computer software program, and Kruskal Wallis, Mann Whitney U & Spearman Product Moment Correlation techniques were used. As a result, there were statistically significant positive relations between high level of empathy and assertive conflict resolution styles of participants that are called as 'facilitator, negotiator, & confrontator.' The findings are paralel to the other research results in the literature (Karahan, 2008; Türnüklü et.al., 2009).

INTRODUCTION
Interpersonal conflicts are real and inevitable. (Gerzon, 2006). Conflicts ocur while people try to satisfy their own needs & demands for their personal success & happiness the move to assume that the connected people around them will prevent their satisfactions (Gündoğdu, 2010). Conflicts as observed as a result of misunderstanding, disorganisation & discrepancy among people (Karip, 2000; Rahim, 2002; Bilgin, 2008). The individuals awaring of the present problem seek the alternative solutions to get rid of it & all efforts in that way have been called as conflict resolution process (Bedel & Arı, 2011). Not just the conflict itself but the people's reactions to conflict resolutions cause the deterioration of interpersonal relations. While problem solving in a negative way deteriorates the interrelations, it in a positive way strenghts the relations among people (Tosun, 2007). Conflict resolution is a process for solving the encountered problems that the parties who are in conflict come together and attempt to solve them (Gülşen, 2015a; Jant & Pedersen, 1996; Maurer, 1991; Rahim, Garett & Buntzman, 1992). Individuals learn the methods of conflict resolution by observing and experiencing . The human behaviors called as submissive, agressive, & assertive psychologically have been coincided with the behaviors reflected in conflict resolution process. When the 'avoided' conflict resolution style reflecting submissive behaviors and 'coercive' style reflecting aggressive behaviors have been used by one or two of the parties the conflicts have ended up in a negative way in other words, one of the parties loses (Gordon, 1996).
The most important goal of submissive individuals in a conflict situation is to calm the parties down to avoid the conflict. On the other hand, aggressive individuals rather than seek a common solution in conflicts they take themselves to defend and push to the wall the opposite party (Ayan, 2007). Assertiveness takes place in the middle of the submissive & aggressive features that they prevent the communications (Voltan, 2015). Assertiveness is to protect a person's his/her own rights by respecting the opposite side's/party's rights in a communication process (Kiper, 1984). Conflict resolution styles like 'facilitation, negotiation, & confrontation' are assertive behaviors leading to solving the problems in a positive way that means everybody wins (Türnüklü & Şahin, 2004 ; Türnüklü, 2005; Gündoğdu, 2010; Karadağ & Tosun, 2014). Kindler (1988) states the following as basic principles of conflict resolution: (1) protect all parties' self-worths, (2) listen with empathy, (3) not to wait for the other to change the behavior, (4) explain his/her own views independently. Listening with empathy affect interrelations in a positive way (Yüksel, 2004). Empathy prevents the emergence of many communication problems between people. Conflicts between individuals can be solved with the least damage as soon as

possible via the empathy approach (Cevahir et.al. , 2007; Gülşen, 2015b). Conflicts are natural and inevitable in school settings in where the individuals having different backgrounds, values, beliefs and demands stay constantly together (Türnüklü, 2006).

The purpose of this study is to examine the conflict resolution behaviors and empathy levels of university students as adults.

Problem statement: Is there a significant relationship between conflict resolution behaviors and empathy levels of university students?

Sub-Problems: (1) Do conflict resolution behaviors and empathy levels of university students exhibit an significant difference with respect to gender, age, department, faculty, the place of residence. (2) Is there a significant relationship between conflict resolution behaviors and empathy levels of university students?

THE STUDY

The model of this research constitutes relational survey model. Relational model without a real cause-and-effect relationship provides an opportunity that to know a variable characteristics leads to know other variables' characteristics (Karasar, 2006: 82). The relationship between conflict resolution behaviors and empathy levels has been examined in this study

The study group was consisted of 451 students including 301 females and 150 males from 451 students from five different universities & 8 different departments during 2014-2015 academic year Spring semester in İstanbul.

Instruments:

1. **Personal Information Form :** Forms included gender, age, department, faculty, the place of residence
2. **Empathy Trend Scale (ETS) :** The scale was developed by Dökmen (1988) to define empathy levels of individuals in their daily lives. Test-retest reliability coefficient 0.82, the split-half reliability coefficient of scale 0.86, the Cronbach's alpha coefficient, 0.72 have been found. Relation validity coefficient is .68 for between the ETS & 'understanding emotions' subscale of Edwards Personal Preference Inventory. With 20 items the lowest score of the scale is 20 the highest score is 100 (in Ekinci & Aybek, 2010).
3. **Conflict Action Styles Inventory (CASI):** It was developed by Johnson and Johnson in 1981 and revised in 2008 . Karadağ and Tosun adapted to Turkish (2014). There are 35 items and 5 subscales. Sub scales: (1) avoidance, (2) coercive, (3) facilitation, (4) negotiation, (5) confrontation. According to factor analysis factor loads were ranged from .37 to 0.87. The correlation coefficients obtained for each item of the scale ranged from 0.28 to 0.93. The correlation coefficient is .76 in the test-retest method, Cronbach's alpha values for internal consistency of the subscales ranged from 0.84 to 0.89.

Data Analysis: The data obtained in the study was assessed using SPSS -21 software programme. Frequency and percentage values of demographic variables were calculated on the basis of descriptive statistics. The Kolmogorov-Smirnov test was applied to check the normal distribution of data and the number of participants were reduced from 480 to 451. At the end of skewness and kurtisis analysis was found that data were inclined to the left side and median was higher than mean value. Depending on these findings data were analyzed by using Kruskal-Wallis and Mann Whitney U non-parametric tests. Furthermore, the relationship between empathy level and the subscales of conflict action styles scale was evaluated by using non-parametric Spearman crelation coefficient.

FINDINGS

1. Findings related to Socio-Demographic Variables:

The 451 participants evaluated the test results were consisted of 301 females (66.7%) and 150 males (33.3%).

The highest rate of participants were 18-21 age groups (232 people with 51.4%), 22-25 age group was 41.5% with 187 people, the least participants were 32 people 7.1% aged 26 and older group. The students (67.8%) studying at verbal sections were more than the ones studying at numerical sections. While the highest participation rate was from Arts and Sciences faculty (30.4%), the minimum attendance was from Law faculty (2.0%). Other ratios were respectively that: Architecture and Engineering 20.0%; Education 19.7%; Faculty of Economics & Administrative Sciences (FEAS) 13.1%; Communication 6.2%; Vocational High School (VHS) 4.4%; Theology 4.2%. While the 40.8% of the participants were staying with their parents, the 29.5% was at home with their friends, the 24.2% was at the dormitory, the 5.5% was staying alone.

2. Inferential Findings related to Conflict Resolution Styles & Empathy Levels

Table 1: Conflict Resolution Styles & Empathy Levels Mann Whitney U Test Findings in terms of Gender Variable

Tests	Gender	N	Mean Ranks	Sum of Ranks	U	p
CASI-Coercive	Female	301	212.78	64047.50	18596.500	.002
	Male	150	252.52	37878.50		
CASI -	Female	301	234.63	70622.50	19978.500	.046

Facilitative	Male	150	208.69	31303.50		
Empathy	Female	301	237.05	71351.00	19250.000	.011
	Male	150	203.83	30575.00		

Statistically significant findings showed that compulsive style was in favor of male participants while facilitative style and high empathy level were in favor of female participants.

Table 2 : Conflict Resolution Styles & Empathy Levels Mann Whitney U Test Findings in terms of Age Variable

Subtest	Age	N	Mean Ranks	df	Chi-Square	p
Avoidance	18-21	232	210.19	2	7.445	.024
	22-25	187	240.50			
	26 +	32	255.86			

Statistically significant results were found in the 'avoidance' subscale of CASI in terms of *age* variable

Table 3: Conflict Resolution Styles & Empathy Levels Mann Whitney U Test Findings in terms of Department Variable

Subtest	Department	N	Mean Ranks	Sum of Ranks	U	p
CASI-	Numeric	145	243.54	35314.00	19641.000	.048
Coercive	Verbal	306	217.69	66612.00		

Statistically significant results were found in the 'coercive' subscale of CASI in terms of *department* variable

Table4 : Conflict Resolution Styles & Empathy Levels Kruskal Wallis H Test Findings   in terms of Faculty Variable

Tests	Faculty	N	Mean Ranks	df	Chi-Square	p
CASI-Coercive	Education	89	201.96			
	Art-Science	137	247.34			
	Law	9	227.33			
	Theology	19	189.58	7	19.209	.008
	Communication	28	246.48			
	FEAS	59	199.35			
	Arch-Engineering	90	**250.01**			
	VHS	20	**162.73**			
CASI-Confrontation	Education	89	236.56			
	Art-Science	137	245.89			
	Law	9	**136.78**			
	Theology	19	**257.00**	7	16.003	.025
	Communication	28	249.68			
	FEAS	59	201.83			
	Arch-Engineering	90	202.47			
	VHS	20	197.53			
Empathy	Education	89	227.02			
	Art-Science	137	212.19			
	Law	9	**95.22**			
	Theology	19	263.71	7	25.708	.001
	Communication	28	**295.48**			
	FEAS	59	198.88			
	Arch-Engineering	90	249.32			
	VHS	20	216.90			

It was found statistically significant results for the '*coercive'* subscale of conflict resolution behaviors in favor of the architecture-engineering faculty students, while '*the confrontation*' subscale in favor of the faculty of theology students.
The highest level of empathy was seen in communication faculty students while the lowest in law faculty students.

Table 5 : Conflict Resolution Styles & Empathy Levels Kruskal Wallis H Test Findings in terms of the Place of Residence Variable

Tests	Residence	N	Mean Ranks	df	Chi-Square	p
CASI-	Family	184	242.90			
Coercive	Friend	133	209.70	3	8.501	.037
	Alone	25	**258.94**			
	Dormitory	109	209.80			
Empathy	Family	184	236.24			
	Friend	133	212.91	3	11.087	.011
	Alone	25	156.02			
	Dormitory	109	**240.73**			

 While coercive conflict resolution behaviors was seen in people living alone (258.94), the lowest level of empathy was in the ones alone and the highest one was in the ones staying at dormitory.

3. The Relationship between Conflict Resolution Behaviours & Empathy Levels

Table 6 : The Relationship between Conflict Resolution Styles & Empathy Levels Spearman Corelation Test Findings

Test	Facilitation	Negotiation	Confrontation
Empathy	.354	.235	.209

Correlations were significant at the p<0.01 level.

CONCLUSIONS

It is seen that men are using ' *coercive* ' style frequently while exhibiting conflict resolution behaviors. Being high of points of empathy of the women who prefer the *facilitative* style, it shows that they prefer to resolve the conflicts by assertive behaviors. This result overlaps with the other results of studies in the literature field. (Türnüklü, 2004; Rehber and Atıcı, 2009; Gündoğdu, 2010).

The only significant difference between participants is to prefer '*avoidance*'style more and not to want to live any problems and possibly can be interpreted that they want to finish the university right away.

More preference of numeric sections of students who study as a way of coersive style of conflict resolution can be predicted that their sections and works in the future are in compliance with the machines and the tools rather than the people. In addition to this, being high level of the mean scores of empathy in those who study at verbal section is important to stress that they strive to be understandable. '*Coercive'* loses one side of the solution. The conflict has lost one of the parties is seen in other studies in the literature that low levels of empathy for those who prefer the solution. (Gündoğdu, 2010; Rehber and Atıcı, 2009). In this sense, it is predictable that other studies are not parallel with the other researches.

Preference mostly by architecture and engineering faculty students of '*coercive'* style reflecting aggressive behavior is parallel with the high points of the 'compulsive' style of those who study at numeric sections. It also supports the result that the second-high points are in numeric sections of art and science faculties. In the lowest points of '*coercive'* style are respectively Vocational High School, Faculty of Economics and Administrative Sciences and Theology. Getting the second low level points in the faculties of students with the most ideal behavior which is 'coercive' style, who study at VHS can be interpreted that studying at VHS instead of faculty could have effected their self confidence.

The students of the Faculty of Theology *'coercive'* style in the low '*confronting*' style based on the people to have the highest scores could be explained by the theological approach adopted. Having the highest points of the theology students in the style of 'confronting' while the lowest in the '*coercive'* style can be explained that adopting the theological approach of human as basic.

The highest points of empathy are of communication faculty students and the second highest is the 'confronting' points. On the other hand, having the high points of this group's 'coersive' style can be interpreted that they exhibit different behaviors according to subjects.

The group of law school students is with the lowest points of *empathy* and *confronting* styles, while the coercive is at medium level according to the other groups, the conflicts can be explained with rules or to solve with laws. However, in our country as well as the courts in the resolution of legal issues since 2013 "mediation" process was initiated. Lawyers who want to work as a mediator of *empathy* and assertive behavior are expected of science and applications (Ministry of Justice, 2013).

In terms of place of residence only *'coercive'* conflict resolution styles shows a significant difference in favor of living alone. The people living alone focus on protecting their rights and so, it shows a consistent in '*coercive* solution style' while getting low points in empathy level. On the other hand, while being aware of the style of '*coercive*' to live together and well, the participants staying at dormitory are getting low points, is consistent with high level of empathy.

Participants are protecting their rights of empathy and reflect assertive behavior in respecting the rights of others 'facilitation, negotiation and confrontation' to be in meaningful relationships with conflict resolution style is in keeping with the show consistency in their own and other research results. (Karahan, 2008; Türnüklü et al., 2009).

Recommendations

- Empathy training to increase the use of assertive styles in conflict resolution, it can be given like activities to the big groups and group works to the small groups

- 'Conflict resolution' and / or 'mediation' can be given as an elective course to the law students

- It can be facilitated of increasing empathy level by giving elective course of communication to the numeric section students

- Similar studies can be applied to the teachers

- Similar studies can be applied in different school types

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A Study on the Relationship between Internet Addiction
and Cyberbullying Sensibility of Psychological Counselor Candidates[*]

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ABSTRACT

The objective of this study is to determine the relationship between internet addiction levels and cyberbullying sensibility of psychological counselor candidates. The study was designed as survey model. The data of the study were collected from 216 psychological counselor candidates studying in a Turkish state university in the fields of guidance and psychological counseling. Descriptive statistical methods were utilized in analyses of the data. Because the normality condition (p <0.05) was not provided in evaluation of the data, Spearman's rho Correlation Test, among the non-parametric tests, was employed to find the relationship between the two variables and Mann-Whitney U test was used to test if there is a significant difference between two situations. According to the findings obtained from the study, a significant level of relationship was found between internet addiction level and cyberbullying sensibility of psychology counselor candidates. Furthermore, the points of males are higher compared to females in both scales and no significant difference was determined in terms of class. The study findings were discussed in company with the relevant literature and recommendations were developed for studies to be carried out later.

Keywords: Cyberbullying, Cyberbullying Susceptibility, Internet Addiction, Psychological Counselor Candidates

INTRODUCTION

Internet, in our day, has become an indispensable resource utilized through individuals of all ages with a view to obtain and share quick and easy information, contact, communicate, perform business, have entertainment and implement banking transactions thanks to providing easy access and interaction feature thereof. Internet has become one of the most important technological developments of our day attracting attention of all humanity with this feature thereof. It has become a part of the lives of especially adolescent and young adult population thanks to the facilities offered thereby.

Internet, having emerged in the 1960s as a project envisioning to link computers to each other, has taken its place among other technologies with the establishment of the first computer network in 1969, in California. In early 1970s e-mail was developed and the World Wide Web (WWW) concept was put forward for the first time in 1990s (Şahin, Aydın and Balay, 2016). The first trials in Turkey began in 1990 (Taş and Kestellioğlu 2011) and the first internet connection was realized in 1992 (Çağıltay, 1997). Internet has become a focus of attention devise of many of the people before half a century has passed from the invention thereof and has become to be utilized through almost half of the world population. It is observed that internet usage rate has reached 55.9% in Turkey according to 2015 data of Turkish Statistical Institute (TSI). This rate is 65.8% for males while it is 46.1% for females. Highest incidence of computer and internet usage frequency is 77.0% in the 16-24 age group, while the rate is 85.1% for males and 68.9% for females.

It is a fact that internet has positive impacts on the individuals and society (Şahin, 2014). However, a group of individuals use the Internet to the extent they need while a group of individuals use it more than they need and cannot limit the use of the Internet (Gönül, 2002) thereby experiencing problems in their work and social lives due to excessive use thereof. One of the negative impacts thereof can be said is the pathological internet use or in other words internet addiction affecting people's behaviors negatively.

Internet addiction concept has begun to be used in 1995 for the first time by Goldberg and has been described as internet addiction (Young, 1996) or pathological internet use (Davis and Flett Besser 2002) in recent years. Although internet addiction does not yet have a standard definition, Young (1996) defines internet addiction as not being able to resist against the use of internet excessively by individuals, considering the time passed without

being connected to the internet unimportant, excessive tension and aggression shown by the individual when not connected to the internet and the harm given to business, social and family lives. Şahin and Korkmaz (2011), have defined the concept of internet addiction as use of internet by the individual in an unconscionable way thereby experiencing a variety of problems in personal, social and professional life.

Internet addiction is not currently defined as an illness in the manual published by American Psychiatric Association (APA) named "Diagnostic and statistical manual of mental disorders: DSM-IV"(Şahin, 2014). Young (1998), who has first defined internet addiction and brought forward the first diagnostic criteria has stated that the closest disorder to internet addiction, which is not involved abuse of any substance, is "pathological gambling" specified under the title of impulse control disorders in DSM-4. It has been stated that in studies made on internet addiction that internet addiction can have risks like any other substance dependencies due to various psychological, sociological, physical and academic problems caused thereby (Young, 1996, 1999; Griffiths, 2000; Heart, 2002). Although only internet game addiction is included in the DSM-5 additional section, it argued that internet addiction is a behavioral addiction.

It is stated that internet addiction is a new mental health epidemic among students in the world's different countries and particularly in the Far East (Kandell, 1998) This issue's reaching further dimensions have led the researchers to make studies on the effects of internet addiction on individuals in recent years (Kuss, Griffiths and Binder, 2013) Studies are also carried out on this subject in our country in the recent years however the dimension of addiction of internet which has become an important source of for information especially for university students and adolescents has not yet been revealed in full.

When the studies on internet addiction are examined in the literature it is observed that the researchers have used variables such as demographic characteristics like gender and age, (Thatcher and Goolam, 2005; Şahin, 2011), shyness (Ayas, 2012), depression (Young and Rodgers, 1998; Bayraktar, 2001; Özcan and Buzlu, 2005; Ceyhan, 2008; Şahin, 2014), loneliness (Morahan and Schumacher, 2003; Pawlak, 2002; Kurtaran, 2008; Durak and Batıgün, 2010, Esen and Siyez, 2011), psychological well-being (Caplan, 2002), psychological symptoms (Yen Ko, Yen Chen, Chung and Chen, 2008), attention deficit (Yoo, Cho Ha, Yune, Kim, Hwang and Lyoo, 2004), social support (Özcan and Buzlu, 2005; Esen and Gündoğdu, 2010); peer pressure (Es, 2007), personality traits (CaoveSu, 2007), social skills (Caplan, 2005), self-esteem (Kurtaran 2008), self-efficacy (Çetinkaya, 2013) and interpersonal relations(Durak and Batıgün, 2010) in their studies.

It is usually focused on the negative effects of internet in studies carried out in education and social areas as can be observed in the studies. One of these negativities is cyberbullying experienced widely recently as a result of using information and communication technologies to harm others (Padır, Eroğlu and Çalışkan, 2015) Peer bullying which is a common problem in social relations in schools has changed its form and led to cyberbullying due to the spread of technological means by using them to harm others. (Tanrıkulu, Kınay and Arıcak 2011, Dikmen, 2015).

"Cyberbullying" (cybermobbing or e-mobbing) is defined as deliberately insulting, humiliating, excluding, threatening, exposing or making others uncomfortable by using modern communication means in a virtual environment in the literature (Bayram and Saylı, 2011). Bill Belsey, who has used the cyberbullying term in his studies for the first time (Campbell, 2005) defines cyberbullying as deliberately repeated hostile behavior by an individual or by groups and the use of information and communication technology to harm others (Belsey, 2004). Cyberbullying, according to Arıcak (2011) includes "all behaviors made against an individual or a group or a legal and natural entity to give technical or relational harm by using information and communication technologies".

As a matter of fact, cyberbullying and "normal" bullying are basically indistinguishable (Hilbig, 2016). In our day, bullying is much more than just a condition that occurs in schools or workplaces but it is realized by threats and harassments in applications such as social media, video platforms and blogs (Fawzi 2016). Cyber bullying, which is the subject of this study has two types applied as electronic communication and technically. The first one which is electronic communication bullying (e-communication bullying) includes actions such as constantly disturbing and teasing people, name calling, spreading rumors, insulting on the internet or publishing personal information or images of the person without the consent thereof by using information and communication technologies. The second one which is electronic bullying (e-bullying) includes actions such as obtaining passwords to make the systems or electronic devices unworkable, hacking websites and sending spam (Arıcak, 2011).

When studies conducted on cyberbullying are examined, it has been determined that individuals who were victims of cyberbullying were observed to be angry, embarrassed, fearful, nervous, unable to concentrate on their

lessons, with decline in school success and absenteeism, lonely, anxious, depressive and had suicide attempts (Hoffman and Mitchell, 2009; Shariff, 2008; Hinduja and Patchin, 2007; Smith at al., 2006; Beren and Li, 2005; Ybarra and Mitchell, 2004). It was observed that the studies conducted in Turkey focused on cyberbullying and concepts trying to describe the situation such as gender, age, socio-economic status, widespreadness, causes and effects and conduction of in-depth studies are needed on the subject (Eroğlu, 2011; Baker and Kavsut, 2007; Topçu, 2008; Özdemir and Akar, 2011; Ayas and Horzum, 2012; İnselöz and Uçanok, 2013; Akbaba and Eroğlu, 2013; Bayram ve Saylı, 2013; Soydaş and Uçanok, 2014; Baran, Keskin and Genç; 2014; Dikmen, 2015).

Cyberbullying behavior is a condition which also constitutes a threat perception to the individual. For this reason, sensibility can be expected to be observed in individuals who perceive this as a threat (Tanrıkulu, Kınay and Arıcak, 2011). In this sense, cyberbullying sensibility can be defined as " trying to be away to being subject to bullying behaviors during the use of cyber tools such as internet and mobile phones, be aware of the existence of such threats and take measures and being highly attentive as to stimuli which can cause a threat" (Tanrıkulu, 2011).

Although many teachers and administrators in our day aware that that bullying in schools is a problem , only a small part thereof think that the students are bullied in electronic environments (Li, 2007). Perceptions of psychological consultants (school counselors) in recognizing and fighting against cyberbullying cases which greatly affect academic achievements, social lives and psychology of students is very important compared to other teachers. Accordingly, the problem statement of the study is the question of "Is there any significant relationship between the internet addiction levels and cyberbullying sensibility of psychological counselor candidates?"

Objective of the Study

The general objective of this study is to examine the relationship between internet addiction levels and cyberbullying sensibility of psychological counselor candidates in terms of gender and the classs where education is received.

The answers to following questions were sought in line with the general objective of the study:

1. What is the internet addiction and cyber bullying sensibility levels of psychological counselor candidates?

2. Is there any relation between the internet addiction and cyber bullying sensibility levels of psychological counselor candidates?

3. Do the internet addiction and cyber bullying sensibility levels of psychological counselor candidates vary in terms of gender and the class where education is received?

METHOD

Method of the Study

In this study, correlational scan method was used. Correlational scan method is a method which aims to determine the presence and degree of change between two or more variables. Much as correlational scan method does not provide a real cause-result relation if the situation in a variable is known it allows the other situation to be estimated (Karasar, 2010) and aims to collect data in order to determine the features of a group (Büyüköztürk, 2009). Scan methods, according to Frankel, Wallen and Hyun (2011 scan methods are utilized to collect information from a group of people when personality features or some views (such as competence, opinion, attitude, belief and knowledge) of a small group which is the part of a large group of is investigated.

Study Group

The study group comprised psychological counselor candidates receiving education in the second semester of the 2015-2016 academic years in the first and fourth class of a Turkish university. Data collection tools were utilized subsequent to giving detailed information as to the study to the psychological counselor candidates who accepted to participate to the study. Consequently, the data of 216 psychological counselor candidates were included in the statistical evaluation.

Data Collection Instruments

The data in this study was collected by using Personal Information Form, Internet Addiction Scale (IAS) and Cyberbullying Sensibility Questionnaire (CSQ). The psychometric features of the measuring instruments utilized

in the study are provided below.

Personal Information Form: This form was developed by the researcher with an eye to collect demographic information of participants such as gender and class.

Internet Addiction Scale (IAS): The scale designed by Hahn and Jerusalem and adapted to Turkish by Şahin and Korkmaz (2011) as the IAS. There are 7, 4 and 8 items in "Loss of Control", " Desire to Remain Online Excessively" and "Negative Consequences for Social Relationships" dimensions respectively in the scale consisting of 19 items and three factors. The items in the dimensions were graded as "always (5), usually (4), sometimes (3) rarely (2) never (1)". The maximum point to be obtained from the scale is 95 and the lowest point is 19. Goodness of fit values were found as [$\chi2$ (d=149,N=468)=580,17, p<.01, RMSEA=0.079, S-RMR=0.045, GFI=0.90 AGFI=0.85, CFI=0.97, NNFI=0.96, IFI=0.95]   as a result of the confirmatory factor analysis. It was observed that the Cronbach Alpha values changed between 0,887 and 0,926, while this value was 0.858 in overall scale (Şahin and Korkmaz, 2011). Cronbach Alpha values of the dimensions were calculated to be between 0.867 and 0.914 and as 0.924 in the overall scale in this study.

Cyberbullying Sensibility Scale (CSS): Cyberbullying sensibility scale developed through Tanrıkulu, Kınay and Arıcak (2011) consists of 14 items and one factor. This one factor explains 27.70% of the total variance. The factor loads under one factor ranges from .32 to .73. This structure with single factor obtained was tested by confirmatory factor analysis and the method was found to be at an acceptable level (χ^2/sd= 2.06 ve RMSEA= .078). Questions in the scale were calculated by giving 3, 2 and 1 points to "Yes", "Sometimes" and "No" options respectively. The maximum point to be obtained from the scale is 42 while the lowest point is 14. The Cronbach alpha value of the scale was calculated as 0.767 in this study.

Statistical evaluation

The data obtained in this study have been transferred to computer environment and analyzed through utilization of the SPSS 20.0 software. The following relational and descriptive analyzes were performed in line with the purpose of this study. Frequency and percentage calculations have been conducted in order to reveal the distribution of sampling according to class and gender variables. One Sample Kolmogorov-Smirnov Test was utilized to determine whether collected data follows a normal distribution (p <0.05). Employment of non-parametric tests was found to be necessary inasmuch as the normality condition could not be provided and Spearman's rho Correlation Test to find the relationship between the two variables. Correlation test is used for "examining the relationship between two or more variables without intervention to one of these variables in any way" (Büyüköztürk et al., 2010). Furthermore, Mann - Whitney U test was used to test if there is a significant difference between these two cases (Kesici and Kocabaş, 1998). Study hypotheses were tested at 0,05 significance level.

RESULTS

The study group consisted of 216 psychological counselor candidates who responded the data collection devices in a complete manner. Some demographic characteristics related to the psychological counselor candidates who partook in the study are given in Table 1:

Table 1 Descriptive characteristics of the study group

Variable	Frequency (f) (216)	Percentage (%)
Gender		
Female	123	56,9
Male	93	43,1
Class		
1st Class	120	55,6
4st Class	96	44,4

When Table 1 examined, it is observed that 123 of the psychological counselor candidates in the study group (56.9%) are female and 93 (43.1%) were male while 120 of them (55.6%) stated that they received education in the first class and 96 (44.4%) received education in the fourth class. In addition, the average age of the psychological counselor candidates was (20.65 ± 6.60).

The description of internet addiction and cyberbullying sensibility levels of psychological counselor candidates

Descriptive statistics on internet addiction and cyberbullying sensibility point of psychological counselor candidates are given in Table 2.

Table 2: Descriptive statistics

Variable	N	Min.	Max.	M	SD
Loss of Control	216	7,00	35,00	14,34	4,12
Desire to Remain Online Excessively	216	3,00	15,00	6,57	2,70
Negative Consequences for Social Relationships	216	9,00	45,00	14,75	4,82
Internet addiction (Total)	216	19,00	95,00	35,68	9,70
Cyberbullying Susceptibility	216	14,00	42,00	33,11	3,50

In Table 2, it is observed that [Loss of Control (14.34 ± 4.12), Desire to Remain Online Excessively (6, 57 ± 2.70) and Negative Consequences for Social Relationships (14.75 ± 4.82)] seems to be low in general total of internet addiction points of psychological counselor candidates (35.68 ± 9.70) and average points obtained from the subscales. The sensibility of cyberbullying points (33.11 ± 3.50) were observed to be above the average.

One Sample Kolmogorov-Smirnov Test was utilized to determine whether collected data followed a normal distribution (p <0.05) and it was found that the data were not normally distributed (p <.05). Therefore, the data were analyzed by using non-parametric tests.

Internet addiction and cyberbullying sensibility levels according to gender

Results of the Mann - Whitney U test performed to determine if points of the psychological counselor candidates received from the internet addiction scale and subscales and cyberbullying sensibility scale differed according to gender is given in Table 3.

Table 3: Results of the Mann - Whitney U test performed according to gender

Variable	Gender	N	Mean Rank	Sum Ranks	U	Z	p
Loss of Control-LC	Female	123	98,32	12093,50	4467,5	-2,760	,006*
	Male	93	121,96	11342,50			
Desire to Remain Online Excessively -DROE	Female	123	92,98	11436,50	3810,5	-4,229	,000*
	Male	93	129,03	11999,50			
Negative Consequences for Social Relationships -NCSR	Female	123	96,04	11813,50	4187,5	-3,380	,001
	Male	93	124,97	11622,50			
Internet addiction (Total)-IA	Female	123	93,76	11533,00	3907,0	-3,988	,000*
	Male	93	127,99	11903,00			
Cyberbullying Susceptibility -CS	Female	123	106,16	13057,50	5431,5	-0,636	,525
	Male	93	111,60	10378,50			

p<0,01*

The data in Table 3 reveals that mean rank values of the male students is higher in lower dimensions of the scale than female students in total. In analysis conducted, the differences of the LC (U=4467,5; p<0,01), DROE (U=3810,5; p<0,01) and NCSR (U=4187,5; p<0,01) in lower dimensions and mean rank average of total IA (U = 3907.5, p <0.01) was found statistically significant in favor of male students. These findings indicate that internet addiction levels differ according to gender. Furthermore, it was found that the mean CS point values of psychological counselor candidates do not have statistically significant difference in terms of gender (U = 5431.5, P> 0.05).

Internet addiction and cyberbullying sensibility levels according class
Results of the Mann - Whitney U test performed to determine if points of the psychological counselor candidates received from the internet addiction scale and subscales and cyberbullying sensibility scale differed according to

class is given in Table 4.

Table 4: Results of the Mann - Whitney U test performed according to class

Variable	Class	N	Mean Rank	Sum Ranks	U	Z	p
Loss of Control-LC	1st Class	123	103,61	12433,50	5173,5	-1,288	0,198
	4st Class	93	114,61	11002,50			
Desire to Remain Online Excessively -DROE	1st Class	123	110,34	13240,50	5539,5	-0,487	0,626
	4st Class	93	106,20	10195,50			
Negative Consequences for Social Relationships -NCSR	1st Class	123	107,30	12875,50	5615,5	-0,318	0,751
	4st Class	93	110,01	10560,50			
Internet addiction (Total)-IA	1st Class	123	106,10	12731,50	5471,5	-0,633	0,527
	4st Class	93	111,51	10704,50			
Cyberbullying Susceptibility -CS	1st Class	123	110,48	13258,00	5522,0	-0,523	0,601
	4st Class	93	106,02	10178,00			

The data in Table 4 reveals that The data in Table 4 reveals that mean the differences of the LC (U=5173,5; p>0,05), DROE (U=5173,5; p>0,05), NCSR (U=5615,5; p>0,05) in lower dimensions and mean rank average of total IA (U=5471.5, p>0,05) was not found statistically in first and fourth class students. Furthermore, it was found that the mean CS point values of psychological counselor candidates do not have statistically significant difference in terms of class (U=5522,0; p>0,05).

The relationship between internet addiction and cyberbullying sensibility levels

Spearman's rho Correlation Test points were calculated to examine the relationship between internet addiction and cyberbullying sensibility levels of psychological counselor candidates. The results obtained are shown in Table 5.

Table 5: Correlation values between variables

Variable	(1)	(2)	(3)	(4)	(5)
(1) Loss of Control	1.00	,514*	,580*	,873*	,615*
(2) Desire to Remain Online Excessively	,514*	1.00	,441*	,709*	,509*
(3) Negative Consequences for Social Relationships	,580*	,441*	1.00	,844*	,597*
(4) Internet addiction (Total)	,873*	,709*	,844*	1.00	,717*
(5) Cyberbullying Susceptibility	,615	,509	,597	,717	1.00

* p <0.01; a 5-point Likert (1-5); b 3-point Likert (1-3)

As can be seen in Table 5 high and significant levels between total points of internet addiction and cyberbullying sensibility points of psychological counselor candidates (r =, 717; p <.01) were found. In addition, high and significant relationship was found between the sub dimensions of Internet addiction which are loss of control (r = 615, p <.01), desire to remain online excessively (r =, 509; p <.01) and negative consequences for social relationships (r = 597, p <.01), and cyberbullying sensibility.

DISCUSSION

Study findings reveal the fact that the psychological counselor candidates have low level of internet addiction. These findings obtained from the study conducted on psychological counselor candidates are similar to study findings obtained by Şahin, Aydın and Balay (2016), Özcan and Buzlu (2005), Hahn and Jerusalem (2001)   conducted on students who are not psychological counselor candidates but who have similar features of psychological counselor candidates. This finding shows that psychological counselor candidates have a positive attitude towards their profession and have increased their sensibility level with the education they have received.

Another finding obtained in the study is that cyberbullying sensibility of psychological counselor is over medium. This finding reflects the personality trait and professional self-efficacy feature of property that a psychological counselor candidate should have. Psychological counselors are experts who furnish professional assistance during the counseling process for a person's self-understanding, gaining sensibility, identifying his problems and generating solutions, making decisions, developing his capacity, his being environment compatible and in healthy communication with the environment and for his self-development. High levels of cyberbullying sensibility of psychological counselor candidates can be evaluated as a natural result of gaining sensibility about the problems while receiving education to help the client who have problems.   A study examining the relationship while the psychological counselor candidates are subject to cyberbullying has not been observed in any domestic and foreign sources. However, this finding obtained shows similarities with the study findings obtained by Dikmen (2015), Aktan and Çakmak (2015), Gezgin and Çuhadar (2012), Akbulut and Erişti (2011), Özdemir and Akar (2011), Ayas and Horzum (2011), Agatston, Kowalski and Limber (2007), Baker and Kavşut (2007), revealing the high sensibility of teachers in coping with cyberbullying.

When the internet addiction point according to gender was assessed, it was found that men had higher average points than women. When the rapidly increasing literature on internet addiction was examined, the opinion that men tend to be more addicted to internet compared to women has gained weight (Turkish Statistical Institute, 2015; Chou, Condron and Belland 2005; Johansson and Gotestam, 2004; Morahan-Martin and Schumacher, 2000). Many studies support this finding made by university students (Akdağ, Yılmaz, Özhan and Şan, 2014; Odacı and Çelik, 2013; Alaçam, 2012; Wang at al., 2012; Üneri and Tanıdır, 2011; Kıran-Esen and Gündoğdu, 2010; Yen and diğerleri, 2009 Balta and Horzum, 2008; Jang, Hwang and Choi, 2008; Ceyhan and Ceyhan, 2007; Özcan, 2004; Bayraktar, 2001; Hahn and Jerusalem, 2001). However, there are also studies showing the fact that there is no internet addiction difference between genders (Şahin, Aydın and Balay, 2016). In the studies conducted on internet addiction levels of psychological counselor candidates according to various variables by Şahin and Ercan (2011) by examined in the study, internet addiction points of men were found higher in women. These findings also support the study findings. Women are accepted to be more dependent and calm while men are accepted to have more dominant and aggressive behaviors in terms of gender roles attributed to women and men in the society (Akdağ, Yılmaz, Özhan and Şan, 2014). Women are more encouraged than men in establishing and maintaining relationships with others (Güçray, 2009). Men are more technology focused than women and women can exhibit more negative attitudes towards technology (Durndell and Haag, 2002).

Sensibility level for cyberbullying does not differ with respect to gender variable in psychological counselor candidates. The reason of sensibility level's not differing for cyberbullying with respect to gender variable is that the psychological counselor candidates in the working group attach importance to cyberbullying incidents and have created similar perception due to their vocational formations. It is stated in the study conducted by Ayas and Horzum (2011) that although the teachers have a high level perception of cyberbullying, this perception shows no significant difference according to gender. On the other hand there are similar study results obtained in the literature. It was found in studies conducted by Aktan and Çakmak (2015), Dikmen (2015) and Gezgin and Çuhadar (2012) that female teacher candidates have higher sensibility about cyberbullying compared to males. Further, there are study findings revealing that cyberbullying behavior is more common among boys compared to girls (Arıcak, 2009; Baker and Kavşut, 2007; Şahin et al., 2010).

A significant difference in internet addiction points of the psychological counselor candidates according to class level was not found. The difference between internet addiction and age was studied in majority of studies conducted and different results obtained. Soydan, (2015), Şaşmaz et al. (2013) could not find any significant difference between internet addiction and age. It can be said based on findings obtained from this study that being young is a factor for internet addiction. These findings can be interpreted based on the fact that internet addiction rates fall because sensibility and behavior control increases with advancing age.

Results have shown that psychological counselor candidates studying in the first class do not have any differentiation in terms of cyberbullying sensibility compared to those studying in fourth class. Dikmen (2015) has also determined that there is no change in cyberbullying sensibility levels of Computer and Educational Technology students according to the class variable. These findings are in line with the study findings. One of the reasons why cyberbullying sensibility levels of the psychological counselor candidates according to class is that their attitudes towards the counseling profession and their sensibility against negative habits.

The finding obtained in this study that there is high level and significant relationship between internet addiction and cyberbullying sensibility of psychological counselor candidates support the thoughts mentioned hereinabove. In other words it is revealed that internet addiction and cyberbullying sensibility of psychological

counselor candidates are related with each other and need to be discussed together. When the relevant literature was searched a study directly examining the relationship between the internet addiction and cyberbullying sensibility levels of psychological counselor candidates could not be found as mentioned in the introduction part.

CONCLUSION AND RECOMMENDATIONS

The objective of this study is to determine internet addiction and cyberbullying sensibility levels of psychological counselor candidates examining the relationship between internet addiction and cyberbullying sensibility and determination of internet addiction and cyberbullying sensibility levels in relation with gender and class. It was found in the study that internet addiction levels of psychological counselor candidates were low, their cyberbullying sensibility was above the middle and there was high level of positive and significant relationship between internet addiction and cyberbullying sensibility. Internet addiction points of males were in significantly higher level compared to females while their cyberbullying sensibility points were not significant. Furthermore, internet addiction points and cyberbullying sensibility points were determined not to differ according to class.

Internet addiction is expressed as a new outbreak of mental health in different countries of the world and particularly in the Far East for university students. Studies are needed to be conducted in this area considering the fact that usage rate of the internet has increased rapidly in recent years in Turkey due to high population of young people. It is expected that this study will contribute to address these needs and will provide guidance to studies to be carried out in this area in the future.

It should be considered that there are several limitations in interpretation of the results of this study. First and foremost this study's being limited to psychological counselor candidates, studying in universities, makes it hard for generalization thereof for individuals of different age groups and studying in different fields. Therefore, to make generalizations, it is first necessary to make new studies in other professional fields and different age groups. Secondly, the collection of the data obtained from the study must be made by assessment tools based on self-report and new studies must be performed by qualitative or mixed methods. Thirdly, it is difficult to make causal inferences due to use of relational data in study. In spite of all these limitations, this study can be considered important due to the fact that it is the first study addressing the relationship between internet addiction and cyberbullying sensibility.

It can be said that studying the relationship of internet addiction and cyberbullying with different concepts of positive psychology will enrich the perspective on internet addiction and cyberbullying sensibility. As another recommendation it can be said that preparation of psycho-education programs aiming to increase internet addiction and cyberbullying sensibility of individuals is very important.

It can also be recommended that the psychological counselors, trying to solve the problems of students at schools and helping their development in a holistic manner, have to receive education in their college years to cope with internet addiction and issues that may occur along therewith and thus raise awareness. To this end elective courses can be given or works on the subject can be done in seminars or field specialization courses.

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A STUDY REQUIREMENTS THE USE OF SMART INNOVATION SYSTEM FOR TEACHING AND LEARNING TO DEVELOP CREATIVITY OF UNDERGRADUATES.

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ABSTRACT
The purposes of this research were: 1) To study the design of Smart Innovation System in teaching and learning to develop creativity of undergraduates. 2) To study the requirements of the sample towards Smart Innovation System in teaching and learning to develop the creativity of undergraduates 3) To study the opinions of the samples with Smart Innovation System in teaching and learning to develop the creativity of undergraduates. The samples instructor course project. The second semester of the 2015 academic year, the Faculty of Engineering and Architecture. Rajamangala University of Technology Isan, 12 majors and students in multimedia technology course registration project. The second semester of the 2015 academic year, the Faculty of Engineering and Architecture. Rajamangala University of Technology Isan number 26 by selecting specific (Purposive Sampling) used of this study were 1) a draft design of Smart Innovation System in teaching and learning to develop creativity of undergraduates 2) Questionnaire requirements Smart Innovation System in teaching and learning to develop creativity Of undergraduates for instructor. 3) Questionnaire requirements Smart Innovation System in teaching and learning to develop creativity of undergraduates for student. 4) Questionnaire on the design of Smart Innovation System in teaching and learning to develop creativity of undergraduates for the sample to analyze qualitative data, average, and standard deviation. The results showed that: 1) the design of Smart Innovation System in teaching and learning to develop creativity consists of three components: the first component Blended Learning features two styles of learning and the third element of creativity. 2) A study the requirements of the sample towards Smart Innovation System in teaching and learning to develop the creativity of undergraduates with the average. 3) The sample is being use to design Smart Innovation System in teaching and learning to develop the creativity of undergraduates with the average.

Key Words: Design, Creativity, Smart Innovation System, Learning

Background Motivation
The Ministry of Education has given the ability to use technology as a critical competency for students. They must have the ability to select and use different technologies and skilled technological process to develop themselves and social in education, communication, work, and creative problem solving correctly and proper morality. (Ministry of Education, 2008) Especially in information technology and computer, article content knowledge or theories about the system used in teaching has changed over time. In addition, the growth of the internet has given students easier and faster access to news and information's composing (Aumnuai D., 2001) with social media that plays a role in living. These media has driven students to have more interests and make more use of it. Web application functions as web or application to a web browser over computer networks like the Internet or Intranet. Examples of web application include webmail-service program sending and receiving mails that are installed on the server. You can also use it through a web browser. (Niwat, 2007) The advantages of web application is the information in the system is circulating online, both locally is within the LAN and global. Making it ideal for applications requiring real time data, the system is efficiency and easy to use. The developed system was to meet the needs of the agency or department stores. Unlike general programs conducted in broad, often do not match the actual demand. Examples of the web application can be reservations or other services, whether it would be a hotel booking,

touring, reserving CDs-DVDs, etc. In addition, web application also has an interest that it can be updated without having to install software on the computers of the user. (Pronpichaya, R., 2010)

Intelligent Tutoring System innovative learning is the result of advances in information technology the outlook of the research and development of intelligent tutorials on a variety of concepts and theories, which will lead to the ability of a system that makes teaching made by computers. The main purpose of developing the system is creating a representative for modern learning under adapted environment to the characteristics of individuals, also the ability to respond to problems in the differences between individuals. There are also likely to develop teaching material for practice and increasing the capacity of the system by using the techniques that enhance learning for students, also help achieve their learning. (Wilairat, Y. and Jitimon, A., 2013) Thus, the focus in the orientation of the use of information technology for education is an important factor in driving the strategic dimension and a study into the efficiency of learning a tool to accelerate uplifting and the distribution of educational opportunities.

The learning and teaching of Multimedia, faculty of Engineering and Architecture, Rajamangala University of Technology, Isan; is aimed at developing students to choose studying the most of interest related to multimedia technology, a study by the statistical requirements to engage in writing projects and dissertations. Students must present a project to study the appropriate format, including the approval of the instructor and advisor to conduct the study. Students must write a report on the study and practice in the form of a thesis reveals that the teaching must have a deep understanding of both the theoretical and practical expertise the self-interest. (Multimedia Technology, 2012) Also understand the process and write a thesis report from the teaching experience of recent research not less than two-semester course, both old and new courses. Found that only few students understand the process of preparing the thesis and not remembering the steps in performing, also the problem with appointments to meet the advisor. This is due to the students' own time and the time of the advisors plus with the irresponsible and lack of punctuality makes graduation delay.

From the history and importance of the issue, as a researcher and instructor, people experiencing these problems directly is the idea to study the needs innovation, intelligent use of teaching and learning to develop creativity of undergraduates, For being a guide in solving the problem of learning, teaching, also performance learning of undergraduates students. This system will benefit both the students and teacher, also the advisor on determining the implementation process and time to complete a variety of teaching and learning, sending attachments, checking status of submission, and feedback from instructors and advisors in preparing the thesis via web application. Using the students in Multimedia Technology as a case study, after the development of the system, the researcher will bring the system to good use with other programs in undergraduates' level, both inside and outside the university.

Objective of the study

  1) To study the design of the smart innovation system in teaching and learning to develop creativity of undergraduates.
  2) To study the requirements of the sample on the smart innovation system in teaching and learning to develop creativity of undergraduates.
  3) To study the opinions of the samples on the smart innovation system in teaching and learning to develop creativity of undergraduates.

Method

Participants
The samples instructor project course. The second semester of the 2015academic year, the Faculty
of Engineering and Architecture. Rajamangala University of Technology Isan, 12 majors and students in multimedia technology course registration project. The second semester of the 2015 academic year, the Faculty of Engineering and Architecture. Rajamangala University of Technology Isan number 26 by purposive pampling (Boonchom, Sri., 2005)

Experimental design

A Study Requirements the use of Smart Innovation System for Teaching and
Learning to Develop Creativity of Undergraduates. is based on design framework of ADDIE Model
(Barbara, S. and Zita, Gl., 1998) which are divided into 5 main phases as Phase 1 – Analysis, Phase 2 –
Design, Phase 3 – Development, Phase 4- Implementation, and Phase 5 – Evaluation.
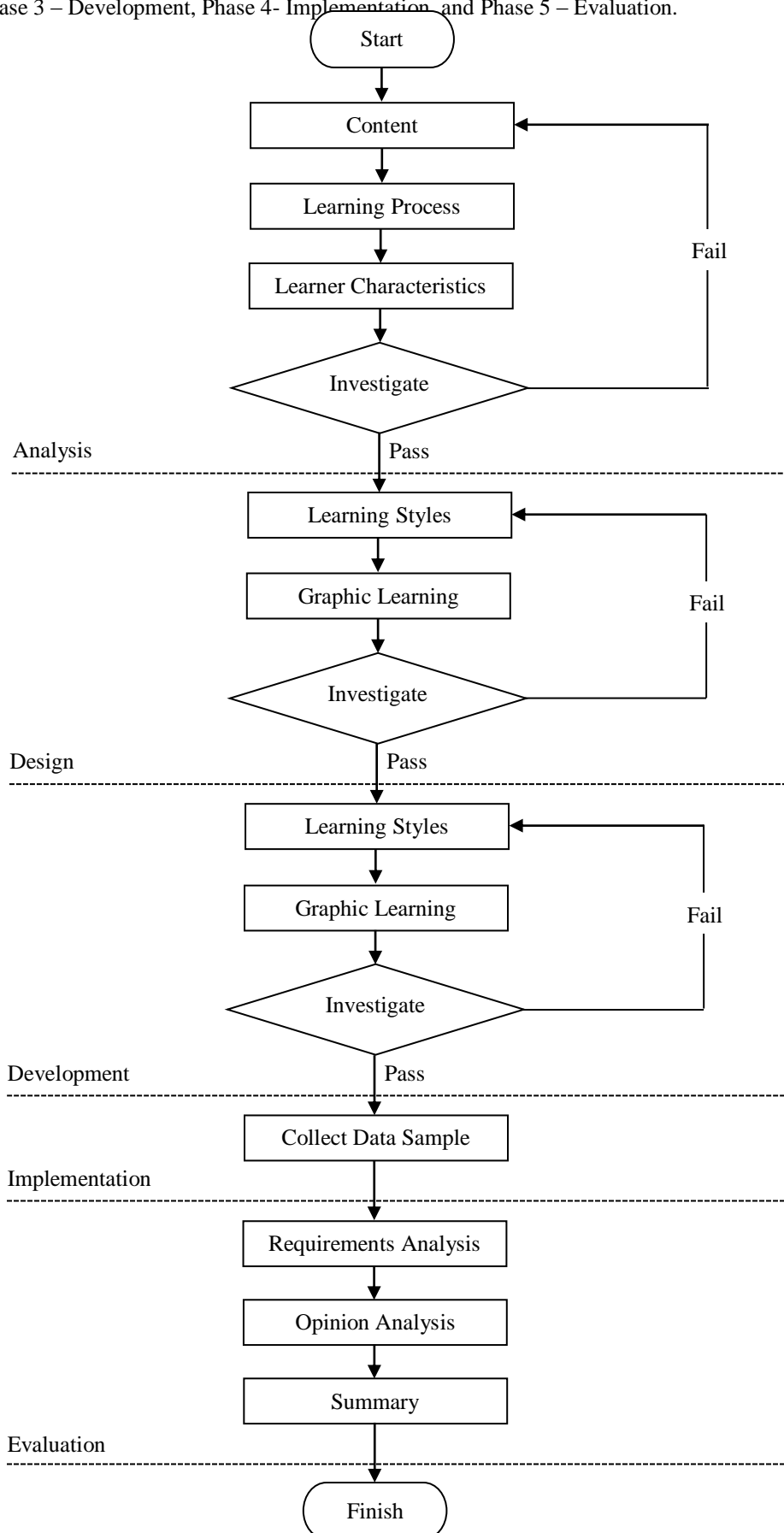
Experimental design: A Study Requirements the use of Smart Innovation System for Teaching and Learning to Develop Creativity of Undergraduates.

Phase 1 – Analysis : Analysis of learning content, learning process and target group. The learning content of this study document the research. It is about the students' projects. The study of the problem based learning. (Woods, D. R., 1994) And using project-based learning. (Suchat, W., 1999) And both forms of learning styles integrated in the learning process. Projects by undergraduate students will have different interests. The research took the form of blended learning (Prachyanun Nilsook and Panita Wanpirun, 2013) through Social Media, Web Application, Chat with various problems. Students need to be modified and implemented to measure the creativity happens. (Guildford, 1967)

Phase 2 – Design : The Design Pattern of the Smart Innovation System. Graphics and learning in an innovative genius. In the image to the targeted audience to understand the nature of learning. And graphics used in the system.

Phase 3 – Development : Developing Learning Styles and Graphic Learning of infographic on the Smart Innovation System in a modern, easy to understand, easy to use and suitable sample.

Phase 4 – Implementation : Implementing the form of Learning and Graphic Learning on the Smart Innovation Systems. The research was developed to collect data from the sample.

Phase 5 – Evaluation : Data collection requirements. And a review of a sample After taking the form of Learning and Graphic Learning of the Smart Innovation System. Data collected on requirements and opinions of the sample will be analyzed leading to the conclusion.

Analysis of data

1) The data gathered from the questionnaires on requirements of instructors in using the smart innovation system for teaching and learning to develop creativity of undergraduates was described as qualitative.

2) The average and standard deviation were applied for analyzing the data collected from the questionnaires on the requirements of students into the use of the smart innovation system.

3) Opinions of the samples on the draft design to the smart innovation system in teaching and learning in order to develop creativity of undergraduates from instructors' perspective was described as qualitative.

4) Opinions of students on the draft design to the smart innovation system were analyzed by the average and standard deviation.

Results
Chapter 1: The Design Pattern of the Smart Innovation System. Graphics and learning used in the system. as follows

1) The form of learning through the smart innovation system to develop creativity of undergraduates. Studying integration of technological media teaching models and communication channels are shown in the picture below.
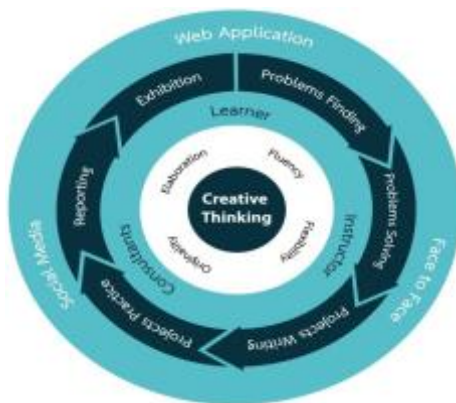
Blended Learning Smart Innovation System: SIS Model

Such picture Blended learning Smart Innovation System model for integrate creativity. Include 3 major elements. can explain this,

Element 1 Blended learning it learning Blended learning forms Online learning is Learning Network In online by passing learning Content and allow students to take part in the study, with the elements. The learners can control the time to learn on their own such as Place, Path or Pace is format Full-time online learning. main content of learners receive directly from the network that is Web Application, Social Media and Face to Face such as Chat etc. The students will not attend classes. It is just some times that have to classroom. To exhibit the results of operations. It is a Blended Learning a flexible to deploy the different problem. The instructors and advisor or experts. Are recommendations group on individual interests missions or assignments.

Elements 2 Learning forms is the elements in this learning integrated learning <u>of</u> Problem Based Learning and learning of Project Based Learning that is subcomponents such as

      1) Problems Finding : the process of Problem Based Learning on the principles of using the problem are beginning for linking. Knowledge blend with existing data then processing knowledge and learn how to solve problem by practicing a way of thinking and researching. The knowledge. The understanding yourself The modernization Make it happen and benefits.

      2) Problems Solving : It is a continuous process Finding problem as Education Related documents, To gather information , the advice or More detailed information Panel of experts , Those involved at all levels Including surveying supplies. The implementation of this process will lead to knowledge Understanding the details, the content more relevant. As well as make the scope of the task to carry out the project to put the results of the implementation process. It allows you to determine the scope of the problem or outline of the story is to study the ideas and topics. The learners must start with the question, "What education" "Why do have to study the matter." However, the topic of this project is problem. The question has to learn from the problem and the title of project to be specific, clear.

      3) Projects Writing : The outline of a writing project is creating a mind map by taking a picture of the work and the success of the project is to prepare a details analyze. To illustrate the concept plan and the process of the project. May use brainstorming. If a group is to colleagues and all involved have a workload. From start to finish Including about the role and duration of implementation.

      4) Projects Practice : The project's operational is after the project has been approved by the instructor Consultant and approved by the school then. Learners must take action and work plan set out in the framework of the project. Need to record information. Thoroughly that do results how the problems and the solution show.

      5) Reporting : The report conclusion the results of the project so Others know the concept How operations Result The conclusions and recommendations about the project.

      6) Exhibition : The last phase of the project. This Presentation of all projects proposed to others have been know . The output from the project type. It is a document, Report, work, Simulator etc. Can be in different ways such as Exhibition or printing media. Etc.

    Elements 3 Creative Thinking This composition is the result of learning of the learner through an Smart innovation System with the instructor and Consultants or experts is a guidance or suggest that the students created a new system. The detailed assessment of creativity. Thus

      1) Fluency : Ideas fluently with a novel idea. Unique, different from the ordinary thinking.

      2) Flexibility : The idea of flexibility or The same idea can be presented in different forms. Not fixed or being able to adapt the knowledge or experience in the various subjects. Be written to benefit other.

      3) Originality : The idea is unique on the same subject in different areas. Such as Choice of words, Link Relationship.

      4) Elaboration : The idea exhaustively Have an idea of the details of the story. Thinking process can be seen clearly. Author can make the idea even more attractive.

2) Draft graphic design of the smart innovations system in teaching. From model design of the smart innovation system in teaching, researchers have taken graphic designs the smart innovation system in teaching to develop creativity of undergraduates as following pictures.

2.1) The first page of the smart innovation system is a describing page consisting the details before using the system (the objectives and the process of learning).

2.2) Learning content: the first order of learning is about problems finding.

2.4) Learning content: the second of the class is to think about the problems solving.

2.3) Learning content: the third of a class is projects writing.

2.5) Learning content: the fourth implementation is the project practice.

2.6) Learning content: the fifth of a class is how report the work.

2.7) Learning content: the sixth of class is exhibitions.

Chapter 2: The requirements on the draft design of instructors and students in the smart innovation system. as follows

1) To study the requirements on smart innovation systems for teaching and learning to develop creativity of undergraduates in instructors. This can be summarized as follows.

The system requirements	Detailed system requirements
Preparation System	- Prepare the questions to the students. - Preparation of learning technology. - Provide ideas and inspire learning. - Prepare the basic knowledge of the project. - Prepare activities to promote learning, such as, contests, competitions and so on. - Prepare a form of assessment and evaluation.
Content System	- Were sequenced learning is clear. - The learning content and preparation of the project at every stage. - Describe each step with pictures. - Are taking note and check the implementation project are obvious.
Components System	- Systems Instructor - The learners - System administrator - The monitoring report. - System monitoring results. - The exchange of ideas between students and instructors. - Information Search System - The activity or exercise - Cognitive Testing system
Media integration system	- Social media such as Pinterest, Facebook, Youtube, Google for Education - Books
Internal communication system	- Chat - Conference - Web-board

1) Studies the requirement of Smart Innovation System in teaching and learning. The researchers asked the students in multimedia technology. Registration Course project of 26 people found that demand innovative genius of the student's overall average level, which can be classified by an order of three.

Sequence 1 : Student in the system named authority. And the channels of contact in the event of a problem with the content or use. At a high level.

Sequence 2 : Learners wish to have more knowledge. Content is presented in a slide. Content with a modern presentation. And a beautiful on-screen mobile phone. At a high level.

Sequence 3 : Learners need to support the development of innovative genius in teaching to enhance learning today. By providing intelligent, innovative system of teaching and learning in an online environment to enhance ease of use. Systems are easy to use. A list of indicators Teacher And advisors Including the preparation of a web link or web resources related to ease of use at a high level.

Chapter 3: The opinions on the draft design of instructors and students in the smart innovation system.

1) The opinions of the instructor samples on the draft design of Smart innovation systems in teaching and learning to develop creativity of undergraduates can be summarized as follows:

- It is presented as a step. Graphic design and the content.
- More of the graphic elements in balance.
- More linked stories. The graphic designers at each stage. The attractiveness of Innovative systems more intelligent

- More snakes game and ladders be applied to graphic design. To make teaching more appealing.

2) The study reviews the Smart Innovation System in teaching and learning. The students which Researcher asked by students in multimedia technology. Registration Course project of 26 people. Found students want Smart innovation System at a high level. which can separate into three categories.

Sequence 1 : The class is a requirement in the name authority and the channels of contact in the event of a problem with the content or use. At the most.

Sequence 2 : The wish to have more knowledge. Content is presented in a slide. Content with a modern presentation. And a beautiful on-screen mobile phone. At the most

Sequence 3 : The subsequently need to support the development Smart innovation System In teaching the enhance learning today.by Smart innovation System in teaching and learning online. For added easy to use. Systems are easy to use. A list of notification Teacher and advisors. Including the preparation of a web link or web resources related the easy to use. At a high level.

Conclusion

1) The design of the smart innovation system in teaching and learning to develop creativity consists of three components: the blended learning, problems blended learning and projects blended learning integrated, and creative thinking.

2) The requirements on smart innovation systems in teaching and learning to develop creativity of undergraduates appeared that demand of the students in overall giving average level at a high level of 4.37

3) The opinions of students on the draft design of smart innovation systems in teaching and learning to develop creativity of undergraduate showed average level at a high level of 4.43.

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A TASK DEVELOPMENT PROCESS: THE CASE OF FOURTH GRADE INTRODUCTION TO MATTER UNIT*

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ABSTRACT:

Learning is affected from individual characteristics, learning objectives, and appropriate construction of learning environments. Learning tasks that are designed in educational environments play influential roles on students' learning. The purpose of the current study was to develop fourth-grade science class tasks for Introduction to Matter Unit, using brain-based learning model and evaluate those tasks in the framework of brain-based learning principles. First, based on the learning objectives of the selected unit, several tasks were prepared. Then, those tasks were presented to the experts in the field of education to obtain information related to the utilities of each task in terms of learning objectives, developmental appropriateness, prior knowledge, time management efficiency, classroom organization, teacher-student roles, task difficulty, and material appropriateness. The procedural information provided by the experts was evaluated using Lawshe (1975) technique. The tasks were also implemented in a fourth-grade classroom. The results showed that the tasks are valid and compatible with the task design principles. The procedures used in this study are expected to contribute to the task development procedures in science lessons and other branches. It is also expected that the developed tasks will be in use of the researchers in the field of science education as well as the science and elementary school teachers.

Keywords: Task development, science lesson, Lawshe technique, brain-based learning, elementary school.

INTRODUCTION

The pace of technological and scientific developments in recent years have engendered a need of renewing the educational process. This need brought about many research being made on how to practice the learning. The focus of these research is generating the learning environment which will provide a permanent and high-level learning product over time (Yiğit & Akdeniz, 2003). Turning the learners from passive to interactive in learning environments increases the productivity of teaching. Hence, the reforms in the Turkish educational system are being founded on the individual-centered, constructivist approach. In 2005, the science education programme relying on constructivist approach requiring the active participation of students in the learning process has been implemented (MEB, 2005). This reconstruction brought about many studies concerning this programme (for example, Demircioğlu, Özmen & Demircioğlu, 2004; Gömleksiz & Bulut, 2007; Korkmaz & Konukaldı, 2015; Özmen & Yazıcı, 2015; Tekbıyık & Akdeniz, 2008; Uzal, Erdem, & Ersoy, 2015). The featured issues in these studies were the opinions of classroom and science teachers, the utility of the programme and the utility of the tasks in the programme.

Contrary to the studies related to the evaluation of the renewed programme, the concept of task, one of the most important elements of the teaching-learning situations, has started to be emphasized in recent years. Although it is highly important, there is not enough detailed study about the concept of task. In related studies, description of tasks in science lessons and the examples of tasks are not explained in detail. Studies mainly focus on the ways teachers perceive the tasks and must-be features are defined as well (Gömleksiz & Bulut, 2007; Korkmaz & Konukaldı, 2015; Özmen & Yazıcı, 2015; Uzal, Erdem & Ersoy, 2015).

In the official website of Turkish Language Institution, task is described as "a learning situation that children are willingly participated because it suits their purposes and requirements." Considering this definition, it can be said that task is an act which is suitable for individual's learning purpose alongside with individual's willingness. This individual-centered definiton is in line with the constructivist programme. In the literature in general, tasks are described as the planned, organized and controlled tasks aiming that students achieve the programme objectives (Fidan & Erden, 1993).

In international studies, educational tasks are defined as either task or activity. Ainley, Pratt and Hansen (2006) used "task" and "activity" as different meanings in their collective work. They claim that "task" displays the action prepared by teacher and "activity" displays the action which happens inside the class. In the science education programme in Turkey, activity is not

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[1] This study is a part of a doctoral thesis, prepared by the first author under the supervisions of the second and the third authors in the Institute of Educational Sciences at Marmara University and was presented as a paper at the International Conference on New Horizons in Education (INTE, Vienna, Austria, July 13-15, 2016).

defined. Furthermore, the concept of activity which is the subject of this study is stated as *"in science class, while selecting teaching-learning and assessment tasks, it should be noted that individuals reach the behaviors which were stated in objectives using their skills such as query, observation, interpreting data and scientific process"* (MEB, 2015).

In the literature, the most emphasized issues are the qualifications of a task and the points to be considered while designing an activity. Uğurel and Bukova-Güzel (2010) defined the concept of activity in their collective work based on the sample tasks applied in math classes. Moreover, they drew a theoretical framework for points to be considered while designing an activity. Yazıcı and Özmen (2015) inquired opinions of teachers regarding the utility of the experiments and tasks those are in science education programme. In their study, Korkmaz and Konukaldı (2015) emphasized the process of creating an activity in which they inquired the effect of the interdisciplinary thematic teaching approach for science and technology education on students' learning products. Waldrip, Prain and Carolan (2010) evaluated the effect of versatile presentations made by students during their learning process and stated that there is a strong correlation between science class tasks and students' conceptual development process.

In general, studies suggest that tasks have significant influences on learning. Given that, it is important to develop tasks suitable for adopted learning approach, model and objectives. However, it is difficult to determine always-valid principles for task development. In their collective work, Kerpiç and Bozkurt (2011, p. 305) summarized the principles to be considered in task-designing process as the followings: Purpose, duration, classroom organization, students' prior knowledge, multiple starting points, comprehensiveness, the suitability of used material, the role of teacher, the role of student, students' challenge and assessment and evaluation.

The purpose of the current study was to present the steps of task preparation process based on brain-based learning model. Hebb, one of the pioneers of the neurophysiological theory, emphasized that nature of learning can not be comprehended without knowing the circuits in the brain operation (Özden, 2010). Brain-based learning is the organization of learning by considering brain functioning rules in purpose of meaningful learning (Duman, 2007). Brain-based education for learners requires the design of rich and appropriate experiences relevant to life those to be implemented as harmonious to ensure that students understand the essence of the experience which results in learning (Caine & Caine, 2002).

In the present study, first, based on the objectives of Introduction to Matter Unit and brain-based learning model, tasks were developed and, then, based on task designing principles, task validity was evaluated.

METHOD

In this study, a road map detailing the process of task development for science class was presented. Because the tasks were prepared based on brain-based learning principles, they were defined as "Brain-Based Science Class Tasks." This investigation was called as a case study (Yıldırım & Şimşek, 2011).

In the study, first, task designing principles and the definition of these principles were identified and presented. Afterwards, tasks were prepared based on brain-based learning model and course objectives. Then, a validity study was conducted to determine whether prepared tasks were suitable for designing principles and learning model. Based on experts' opinions, Lawshe's technique (1975) was applied. Finally, a pilot study was conducted to determine its utility and the potential presence of the problematic situations. Pilot study was carried out in a primary school in Beykoz district, in Istanbul with the participation of 38 fourth grade students aged between 9 and 10 ($n_{girls} = 17$, $n_{boys} = 21$).

2.2 Task Development Process

In this section, the process of task development was presented step by step. In the task development process, four phases were followed as presented below:

Phase one: The objectives of the selected unit, Introcution to Matter, was examined considering cognitive behavior levels to make certain that the purpose of task was compatible with the objectives. For that purpose, an objective indicator chart in relation to expected cognitive behavior levels and task components was created (see Appendix).

Phase two: In order to examine the coherence between brain-based learning model and tasks, the task drafts were prepared using brain-based learning principles defined by Caine & Caine (2002).

Phase three: The relevance of the prepared tasks and the appropriateness of the content were consulted to the experts for validity check. This step was described in detail in section 2.3.

Phase four: A pilot study was conducted with the prepared tasks. The tasks were revised based on the difficulties encountered in practice. Although this step was outside the scope of the present study, it was included as a stage because it was a part of the task development process.

2.2.1 Task Designing Principles

The adapted principles of task designing process (Kerpiç & Bozkurt, 2011) were presented in Table 1 along with descriptions. Because the notion of task is wide and every branch has different necessities, developing all-time valid principles is difficult. The definitions and criteria for tasks can be extensive (Uğurel & Bukova-Güzel, 2011). In the current study, during the process of task development the following six principles were taken into account: The purpose, students' prior knowledge, duration, classroom organization, teacher-student roles and the degree of difficulty of tasks.

Table 1. Task Designing and Application Principles

Principles	Criteria
Purpose	Being intended for a new objective Being intended for supporting learned ceoncepts Being intended for students to overcome the difficulties and misconceptions Being intended for creating awareness for epistemological structure of the field
Duration	Making time management planning Determining how much time to spare for tasks
Classroom Organization	Determining how students will be organized during practice (individual, group, whole class etc.) Making clear how students will work and how teacher will end the task
Students' prior knowledge	Providing adequate content knowledge (prior knowledge about either subject or concept) (For instance, providing students information about how to work alone or with a group) Providing information about tools to be used during task (For example, if the students are asked to create a shape with the help of a programme, they should have the adequate knowledge about using that programme)
Multiple starting points	Giving students multiple starting points while starting to a task
Coprehensiveness	Making task that are available for all levels of students (Tasks should be organized for not only students who give correct answers but also all students)
Relevance of materials	Considering the supportive and facilitative dimensions of materials to be used during the task (Even though materials are often perceived as concrete, a problem, a formula or worksheets can also be evaluated as materials.) Paying attention to the reasons for using specific materials and how to use them, whether they have an alternative, are accessibile, why and how they will be used and their limitations.
Role of teacher	Determining the role of teacher to apply the task as planned (This roles should be considered as clarity of instructions, use of tools, organization of students, student difficulties, interventions, assessment and evaluation)
Students' challenge	Taking necessary measures to estimate that students may experience difficulties in the process (What is expected are that instructions to be understandable and instructions to be given considering materials, resources, duration and student's studying habits (individual-group-classrom) or lack of students' prior knowledge)
Assessment and Evaluation	Including assessment and evaluation in purpose of determining whether the tasks have accomplished their goal (According to students' studying habits (such as group work), process should be evaluated and practices after task should be discussed in the design)
Flexibility	Taking measures in case an unexpected situation happens during task (Circumstances such as whether the task will continue or not, adequacy of the determined time, organization of the class and use of the tools must be open to change)

Source: Kerpiç and Bozkurt, 2011, pp. 306-307.

2.2.2 Task Samples

2.2.2.1 Task Name: Look at my card: True or False?
Task Implementation Steps:
In this task, students are given three cards in different colors.
The cards hold three meanings: I agree, I disagree or I am uncertain (eg, orange card presents agreement, yellow card presents disagreement and blue card presents uncertainty)
The teacher reads the following sentences about the topic:
• Iron is attracted by the magnet.
• Sponge doesn't absorb water.
• The magnet pulls the metal material.
• Wood doesn't absorb water.
• Cloth absorbs water.
• Some objects float in the water, some objects sink in water.
Listening to these sentences, students put the cards in correct order (if they sit, they put them on the desk) and they explain to teacher why they chose that card. Scheduling and description of this activity are given in Table 2.

Table 2. Introduction to Matter Unit "Look at my card: True or False?" Task

Plan	Description
Purpose	Using the five senses, explains the basic features that characterize the substance
	A formative assesment task for objective
Task difficulty level	Beginner (every student can attend)
Duration	30'
Classroom organization	Nested-U Layout
Teacher-student role	Teacher-supporting and guiding; active student participation

2.2.2.2 Task Name: Let's Help Mete
Task Implementation Steps:
In this task, separating mixtures is presented with an interactive presentation (20'). Planning and description relating to the task is presented in Table 3.

Table 3. Introduction to Matter Unit "Let's help Mete" Task

Plan	Description
Purpose	Determines and tests the methods that s/he uses to separate mixtures in daily life
Task difficulty level	Intermediate
Duration	40'+ 40'
Classroom organization	Appropriate for group work, as clusters
Teacher-student role	Teacher as supporting and guiding, active student participation

In order to turn the task to an activity, the following problem is presented.

Case study: *Mete put iron powder, pepper, stone and sand in his school bag as all of which were in one plastic bag as a mixture intended for the next day's science class experiment. The next day,in the classroom, the teacher said ''Kids, put your experiment materials on your desks.'' Then, all students started to place the materials on their desks.*
Mete's deskmate, Zeynep, placed her materials on the desk in separate containers. Finally, she put the magnet next to them.
Having looked around, Mete got worried seeing that all his friends put the materials separately. Mete wondered if he had it all wrong. Their teacher asked them to just leave the iron powder alone. Mete started to worry more since he put his all materials together in just one bag. How could he separate them?

Case studies are presented and taught to classes as power point presentation. Plastic bags presented in the story are distributed to students' desks including the materials. Having received the tools which can be used for separation, students are expected to fulfill the duty as they put themselves in Mete's place. They are asked to save every separation operation to structured experiment record sheet.

The teacher walks around the groups and tries to guide students. The class separates the materials using the tools as many as they can. If a group fulfills the assignment correctly, the teacher asks that group repeat the experiment in front of the class. If the operation cannot be completed in time, the teacher evaluates all groups one by one and provides the separation operation to be completed by guiding them.

2.2.3 Expert Opinions: Validity Study for Tasks

In this section, with the purpose of validity, the descriptive features of experts, the collection and evaluation procedures of expert opinions were explained. Task evaluation criteria and Lawshe technique (1975) were presented. Evaluations on the prepared tasks were collected based on the discussions made with the experts whom qualifications were stated in Table 4.

Table 4. Demographic Features of the Experts in the Study

Codes	Gender	Age	Professional title	Field of Education
1	F	32	Teacher	Primary Science Teaching
2	F	38	Teacher	Primary School Teaching
3	M	39	Teacher	Primary School Teaching
4	M	32	Ph.D.	Programme Development
5	M	32	Ph.D.	Programme Development
6	F	32	Ph.D.	Science Education
7	F	32	Ph.D.	Primary School Teaching
8	F	32	Ph.D.	Primary School Teaching

Note: M: Male, F: Female

The tasks were evaluted according to the criteria presented in Table 5. In order to demonstrate the quantitative results of this assessment, Lawshe (1975) technique was used and the content validity ratio was obtained for each item. Lawshe technique, converts qualitative data obtained from experts' opinions into quantitative data for content validity. In this technique, each test item is evaluated by experts using three measures, which are "the test item is sufficient to measure the targeted behavior", "the test item should be revised to measure the targeted behavior," and "the test item is insufficient to measure the targeted behavior."

Table 5. Task Assessment Criteria

Principle	Questions for Evaluation
Purpose	Is the task appropriate for the objective's purpose? Is the task appropriate for the objective's cognitive level? Is the task appropriate for brain-based learning principles?
Student prior knowledge	Does the task require student's prior knowledge?
Duration	Does the time adjusted for the task adequate?
Classroom Organization	Is it explained how to organize the class for task?
Teacher-student roles	Is it stated which roles teacher and students will have in the task?
Degree of task difficulty	Is the task appropriate for students' level?

Lawshe (1975) technique is performed in six stages. These are (1) The expert group is created, (2) the scale form is created, (3) expert opinions are taken, (4) the content validity ratio on items is calculated, (5) the content validity index is determined, and (6) based on content validity ratio criteria, items in the scale are determined (Yurduğül, 2005). Using experts' opinions and the formula below, the content validity ratio was calculated.

$$CVR = \frac{N_S}{N/2} - 1$$

N_S = Number of experts indicating that "item is necessary/suitable"

N = Total number of experts assessing the item

When the formula is applied, if all the experts indicate that the item is suitable, CVR equals to 1, if half of the experts indicate that the item is suitable CVR equals to 0, and if more than half experts indicate that the item is suitable CVR is higher than 0, and less than half indicate it is suitable, then CVR is lower than 0. CVR values used to evaluate the data was presented in Table 6.

Table 6. CVR Minium Ratios

Number of Experts	Minimum Value	Number of Experts	Minimum Value
5	0.99	13	0.54
6	0.99	14	0.51
7	0.99	15	0.49
8	0.78	20	0.42
9	0.75	25	0.37
10	0.62	30	0.33
11	0.59	35	0.31
12	0.56	40	0.29

Note: $p < 0.05$ (Venaziano & Hooper, 1997, as cited in Yurdugül, 2005, p. 2).

In the present study, because the expert group was consisted of eight individuals, the findings obtained by the formula were evaluated with the criterion of .78 at .05 significance level.

RESULTS

Based on the experts' opinions, the tasks were evaluated and the content validity ratio (CVR) for each task was calculated. The results were presented in Table 7.

Table 7. CVR Ratios of Tasks Based on Task Evaluation Criteria

Task number	Criteria					
	Purpose	Student's prior knowledge	Duration	Classroom Organization	Teacher-student roles	Degree of difficulty
1	1.00	1.00	0.75	1.00	1.00	1.00
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	0.50	1.00	0.50	1.00	1.00	1.00
6	1.00	1.00	1.00	1.00	1.00	1.00
7	1.00	1.00	1.00	1.00	1.00	1.00
8	1.00	1.00	1.00	1.00	1.00	1.00
9	1.00	1.00	1.00	1.00	1.00	1.00
10	1.00	1.00	1.00	1.00	1.00	1.00
11	1.00	1.00	1.00	1.00	1.00	1.00
12	1.00	1.00	0.75	1.00	1.00	1.00
13	1.00	1.00	1.00	1.00	1.00	1.00
Total	0.96	1.00	0.92	1.00	1.00	1.00

The majority of the tasks submitted to the experts were found to be valid based on CVR ratios. For the fifth task, two experts reported negative comments in relation to purpose (e.g., appropriateness of content for brain-based learning model) and duration (e.g., appropriateness of the time set for this activity). Therefore, this task was omitted and its alternative fourth task was placed in the study. As seen in Table 7, the tasks, in general, were found appropriate by the experts. There were a few more negative opinions on the duration criteria. By looking at the content validity index, however, it can be said that in terms of given criteria, the prepared tasks are valid and applicable.

DISCUSSION

In this study, task development prodecures for a science class unit, using brain-based learning model, was explained in detail. This research has questioned whether the tasks are appropriate for purpose and level of objective and used several presented stages for evaluation. Harris and Hofer (2009) states that plan of a learning situation starts with determining the purpose of the learning. Making educational choices for this learning experience, choosing the appropriate type of task, identification of formative and summative assessment strategies, tools and resources that can be recommended for students are the following steps.

Emphasizing the duration in the task is also important. Taş (2010) states that lack of set time for the task and the fact that students are given much more time than they need lead to perception that students assume the task is unnecessary. The use of time criterion

in tasks has an important role in the studies. Moreover, tasks which is thought not to be appropriate for this criterion are excluded from the extent of the study. If the time is not determined for the task, the tasks may not reach their goals (Özmantar & Bingölbali, 2009).

Henningsen and Stein (1997) emphasize that tasks, which transfer students' higher level thinking skills into action, are based on students' prior knowledge and they have a proper plan with the form of adequate time. Prepared tasks require proper class environment and teacher skills in order to let the students present their higher level cognitive skills during task (Stylianides & Stylianides, 2008). To determine the organization of class and the teacher-student roles are other required measures for tasks to be carried out in a healthy way (Swan, 2007). All these criteria were taken into account for the task development process in this study.

Considering the fact that learning environments, teachers and learners are not stable, it is hard to put always-valid principles. However, in order to present proper tasks, tasks must be prepared considering task design principles. Through this way, productivity taken from the tasks will increase and the problems which may arise during the practice of task will decrease to the minium (Kerpiç & Bozkurt, 2011). In the current study, by explaining each step in task development, it is expected that the necessary attention has been drawn to the issues in task design. Using similar stages, teachers and researchers can develop new tasks in their disciplines.

Tasks play important roles in the learning practice. The stages presented in this study are thought to increase the quality of tasks prepared. During the task development process, taking as many experts' opinions as possible makes the results more reliable and valid. Also, because student group dynamics can change the way of learning and tasks, pilot studies are important to determine the organization of tasks. There might be some cases that may not require pilot study. For example, if the purpose is to conduct an action research, then pilot study can become unnecessary because it is the research itself. However, if the tasks are tools in an investigation, then pilot study becomes necessary. In the current study, a pilot study was conducted because the tasks were considered as tools. The findings of the pilot study were not reported in this paper.

This study showed that the Brain-Based Science Class Tasks, the subject of this study, are valid and applicable in science classes in fourth grade. It is expected that science teachers and researchers in the field of science will benefit from the developed tasks in their class and in future research.

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Appendix. Chart for "Introduction to Matter Unit" Objectives with the Levels of Cognitive Behaviors and Tasks

OBJECTIVES	COGNITIVE BEHAVIOR LEVELS AND THE TASKS						
	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Task Name and Level
4.3.1.1 Explains the fundamental features of matter by using five senses.		*					Task 1- I am solving a problem *Evaluation Level* Task 2- Look at my card: True or False? *Comprehension Level*
4.3.2.1 Knows the phases of matter and gives examples for different phases of the same substance.		*					Task 3- Try to know who I am? *Comprehension Level*
4.3.2.2 Compares the main features of the phases of matter.		*					Task 4- Together, hand by hand Our products are fabulous *Comprehension Level* *Synthesis Level*
4.3.3.1 Measures the mass and volume of different materials and compares them.			*				Task 5- I am measuring mass and volume *Application Level* Task 6- I am learning the units *Comprehension Level*
4.3.3.2 Identifies the matter using measurable properties.		*					Task 7- I am learning by relating *Comprehension Level*
4.3.4.1 Designs and makes experiment about cooling and heating of matter.			*		*		Task 8- I am vaporizing the water Task 9- I am observing freezing
4.3.4.2 Makes experiement and interprets the findings about the phase changes in matter due to the effect of heat.			*			*	*Application Level- Evaluation Level*
4.3.5. Defines and explains the difference between matter and object.	*	*					Task 10- Find, Select, Stick *Knowledge- Comprehension Level*
4.3.6.1 Classifies the matters that s/he uses often in daily life as pure matter or mixture and explains the differences between them.		*		*			Task 11- Pure or Mixture? *Comprehension Level*
4.3.7.1 Determines and tests the methods to separate the mixtures that s/he encounters in daily life.			*				Task 12- Let's Help Mete *Application-Analysis Level*
4.3.8.1 Discusses separating the mixtures with relation to their contribution to a country's economy and the effective use of resources.						*	Task 13- I am separating the mixtures and contributing to my country *Evaluation Level*

A TECHNOLOGY-BASED SPEAKING PRACTICE TO ELT ALGERIAN STUDENTS: PEDAGOGICAL IMPLICATIONS

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ABSTRACT:
This research work is a survey conducted with a group of Algerian non-native English speaking students in the Department of English – L3 level. This survey relies on two main research tools: A face-to-face interview and a classroom observation. The purpose of the research is to highlight the main speaking challenges closely related to use vs non-use of technology. It also addresses L3 students´ difficulties in conversational English although they are in a final stage of their postgraduate programme. The experiment's results point out to few weaknesses and suggest effective means through different technics of expanding students' learning environment. They also capture non-academic challenges as well as few academic difficulties: the impact of mother tongue; the eternal debate between user vs non-user of technology; students' preferred learning styles.

Key Words: Speaking issues - L3 students – Technology - Mother tongue

INTRODUCTION

Communication and technology have been part of our life, especially in the area of education. In all educational systems, the use of communication and technology has an important place; therefore, computers play a significant role in the learning process. Teaching English to a foreign-language learner can benefit from using a computer. Indeed, a computer is a tool and medium that facilitates people in learning a language, although the effectiveness of learning depends totally on the users (Hartoyo 2006, 11).
Although the potential of the Internet for educational purposes has not been fully explored yet and the average schools in Algeria still make limited use of computers for many reasons (i.e. slow web access, problem of power, lack of language lab, lack of computer maintenance), it is obvious that we have entered a new information age in which the links between ICT and EFL have already been established.

Due to globalization, English has become a prominent language used by millions of people in many domains. North African countries pay attention to English language speaking and listening. Algeria is among them, English language students, no matter how much they know about the language, they still face many difficulties that hinder their speaking and listening improvements (or capacities). In the department of English at Tlemcen University, L3 students face serious learning difficulties and lack of confidence in speaking and taking an active role in the classrooms. As Nunan (1991) wrote 'success is measured in terms of the ability to carry out a conversation in the (target) language'. Therefore, if students do not learn how to verbally express themselves and do not get involved in speaking and listening classrooms, they may lose confidence and interest in acquiring the (target) language. In spite their learning English background, L3 English students declared that expressing themselves in English is a difficult task. The majority of students understand the language and have a good grasp of its grammar and lexicon, but when they need to speak, they lose confidence and seem at loss for words. Given these backdrops, this research work is a survey conducted with a group of Algerian non-native English speaking students in the Department of English – L3 level.

PROBLEMATIC

The main problematic that hinders students´ progress in English revolves around two main skills: speaking and listening.
In the department of English at Tlemcen University, L3 students face serious learning issues: if students do not learn how to speak and do not get involved in speaking and listening classrooms,
- They lose confidence and interest in acquiring the (target) language
- Expressing themselves in English is a difficult task.
- They lose confidence and seem to be at loss for words
- They face difficulties in listening activities

METHODOLOGY

This research work is a survey conducted in the department of English at Tlemcen University with two groups of 100; L3 students. The data was collected through two main research tools: A face to face interview with students and a classroom observation the whole year.

DATA ANALYSIS

A/ The experiment's results: classroom observation

1) I noticed that these two skills are very important and they go hand in hand with foreign language learning (i.e.: closely related)

2) It tends to be more complicated than the acquisition of the writing and reading skills due to two main reasons:

- The influence of their mother tongue (i.e. Arabic) and the French language on English Lack of daily practice (students do not live in an English speaking country).
- vocabulary acquisition (the colonization period)

3) The user vs non user of technology (technological troubles and lack of internet access)

4) Lack of motivation in learning English

5) Lack of confidence (afraid of making mistakes and expressing themselves in English in front of the audience)

6) Lack of adequate vocabulary (idiomatic expression and collocation)

7) Inappropriate teaching and learning methodology (lack of teaching materials and focusing mainly on speaking)

8) Inadequate activities both in speaking and listening since they are not adapted to their level

9) Bad Pronunciation, accent and intonation

B/THE EXPERIMENT'S RESULTS: INTERVIEW

Algerian students (here the case of L3 year students at Tlemcen university) face a lot of issues in coping with English –both academic and conversational English and specifically in speaking and writing. They stated that their difficulties in English are due to different reasons:

- The influence of the mother tongue
- The impact of the French language (due to a long colonization period averaging 130 years)

Some of them face the problem of students have difficulties understanding the different accents of interlocutor, the vocabulary used by the lecturer or simply a conversation in English. Therefore, the situation, the speaker and the listener can also be a problem. Different accents- cannot differentiate between different voices in the videos- hearing problems. (Listening troubles can influence the peaking abilities).

- A lack of visual clues (via Facebook interface or phone)
- A very limited vocabulary
- A lack of cultural background
- A lack of confidence and fear of making mistakes in an audience.
- A psychological block (they have a good English background but they cannot express themselves
- A lack of practice outside the classroom
- The lack of time (time allocated in the speaking and listening classrooms is not enough to induce the necessary improvements)
- Students have different style of learning, and an incompatible style for students will cause serious conflicts to them.
- Computer can be an exciting "fast" drill for one student and "slow" for another.
- Face to face conversation (positive/negative – the user of technology vs non user)
- They don´t know how to manipulate a computer (i.e. lack of proficiency).

SOME SUGGESTIONS AND EFFECTIVE TECHNIQUES

After 10 years of teaching speaking and listening skills, I myself proposed some rules to follow inside the classroom, adapt to the Algerian context; different techniques proposed by different scholars around the world. Technology as well, paves the way to a new teaching methodology based on the traditional and updated techniques to satisfy both user and non-user of technology in the classroom. A mix of the two methodologies can be very challenging and could enhance students´ motivation and interests.

A/Rules and Techniques:

- **Group work: playing games** (a quiz: selecting questions about general cultural background or questions about different subjects in the official programme as a revision for exams) by dividing the classroom into two main groups and rewarding the winning group.
- **Cultural awareness: selecting current events with the students** (either from the Algerian or international context) and divide the group in two: those for and those against learning how to engage in a debate
- **Create a confident environment inside the classroom**: at the start of each session, make the students feel at ease by recognizing the challenges they face inside and outside the classroom.
- **Never interrupt while speaking**

- **Immediate feedback:** Students receive maximum benefit from immediate feedback. A delayed positive feedback reduces the encouragement and reinforcement.
- **Teaching time:** Another way to encourage verbal sharing is to base a percentage of their final grade on speaking abilities and to make the students aware that they are being assessed continually on their speaking practice in the class; throughout the term.

B/Speaking Activities:

CALL programmers: can provide student ways to learn English through computer games, animated graphics, and problem-solving techniques which can make drills more interesting (Ravichandran 2000).

- **Funny Games**
- **Using riddles** through pictures or animated images displayed on the screen.
- **Guessing games:** ask students to select new words from a dictionary or a song or a movie and use different tips to guess the word (they will grasp the meaning, the spelling and learn new words through speaking)
- **Debate:** if you ask students to prepare a subject and to talk about it; this helps them select the appropriate vocabulary. Moreover, when we predict the topic of a talk or a conversation, all the related vocabulary stored in our brains is 'activated' to help us better understand what we're listening to. **(Raphael Ahmed,2015)**
- **Commented images:** You select different images from the web, and you ask them to comment about them. Students may explore their spontaneity and creativity and each one may express their own interpretation. (it was a very enjoyable and interesting experience with students)
- **Role play:** select a situation that students may experience in a real life and pair up a shy student with a dynamic peer. (pair work)
- **Oral presentation:** as future teachers (L3 level), instead of asking them to present about random subjects, ask them to select a subject of interest from the L3 programme and to present it to their classmates.

C/ Listening Activities: **(adapted from the IELTS listening test):**

- They listen to a long conversation (native or non-native speaker to get accustomed with different accents/pronunciations/cultures) and I ask them different details orally about the recording. At the beginning they give me brief answers and as long as we go through different details, they start engaging in the conversation with me without paying attention (this technique works mainly with shy students)

CONCLUSION

Speaking and listening is vital not only in language learning but also in daily communication. However, the students seem to experience challenges with both skills. Here are the most common from challenges expressed by the learners: the time they spend on homework is too little to improve the skill, the inappropriate strategies of learner are a hindrance for their listening comprehension. The problems are also caused from the listening material and students´ attendance. To acquire an acceptable listening skill; students should be more exposed to a variety of listening opportunities. Simultaneously, they should learn the tips or strategies to overstep their learning difficulties. The teacher plays an important role with sharing strategies and teaching how to apply these strategies into the listening task.

To conclude, speaking and listening skills are not only vital in language learning but also in everyday communication. However, challenges mentioned earlier are not new. All teachers with large classes (more than 55 students per group)face at least few of them while teaching speaking to non-native speakers. The case of the Algerian students is not isolated but it's necessary to overcome these difficulties and to find out the necessary strategies to improve the skills.

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ABD (KALİFORNİYA) VE FİNLANDİYA ANADİLİ ÖĞRETİM PROGRAMLARI'NDA BİLGİSAYAR DESTEKLİ EĞİTİM

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ÖZET

Bu araştırmacının amacı ABD (Kaliforniya Eyaleti) ve Finlandiya ana dili öğretim programlarında yer alan bilgisayar destekli eğitim-öğretim uygulamalarını incelemektir. Bu doğrultuda ilgili ülkelerin öğretim programlarında bilgisayar destekli eğitime yönelik ne gibi amaçların ve kazanımların yer aldığı tespit edilmeye çalışılmıştır.

GİRİŞ

Bilgisayar destekli öğretim, okul ortamını bilgisayara taşıyan bir yaklaşımdır. Bu yaklaşımda bilgisayar öğrenmenin gerçekleştiği ortam; bilgisayara yüklenmiş yazılım, öğrenciyi yönlendiren ve öğrenilecek kavram ve ya da konunun işleyişini belirleyen güç; öğretmen ise bilgisayar, yazılım öğrenci üçlüsü arasındaki eşgüdümlü çalışmayı sağlayan, ortaya çıkan problemleri çözen rehber olarak düşünülmektedir (Özbay, 2015: 74). Kısa adıyla BDE (Bilgisayar Destekli Eğitim), çoklu ortam yazılımının tek veya çok öğrencili ortamlarda eğitim amacıyla kullanılmasını öngören öğretim yöntemidir (Engin, Tösten ve Kaya, 2010). Bu öğretim anlayışında bilgisayar da dâhil değişik öğrenme ortamlarının potansiyellerinden uygun şekilde yararlanmak temel hedeftir. (Şimşek, N). Bu öğretim anlayışına göre sınıf seviyesine uygun olarak farklı disiplinlerde bilgisayar destekli eğitimden yararlanılabilmektedir. Bu alanlardan bir tanesi de ana dili dersleridir. Ana dili derslerinde okuma, yazma, konuşma, dinleme/izleme ve dil bilgisi öğrenme alanlarında bilgisayar destekli eğitimden yararlanılmaktadır. Alanyazın incelendiğinde Balcı (2013) tarafından yapılan araştırmada 5.sınıfta okuyan öğrencilerin Türkçe dersinde tablet PC kullanımını ele alınmıştır. Bununla birlikte Türkçe öğretmen adaylarının bilgisayar destekli eğitime ilişkin yeterlik ve algılarının belirlendiği çalışmalar da mevcuttur. (Yaman, 2007; Karadüz ve Bayrak; 2010).

Bu araştırmacının amacı ABD (Kaliforniya Eyaleti) ve Finlandiya ana dili öğretim programlarında yer alan bilgisayar destekli öğretim uygulamalarını incelemektir. Bu doğrultuda ilgili ülkelerin öğretim programlarında bilgisayar destekli eğitime yönelik ne gibi amaçların ve kazanımların yer aldığı tespit edilmeye çalışılmıştır.

YÖNTEM

Ana dili dersi öğretim programlarından elde edilen verilerin işlenmesinde doküman incelemesi kullanılmış, veriler içerik analizi ile değerlendirilmiştir. Doküman inceleme, belgesel tarama olarak belirtilen, geçmişteki olguların izlerini taşıyan resim, film vb. yapıtları, olgularla ilgili olarak yayınlanmış kitap, dergi vb. birtakım yazılı materyalleri analiz etmek için kullanılan nitel araştırma yöntemidir (Karasar, 2008: 183). İçerik analizi, sözel veya yazılı verilerin belirli bir problem veya amaç bakımından sınıflandırılması, özetlenmesi, belirli değişkenler veya kavramlarının ölçülmesi ve belirli bir anlam çıkarılması için taranarak kategorilere ayrılmasıdır (Büyüköztürk ve diğerleri, 2010).

İçerik analizinde kod ve kategoriler kullanılmıştır. Bu kategoriler veya temalar, yapılacak doküman analizinin de temel kategorileri olacaktır (Yıldırım ve Şimşek, 2013: 228). Ana dili öğretim programları önceden belirlenen kod ve kategoriler çerçevesinde araştırmacı tarafından incelenmiştir.

BULGULAR

Finlandiya Ana Dili Öğretim Programı'nda Bilgisayar Destekli Eğitim

Finlandiya Ana dili Öğretim Programı, birinci sınıftan son sınıfa kadar aşamalı bir şekilde, bir bütün olarak düzenlenmiştir. Programda her sınıf düzeyine uygun olarak hedefler, içerik ve süreç sonunda ulaşılması hedeflenen performans tanımı yer almaktadır. Bu öğeler birbirleriyle ilişki içerisinde ve temel dil becerilerine göre basitten karmaşığa, kolaydan zora doğru ilerlemektedir.

Finlandiya Ana dili Öğretim Programı'nda temel dil becerileri, başlangıç düzeyi olan birinci sınıftan itibaren yeni becerilerle genişleyerek ilerlemektedir. İletişim becerileri üç düzeyde de yer alırken diğer beceriler düzeylere göre değişiklik göstermektedir. Bu beceriler şöyle sıralanmaktadır: 1-2. Sınıf: İletişim becerileri, okuma ve yazma, edebiyat ve dil. 3-5. Sınıf: İletişim becerileri, metni anlama, kompozisyonlar ve sözlü sunum, bilgi yönetimi becerileri, dilin hedefleri ve yapısı, edebiyat ve diğer kültürler. 6-9. Sınıf: İletişim becerileri, metni anlama, kompozisyonlar ve sözlü sunumu, bilgi yönetimi becerileri, dil, edebiyat ve diğer kültürler. (Demirtaş, 2013)

Finlandiya Ana dili Öğretim Programı'nda temel hedef, öğrencileri çeşitli medya metinleri de dâhil olmak üzere edebi okumaya ve değerlendirmeye/eleştirmeye teşvik etmektir. Aynı zamanda dil becerileri bilgisayar destekli öğretim ile de bütünleştirilmiş bir yapıda sunulmaktadır.

Finlandiya Ana Dili Öğretim Programı'nda yer alan bilgisayar destekli öğretime yönelik kazanımlar, öğrencilerin içinde bulunduğumuz dijital çağa ayak uydurabilmelerini sağlayan eğitim-öğretim teknolojilerinden yararlanmaktadır. Ekran okuma ve yazma, medya okuryazarlığı, sanal kütüphaneler, internet arama motorları aracılığıyla araştırma yapma, iletişim becerilerini geliştirme ana dili öğretim programında yer alan uygulamalar arasındadır. Bu uygulamaların gerçekleşmesini sağlayan kazanımlara ait örnekler aşağıda yer almaktadır (Demirtaş, 2013: 254-268)
 "Öğrenciler, *okuma ve yazma becerilerini medya okuryazarlığı da dâhil olmak üzere geliştirecekler bunun yanında bilgi teknolojisi öğrenme ortamlarında iletişim yeteneklerini geliştirecekler.*"
"*Grup tartışması yoluyla basılı ve elektronik metinleri analiz edecekler.*"
"*Okuma becerilerine uygun olan çocuk kitaplarını okuyacaklar. Medya okuryazarlığı düzeyleri kendi yaş grubuna yönelik programları takip etmeye yeterli olacaktır.*"
"*Sözcükler, görseller, seslerin etkileşim içinde olduğu metinlerle çalışmayı öğrenecekler.*"
"*Sözlükleri kullanarak, izleyici ile iletişim kurarak, anlaşılır ve açık bir ifadeyle bir sunumu aşamalandırma ve görsellerle sunma.*"
Kütüphane kullanımı ve ihtiyaç duyduğunda basılı ve elektronik kaynaklardan bilgi edinme yeterliliğine sahip olurlar."
"*Ayrıca farklı işlerinde bilgi teknolojisi ve medyayı kullanabilirler.*"
Programda yazma becerisine yönelik olarak, el yazısı yanında bilgisayarda metin üretimine ait kazanımlara da yer verildiği görülmektedir.
"*El yazısı yazarken harfleri birbirine bağlayacaklar ve bilgisayarda orijinal metinler oluşturabilecekler.*"
 "*El yazısı ile akıcı bir şekilde yazmayı öğrenecekler. Bir bilgisayar programı ile çeşitli metinler oluşturmada deneyim kazanacaklar. Farklı iletişim araçlarını kullanmayı öğrenecekler.*"
 "*Bilgisayarda yazı yazma programları ile metin üretebilirler.*"
"*Kendi metinlerini hem el yazısı ile hem de bilgisayarda yazma programı ile oluşturabilirler.*

AMERİKA BİRLEŞİK DEVLETLERİ- KALİFORNİYA EYALETİ
Kaliforniya Ana dili Öğretim Programı'nda, dört temel öğrenme alanı yer almaktadır. Bunlar; okuma, yazma, yazılı ve sözlü İngilizce kuralları, dinleme ve konuşmadır. Bunların dışında "araştırma ve teknoloji" başlığı altında bir beceri bulunmaktadır. Araştırmayı teknolojiyle destekleyen kazanım ve uygulamalarla, öğrencilerin araştırma ve teknolojik becerilerinin gelişmesi hedeflenmektedir. Öğrencilerin, internet tabanlı kaynakları kullanarak araştırmalarını plânlama ve yönetmeleri amaçlanmaktadır. Programa göre öğrenciler çeşitli teknoloji ve bilgi kaynaklarını (kütüphaneler, veri tabanları, bilgisayar ağları, video vs.) bilgiyi toplamak, sentez etmek ve iletişim bilgisi oluşturmak için kullanır. (Yaman, 2013)
Öğrenciler;
1. İlgili bilgiyi tespit etmek için basılı veya elektronik metinleri düzenlemeye yönelik özelliklerini kullanırlar.
2. Elektronik medyayı kullanarak ve düzenlemeye yönelik özellikleri (örneğin; şifreler, giriş ve çekme menü [pull down menü], kelime aramaları, yazım denetimi) uygulayarak basit belgeler üretebilirler.
Bu uygulamaların gerçekleşmesini sağlayan kazanımlara ait örnekler aşağıda yer almaktadır. (Yaman, 2013: 30-72)

Araştırma ve Teknoloji bölümünde öğrencilerin öğrendikleri beceriler, doğrudan bazı alanlardaki kariyer hazırlıkları ile ilgilidir. Öğrenciler ilgili bilgiyi tespit etmek için elektronik metnin (örneğin; internet aramaları, veri tabanları, anahtar kelime aramaları, e-mail adresleri) özelliklerini kullanmayı öğrenmelidirler. Sözcük işleme becerilerini kullanarak, uygun biçimlendirmeyle (örneğin; kenar boşlukları, sekmeler, aralıklar, kolonlar, sayfa yönü) belge oluşturmayı öğrenmelidirler.

Öğrencilere bilgiyi saptamak ve belgeleri oluşturmak için elektronik metnin özelliklerini öğretmek, en az iki sebepten dolayı zor bir görevdir: İlk olarak, elektronik metnin yazılım özellikleri ve gereklilikleri- bir kütüphane

veri tabanından internetteki web sitelerine ya da sözcük işleme belgesine kadar büyük oranda çeşitlilik gösterebilir. İkinci olarak, elektronik metnin birçok özelliği, teknik olarak bir elektronik metnin parçası olmayan fonksiyonları (örneğin; bir bulma komutu kullanan anahtar kelime aramaları) veya diğer özellikleri (örneğin; e-mail adreslerini) içerebilir. Şayet öğrenciler elektronik metnin tüm özelliklerini öğrenecekse, elektronik metnin ortamı açık bir biçimde basitleştirilebilir.

Öğretmenler; kütüphane, medya öğretmenleri ile çalışarak öğrencilerin bu karmaşık, bilgisayar tabanlı elektronik ortama geçişini şunları yaparak kolaylaştırabilirler: (1) Öğrencilere sınıflarında, okul kütüphanelerinde, halk kütüphanelerinde, bilgisayar merkezlerinde veya laboratuvarlarda (örneğin; CD-ROM ansiklopedileri veya sözlükleri, kütüphane veri tabanları, diğer online veritabanları, haber grupları, web sayfaları) onlar için mevcut olan farklı elektronik kaynakları öğretilebilir. (2) Öğrencilere farklı elektronik kaynakların (örneğin; otomatik kütüphane katalogu, Web siteleri, e-mail) isimlerini, amaçlarını, yöntemlerini ve sınırlamalarını öğretebilirler. (3) Öğrencilere; birden fazla kaynaktan birden fazla konuyu aramadan önce, tek kaynak içerisinde gezinerek ve belli bir başlığı tek kaynak veya tek veri tabanı, içerisinde aramak gibi, elektronik kaynakları kullanmada gerekli yöntemleri öğretebilirler. (4) Öğrencilere bir tür elektronik metin içerisinde -başka tür bir elektronik metni tanıtmadan önce otomatik kütüphane katalogu veya elektronik dergi dizinlemesi gibi- keşif yapma ve öğrenmeleri için geniş olanaklar verebilirler. (5) Tüm öğrencilerin tek tür elektronik metne (örneğin; otomatik kütüphane kataloğu) erişimini sağlayabilirler. (6) Öğrencilerin elektronik bir metinde (örneğin; otomatik kütüphane kataloğu) çalışırken belirlenen deneyimleri kazanmalarını sağlamak için belli amaçları ve sonuçları olan, açık bir şekilde tarif edilmiş bir görev oluşturması sağlanabilir.

Öğrencilerin, belge oluşturmak için bir sözcük işleme programı kullanmayı öğrenmeleri; okulda ve evde kullanacakları bilgisayar sistemini işletmenin temellerini anlamalarını gerektirir. Altıncı sınıf öğrencilerine sözcük işleme becerilerini veya düzenleme ilkelerini (örneğin; kenar boşlukları, sekmeler, aralıklar, kolonlar, sayfa yönü) kullanarak uygun biçimlendirme ile belge oluşturmayı öğretmek için şunlar yapılabilir: (1) En sık kullanacakları sözcük işleme programında var olan dosyaları açma, dosya kaydetme ve yeni dosyalar oluşturma öğretilebilir. (2) Gezinmenin, metin manipülasyonunun ve sözcük işlemcisi içinde düzeltme yapmanın temellerini şunları yaparak oluşturur: (a) göstergenin yerini değiştirme, metnin altını çizme veya menülere, komutlara ve simgelere ulaşma işlemlerinin kullanımı, (b) yukarı sayfa, aşağı sayfa ve yön tuşları gibi gezinme tuşlarının kullanımı, (c) klavyedeki bilinen komutların (örneğin; bir belgeyi kaydetmek için "ctrl" ve "s" harfine basmak) kullanımı ve (ç) metin manipülasyonu ve düzeltme için kopyala, kes ve yapıştır komutlarının işlevsel kullanımı. (3) Öğretmen, öğrencilere belgeleri formatlamayı öğretmeden önce belgeleri nasıl yöneteceklerini, oluşturacaklarını ve düzelteceklerini gösterebilir. (4) Daha kolay formatlama teknikleri; satır ve paragraf aralıklandırmasını, yazıları kalın, italik ve altı çizik yazmayı, farklı yazı tiplerini ve yazı boyutlarını içerir. Orta düzey zorluğundaki formatlama teknikleri kenar boşluklarını, sayfa numaralarını, sekmeleri ve sayfa sonlarını içerir. İleri formatlama teknikleri; tabloların, karıştırılmış nesnelerin, sınırların ve gölgelendirmelerin, otomatik madde işaretli listelerin eklenmesini içerir. (5) Yazım ve noktalama ve dil bilgisi kontrollerini mantıklı bir şekilde ve akıllıca kullanması öğretilmelidir. Örneğin; öğrenciler yalnızca sözcük işleme fonksiyonlarına bağımlı olmamayı öğrenmelidir. Yazım ve noktalama, dil bilgisi kontrolünden geçen fakat bir düzeltici tarafından yakalanan hata örnekleri, bu fonksiyonların sınırlamalarını göstermek için kullanılmalıdır.

SONUÇ

Bilgisayarların günlük yaşamda yaygınlaşması, eğitim-öğretim sürecinde kullanımını da eğitsel bir zorunlu haline getirmektedir. Bu amaçla eğitimde lider olarak bilinen birçok ülkede farklı derslere yönelik olarak bilgisayar destekli eğitim-öğretim programlarının kullanıldığı bilinmektedir. Bu çalışmada da Finlandiya ve ABD ana dili öğretim programlarında yer alan bilgisayar destekli eğitim uygulamaları tespit edilmiştir.

Finlandiya Ana dili Öğretim Programı incelendiğinde, tüm dil becerilerinin içinde sınıf düzeyine uygun olarak bilgisayar destekli uygulamalara yer verildiği görülmektedir. Bu uygulamalar, programla bütünleşmiş bir biçimde birinci sınıftan on ikinci sınıfa kadar ilerleyerek devam etmektedir.

ABD-Kaliforniya Ana dili Öğretim Programı incelendiğinde, temel dil becerilerinin içerisinde bilgisayar destekli uygulamalara yer verildiği görülmektedir. Bu uygulamalar, birinci sınıftan başlayarak kolaydan zora doğru aşamalı bir şekilde ilerleyerek devam etmektedir. Bunun yanında program "Araştırma ve Teknoloji" başlığı altında yeni bir öğrenme alanı ile bilgisayar destekli uygulamaları geniş bir içerik dâhilinde gerçekleştirmeyi amaçlamaktadır.

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ACTIVISATION OF THE UNEMPLOYED IN THE LIGHT OF PERSONALISM – EVALUATION ATTEMPT

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ABSTRACT
The article looks at the phenomenon of unemployment and ways of reducing it. It is supposed to give an analysis of chosen forms of activisation of the unemployed in terms of personalism. The article indicates the possibility to evaluate the undertaken forms of the unemployment reduction highlighting the value of human being and considering his good as a central part of researcher's interest.

NOTION OF UNEMPLOYMENT

The unemployment is one of the complex phenomena in the modern world. Hence due to its multi-faceted character economists, politicians, lawyers or political scientists see it in differently than sociologists or psychologists do. It is hard to depict the practical and universal description of unemployment for the lack of objective criteria and because of the complexity of the phenomenon. It is briefly described as „social phenomenon", „one of the most important social problems", „massive social threat" (Borkowski & Marcinkowski, 1999, p.25).

The unemployment, which takes many forms and can be among others : visible or hidden, constant or temporary, structural or technological, is nowadays present all over the world. It includes tens of millions in Europe and hundreds of millions in the world and remain a constant danger for those who work or are about to begin. This creates a state of uncertainty of tomorrow and impedes the harmonious and peaceful development of human and society.

According to the common meaning of the phenomenon, the unemployment relies on the fact that a certain number of people able to work are not capable of finding a job. What stems from this statement is that an unemployed person can be described as follows: a human without a job who is willing to work but cannot find a job.

In the source literature there are usually three major criteria distinguishing the unemployed: remaining jobless, looking for a job and be willing to work (Kwiatkowski, 2002). These features seem obvious but more in-depth analysis provoke certain doubts arising from some incoherences.

Remaining jobless is undoubtedly a crucial condition for unemployment to appear. However, it should be noticed that not every person who does not work is jobless. One can claim that the unemployed constitute a subcategory among the people who do not work – among people who do not work but are not jobless we can count housewives who do not earn only by their own choice. Furthermore, easily enough one can indicate the people who work and have a significant link with the unemployment. One of the subcategories of such people who do work is a group of people employed on a part-time basis. If they want but cannot work longer, they become partially unemployed. It seems that considering everybody who is employed on a part-time basis as working people who do not belong to the unemployed distorts a little the real unemployment rate.

Neither *Looking for a job* is free of doubts as a criterion of the unemployed identification. One can seek for a job in various ways and the level of personal involvement clearly varies. To find a job one can for instance: register in Employment Agency, browse newspapers, have meetings with potential employers, ask friends. If such person gets no result, he can abandon the process due to the lack of possibilities to proceed. Then one has to do with a situation when people want to start a job but they cannot look for it in an active way. The exclusion of passive people from the unemployed surely underrates the scale of the phenomenon.

It seems that the following criterion, *be willing to work*, is the less controversial. However, also in this case one can undermine the explicitness of its definition. What is unclear is the period of willingness of a given person.

The aforementioned statements lead to the conclusion that three features of the unemployed are quite general and it is difficult to make a clear definition of the unemployment out of them and present the scale of the discussed phenomenon. Despite the doubts concerning features of the unemployed, the majority of definitions describing the unemployment existing in the literature underlines only general criteria of unemployment identification without going into details (Kwiatkowski, 2002). There are some attempts to make the methods of calculating the

unemployment more precise in order to have an overview of this phenomenon. The above-mentioned attempts comprise:
– registration in Employment Agency,
– registration of people applying for unemployment benefits,
– execution of surveys among representative part of the populace.

The subject of the present article draws the author's attention to unemployment calculation on the basis of the number of people registered in Employment Agency. This method is commonly used in the world and in Poland from nineties. In this case, the number of the unemployed depends on registration conditions. One has to be aware of the necessity caution while comparing the scale of unemployment over long periods of time or between countries. It stems from the lack of uniformity of the registration criteria in particular countries and over the years (act on employment and unemployment reduction which precises in Poland the conditions of the unemployed registration was amended several times from nineties).

It is important to take into consideration the fact that a part of the unemployed can be unwilling to be registered due to very little chances of finding a job through the Employment Agency. As a result, the number of registered jobless people will not reflect the real unemployment rate. A similar situation appears when a part of registered people is not interested at all in seeking for a job. Their motivation would be due to health insurance, allowance or free courses. In such cases, the number od the unemployed overestimates a trifle the real unemployment rate.

PERSONALISM IN PHILOSOPHY

Throughout the history different philosophical systems were looking for a sure, obvious and undisputed basis. In Rennaissance, a human becomes a major idea of new philosophical concepts – no longer as thought, mind, awareness or will – but as a person. The person is a key to understanding the reality.

According to "Dictionary of philosophy", personalism is „one of the numerous attitudes which emphasise the primacy of human or divine person in the universe" (Lacey, 1999, p.208). Personalism (Lat. *persona* – person; *personalia* – personal), is a trend in modern philosophy and culture describing full affirmation of a person and its good. This attitude, common for many philosophical doctrines, is characterised by certain protest against repeating forms of philosophical monism or totalitarism understood as a jeopardy for dignity, independence and value of a person. The notion of personalism is referred to the concepts which favour the autonomy of people, their dignity, and capability to exceed the nature and history. Thanks to these features a person takes a privileged position regarding other casual goods including social good. The Personalists put the person above other values. In order to describe the way a person exists, personalists touch the following matters: be and have, will and necessity, mystery and vocation, gift and love, hope and fidelity (Jedynak, 1999).

The basic category of personalism is the notion of "person". Analysing the foregoing achievements of personalism one has to notice the constant question: who exactly is a person? The answer is not coherent because of different types of personalism.

Wojciech Chudy distinguished common features of various types of personalism:
– contraposition to individualism and collectivism,
– emphasis on the fact that human being is a perfect creature,
– the most important features of a person are: intellect, freedom and subjectivity of living,
– strict connexion to axiological dimension – a person lives in the world of values,
– a person is perceived as active and operational
– the openness of a person to the community (Chudy, 1998).

There are various types of the domain within the philosophy of personalism. The ethical personalism takes into account the accomplishments of the classical tomistic metaphysics and the antropology relied on it but also the necessity of freedom affirmation and availability of subjective life. The essential issue is dignity, freedom and rationality. Pursuant to the ethical attitude of personalism, human being is a gift and a task. Hence it is crucial whether a person grows or gets degraded , if ia person takes care of the innate dignity or neglect it. Human being cannot exceed axiological borders delineated by his objective nature which has a value of the objective truth.

The openness of a person to the community is an intrinsic part of human existence in terms of ethical personalism and it is particularly connected to the category of participation understood as acting and living "together with other people" (Wojtyła, 2000, p.316). The act of a person can be fulfilled (and usually is fulfilled) together with others. The expression "social nature" refers to the cooperation with others. One can conclude that a human, thanks to the participation and collective action, preserves everything which stems from the community of action and makes

real the personalistic value of the own act. Thus the personalism indicates the possibility of cooperation of people which is simultaneously self-realisation (Wojtyła, 2000).

WAYS AND TOOLS OF REDUCING UNEMPLOYMENT
On the contemporary labour market one can distinguish passive and active state policy towards the phenomenon of unemployment. Passive ways include a variety of mainly financial aid for the unemployed. They focus on the elimination of the consequences of the unemployment without supporting the process of creating new jobs. This policy involves such forms of assistance as benefits (one of the oldest and best-established in the popular awareness), one-time compensations for dismissed people, benefits related to early retirement Milewski & Kwiatkowski, 2005).

The active labour market policy is said to be the most effective. It is implemented through the programmes aiming at removing the causes of unemployment. They consist in the direct assistance in job seeking assured to people who take part in them. On one hand, the state helps in creating a demand for labour, and on the other, offers services such as employment agency, career counselling and training.

In the active labour market policy the most frequently used tools are:
- training and reskilling of the unemployed enabling them getting new skills and maintaining the professional activity;
- internships, professional training aiming at helping the unemployed get new qualifications; this form of support should include issuing a certificate stating the new practical qualifications gained by the participants.
- intervention works, a form of subsidised employment, which allows creating new jobs while the employer bears low costs;
- public works for the socio-economic development of communes (e.g. infrastructure construction) give a chance to maintain the professional activity of the unemployed;
- special programmes created for the long-term unemployed (support of the efforts addressed to the unemployed with the greatest difficulties in finding a job);
- loans for the unemployed for starting a business or for workplaces to create new jobs; in case of graduates the following possibilities can be counted: activisation benefits, training benefit, internship benefit, partial-salary benefit, occupation benefit and reimbursement of social insurance contributions provided by employer (Osiecka-Chojnacka).

ORGANISATION AND METHODOLOGY OF THE STUDY
The purpose of the study was to provide an evaluation of the forms of activisation of the unemployed in the light of ethical personalism. The analysed question was: do the chosen tools of professional activisation of the unemployed contribute to personal development of human and public good and are they conform to the philosophy of personalism?

The activisation programmes offered by County Employment Agency in Puławy in May 2016 were chosen to this study. Puławy is a Polish city – capital of Puławy County – located in the western part of Lubelskie voivodship near the border of Mazowieckie voivodship. The city has a total population of circa forty-nine thousand. The working area of the County Employment Agency comprises the city and surrounding communes.

The documents' analysis is the research method according to the classification of Mieczysław Łobocki (Łobocki, 2005) – in this case, it concerns especially digital documents.

The essential issue of study preparation is the elaboration of the system of categories which is crucial to perform the reference analysis. The elaborated categories must correspond with the theoretical field of the phenomenon or the empirical description of it and must be discernible. In case of minor research, those caegories will correspond the aforementioned basic assumptions of personalism. The reference analysis will be carried out on the basis of:
- personal development thanks to the executed activity,
- cooperation with people,
- activity which creates the fundaments of values and prepares the elaboration of the working code.

In May 2016 the statistics provided the following numbers concerning the unemployed: Total – 4059, under 25 years old – 678 (16,70%); under 30 years old 1312 (32,32%). People who took an active part in the unemployment reduction: 87 on internship, 22 conducted socially useful works, for 11 people the costs of unemployment were

reimbursed until the age of 30, 3 people were employed in intervention works[1]. 3,03% of the registered unemployed obtained help from various kinds of mobilisation support forms.

REFERENCE ANALYSIS
Personalism puts the good and the development of a human in the middle of the world of values to which all the particular goods realised as a result of human free activity should be subordinated. The common point of all types of personalism is the metaphysical perception of a person as an autonomous being of spiritual nature which is blessed with moral freedom, consciousness and will. The personalists remind that human as a person must never be treated as a measure to achieve a certain goal because is himself, as a result of his dignity, the goal of all kind of activity.

The most common form of activisation of the unemployed within the analysed time was creating them a possibility to participate in *internships* which allow the jobless acquire practical abilities without employment relationship. A person does not lose his status as unemployed, but acquires new abilities by remaining at the workplace and helping the employer with his duties. Hence such a person becomes a quasi-worker. The Employment Agency monitors the course of internship and pays the unemployed certain amount of money. If one examines this form of activisation according to the adopted criteria, one should conclude that the internship contributes to the development of a person, teaches new abilities, enables the use of the acquired knowledge and stimulates the personal perfecting. Due to the fact that the internship takes place in a workplace, it teaches cooperation, helps with establishing new relationships in the professional environment. It is hard to acquire such abilities only in a theoretical way. It is also difficult to neglect the fact that the execution of professional duties as part of the internship creates in a person certain values which allow appreciating the work as one of the crucial activities in human life.

Socially useful works constitute an instrument on the labour market which is organised by a commune in the social help establishments or charitable institutions responsible for the activity oriented on local community. "The execution of socially useful works is conducted on the basis of the agreement between a staroste and a commune for the benefit of which these works will be executed. The County Employment Agency reimburses the commune from the Labour Fund to 60% of the minimum amount of benefit an unemployed is entitled to". With an assumption that the performer works are new for a given person and he finds them more complicated, one can claim that such works lead to the perfecting of such person. It is important however to underline the role of socially useful works for the development of the community and elaboration of the working code. It is difficult to find a situation which would have more positive impact on the social group than when one works for the benefit of local community.

Reimbursement of the costs until the age of 30 is one of the ways allowing the inexperienced people to enter the labour market. It is not easy to underline the direct influence of this form on personal development, but it surely creates the sense of community by entering into the economic system and reinforces the perception of work as a value of everyday life.

Intervention works is the engagement of an unemployed by an employer (salary is partially covered by a staroste). The purpose is to facilitate the unemployed reach the labour market. During the intervention work, one concludes an agreement with an employer, precise workplace, in which the work is executed (in case of internship the agreement is signed with the Employment Agency). As a consequence of intervention work one must earn at least minimum wage. The working period is counted as part of years of service and is the basis of other employee benefits e.g. leave. It is necessary to think whether this type of activisation contributes to personal development. It seems that this factor is not met in practice because the executed works do not teach new abilities but only make use of these acquired before. It should be noticed that the intervention works aim particularly at the people who want to return to the labour market as distinct from professional internships aiming particularly at graduates, young people without professional experience. When the described form of professional activisation allows the execution of new and more complex acitivites, it is possible to say that the personal development of the worker occurs.

Intervention work – for the sake of executing the tasks in the workplace – the most often contributes to the development of the sense of community, allows to return to worker's group, activates and creates new interpersonal relationships. It is also difficult to neglect the fact of the elaboration of work code. Success or return to the labour market contribute directly to the appreciation of the value of this part of adulthood.

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[1] *Dane statystyczne*, http://pup.pulawy.pl/strona/dane-statystyczne/182 (14.06.2016).

Taking into account the considerations above the final conclusions arise. The presented forms of the activisation of the unemployed expose significantly – but not equally – the human value putting him in the middle of the interest which fulfils the basic assumptions of personalism. Perfecting, personal development, cooperation with other people, elaboration of work code – these are the values realised through the analysed propositions of activities. The human factor is worth considering during the elaboration of the programmes aiming at helping the unemployed who enters the modern and difficult labour market. The success of these activities lies in personal attitude to the problem.

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ADAPTATION A SCALE FOR TEACHERS' PERCEPTIONS OF THE APPLICATIONS OF SCIENTIFIC PROCESS SKILLS: A STUDY OF VALIDITY AND RELIABILITY

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ABSTRACT

Today one of the main purposes of science education is to educate individuals to use scientific process skills. Individuals who grow in this context can be good citizens who knows the requirements of the age, questioning, investigating and able to establish a connection with daily life. In addition, while teaching science, the aim is not only to teach the concepts but also educate the students to solve the problems they face with throught their life, in scientific ways, and to manage to look through the scientisits' eyes to the phenomena and the World. By providing these skills, it is mportant to know teachers' perceptions of the applications of these skills. Literature show that there are limited valid and reliable instruments which evaluate teachers' scientific process who teach science. From this point, in this study, the scale for teachers' perceptions of the application of scientific process skills developed by Rambuda and Fraser (2004) was adapted. The adaptation process was performed in three different universities. The sample consisted of preservice teachers in three educational faculties. The scale consisted of 22 items using 4 point Likert Scale. The scale was applied to 686 preservice teachers in teacher training programme during 2014-2015 academic year. To test the language equivalance, English and Turkish versions of the scale was applied to 58 students in English teacher training programme and positive and significant correlations were identified. To determine construct validity of the scale, exploratory and confirmatory factor analysis were conducted. Results of exploratory factor analysis showed that the scale consisted of 2 dimensions: Basic science process skills and integrated science process skills. The valus of factor loadings varied within the range of ,46-,78. The inner consistency coefficient for reliability was calculated to be ,91. The ciriterian validity results showed that the scale is suitable for the purpos. The result of confirmatory factor analysis showed that indices were found at an acceptable level and determined that the scale was relevant to the real data. The findings of the study identified that the teachers' perceptions of the applications of scientific process skills scale is valid and reliable assessment tool.

Key Words: Scale for application of scientific process skills, Validity, Reliability, Adaptation of scale

INTRODUCTION

As it is in many other countries, in our country the nature of science, science technology society relations, and scientific process skills are valued highly in changing programs. In 2005 Turkish Science and Technology Education Program (MEB, 2005) "to make students to gain scientific process skills for teaching the ways and methods of scientific research" was aimed. In 2013 Turkish Science Program (MEB, 2013) it is aimed for the students that "In the process of understanding the relationship between nature discovery and human-environment providing scientific process skills and scientific approach to produce solutions to the problems" are intended. The vision of the 2013 Science Program stated as; "to train all the students as scientific literate individuals" (MEB, 2013). One of the features of scientific literate individuals in these programs has been expressed as to have the scientific process skills (Yıldırım, Atila, Özmen, Sözbilir, 2013). In 2013 Science Program learning domains are listed as four groups of "knowledge, skills, perception and science-technology-society-

environment". The "skills" learning domain is divided into two groups as scientific process skills and life skills (MEB, 2013; Karatay, Timur &Timur, 2013).

It has taken up a vast amount of value to gain important achievements in science and technology in order for societies to keep up with the fast changing and improving world. Success in education is not only defined by academic success/achievements, anymore. Learning science means more than learning scientific knowledge. By learning science one must come to understand both the body of knowledge that represents current understanding of natural systems and the process by which this knowledge is established, extended, refined, and revised (Duschl, Schweingruber, & Shouse, 2007, p. 26). Vitti and Torres (2006) claims that science process occurs naturally, spontaneously in our minds. We can use science process to find out the answers to our questions about the world by logically breaking down the steps in our thinking. Science process is useful in any situation that requires critical thinking (Vitti & Torres, 2006). Students who have scientific process skills can solve problems, do researches, and perform experiments. In addition to that, they, as indivuduals, can use these skills in everyday situations to reach a solution (Aktamış, 2009). Possessing scientific process skills means for the induviduals to provide to understand and internalize the ways of the scientists which they are using while solving a problem. When the descriptions of scientific process skills are examined, it is seen that these skills have many contributions to the students. Çepni, Ayas, Johnson and Turgut (1997) defines science process skills as the skills that the students use to gain the research ways and methosds, make them active, give responsibility for their own learnings, help and make it easier for them to learn, and increase the permanency of their learnings.

It has been seen that scientific process skills are classified by researchers with small differences, in different ways. One of the two most accepted classifications divides scientific process skills into two: basic and integrated skills (Aktaş & Ceylan, 2016; Rambuda & Fraser, 2004; Tan &Temiz, 2003; Yeany, Yap & Padilla, 1984; Martin, Sexton, Wagner, and Gerlovich, 1998). Observing, inferring, measuring, communicating, classifying and predicting are listed as basic scientific process skills and controlling variables, defining operationally, formulating hypotheses, interpreting data, experimenting and formulating models are listed as integrated scientific process skills (Padilla, 1990). Basic skills are the foundation of the high-level skills, and should be taught to students starting at a young age. Integrated skills, on the other hand, are skills that should be taught to the students who have already obtained the basic skills.

To reach to the goal of providing the scientific process skills of the learning programs, the teachers those are the operators of those programs have to have the scientific process skills (Türkmen & Kandemir, 2011). Theachers have great responsibility to impart these skills to the students (Aktaş & Ceylan, 2016; Yıldırım, Atila, Özmen, Sözbilir, 2013; Harlen, 1999). Providing the students with the opportunity to learn to use scientific process skills is of the most important contributions to their students (Blosser, 2000). However, only those teachers who have mastered the skills can pass them on to their students successfully (Funk, Fiel, Okey, Jaus, & Sprague, 1985: cited in Downing & Filer, 1999). The level of the scientific process skilss of the students increase significantly if the teachers use more acitivities for that aim (Karapınar, A. Şaşmaz Ören F., 2015).

Teachers today are more of a model and a guide rather than just a person who teaches. Because of this, teachers and prospective teachers should be informed -and improved- on the importance of scientific process skills (Aktaş&Ceylan, 2016). It is determined that the way teachers apply and improve on these skills are effected by their self-confidence, understanding of the skills, and whether or not they have any experience with these skills (Ambross, Meiring, & Blignaut, 2014). On the other hand, even though many teachers are self-confident about the use of scientific process skills, it has been found that they are not sufficient in determining and applying the skills (Llyod et all., 2000). In science education, teachers are capable of providing their students with these skills by doing scientific activities, giving them opportunities where they can use these skills, and using the proper experimental techniques in lab studies (Yıldırım et all., 2011) Additionally, it is emphasized that the students' use of scientific process skills has a positive effect on their academic success (Aktaş & Ceylan 2016; Yıldırım et all., 2011).

Prospective teachers' developments on this subject, is a prerequisite for their ability to stimulate students to acquire these skills (Aktaş&Ceylan, 2016). Literature survey shows that there are many reaserches considering different variables; such as; about determining the level of scientific process skills of teachers' and prospective teachers' (Aktaş & Ceylan, 2016; Aydoğdu & Buldur 2013; Karslı & Ayas, 2013), ideas about the scientific process skills (Celep &Bacanak, 2013; Yıldırım, Atila, Özmen, Sözbilir, 2013; Şahin-Pekmez, 2001), the using situation of scientific process skills by teachers (Kefi, Çeliköz & Erişen, 2013) and evaluation of the impact of different variables on the scientific process skill levels of secondary school students (Böyük, Tanık & Saraçoğlu, 2011).

There are many different "scientific process skills" scales in Turkish. Although, some of them prepared originally in Turkish (Hazır & Türkmen, 2008; Yıldırım & Sezek, 2014; Öztürk, Tezel & Acat, 2010; Aktamış & Şahin-Pekmez, 2011; Aydoğdu, Tatar, Yıldız & Buldur, 2012; Temiz, Taşar & Tan 2006), some of them are adapted from other languages, especially from English. The adaptation to Turkish of "Test of Basic Process Skills-BAPS" developed by Padilla, Cronin ve Twiest (1985) towards primary students made by Aydoğdu and Karakuş (2015). Another scientific process skillls test was developed by Burns, Okey ve Wise (1985), adapted to Turkish by Geban, Aşkar ve Özkan (1992). The "Science Process Assessment for Middle School Students" test was originally developed by Kathleen A. Smith (1994) and translated into Turkish language by Şenyüz (2008). The test which was developed by Enger and Yager (1998) was translated into Turkish by Koray et all (2005).

In literature survey it has been seen that the scales are mostly about the measurement of the scientific process skill levels of the participants. Because the teachers are the moderators; it is important to learn the perceptions of the teachers for scientific process skills. In this research, differently than others, it is aimed to adapt the scale that has been developed to identify the perceptions of the geography teachers about the application of scientific process skills (Rambuda & Fraser, 2004). The adaptation to Turkish is made for science teachers and prospective science teachers in science and techonolgy lessons. It is believed that to serve it to Turkish literature will be valuable for researchers.

METHOD

RESEARCH MODEL AND SAMPLING
Survey model was conducted in this study. This study was applied to 686 preservice science teachers studying in Educational Faculties at three universities. Data obtained from 474 preservice science teachers were used to construct validity and data obtained from 212 preservice science teachers were used in confirmatory factor analysis.

PROCESS OF ADAPTATION OF DATA COLLECTION INSTRUMENT

In this study, an adaptation of the scale is developed by Rambuda and Fraser (2004), consisted of 22 items and based on 4 likert type was conducted. The scale which was developed to determine the perceptions of Geography teachers' towards applications of scientific process skills was adapted for science teachers in teaching of Science in secondary schools. For this purpose, in the first stage, some corrections were made on the scale by three academicians in order to make the scale to measure the science teachers' perceptions of the applications of scientific process skills. In the second stage, Turkish adaptation of the scale was conducted.

In the first stage of Turkish adaptation, English-Turkish translation of the scale was made by three experts. Second, English and Turkish version of the scale was applied to 58 undergraduate students in English Teacher Training Programme in two weeks. In order to determine the relationship of the two applications correlation analysis was conducted. Cronbach'a alpha values of the English and Turkish version of the scale was found to be .93 and .94 respectively.

Table.1. Pearson Coefficient Correlation Analysis

Application	N	Number of items	r	p
English Turkish	58	22	.75	.00

Pearson Coefficient Correlation Analysis was conducted to determine the relationship between the scores obtained from the results of English and Turkish applications of the scale. The result of this analysis showed positive and meaningful relatonship between English and Turkish applications of the scale (r: .75; p<.05). Correlation coefficient between 1:00 .70-level is defined as a good relationship by researchers (Büyüköztürk,

2012). In this case, it can be said that there is a good and meaningful relationship between English and Turkish applications of the scale.

DATA ANALYSIS

Exploratoty factor analysis and confirmatory factor analysis were conducted in order to determine the construct validity of the scale. In addition, the cronbach alpha analysis determined the reliability.

FINDINGS

EXPLARATORY FACTOR ANALYSIS (EFA)

In this study, in order to test the adequacy of data structure for factor analysis, Kaiser- Meyer Olkin (KMO) test and Bartlett test of Sphericity were conducted in terms of sample size. KMO values varies between 0 and 1. Since KMO value was found to be .93 in this study, it was concluded that, sample size was satisfactory and data structure was adequate for employing factor analysis (Çinko, Yurtkoru, Durmuş, 2008, p.80; Şencan, 2005; Çokluk, Şekercioğlu, Büyüköztürk, 2012; Field, 2002). In addition, Barlett Spherical test indicated that chi-square value was found to be significant (X^2: 3931,5; p<,01). Bartlett test of Sphericity Show whether there is adequate relationship between variables. Based on the results obtained in this study, adequacy of the data for factor analysis was accepted.

Table.2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,935
Bartlett's Test of Sphericity	Approx. Chi-Square	3931,584
	df	231
	Sig.	,000

Principal component analysis was used to reveal the factor pattern of the scale, and varimax vertical rotation method was used for openness and significance in interpretation. Analysis results indicated eigenvalues of 22 items showed 2 components and higher than 1. According to the table 3 contribution of sub-components to total variance was found to be 43,84%. As seen in Table 3 the scale has 2 factor structure This ratio is expressed as sufficient for multifactorial patterns (Çokluk, Şekercioğlu, Büyüköztürk, 2012; Tavşancıl, 2005).

Table. 3. Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7,879	35,812	35,812	5,554	25,243	25,243
2	1,767	8,032	43,844	4,092	18,600	43,844
3	1,111	5,049	48,893			
4	,968	4,398	53,291			
5	,874	3,974	57,264			
6	,811	3,688	60,953			
7	,756	3,435	64,388			
8	,714	3,246	67,633			
9	,700	3,181	70,814			
10	,674	3,062	73,876			
11	,628	2,854	76,730			
12	,573	2,604	79,334			
13	,544	2,472	81,806			
14	,536	2,434	84,240			
15	,520	2,362	86,603			
16	,498	2,264	88,866			
17	,489	2,221	91,087			
18	,465	2,112	93,199			
19	,447	2,030	95,229			
20	,395	1,796	97,026			
21	,359	1,633	98,659			
22	,295	1,341	100,000			

Extraction Method: Principal Component Analysis.

Table.4. Rotated Component Matrix

	Component	
	1	**2**
M1	,745	,013
M10	,652	,136
M2	,644	,109
M9	,615	,243
M4	,607	,191
M8	,589	,312
M7	,588	,195
M11	,580	,210
M6	,561	,214
M5	,533	,295
M13	,520	,344
M3	,518	,170
M12	,461	,343
M16	-,025	,788
M15	-,039	,788
M22	,304	,625
M19	,323	,606
M18	,441	,600
M21	,426	,515
M20	,398	,514
M17	,378	,513
M14	,397	,486

While items can be seen in the first column of the Rotated Component Matrix (Table 4), other existing factors can be seen in other columns. Each column represents a factor, the values in the columns are the weights of factors.

Some researchers indicated that minimum factor loadings should be .30 for factor analysis, on the other hand, some have opinions that it should be .40 (Tabachnick & Fidell, 2001). In this study, that factor loading value was considered as .40.

As a result of factor analysis items under the 2 factors were evaluated in terms of content and named as" basic science process skills" and "integrated science process skills". According to these factors, there are 13 items in the basic science process skills and there are 9 items in the integrated science process skills (See attachment 1).

Table.5. Exploratory factor analysis (2 dimensions of the scale)

	Factor 1	Factor 2
1- I give my learners many opportunities to **identify** important scientific problems	,74	,01
2- I organize classroom activities in which arners **classify** the observed scientific features.	,63	,10
3- I encourage learners to use any means to **communicate** learned information, i.e. to draw concept maps, tables, charts, symbols, graphs and diagrams to **communicate** the information	,51	,17
4- I linnk the work in science on **diagrams** to the everyday life of the learners, i.e. getting learners to bring examples from newspapers and magazines for discussion in class.	,60	,19
5- I organize activities in which my leraners **compare** objects using standardized units of measure and suitable measuring instruments.	,53	,29
6- I organize my learners to **observe** scientific phenomena such as plant growt, water boiling, cell in microscope, floating object, mirror image etc..	,56	,21
7- I encourage my learners to **predict** future scientific events based upon their obdervations	,58	,19
8- I encourage learners to use various forms of data to determine the **correctness of scientific theory**	,58	,31
9- I encourage learners to **describe** a scientific event in relation to other scientific events	,61	,24
10- I give my learners my learners many opportunities to **observe** scientifically important problems.	,65	,13
11- I encourage my learners to use any means to **communicate** investigated information	,58	,21
12- I link the work in science on **graphs** to the everyday life of the learners i.e. getting learners to bring examples from newspapers and magazines for discussion	,46	,34
13- I organize activities in which my learners arrange scientific experiments in logical **order**.	,52	,34
14- I encourage learners to **identify variables** that affect scientific phenomena, eg. how variables such as humidity, temperature, soil structure, and light influence germination	,39	,48
15- I devise exercises in which my learners have to **construct tables of data**	-,03	,78
16- I devise exercises which my learners have to **construct graphs**.	-,02	,78
17- I devise exercises in which my learners **conduct investigations**	,37	,51
18- I devise activities in which my learners **identify the variables** under investigation	,44	,60
19- I give my learners scientific problems in which they are encouraged to **construct hypothesis**	,32	,60
20- I give exercises in which my learners **define** scientific features by using observable characteristics of the features	,39	,51
21- I gve my learners hypothesis and request them to **design investigations** to test the given hypothesis	,42	,51

22- I devise exercises in which learners have to **describe the relationship between variables on a graph.**	,30	,62

After conducting factor analysis, Cronbach alpha reliability was done to determine the reliability of total scores of the scale and the reliability of each factors. Cronbach alpha is the consistency value which depends on relationship between the questions and shows the level of total reliability of the items under the factor. The obtained values indicate the adequacy of the reliability level of the scale. Cronbach alpha coefficient reliability is represented in Table 6. According to these table cronbach alpha coefficient reliability was found to be .91 for whole scale and for each factor reliability was found .83 and .85 respecicely.

Table.6. Cronbach alpha coefficient reliability

Factors	Alpha
Factor 1	.83
Factor 2	.85
Total	.91

CONFIRMATORY FACTOR ANALYSIS (CFA)

In order to test the tructure validity of 2 factors resulting from the explorartory factor analysis, confirmatory analysis was conducted. Figure 1 shows the fidings obtained from confirmatory factor analysis.

As a result of confirmatory factor analysis of the scale, it was found that the ratio of chi-square to the degree of freedom (X^2/df) was found to be 1.51 which shows the general consistency of the pattern. Since this ratio is below 3, it can be considered as perfect fit. Other indices are shown below:

- NFI   0.87   Low fit
- NNFI   0.94   Acceptable fit
- CFI   0.94   Acceptable fit
- GFI   0.80   Low fit
- AGFI   0.76   Low fit
- RMSEA   0.067   Acceptable fit

Confirmatory factor analysis results demonstrated adequacy indices which were determined at sufficient level for fitness with the model Lewis, Francis, Shevlin, Forrest, 2002; Hoe, 2008). The model including standardised parameter estimates regarding the factors and the items of the scale is presented in Figure 1 the results obtained confirmed the validity structure of the 22 item scale for preservice science teachers.
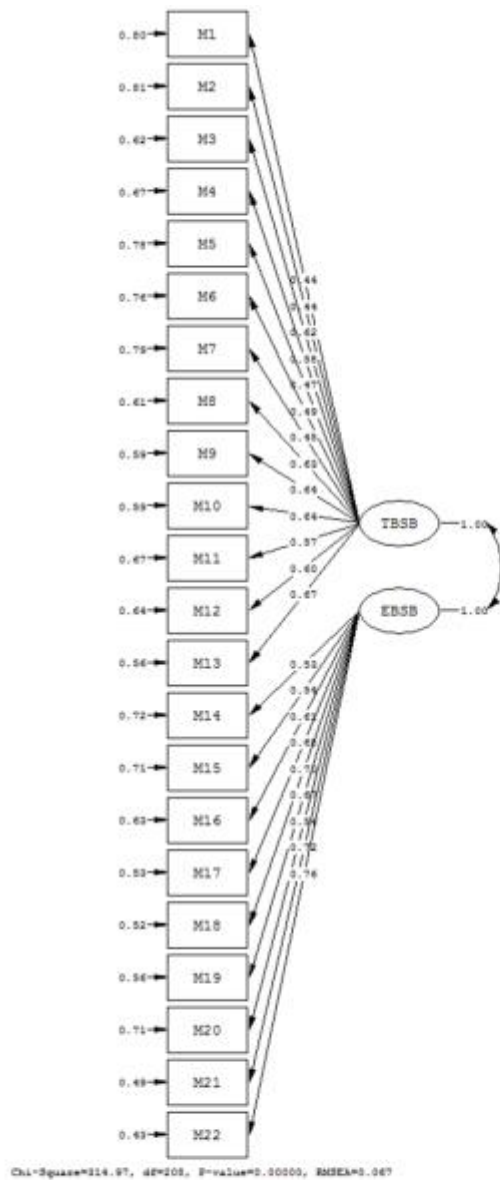
Figure.1. Results of confirmatory factor analysis

Table.7. Results of exploratory factor analysis

Latent	İtem	Std loadings	t value	R^2
	M1	0.44	4.70	0.20
	M2	0.44	4.63	0.19
	M3	0.62	6.96	0.38
	M4	0.58	6.36	0.33
	M5	0.47	4.95	0.22
Basic scientific process skills	M6	0.49	5.24	0.24
	M7	0.45	4.80	0.21
	M8	0.63	7.04	0.39
	M9	0.64	7.24	0.41
	M10	0.64	7.20	0.41
	M11	0.57	6.33	0.33
	M12	0.60	6.69	0.36
	M13	0.67	7.62	0.44
	M14	0.53	5.77	0.28
	M15	0.54	5.89	0.29
	M16	0.61	6.78	0.37
	M17	0.68	7.90	0.47
Integrated scientific process skills	M18	0.70	8.09	0.48
	M19	0.67	7.66	0.44
	M20	0.54	5.86	0.29
	M21	0.72	8.42	0.51
	M22	0.76	9.07	0.57

Standardized loadings show correlation between each observed variable (item) and latent variable which associated with observed variable. The correlation coefficient of the first indication (M1) of basic scientific process skills is .44, and R^2 is also .20. It is seen that variability mostly described by M13 related to basic scientific process skills factor ($R^2= 0.44$). Correlation coefficient of the first indication (M14) of the integrated scientific process skills is .53 and R^2 is also .28. The variability of integrated scientific process skills factor is mostly described by M22 ($R^2= 0.57$).

CONCLUSION

In this study, Scientific Process Skills Scale which was developed to determine Geograpgy teachers' perceptions, was adapted for science teachers. During the adaptation process of the scale explorator and confirmatory factor analysis were performed. In accordance with these analysis, it was found that the scale consisted of 22 items and two factors: basic scientific process skills, integrated scientific process skills. In the factor structure, the values of factor loadings vary between .78 and .46. Total variance of the scale has a ratio of 43.83%. Adequate

correlations were determined between the total score of the scale with the items and total score of the scale with the dimensions.

Confirmatory factor analysis was applied to 22 item scale to test the structure validity of the 2 factors. As a result of this analysis a ratio of X^2 /sd was found to be 1.51 which showed that the scale was relevant to the real data. It was also determined that other indices were found at an acceptable level. In this context, it can be said that the 2 factor structure of the Perception Application of Scientific Process Skills Scale is relevant model. Since the data were obtained from preservice science teachers, it can be said that this scale is appropriate to determine preservice science teachers' and also science teachers' perceptions of the applications of Scientific Process Skills. The adaptation process is conducted with prospective teachers; so it is recommended to apply this scale to the science teachers and evaluate the results.

ACKNOWLEDGEMENTS

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Attachment.1

	Asla	Bazen	Sık sık	Her zaman
1- Önemli bilimsel problemleri belirlemeleri için öğrencilerime birçok fırsat veririm.	1	2	3	4
2- Öğrencilerin gözlenebilir bilimsel özellikleri sınıflandırdıklarısınıf faaliyetleri düzenlerim.	1	2	3	4
3- Öğrenilen bilgileri her hangi bir şekilde iletişim kurmak üzere kullanmalarında, yani bilgi iletişimi kurmada kavram haritası, tablolar, çizelgeler, semboller, grafikler ve şemalarkullanmaları için öğrencileri teşvik ederim.	1	2	3	4
4- Bilim çalışmalarını şemalar kullanarak öğrencilerin günlük hayatı ile ilişkilendiririm, örneğin sınıfta tartışmak için gazetelerden ve dergilerden örnekler getirmelerini sağlarım.	1	2	3	4
5- Öğrencilerimin standart ölçü birimlerini ve uygun ölçme araçlarını kullanarak cisimleri karşılaştırdıklarıaktiviteler düzenlerim.	1	2	3	4
6- Öğrencilerimin bitki gelişimi, kaynayan su, mikroskopta hücre görüntüsü, yüzen cisim, aynadaki görüntü vb. bilimsel olayları gözlemlemeleri için etkinlikler düzenlerim.	1	2	3	4
7- Öğrencilerimi, mevcut gözlemlerine dayanarak, gelecek bilimsel olayları tahmin etmeleri için teşvik ederim.	1	2	3	4
8- Öğrencileribilimsel bir teorinin doğruluğunu belirlemek için çeşitli veri biçimlerini kullanmaları için teşvik ederim.	1	2	3	4
9- Öğrencileri diğer bilimsel olaylar ile ilişkili bir bilimsel olayı açıklamaları için teşvik ederim.	1	2	3	4
10- Bilimsel olarak önemli problemleri gözlemlemeleri için öğrencilerime pek çok fırsatlar sunarım.	1	2	3	4
11- Öğrencileri araştırılmış bilgileri her hangi bir şekilde iletişim kurmak üzere kullanmaları için teşvik ederim.	1	2	3	4
12- Bilim çalışmalarını grafikler kullanarak öğrencilerin günlük hayatı ile ilişkilendiririm, örneğin sınıfta tartışmak için gazetelerden ve dergilerden örnekler getirmelerini sağlarım.	1	2	3	4
13- Öğrencilerimin mantıksal sırada bilimsel deneyler düzenleyecekleri etkinlikler düzenlerim.	1	2	3	4
14- Öğrencileri bilimsel bir olayı (deneyi) etkileyen değişkenleri belirlemeleri için teşvik ederim. Örneğin: nem, sıcaklık, toprak yapısı ve ışık gibi değişkenlerin bitkinin büyümesini (çimlenme) nasıl etkiler?	1	2	3	4
15- Öğrencilerimin veri tablosu oluşturmak zorunda oldukları alıştırmalar tasarlarım.	1	2	3	4
16- Öğrencilerimin grafik oluşturmak zorunda oldukları alıştırmalar tasarlarım.	1	2	3	4
17- Öğrencilerimin araştırma yaptığı alıştırmalar tasarlarım.	1	2	3	4
18- Öğrencilerimin araştırmalarda değişkenleri belirledikleri etkinlikler tasarlarım.	1	2	3	4

19- Öğrencilerime onları hipotez kurmayayönlendiren bilimsel problemler veririm.	1	2	3	4
20- Öğrencilerime olayların gözlenebilir özelliklerini kullanarak bilimsel olayları açıkladıkları alıştırmalar veririm.	1	2	3	4
21- Öğrencilerime hipotezler veririm ve verilen hipotezleri test etmeleri içinaraştırma tasarlamalarını isterim.	1	2	3	4
22- Öğrencilerin grafiktekideğişkenler arasındaki ilişkiyi açıklamak zorunda oldukları alıştırmalar tasarlarım.	1	2	3	4

ADDICTION OR ADDITION: FACEBOOK USE AMONG EFL STUDENTS

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ABSTRACT
Our era is characterized by the revolution of communicative technologies with which social networking websites seem to be the most widely used applications. The technology does not only allow us to transfer information at an unimaginable speed and communicate with people instantly but also to change the patterns of our life, education and even thinking. This makes it necessary for educators to understand the nature of technology, changing our role from being users/consumers of social networking devices to appreciating the benefits and realizing potential usage. Innovative technologies such as Facebook can also pause certain challenges and dilemmas as well as opportunities. In addition to the bright side of Facebook, there is also a dark side, which seems not to have received due attention. With this in mind, this paper investigates the usage of Facebook, the most popular social network, among English-majoring students, trying to answer whether it is an addiction or addition to their progress, personal development and communication. To this end, survey method was employed. A total of 355 university student participated in the study through stratified sampling.

INTRODUCTION

This era is characterized by Web 2.0 technologies, which obviously have penetrated into all spheres of our lives with tools including e-mails, discussion forums, chat, video conferencing, blogs, wikis, YouTube, and social networking sites. Within this revolution are three frequently used terms; technology, information and communication. They are becoming inextricably interwoven in such a way that "communication from one side of the world to the other has become virtually instantaneous, crossing national boundaries and connecting the world on an unprecedented scale and with a previously unimaginable speed (Kayaoğlu & Akbaş, 2011, p.282). Among the online tools is currently Facebook which is becoming a global phenomenon due to its wide range of use by people of all ages and background. Given the frequent reference to this social website in academic papers, Facebook is not anymore a platform for exchanging ideas with long-lost friends and a medium to establish new friendships. Its impact on issues ranging from social life to education is so apparent that a burgeoning body of literature has already piled up significantly. Kayaoğlu (2009, p.49) indicates its educational implications stating "multimedia computers and the Internet give the potential for active and interactive learning experiences such as peer tutoring, self-directed learning, experiential and real-world-learning, problem-based learning and reflective teaching".

Without doubt social networking tools have brought many benefits to the social interaction habits and learning patterns of people to the extent that we could not have dreamed about before.) In spite of educational, interactional and social value of Facebook, which are indicated in a substantial number of studies (Ellison, Steinfield, & Lampe, 2007), serious problems caused by unhealthy use of Facebook seem not to have received the due attention from the academic circles. It is interesting to note the gravity of problems associated with excessive use of this social networking that Facebook is now cited in about a third of all divorce cases in the UK and one in five American divorces (Foxnews, 2015; PcWorld, 2015). There are some studies, though infantry and presenting contrasting views, on relationship between Facebook use and its negative consequences such as addiction (Furney, 2015, Çam & İşbulan, 2012; Hazar, 2011; Young 2004). It is quite important to investigate the value of Facebook use among Turkish students. There is increasing evidence that we are moving from the era of Facebook as means of communication and educational tool to an area of Facebook as a source of addiction and even depression.

Facebook is a social networking website which has become the most popular among others over the years. Founded by Mark Zuckerberg, who used to be a student at Harvard University, Facebook today has over 800 million of active users from hundreds of countries. There are over 1.39 billion monthly active Facebook users, which is a 13 percent increase year over year. Approximately 2.5 billion likes generated daily. Photo uploads total 300 million per day. Average time spent per Facebook visit is 20 minutes. Every 60 seconds on Facebook: 510 comments are posted, Around 293,000 statuses are updated, and 136,000 photos are uploaded. 4.75 billion pieces of content shared daily. 50% of 18-24 year-olds go on Facebook when they wake up (Saltaş, 2015).

What makes Facebook so appealing is that it is used in a variety of ways, contexts for different purposes. Some of these include getting information relevant to a personal interest, doing commercial business, joining groups, doing research, getting personal help, downloading software, getting educationally-oriented information, reading

(viewing) news, playing games, listening to music, and meeting new people, sustaining personal relationships, communicating with people, uploading course contents, announcing events and running some courses. Given the fact that students have become digital natives of the Net Generation and been interacting with digital technology from very early years, Facebook has become the most frequently used website among students of all ages. It is less tiring and time-consuming when compared to face-to-face interaction. People feel more relaxed and find it appropriate to express themselves online as it is less stressful. Users can do multiple things while communicating with their friends even synchronously. Research-based data also indicates its use in the following areas: intercultural and intracultural awareness, genuine/authentic communication interaction, instant communication, and hedonic purposes, active and interactive learning experiences such as peer, tutoring, self-directed learning, experiential and real- world-learning, problem-based learning and reflective teaching, connect students into the learning process, increases in academic achievement, verbal literacy and self-esteem, adaptation to different culture,   socialization and improving language learning (Saltaş, 2015).

Although social network sites are not basically to create learning environments, there are increasing attempts by academic circles to use it as a means to take learning beyond the walls of a classroom, providing an effective channel both for students and teachers to have meaningful sustained interaction and communication. Its revolutionary effect is perhaps most visible in foreign language learning in education, resulting in the emergence of new leaning environment. In the past foreign language learning was very much limited to the efficiency or dominance of teachers, classroom atmosphere and non-authentic materials. Language classes suffered long due to lack of genuine interactions and meaningful exposure to the foreign language, which did not encourage students to use language but confined them to learn it out of context. This has also resulted in big frustration. In EFL countries like in Turkey and elsewhere there are insufficient opportunities for real interactions and good reason and immediate need to initiate discussion. With the electronically-mediated common communication spaces such as Facebook, not only the role of students, and teachers but also the nature of interaction and learning have fundamentally changed. Interactions through Facebook is so many dimensional that it combines the textuality of written communication with real-time informal interactions with multi resources. Students appear to be more engaged in learning process as individualized, and self-directed learners. Now they take the role of team builders, constructors, contributors and discoverers as opposed to the passive recipient of old traditional educational system. There are numerous studies on social networking websites, in particular Facebook indicating their pedagogic value (Saltaş, 2015; Lang, 2011; Kabilan, Ahmad & Abidin 2010 Grant, 2008; Kord, 2008).

Although good examples of Facebook use are well noted in the current literature, problems caused by its excessive use seems not to have been investigated adequately In addition to bright side of Facebook, there is also dark side as it has received harsh criticism from academic circles due to the following reasons and violations: online privacy, child safety, multilateral intrusions and privacy invasion, the "real face behind Facebook, unearthly overloaded useless information and trivialities, fantasy-idealized world with pretentious posts, a juvenile need for constant feedback and care to survive with the Facebook must-likeability, identity crisis , feeling of resentment, jealousy and unhappiness, obsession with self-images, abusing humanity's inner weaknesses, cyberbullying, stalking, and online harassment (Broomley, 2011; Young, 2004). According to the report issued by American Psychological Association (2011), excessive exposure to social networking sites in particular Facebook brings about psychological disorders such as narcissistic tendencies, antisocial behaviors, anxiety, and depression.

In relation to Internet addiction, Griffiths, Kuss and Demetrovics (2014) stress the immediate need for the investigation of Facebook addiction, which is on the increase among students. Something potentially beneficial can cause serious problems when one is addicted. Regarding the potential for students to become addicted to internet or Facebook has received interest from psychologists and clinicians but not necessarily from researchers. There is a very big growing counter argument about social media, blaming Facebook for being the fallacy of our supposedly interconnected age and the true oxymoron of our time because people simply hide behind a glass screen and always show their best face forward. This lead people to be deliberately oblivious to the real life and live in an idealized world in which they are obsessed with their self-images mixed with addiction. According to a study by Krasova, Wenninger, Widjaja, and Buxmann (2013), one out of three people became unsatisfied with their lives after visiting Facebook, due to the feeling of resentment, jealousy and unhappiness that Facebook casued. The more people used Facebook, the worse they felt afterwards and the more their life satisfaction levels declined. Furney (2014) regards Facebook basically fake and a fetish since people conceal behind a screen, trying to exist mostly in the daydream realm of fantasy world.

Some clinical reports indicate that some Facebook users have the risk of becoming addicted in much that same way that others became addicted to drugs or alcohol which resulted in academic and social impairment. Dr. Conrad, Clinical Psychologist for TechAddiction, (2016) indicates theoretical and technical problems in the recognition of Facebook addiction since Internet addiction, which is a very new phenomenon, is not an official psychiatric

diagnosis. Many disorders have been worked on for at least fifty years, some for over one hundred years in order to warrant official disorder statues. In spite of lack of agreed standards for what diagnoses Facebook addiction, preliminary studies indicate that if too much time spent online and this can significantly interfere with functioning in other areas of life such as relationships, education, work, school, physical heath, and emotional well-being, then we can talk about symptoms of addiction. Spending a huge amount of time on Facebook, students can cross the line into addiction(Conrad, 2016; Broomley, 2011). With this in mind, this study aimed at exploring the degree of Facebook dependency and addiction if any.

STUDY

A survey method was used to investigate whether university students became addicted to Facebook. To this end, The Facebook Addiction Test - Symptoms of Facebook Addiction, which was developed by Conrad (2016) was used. The test included 29 items in the format of true –false options. The test was extended with an addition of another section to learn students' motives and reasons for the use of Facebook. Although there is no set number that indicates Facebook Addiction, the more often the participant agreed with the signs of overuse, the more likely it is that the participant's Facebook habits are unhealthy:

0 - 5: most likely a light user of Facebook - not any significant problems in your life.
6 - 10: a part of daily routine. At times you may spend too much time with it and may regret long Facebook sessions after you finally log off.
11 - 20: unhealthy or obsessive. Too much time on Facebook may be causing or contributing to "real life" problems
21+: life revolves around Facebook, difficult to go more than a day or two without checking account. Your relationships and your school or work performance are probably suffering due to excessive Facebook use.

A Turkish version of the test was piloted to a group of 55 representative students for its reliability. Cronbach's Alpha coefficient was counted as 785. Stratified sampling was used and a total of 355 university first year students (English Prep Students) were involved in the study. Participants come from departments of electrical engineering, sea transport, machine engineering, public relations and advertising, international relations, computer engineering, medical school, public administration, mining engineering, and forest engineering.

FINDINGS

Data was collected through a questionnaire that was completed by a total of 355 students attending an English Prep Program in School of Foreign Languages at Karadeniz Technical University, Trabzon, Turkey. The first part of the questionnaire consists of items concerning of habits of Facebook use, which was intended to measure students' level of addiction if any. The second part contains items concerning manner and reasons for Facebook use in a scale of very often to never. Gender was not the issue of interest for the scope of the study, resulting in 40 percent of females and 60 percent males as indicated in Table 1 below.

Table 1. Gender distribution

	N	%
Female	141	39,7
Male	214	60,3

The school population was heterogeneous in that and there were subpopulations (different levels and departments within an overall population) stratified random sampling was decided to include all diffrenet levels and departments so that we could have representative sample.

Table 2. Time management for Facebook use

	Yes N	%	No N	%
1. I often spend too much time on Facebook– usually more than I originally intend.	62	19	264	81
3. My friends or family have commented that I spend too much time on Facebook.	24	7,3	303	85,1
14. I have attempted to reduce the amount of time I spend on Facebook but have not been successful.	27	8,3	299	91,7
15. I spend more time using Facebook compared to any other online activity	64	19,6	262	80,4

Table 2 above deals with the amount of time that the students spent on Facebook. It is remarkable to see that a great majority of students (81%) reported not to have spent much more time on Facebook than they intended to do. This is confirmed by their friends, indicating that there is no mention or reference to the time spend on Facebook. It is also important to note that majority of the students (80%) disagreed with the idea that they spend more time using Facebook compared to other online tools.

Table 3. Negative effects of Facebook use

	Yes		No	
	N	%	N	%
2. I am often tired in the morning because I stay up late on Facebook.	24	7,4	302	92,6
9. My school performance has suffered due to too much Facebook use.	15	4,6	311	95,4
10. My relationships have suffered due to too much Facebook use.	22	6,7	304	93,3
12. When I post an update on Facebook, I am very disappointed if no one comments on it.	26	8	300	92
17. Since starting to use Facebook I spend less time doing other activities I used to enjoy (e.g., sports, exercise, socializing with others, hobbies, etc.).	28	8,6	297	91,1
18. Even though I have many Facebook friends, I still feel lonely.	32	9,8	294	90,2
23. I am often late for school, work, meetings, or appointments because of my Facebook use.	9	2,8	316	97,2
24. I would get very upset if a friend did not "add" me to Facebook.	30	9,3	293	90,7
26. It makes me feel bad if I know that someone has more Facebook friends than I do.	9	2,8	316	97,2

*Physicaleffect:2   *Academiceffect:9, 23   * Mentaleffect:10, 12, 17, 18, 24, 26

Table 3 is about potential negative consequences of Facebook use as indicated in the related literature. The items were naturally divided into three categories to measure negative effects such as physical, academic and mental. A very big number of students (95%) were observed to report that their Facebook use did not affect their school performance at all. When it comes to their psychological mood and cognitive mindset, their Facebook use was found not to interfere with their functioning in other areas of life such as relationships, physical heath, and emotional well-being. Ninety-one percent of participants (item 24) were found not to care whether a friend did not add them to Facebook. It is not a matter of envy or jealousy if an acquaintance has more Facebook friends for most of the students (90%).

Table 4. Reasons forFacebook use

	Yes		No	
	N	%	N	%
4. I spend more than two hours per day on Facebook for non-work related reasons.	65	19,9	261	80,1
11. I often spend hours at a time playing games on Facebook.	20	6,1	306	93,9
16. I often use Facebook to avoid other responsibilities (e.g., work, homework, housework, etc.).	25	7,7	301	92,3
22. I use Facebook when I am feeling stressed or depressed to make me feel better.	77	23,8	247	76,2
29. I often use Facebook when I am bored because I have nothing else to do.	214	65,8	111	34,2

According to Table 4, 80% of the students did not spend more than two hours per day on Facebook for non-related reasons, which may allow us to comment that students appear to be aware of potential Facebook use for their own benefits. This finding is supported by responses given to the question about playing games on Facebook (item 11) that 94% of students were observed not to spend hour at a time playing Facebook games. It is quite interesting to see that a great majority of the students (76%) did not share the idea that Facebook was used when people felt depressed as suggested in some studies. The idea of "using Facebook when they are bored because they have nothing else to do" received relatively greater yes (34%) as compared to the responses given to the other items in Table 4. Similarly, students' Facebook use did not interfere with their other responsibilities (92%).

Table 5. Facebook habits

	Yes	No

	N	%	N	%
5. I often use Facebook at work or school even though this is not permitted.	48	14,7	278	85,1
6. I would find it very difficult if I could not access my Facebook account for an entire day.	75	23	251	77
20. Checking my Facebook account is one of the first things I do in the morning.	55	16,9	270	83,1
21. Checking my Facebook account is one of the last things I do at night.	92	28,4	232	71,6
25. I have set my Facebook account so that I get always automatic notifications about what my friends are doing / saying.	66	20,4	258	79,6
27. I think it would be virtually impossible for me to give up Facebook for an entire month.	51	15,7	274	84,3

The items in Table 5 are related to Facebook habits and dependence. Both individual and overall analysis indicate that students were found to have excessive use. It is important to notice that 84% of the students were observed to be opposed to the idea "I think it would be virtually impossible for me to give up Facebook for an entire month". Going online at virtually every opportunity is associated with excessive use. In this regard only 17% of students expressed that checking their Facebook account was one of the first things they did in the morning whereas 83% were found not to be in this manner.

Table 6. Social aspect of Facebook

	Yes		No	
	N	%	N	%
7. I have made an effort to collect as many "friends" as possible on Facebook.	20	6,1	306	93,6
8. Many of my Facebook friends are not really my friends offline.	35	10,7	291	89,3
13. I usually prefer talking to people on Facebook than in person.	27	8,3	299	91,7
19. I often login to Facebook when I am out socially with others.	41	12,6	284	87,4
28. I often confuse what someone has told me "in real life" and what was said on Facebook.	43	13,2	282	86,8

Items in Table 6 deal with social aspects of Facebook use. Most items were designed in such a way as to find out whether people choose to live or distinguish the difference between the real world and fantasy world created around Facebook. Ninety-four percent of the participants were against the idea of collecting as many "friends" as possible on Facebook. In support of this finding, a great majority of students (92%, item 13) were found to disagree with the Idea " I usually prefer talking to people on Facebook than in person". Only 13% of the participants   often confuse "in real life" and on Facebook (items 28).

Table 7. Facebook use for informative purposes

	Never		Seldom		Sometimes		Often		Always	
	N	%	N	%	N	%	N	%	N	%
1. Getting breaking news.	24	7,4	37	11,3	105	32,2	101	31	59	18,1
2. Following posts.	66	20,3	70	21,5	96	29,5	69	21,2	24	7,4
10. Getting information about an event from others.	57	17,6	81	25,0	112	34,6	52	16	22	6,8
13. Visiting groups.	91	28,4	76	23,8	85	26,6	49	15,3	19	5,9
16. Reading messages on others' profiles.	146	45,2	102	31,6	52	16,1	14	4,3	9	2,8

Table 7 addresses the use of Facebook for informative purposes. Among the four items was the" getting breaking news" that received the highest use by the participants. "Reading messages on others profiles" received the   least interest by the participants. A good deal of students used Facebook to get information about an event from others (item 10). Visiting groups also received a good deal of response. Only 28% said" no" to this item.

Table 8. Facebook use for communicational purposes

	Never	Seldom	Sometimes	Often	Always

	N	%	N	%	N	%	N	%	N	%
3. Reading private messages.	75	23,1	86	26,5	85	26,2	50	15,4	28	8,6
6. Sending messages.	44	13,6	86	26,5	109	33,6	53	16,4	32	9,9
14. Replying someone's invitations or sending invitations to others.	130	40,4	110	34,2	61	18,9	15	4,7	6	1,9

According to Table 8, among the communicational purposes was "sending messages" which received the highest frequency. In line with the findings stated in Table 7 and 6, "replying someone's invitations or sending invitations to others" received the lowest interest relatively.

Table 9. Facebook use for educational purposes

	Never		Seldom		Sometimes		Often		Always	
	N	%	N	%	N	%	N	%	N	%
18. Following courses.	128	39,8	55	17,1	47	14,6	51	15,8	41	12,7
19. Getting information about the content of assignments.	128	39,6	54	16,7	44	13,6	50	15,5	46	14,2
20. Following announcements about courses.	108	33,6	58	18,1	55	17,1	49	15,3	51	15,9
21. Implementing extension activities.	149	46,3	59	18,3	54	16,8	28	8,7	32	9,9
22. Getting feedback from teachers.	158	49,2	55	17,1	46	14,3	30	9,3	32	10
23. Giving feedback to teachers about courses.	164	50,8	54	16,7	44	13,6	29	9	32	9,9
24. Sharing materials about courses.	165	51,1	48	14,9	48	14,9	27	8,4	35	10,8
25. Sending assignments.	147	45,4	47	14,5	51	15,7	36	11,1	43	13,3

Table 9 deals with students' Facebook use for educational purposes. Responses given to the items indicate that students show variation in the way and amount of Facebook use for educational purposes. Most striking result was that students appeared to overwhelmingly be using Facebook for following announcements about courses. The nature of quantitative data naturally fails to account for whether this was a a matter of demand or supply. When we consider the responses given to the item 18 (following courses), a substantial number of students (more than 60% when collapsed) use Facebook to support their academic performance. Similarly, more than 50 students were observed to get involved in Facebook to implement extension activities. Given the fact that more than 55% of students sent assignments, 49% shared materials about courses and almost 50% got and gave feedback to/from teachers about course at varying degrees, students appeared to be quite strategic in the way they use Facebook for their educational and professional development.

CONCLUSIONS
The current literature reveals that social networking sites along with web 2.0 technologies have already occupied all spheres of our life. Students today were born into digital world and become computer natives by nature. Unexpected and unplanned popularity of Facebook has already had great impact on the way we shape today and tomorrow. As a whole Facebook is used mainly for three purposes: (a) communication, (b) socialization, and (c) education. It is not a matter of choice whether we use or stay away from online applications.We cannot afford to ignore the revolutionary effect that the digital age has brought about in the way we live, think, consume, communicate, interact, learn and teach. It is a must to be aware of this picture in order to make well-informed decisions about whatever we do in our role as educators, parents or policy makers. Facebook has proved to be very a key factor in our students' world. The literature provides us with counter arguments and conflicting findings about the role of internet social networks such as Facebook. As stated above, there are a substantial number of studies in which Facebook was found to be quite useful in many respects including education, social and cultural communication intercultural and intracultural awareness genuine communication active and interactive learning experiences, experiential and real- world-learning, personal development, self-esteem, and motivation. On the other hand, there are some other studies, the findings of which indicate that Facebook is a source of unhappiness' jealousy, low self-esteem and dissatisfaction with life and addiction. This is not surprising anymore in view of cultural diversity and variation in perceptions. It is important to remember that no technological tool or social website, Facebook in our case, has any inherent capacity to be good or bad. No technological application including Facebook can be fully understood solely on its merits. Other variables such as culture, values, education, mindset and upbringing should be integrated into the study as to fully understand the role of Facebook. Unlike several studies the findings of this study indicate that the use of Facebook does not cause any significant problems in students' life. A very great majority of the students do not spend too much time with it. According to the test, there

appears to be very healthy use of Facebook, even contributing positively to real life and academic performance. There is obviously a strong need to extend the scope of this study, integrating qualitative data into it so that we can be a better position to answer the question of how and why in relation to Facebook use.

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ADMINISTERING PROBLEM-BASED LEARNING (PBL) APPROACH IN THE TEACHING OF COLLEGE-LEVEL MATHEMATICS

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ABSTRACT
Over the years various innovative teaching approaches were developed, notably Problem-Based Learning (PBL) help students develop flexible understanding and lifelong learning skills. The present research study used a structured PBL approach adapted from the four step model (Wong & Day, 2009). A convergent mixed-method design was used to determine if administering a structured PBL approach would improve students' ability to solve college-level Mechanics problems and students' attitudes towards mathematics and their learning environment. From the pre- and post-test results, there were no significant changes in students' academic performance. However, teacher reflective statements indicated increase in the use of higher-order thinking skills and overall engagement. From the observations, interviews and questionnaire results, students showed a positive change in their attitudes towards mathematics.
Keywords: Problem-based Learning, Mathematics, Mechanics, College-Level, Thinking Skills and Engagement

INTRODUCTION
With advancement in technology, many nations recognize the significant role of science, technology, engineering and mathematics (STEM) education (English & Kirshner, 2015). In 2008, the Bruneian education system underwent a major reformation known as Sistem Pendidikan Negara Abad Ke-21, (SPN21), in order to better prepare students for 21st century challenges (Ministry of Education, 2013). SPN21 advocates a shift away from teacher-centred pedagogical approaches to student-centred pedagogies in the hopes of raising standards and performances in STEM subjects (Ministry of Education, 2013; Damit et al., 2015).

Despite the introduction of new assessments, students' academic grades remains the key to enrolment for tertiary education. In Brunei, it is widely believed that the most efficient way to teach mathematics is to impart mathematical knowledge through the direct instruction approach. In this approach, teachers would follow a carefully planned lesson and clearly defined teaching tasks. Moreover, most students would only reminisce on when they engaged in rote memorization of mathematical concepts and computations (Botty & Shahrill, 2015; Tan, 2010; Chong & Shahrill, 2016).

While direct instruction has its merits (Duff, 2012), it offers limited exposure to student centred activities thereby undermining students' responsibilities for independent learning (Mji, 2003; Pham, 2011). Hence, various innovative teaching approaches were developed including PBL which has the potential to help students develop flexible understanding and lifelong learning skills. PBL is a constructivist, student-centred teaching approach that employs ill-structured problems as stimulus and focus for student activity (Barrows, 2000; Ferreira & Trudel, 2012). PBL was first developed in medical school in the 1960s and has since been trialled as a pedagogical method in other schools of thought both internationally (Iputo & Kwizera, 2005), and more recently in local lessons (Looi & Seyal, 2014; Botty & Shahrill, 2015; Caesar et al., 2016). Being a relatively new pedagogy in Brunei, more extensive research is needed to investigate its influence on students' learning. Therefore, this study hope to shed some light on how students negotiate learning in a PBL environment.

PROBLEM-BASED LEARNING (PBL)
PBL is problem-focused so that learners begin learning by addressing the problem as a group and utilising discipline-based cognitive tools. The problems used in a PBL approach are ill-structured unlike well-structured questions (Roth & McGinn, 1997). According to Rogoff (2008), Vygotsky's and Dewey's theories of learning are grounded in social interaction where individuals learn from one another. Therefore, it can be concluded that learning occurs not only during teacher- student interactions but also during peer exchanges. In a PBL approach, collaborative behaviour between students is crucial to student learning (Barrows, 2000). For clarification purposes, a distinction between collaborative learning and cooperative learning must be made and some studies (such as Damit et al., 2015) consider both terms interchangeable. Collaborative learning is defined to be a learning method in which students work in a group to increase knowledge (Barrows & Tamblyn, 1980), whereas cooperative learning occurs when students work together in a group towards a common goal (Lim et al., 2016; Panitz, 1999). The main difference is that the former is more directive than the latter.

In PBL, the use of ill-structured problems give students the freedom to come up with various solutions. Moreover, students are required to plan on how to solve the problem. Cho and Jonassen (2002) further added that students need to generate, support and justify alternative methods. When working in groups, it has been observed that students capitalize on one another's resources through transfer of knowledge (Whipple, 1987). In a study conducted by Botty and Shahrill (2014), it was noted that as students build student-student rapport between themselves, the aforementioned process of sharing and communicating is increased. PBL is a student-centred instructional strategy in which students assume an active role in learning. Furthermore, questioning can lead to learning (Salam & Shahrill, 2014; Shahrill & Mundia, 2014; Shahrill & Clarke, 2014). Apart from that, effective scaffolding allows teachers to probe students to think more deeply to come up with a feasible solution. This act of supporting, guiding and monitoring the learning process is accomplished through a specific set of strategies (Schmidt et al., 2011). As students become more experienced with PBL, teachers gradually withdraw their scaffolding until students reach a level of self-sufficiency where the scaffold will be completely removed.

A main feature of the facilitators of a PBL lesson is that they refrain from giving direct answers. However, Kirschner et al. (2006) has criticized that the PBL approach heavily scaffolds students. In response to that, Hmelo-Silver and colleagues (2007) provided evidence that demonstrated extensive scaffolding reduces the cognitive load and in so, allowing students to learn in complex domains. Another study by Schmidt and Moust (2000) found that the facilitator's willingness to engage with the student is a key component to effective facilitation. When well implemented, researchers (Wong & Day, 2009; Looi & Seyal, 2014) have found that PBL approach leads to greater conceptual understanding and problem solving skills in students. Evidence from other studies showed that PBL is an effective instructional tool to foster critical skills and promote analytical and reasoning skills (Duch et al., 2001; Tayyeb, 2013). Henry and colleagues (2012) found that students generally favour PBL classes as they enjoy the degree of freedom. A study conducted by Ryan and Deci (2000) as well as Mata and colleagues (2012) pointed out that students who are intrinsically motivated tend to show higher levels of self-directed learning and due to student's feeling of relatedness.

THE STUDY
This study was underpinned by two main aims. Firstly, the study aimed to investigate the effectiveness of adopting a structured PBL approach in improving students' performance in the Advanced Subsidiary (or AS) Level Mechanics 1 (M1) module. The study also sought after the influence of PBL on students' perceptions and attitudes towards mathematics and their learning environment. The two research questions sought were "To what extent does the implementation of PBL as a pedagogical method improve on students' ability to solve mathematical problems in Mechanics?" And "What are the impacts of PBL on student attitudes towards maths on a variety of outcomes such as their problem solving skills and their perceptions of the learning environment?"

In Brunei, sixth form colleges prepare post-secondary students for advanced school-level qualifications. Majority of the national sixth form colleges offer Advanced or A Levels as the main qualification. Students typically study for two years. The participants in this study were students in their first year of their A Level because they are more likely to be able to adapt to new pedagogy. It is hoped that this study would not only fulfil its aforementioned aims but also encourage teachers to adopt alternative teaching strategies as well as reassure parents and students alike that this shift would not risk students' performance.

Conceptual Framework of the Study

PBL was originally designed to prepare medical students to mimic the daily activities of practicing doctors. As PBL gained in popularity, it is customised and applied to various educational fields. Nevertheless, the primary characteristic of PBL is to enhance student learning. The present lesson study used a structured PBL approach adapted from the four step model (Wong & Day, 2009). The intervention lesson began with the teacher introducing the context problem to the students who were then tasked with identifying a problem statement, gathering information, and working towards a group solution and culminating in them reporting their findings. Each step was allocated a given amount of time and record sheets were given to students. The teacher, acting as a facilitator, moved among the groups to guide the students. A rubric for assessment (refer to Appendix A) was also included in the record sheet to act as guidance.

METHODOLOGY

This study made use of a convergent mixed-method designed to answer the research questions presented previously. Following the definition of a convergent mixed-method design, an amalgam of both qualitative and quantitative approaches was then used across the stages of the research process.

Setting and Participants

The study was conducted at a local co-educational sixth form institution that follows a strong college preparatory academic program. The first author assumed the role of the participating teacher. She completed two semesters of graduate-level supervised professional teaching practice in two different schools under the tutelage of mentors who adopt direct instruction as their principal teaching approach. In total, 19 junior college students participated of which 11 were female and 8 were male. The participants have mixed mathematical abilities. In addition, this is the first time the students attended PBL structured lessons. Each lesson followed the school's usual classroom allocated time period.

Instrumentation

To measure the changes in students' academic performance, a statistical analysis of a single group pre-test – post-test score was used. In this design, a pre-test (refer to Appendix B) was first given to the students prior to intervention, followed by a treatment period and then a post-test (refer to Appendix C) was administered. Both tests followed a similar outline i.e. two AS-Level past year exam questions. The questions were validated by the supervising teacher at the college. The participants were allocated 20 minutes of classroom time to complete this surprise test. Following the tests, the teacher would discuss each question with the students to identify any common mathematical misconceptions that hindered them from solving the mechanics problems.

To measure the changes in student attitudes toward mathematics, a pre and post 5-point Likert-type survey was used. The questionnaire contained 22 statements with 14 measuring attitudes towards mathematics and the remaining 8 statements examining students' perceptions of their learning environment. The response to each item on the survey ranged from 1 (Strongly Agree) to 5 (Strongly Disagree) with a midpoint of 3 for those with neutral opinions. The questionnaire was taken from a study done by Ferreira and Trudel (2012). The questionnaire was originally used to measure the changes in student attitudes towards science and perceptions of their learning environment. However, since this research investigates the changes in student attitudes toward mathematics, the questionnaire was modified to suit the needs of the study. In addition to that, a short, face-to-face unstructured group interview was conducted to elicit the views of the participants. The interview utilized both open-ended and closed-ended questioning and was voice recorded for analysis purposes. Prior to distributing the pre-test, post-test and questionnaires, a face validity test was done to ensure that the tests were relevant.

To understand the experiences of the students, the teacher utilised a journal to record her expectations and reflections of the lessons. Reflective journals provide a contextually framed description of the participants' experiences (Hoover, 1994), and how their personal values affect their professional practice (Etscheidt et al., 2012). The students' context problem sheets were also collected as accompanying documents.

Data Analysis

The pre-test and post-test were marked and scored according to the official marking schemes from the Cambridge International Board. Using Statistical Package for Social Science (SPSS) for Mac, Wilcoxon Signed-Rank Test was used to compare the scores of the pre-test and post-test. The Wilcoxon Signed-Rank Test is an alternative nonparametric test procedure for analysing matched-pair data. Due to the small sample size, usual paired t-test was not used (Woolson, 2008). The Wilcoxon converts the scores into ranks for comparison at pre-PBL and post-PBL to look for any significant difference in the students' performances (Pallant, 2007).

For the Likert-type questionnaire, the modes and medians of the same items of pre-intervention and post-intervention were compared to determine any significant difference in students' attitudes towards mathematics. A frequency table was also used to identify any variability. Since the numbers in a Likert-type scale are ordinal responses, a comparison of the means of each item is unhelpful in describing the data (Sullivan & Artino, 2013).

The voice recording of the interview was transcribed by the researcher to understand and prompt deeper understanding (Matheson, 2007). As suggested by Easton and colleagues (2000), the audio file was listened to several times to ensure that the transcription was accurate. Together with the teacher's observations and reflections as provided in the reflective journal, the data was reviewed and coded into appropriate themes. Using techniques of naturalistic generalisation (Stake, 1995; Melrose, 2009), the findings and interpretations of the qualitative data allowed researcher to gain further insight into the elements that affected the study.

RESULTS

PBL and Solving Mathematics Problems

The pre-test, post-test and questionnaire results formed the basis of the empirical data for this study. The two questions given in the tests were common examination questions. The first question tested students on basic numerical computations while the second question examined students' deductive skills. Following the comparison, there was an increase of 1.1% in the mean scores of the students after the intervention period. Further analysis using the Wilcoxon test (see Table 1) indicated that nine students performed worse while six students showed improvement and four students did not show any changes in academic performance.

Table 1: Analysis using the Wilcoxon test (n=19)

	Negative Ranks	Positive Ranks	Ties	Sig. (p)
Post-Test - Pre-Test	9	6	4	0.863

From Table 2, there was an increase of 17.8% for the second question implying that some students were able to gain knowledge from the PBL lesson. However, the table also showed an unexpected decrease of 14.8% for the first question. After the tests, the teacher would discuss with the students to identify common misconceptions and problems faced. From these discussions, it was revealed that the decrease was due to students' confusion with the information presented in the question.

Table 2: Comparison of the average percentage scored for each question between the pre- and post-tests (n=19)

	Pre-test	Post-test
Question 1	40	25.2
Question 2	0	17.8

Figure 1 shows an example of a student's work (in blue) and the correct method (in red) provided by the official marking scheme. The student did not realize that the horizontal component of magnitude 8N did not require any additional resolving.

Figure 1: Student A's attempt (blue) and the solution provided in the marking scheme (red)

At the same time, the discussions also revealed that students who correctly solved the second post-test question utilised better and easier methods of solving. They applied previously learnt knowledge ie the properties of parallel lines and simple trigonometry to correctly solve the problem. An example is shown in Figure 2.
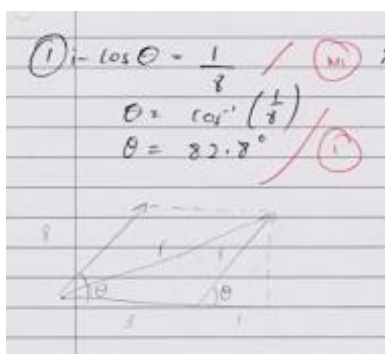
Figure 2: Student B correctly used properties of parallel lines and right-angled triangles to find Ө

PBL and Student Attitudes Towards Mathematics and their Learning Environment
Referring to Table 3, 14 items were used to investigate any changes in students' attitudes towards mathematics. Analysis of the pre- and post-questionnaires indicated positive changes with more students feeling less intimidated (Items 5 and 6). After the intervention period, a greater number of students agree that they are good at math and all math topics are important. Although there was a general positive shift in attitudes towards mathematics, a smaller number of students agreed that they use math often (Item 2) and that all students should take maths in sixth form (Item 13).

Table 3: Comparison modes of items on the pre- and post- survey related to attitudes toward mathematics (n=19)

Survey Item	Pre-PBL Mode	Post-PBL Mode
1. I am good at math.	3	2
2. I use math often.	2	3
3. I do not enjoy math.	4	4
4. Doing math projects or activities makes me nervous or upset.	3	3
5. I don't worry about how well I do on maths tests.	5	4
6. I often get scared when I see difficult math problems.	2	3
7. Math helps a person think logically.	2	2
8. I am not interested in studying math in higher education.	4	3
9. It is important to know maths to get a good Job.	2	2
10. Knowing math will help me make good decisions.	2	2
11. All math topics are important.	3	2
12. I retain information I learn in math classes.	3	2
13. All students should take maths in sixth form.	2	3
14. Math teaches me how to think.	2	2

The remaining 8 items were used to examine any changes in students' perceptions of their learning environment. The responses as tabulated in Table 4 indicated that a greater number of students enjoyed working in groups after the PBL lessons (Item 17), however, fewer students agreed that they would be more motivated to learn math if given the choice to decide which mathematical concepts are meaningful to them (Item 20). The remaining items showed no changes in students' responses after the intervention.

Table 4: Comparison modes of items on the pre- and post- survey related to the learning environment (n=19)

Survey Item	Pre-PBL Mode	Post-PBL Mode
15. I learn math concepts better when I am given the opportunity to figure out things by myself.	3	3
16. I learn more by studying math problems that interest me.	2	2
17. I enjoy learning math when working in a group with my peers.	3	2
18. I learn math best when the teacher lectures on topics while I take notes.	2	2
19. Math would engage me more if I could have a greater role in learning the material.	3	3

20. I would be more motivated to learn math if I could choose math concepts and problems in class that are meaningful to me.	2	3
21. I learn math best by doing math.	1	1
22. I would be able to learn math concepts independently of the teacher if I could solve math problems that are relevant to me.	3	3

During the interview with the focus group students, when asked to express their opinions regarding the PBL lessons, the students unanimously agreed that they greatly enjoyed the experience. The students were then asked to elaborate on the parts they enjoyed.

Interviewer	Ok, so what did you like about it?
Student 4	Basically, we just had fun rather than like normal, everyday routine. Past year paper, past year paper, past year paper.
Student 6	Yeah (interject)
Student 4	So at least we have something different
Student 5	Yea… (in the background, weakly)
Student 6	Yeah that is the main difference. Also we get to put our maths into practical use with the CSI thing.
Student 3	Crime Scene Investigation
Interviewer	Ok! What else? What else?
Student 1	It keeps us think, a lot. Brain storm in order to solve our problem. So this can help us in future life in case if we need any (pause). Problems that we find it hard to solve, then we can solve it. Keeps us thinking.
Student 3	It actually made me connect my physics to maths. I basically used all my physics in this. It was really fun.
Student 2	It was nice to learn something new instead of just sitting down watching (teacher), doing heh, playing on his phone, doing past year papers, heh.

The students enjoyed the unpredictability of the PBL design. In addition, they particularly enjoyed the fact that PBL provided them an opportunity to apply classroom mathematics to a real world problem. Further analysis of the interview transcription showed that in terms of exam preparation, students were not confident that the PBL approach would be sufficient. Majority of the focus group students felt that they needed more practice on past papers to be certain of their ability to correctly answer exam questions. However, one of the students felt that the PBL lesson was more mentally stimulating than recurring practice of past papers and that PBL facilitated learning because "it makes me think more than my usual maths class". When asked to elaborate on a preferred teaching method, a major recurring theme was the demand for a teaching approach that inculcates both lecture-based and inquiry-based elements. In particular, a teaching approach that promotes conceptual understanding as opposed to just surface learning. Furthermore, the students expressed a desire for a greater sense of control in their learning where they are given opportunities to "explore" different approaches to problem solving instead of conforming to the teacher's manner of solving.

Teacher's Observations and Reflections
On the first PBL lesson, the teacher distributed the context problem along with the rubric for assessment to the students after they settled into their respective groups. Each group consisted of three or four members and used either their phones or laptops as their source for internet research. The students were Crime Scene Investigators (CSI) and had to solve a case involving a teenage girl who was found dead and hanging from a rope. The teacher then explained the students' task which was to produce a presentation of their theories, backed by convincing scientific evidence.

Review of the teacher's reflective journal showed that at the beginning, students expressed frustration when direct answers were not given to them which resulted in them losing motivation. Referring to the students' notes and comparing it with the journal extract, it can be inferred that the students were heavily reliant on the teacher as the main disseminator of knowledge. Furthermore, the journal entry revealed that once the students accepted the teacher's role as a facilitator, they engaged in self-directed learning and turned towards their peers and technological resources.

The teacher indicated in her journal that she used general open-ended questions to guide the students initially. Towards the end of the allocated time, she noted that she was mainly walking around the classroom as an observer. The groups were enthusiastic in their debate regarding which theory they would like to go for and were also observed to utilise drawings as a graphical aid.

During the group presentations, the teacher noted that students tend to be shy initially. Encouragingly, the quieter students also asked a few questions. Each group member took turns to present and defend their theories when questioned. Some group members provided help with answering questions when one member fails. However, two students only introduced themselves during the presentation and left the explanation of the group solution to

the rest of their team members. Lastly, the teacher reported only one of the six groups provided a strong argument with an accurate graphical representation of their theory. The rest of the groups made some mistakes with their illustration of the forces involved. In the M1 module, it is important that students possess the ability to illustrate directions of forces.

DISCUSSION

The small change between the pre-test and post-test results indicated that there were no significant impact on students' mean test scores post intervention. However, evidence from previous research (Duch et al., 2001; Tayyeb, 2013) suggest that students learning through the PBL approach were able to foster critical skills and enhance their analytical and reasoning skills. In the post-test, the students were able to successfully apply prior knowledge to a different topic. Thus, it may be inferred that only students who successfully completed showed an increase in using higher order thinking after treatment. In the teacher's reflective statement, it was explained that the decrease in mean marks was due to students' confusion with the wording of the question. In order to verify that claim, another test question should have been administered with similar wording to the first question in the pre-test.

According to Mata and colleagues (2012), students' attitudes towards mathematics are closely linked to their motivation and the degree of social support received. In this study, students displayed signs of displeasure when the teacher, assuming the role of the facilitator, refused to give students direct solutions. Empirical data from the students' responses from the post-PBL questionnaire supports this notion. On the contrary, from the interview, majority of the focus group students expressed a demand for more freedom for autonomous learning. The students, however, did not express the nature of the answers they hoped to receive from the teacher.

The teacher also observed that the students were enthusiastic in formulating their suicide or murder theory and were quick to question. Furthermore, the students showed collaborative behaviour. They were seen to adopt or reject each other's ideas as mentioned in previous literature (Whipple, 1987). The post-questionnaire also indicated that students enjoyed working together collaboratively. The study by Botty and Shahrill (2014) noted that as students build rapport between themselves, the process of sharing and communicating is increased as observed in the students, in particularly the shy ones.

CONCLUSION AND IMPLICATIONS

PBL is relatively new to schools in Brunei Darussalam. This study appears to be one of the few conducted in the sixth form college setting. The PBL implemented here was a structured PBL approach which is considerably less time consuming than the typical PBL approach. Students were given a context problem to solve as a group within a specified time limit.

Statistical analysis of the data showed that the PBL approach had no significant impact on students' academic performance. Nonetheless, some positive changes in student attitudes toward mathematics were observed namely, an increase in students' enjoyment of the lesson when working in a group, a decrease in students' mathematical anxiety and more interest in studying mathematics at a higher level (Whipple, 1987). The qualitative data indicated that the PBL approach increased students' intrinsic motivation and promote collaborative learning (Botty & Shahrill, 2015; Caesar et al., 2016; Duch et al., 2001; Ryan & Deci, 2000).

Limitations and Recommendations

Notably it is difficult to design context problems that mimic real life situations that are familiar to the students due to increasingly abstract topics. Furthermore, this process of design requires a lot of careful planning. Moreover, there have not been any professional development courses for facilitators dedicated to designing relevant context problems that can engage students in effective knowledge acquisition and application at the same time. Another possible drawback is that teachers implementing PBL lessons need to alter their traditional teaching methods. In PBL, the teacher merely acts as facilitator. As this role is unfamiliar to some teachers, they may have trouble breaking out of their habitual teaching approach. Due to the time constraint, only one cycle of action research was conducted. Quite possibly the lack of change in the post-questionnaire responses could be due to students' short exposure to intervention

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Appendix A

<u>Suicide or Murder?</u>

It is 10.34 p.m. and your team has just received a distress call. There has been a hanging at the Warner's mansion and your team has been called in for investigation. At the crime scene, a female body was found hanging from the wooden beam of the boat house by the house lake. The body was identified as Lisa Warner who is the only child of Albert Warner. While searching the body for signs of struggle, one of your team members accidentally caused the body to sway. Suddenly, the corpse dropped onto the ground. It seems like the rope was severed. Can you and your team identify the cause of this sudden breakage? Your co-workers were unimpressed with this accident of your team member and your boss is in mind to pass this case on to another team of CSIs.

Your job now is to come up with a convincing plan to persuade your colleagues and boss that you are able to crack this case.

Remember, there is no right or wrong solution for this assignment. Marks will be awarded based on the Rubrics given below. In groups of three, you are expected to present your findings with justifications.
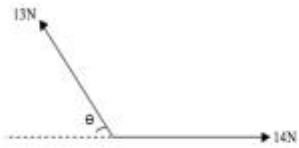
Appendix A – Continuation
Grading Rubrics

Criteria	1-2	3-5	6	Points
Organisation	Our presentation lacks organisation. It does not have a clear introduction, middle, or conclusion. There are little or no transitions.	Our presentation lacks an introduction and conclusion. We have very some transitions to support the flow of our presentation.	Our presentation has a clear introduction, middle, and conclusion. Transitions support the flow of our presentation.	
Grammar and Spelling	Our presentation has many grammar or spelling errors.	Our presentation has a few grammar or spelling errors.	Our presentation does not have any grammar and spelling errors.	
Choosing options	We did not choose an option for murder or suicide and our data does not clearly support either one.	We did not choose the option for murder or suicide. However, our data appears to support one.	We chose an option for murder or suicide and our reasoning was supported by our data.	
Presentation	Our presentation lacks graphical explanation. It does not include any graphs or sketches.	Our presentation has some graphs or sketches. However, they contain a few labelling errors.	Our presentation has some graphs or sketches which were correctly labelled.	
Persuasiveness	Our presentation is not able to persuade our co workers that we can solve the case and we were not able to answer any or most questions they asked.	Our presentation is persuasive but our data does not prove that we can solve the case.	Our data provides a clear and convincing argument that we can solve the case	
Delivery	Soft projection of voice. Only one group member present while the rest idle around. Little/ no use of mathematical terms.	Inconsistent projection of voice (sometimes loud sometimes soft). Most group members present. Incorrect use of mathematical terms.	Clear and concise projection of ideas. All group members present in turns. Use correct mathematical terms.	
TOTAL MARKS (OUT OF 30)				

Appendix B   **Appendix C**

ADMINISTRATION MODEL FOR EDUCATION EXECUTIVES IN PRIVATE SCHOOLS AND TEACHERS' PERCEPTION IN THIS SENSE

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ABSTACT

This study has been carried out, in view of this significance, to investigate the perspectives of the teachers employed in private schools regarding the administrative models put into practice in their schools in the light of the increasing importance of the private sector in the education sector as in other sectors day by day. The general survey method has been used in this study. The questionnaire of "The Administration Models" developed by Çelik (2008, p.116-117) in fivefold likert-type scale with Alpha reliability co-efficient of 0.844 was used to get the views. The teachers serving in the private schools in the districts of Bahçelievler, Bayrampaşa, Beşiktaş and Zeytinburnu in İstanbul under the Ministry of National Education formed the population of this survey. A sampling group was formed in the method of "Simple Random Sampling" from among the teachers constituting the sampling population. When we assess the survey basing on arithmetical averages, we observe that the sub-dimension the teachers have agreed with at the lowest level 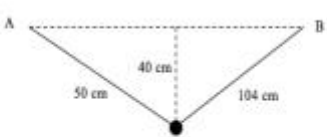is "The Autocratic Administration Model", the one to which they have expressed their agreement at the highest level is "The Free Hand Administration Model". In line with these results, it's suggested that the administrators in private schools should be provided trainings that would enable them to adopt philosophy of governance and hold workshops, meetings etc. about administration models.

INTRODUCTION

EDUCATIONAL ADMINISTRATION

As a human being has been either in or under administration throughout history, the science of administration is an age-old discipline. The oldest literary works of this discipline were the works containing advices for emperors, and administrators and managers intended for the execution of administration and management practices. The involvement of the science of administration in educational practices occurred, on the other hand, at the beginning of the 19. Century with the application of business administration principles in schools. The first terms in the field of educational administration were used by the Romans. It was the Romans who first created and developed a system for school administration (Bursalıoğlu, 2012, p.1-14; Gülşen, 2005, p.2).

As far as the history of education in Turkey is concerned, the notion of school administration is a concept inaugurated in relatively recent times. In a document drawn up for the Mektebi Maarifi Adliye (a school established to educate civil cervants) during the reign of Sultan Mahmud II., Imamzade Esat Efendi was nominated as "Nazır" which meant "School Principal". The practices in the period paved the way for the embedment of school administration in Turkey enabling the development of an administrator class in educational administration. (Bursalıoğlu, 2012, p.1-14; Recepoğlu & Kılınç, 2014, p.1817-1845).

Educational institutions are entities that are established to enable the development of countries in cultural and economic aspects meeting the needs of human societies in terms of education, and the educational administration, as we call it today, is the process of sustaining these institutions in optimal condition to satisfy the needs within its defined purpose, in continuous development and renewal in line with the principles of business administration using the existent sources in the most optimal way (Çelik, 2008, p.5; Gülşen & Gökyer, 2014, p.191; Hoy & Miskel, 2012, p.397; Yalçın, 2009, p.1).

Assessing the issues in connection with educational administration in a general perspective, we observe the existence of a tendency from a structure where the government plays the dominant role to one in which the government and society enters into a cooperation. The environment where the nature of educational administration is in continuous evolvement has resulted in a regulatory process in which decision and administrative processes have been regulated in a democratic and participative understanding (Gülşen, 2005, p.2; Teyfur, 2011, p.13)

The limits of the school administration that is in fact an implementation of the educational administration in a restricted field are determined by the purposes and structure of the educational system. The duty of a school administrator is to sustain the school making use of all the human and material sources in the school. (MEB, 2014, p.2; Resmi Gazete, 2014, p.5; Teyfur, 2011, p.16). A school administrator enables a more qualitative and

more efficient school administration when she/he fulfils this duty in close cooperation with the teachers and other employers in the school (Yalçın, 2009, p.18). The working environment of a school administrator should be so designed that it enables an effective and efficient work, because her/his success also depends on other people in terms of systematic and efficient fulfilment of their own duties. The administrators apply the administration model they prefer so as to create an efficient and effective working environment (Ağaoğlu,Yılmaz &Köse, 2012, p.164-171; Aktepe, 2014, p.89-105; Çelik, 2008, p.18).

ADMINISTRATION MODELS

The administration model defining the administration style of an administrator is one of the important factors distinguishing one institution from the other. An administrator is cognizant of many models she/he can put into practice in his work and gives preference to one or the other of these models. There are so many models the administrators could take over; they could be authoritarian, participative (democratic), free hand, tolerant, free rein, cooperative, soft, hard, one that's not too soft and too hard, oriented to production, oriented to human resources etc. among others. Within the scope of this study, we have examined "autocratic'", "participating (democratic)" and "freehand" types of administration (Çelik, 2008, p.22).

1) The Autocratic Administration Model

The administrators who apply this administration style hold all the power and authority, and exercise authority and pressure on the employees with orders and instructions. Such administrators are bad-tempered and authoritarian, they can't stand criticism and arguments of other people, because they believe that only they know the truth (Çelik, 2008, p.23; Gezici, 2007, p.15; Gülşen, 2005, p.17).

Autocratic administrators consider themselves to be on the level of reflexion and decision making, while they see the employees as implementers of their concepts and decisions. The employees who work under such administrators incline to loaf around, work only under pressure and don't care about the institution they're working in. These administrators attach more importance to the performance of the institution rather than the employees (Bolman & Deal, 2013, p.374-376; Gezici, 2007, p.15;). Employees who are mostly in bureaucratic environments grow ripe in an autocratic culture and they consequently expect that their administrators conduct in the same way (Gezici, 2007, p.15; Taş, 2016, p.273-274).

Autocratic administrators implement their decisions regardless of the views and judgements of others. At the same time, they expect that others comply to their instructions and give them credence (Çelik, 2008, p.23). Such administrators see others as tools used to do a work and they underestimate them. They don't communicate with employees except for giving instructions. This style of administration is controlling, hard, unbending and suffocating. (Karakaşoğlu, 2011, p.6). Autocratic administrators try to keep their employees under control by means of threatening, punishing or controlling them (Çelik, 2008, p.23; Tosun, 2014, p.686-690).

2) Participative Administration Model

The administrators adopting the participative model in administration guide and lead the employees and encourage them to participate in decision making processes. Such administrators form the administration process basing on feedbacks from employees. It's an administration model based on cooperation where authority and responsibility are shared and decisions are taken together. There is a horizontal relationship between administrators and employees here. The employees are given a sense of confidence, and appreciation and awarding are used as motivating tools. Here, a teamwork in open-minded communication leaves its mark on the working environment (Çelik, 2008, p.24; Karakaşoğlu, 2011, p.7).

As the employees can participate in the decision taking processes in this administration model, several problems could be discussed freely and changes in the institution could be realised in an easeful atmosphere. The employees also engage themselves more willingly in the implementation of the decisions taken. As the employees see themselves as part of the authority, supervision and surveillance occur in an easeful way as well (Gezici, 2007, p.17; Robbins & Judge, 2013, p.385-386).

When we assess the participative administration model in respect of the job satisfaction of administrators and employees, we observe that the administrators and employees perform a work in cooperation embracing the institution in a working environment where there are less complaints or in-house conflicts where more job satisfaction comes into prominence (Gezici, 2007, p.17; Gülşen, 2005, p.18).

3) Freehand Administration Model

In this administration model, the administrator set the employers free in their decisions and works. There is a vision put forward and it's expected that the employees embrace and protect the institution. The administrators don't steer, inform and monitor the employees in any issues. When problems come into existence, the administrator, instead of stepping personally into action, expects that the employees act freely and take initiative to overcome the problems (Çelik, 2008, p.23; Eren, 1989, p.14-67; Gülşen, 2005, p.2; Özdemir, 1997, p.1-12).

The administrator expects that the employees devise their plans and programmes within the existing possibilities and expresses his opinion only where necessary. The administrators don't canalize the employees, on the contrary, the employees do canalise the administrators. There is no award or punishment system to motivate the employees. The efficiency increases in environments where there are no administrators around and the talented ones among the employees enable the success of the institution. An administrator having professional expertise can achieve success in the model, otherwise conflicts occur in the institution creating an environment where everybody acts at her/his own will rather than pursuing the vision of the institution. In such cases, the work brings less satisfaction and the productivity decreases (Gezici, 2007, p.19-20).

THE METHOD

The *general survey method* has been used in this study. The questionnaire of "Administration Models" has been used to get the views of the teachers working in the private schools under the Ministry of National Education in the districts of Bahçelievler, Bayrampaşa, Beşiktaş and Zeytinburnu in İstanbul with regard to "the perceptions of teachers on the implemented management model by the school managers".

SURVEY POPULATION AND SAMPLING

2773 teachers serving in 167 private schools in total under the Ministry of the National Education in the districts of Bahçelievler, Bayrampaşa, Beşiktaş and Zeytinburnu in İstanbul formed the population in this research (Aras, Şimşek, & Kakırman, 2014, p.13-46). A sampling group of 300 people, corresponding to 10,82 % of the survey population, was formed in "Convenience Sampling" method from among the teachers constituting the population of the study. 280 of the questionnaires delivered were returned equaling to 93,33 %. The questionnaires taken under review form 10,10 % of the survey population.

COLLECTION, ANALYSIS AND INTERPRETATION OF THE DATA

First of all, a literature review was carried out, the related legislations were examined and the views were collected by means of survey method with the aim of getting the views of the teachers who were employed in the private schools under the Ministry of the National Education in the districts of Bahçelievler, Bayrampaşa, Beşiktaş and Zeytinburnu in İstanbul during teh school year of 2014 - 2015 with regard to "the perceptions of the teachers on the implemented management model by the school managers". The questionnaire of "Administration Models" developed by Çelik (2008, p.116-117) in fivefold likert-type scale with Alpha reliability co-efficient of 0.844 was used to scale the views in the survey.

The evaluation of the study was executed deeming that the options and the intervals in the options given in the questionnaire were equal. The options of the items in the questionnaire and the related weights given to these options were specified as follows: "1- I strongly disagree: 1,00–1,80", "2-I don't agree: 1,810–2,60", "3-I partially agree: 2,61–3,40", "4-I mostly agree: 3,40–4,20" and "5-I strongly agree: 4,20–5,00".

The data collected were placed in tables in the sub-dimensions of *"The Autocratic Administration Model"*, *"The Participative Administration Model"* and *"The Freehand Administration Model"* and the data in the tables were interpreted examining them firstly in terms of frequency (f), percentage (%), arithmetic average ($\overline{x}$) and standard deviation (sd), and later in respect to the gender variable. Mann Whitney U Test was used in the evaluation of the differentiation with respect to the gender variable.

FINDINGS AND OUTCOMES

The findings obtained in the study were placed in tables in the sub-dimensions of *"The Autocratic Administration Model"*, *"The Participative Administration Model"* and *"The Freehand Administration Model"* and the data in the tables were then interpreted by means of statistical methods.

Table 1. The Statistical Data about the Propositions in Connection with the Autocratic Administration Model

No	Views	By Gender				General Total		
		C	f	%	$\overline{x}$	f	$\overline{x}$	ss
1	The proposals made by teachers aren't taken into account by the administrative board.	F	154	55	2,29	280	2,52	1,21
		M	126	45	2,81			
2	The administrative board dictates the working mode to the teachers.	F	154	55	2,96	280	3,09	1,14
		M	126	45	3,25			
3	In case of a mistake, teachers are warned by the administrative board not to make a further mistake.	F	154	55	3,35	280	3,45	1,08
		M	126	45	3,57			
4	The administrative board uses its administrative power to enable the teachers to develop themselves.	F	154	55	3,35	280	3,05	1,11
		M	126	45	2,84			
5	The administrative board is content about its administrative power over the teachers.	F	154	55	3,32	280	3,29	1,08
		M	126	45	3,25			
6	The administrative board is of the opinion that the teachers should be administered under exercising of power and pressure so that the institution can reach its goals.	F	154	55	2,88	280	2,97	1,25
		M	126	45	3,08			

7	The administrative board doesn't feel the need to share the success achieved in the school with the teachers.	F	154	55	1,69	280	1,91	1,25
		M	126	45	2,19			
	General Average	F	154	55	2,83	280	**2,89**	1,16
		M	126	45	3,00			

Table 1 includes the data concerning the views of the teachers in connection with "the Propositions about the Autocratic Administration Model" in percentages (%), frequencies (f) arithmetic average ($\overline{x}$) and standard deviation (sd). The teachers generally stated that they partly agreed with the propositions with regard to the sub-dimension of "The Autocratic Administration Model" with an arithmetic average of 2,89. Viewing it based on the gender variable, on the other hand, we observe that while both female and male teachers partly agree with the propositions in this sub-dimension; the male teachers approach to the propositions in connection with "The Autocratic Administration Model" more positively compared to female teachers. Viewing the propositions about "The Autocratic Administration Model" basing on items, we see that the proposition the teachers agreed with at the highest level is the proposition " In case of a mistake, teachers are warned by the administrative board not to make a further mistake". The teachers mostly agreed with this proposition with an arithmetic average of 3,45. The proposition " The administrative board doesn't feel the need to share the success achieved in the school with the teachers." has been the one the teachers agreed in the lowest level with an arithmetic average of 1,91. This proposition turned out to be the one the participants have agreed with in the lowest level in the whole of the questionnaire. These results indicate that the teachers working in private schools be of the opinion that the administrators in private schools exercise an administration type in their schools that partly matches with the autocratic administration model.

Table 2. The Statistical Data about the Propositions in Connection with the Participative Administration Model

NO	Views	By Gender				General Total		
		C	f	%	$\overline{x}$	f	$\overline{x}$	ss
1	The administrative board holds the power of decision making.	F	154	55	3,48	280	3,66	1,15
		M	126	45	3,89			
2	The teachers and the administrative board take important decisions together.	F	154	55	3,21	280	3,01	1,28
		M	126	45	2,76			
3	The administrative board devises the plans and projects for the future taking the views of the teachers into account.	F	154	55	3,34	280	3,14	1,15
		M	126	45	2,89			
4	The decisions in the school are taken with the consent of the teachers.	F	154	55	2,84	280	2,62	1,13
		M	126	45	2,35			
5	The teachers are allowed to express their opinions in respect of the possibilities in their professional development.	F	154	55	3,05	280	2,98	1,20
		M	126	45	2,89			
6	Meetings are organised with teachers when things don't develop as planned.	F	154	55	3,52	280	3,32	1,04
		M	126	45	3,08			
7	The administrative board creates a favourable environment enabling the teachers to take part in decision-making processes.	F	154	55	3,23	280	2,95	1,16
		M	126	45	2,60			
8	The administrative board shares its administrative power with the teachers.	F	154	55	3,01	280	2,71	1,25
		M	126	45	2,35			
9	In cases where conflicts arise in respect of duties and roles, the teachers and the administrative board finds a way out of the conflict in mutual consent.	F	154	55	3,61	280	3,32	1,14
		M	126	45	2,97			
10	The administrative board takes the priorities of the teachers into consideration in the decision making process.	F	154	55	3,01	280	2,81	1,14
		M	126	45	2,57			
11	The administrative board doesn't share the success achieved in the school with the teachers.	F	154	55	4,22	280	3,92	1,11
		M	126	45	3,56			
12	The administrative board believes that the teachers can present creative solutions in overcoming the problems.	F	154	55	3,62	280	3,26	1,12
		M	126	45	2,83			
13	The views of the teachers are taken into account in cases when there is a change in their duties.	F	154	55	3,12	280	2,78	1,24
		M	126	45	2,37			
	General Average	F	154	55	3,32	280	**3,11**	1,16
		M	126	45	2,85			

Table 2 contains the data concerning the views of the teachers in connection with "the Propositions about the Participative Administration Model" in percentages (%), frequencies (f) arithmetic average ($\overline{x}$) and standard deviation (sd). The teachers generally stated that they partly agreed with the propositions with regard to the sub-dimension of "Participative Administration Model" with an arithmetic average of 3,11. Viewing the outcomes in

terms of gender variables, it's observed that while both female and male teachers partly agree with the propositions in this sub-dimension; the female teachers approach to the propositions in connection with "The Participative Administration Model" more positively compared to male teachers. Viewing the propositions about "The Participative Administration Model" basing on items, we see that the proposition the teachers agreed with at the highest level is the proposition "The administrative board doesn't share the success achieved in the school with the teachers." The teachers mostly agreed with this proposition with an arithmetic average of 3,92. The proposition "The decisions in the school are taken with the consent of the teachers." has been the one the teachers have agreed in the lowest level with an arithmetic average of 2,62. These results indicate that the teachers working in private schools be of the opinion that the administrators in private schools exercise an administration type in their schools that partly matches both with the autocratic and participative administration models.

Table 3. The Statistical Data about the Propositions in Connection with the Freehand Administration Model

No	Views	By Gender				General Total		
		C	f	%	$\overline{x}$	f	$\overline{x}$	ss
1	The teachers decide in their own initiative how to work pursuant to the information they receive.	F	154	55	3,30	280	3,19	1,09
		M	126	45	3,06			
2	Teachers are aware of their duties and responsibilities.	F	154	55	4,08	280	4,01	0,80
		M	126	45	3,94			
3	The administrative board transfers its duties and responsibilities to teachers so that new projects could be put into practice.	F	154	55	2,95	280	2,79	1,05
		M	126	45	2,60			
4	As the administrative board believes that the teachers do their job well, it takes decisions about its own works and allow them to implement them.	F	154	55	3,01	280	2,86	1,12
		M	126	45	2,68			
5	The teachers decide for themselves about what to do and when.	F	154	55	2,91	280	2,70	1,08
		M	126	45	2,44			
6	The opinions and aspirations of the teachers are taken as base in the changes about their duties.	F	154	55	2,87	280	2,73	1,10
		M	126	45	2,56			
7	The teachers are the ones who assume the responsibility for the decisions and outcomes in project design phases.	F	154	55	3,81	280	3,68	0,99
		M	126	45	3,52			
8	The teachers believe that they can administer themselves.	F	154	55	3,61	280	3,43	1,07
		M	126	45	3,21			
9	The administrative board believes that the teachers could orientate themselves by their professions and the commitment they have against the institution they work in.	F	154	55	3,53	280	3,26	1,14
		M	126	45	2,94			
	General Average	F	154	55	3,34	280	**3,18**	1,04
		M	126	45	2,99			

The Table 3 shows the data concerning the views of the teachers in connection with "the Propositions about the Freehand Administration Model" in percentages (%), frequencies (f) arithmetic average ($\overline{x}$) and standard deviation (sd). The teachers generally stated that they partly agreed with the propositions with regard to the sub-dimension of "The Freehand Administration Model" with an arithmetic average of 3,18. Viewing the outcomes here in terms of gender variables, it's observed that while both female and male teachers partly agree with the propositions in this sub-dimension; the female teachers approach to the propositions in connection with "The Freehand Administration Model" more positively compared to male teachers. Viewing the propositions about "The Participative Administration Model" basing on items, we observe that the proposition the teachers have agreed with at the highest level is the proposition "Teachers are aware of their duties and responsibilities." This proposition has been the one the teachers agreed with in the highest level within the whole questionnaire. The teachers mostly agreed with this proposition with an arithmetic average of 4,01. The proposition "The administrative board transfers its duties and responsibilities to teachers so that new projects could be put into practice." has been the one the teachers have agreed in the lowest level with an arithmetic average of 2,70. These results indicate that the teachers working in private schools be of the opinion that the administrators in private schools exercise an administration type in their schools that partly matches with all the three types of models of autocratic, participative and freehand administration.

Table 4 collectively shows all the Statistical Data concerning the findings at the sub-dimension levels in the questionnaire of "Administration Models".

Table 4. The Overall Statistical Data related to the Questionnaire of Administration Models

Gender	f	The Autocratic Administration Model		The Participative Administration Model		The Freehand Administration Model		Total of Administration Models
		$\overline{x}$	ss	$\overline{x}$	ss	$\overline{x}$	ss	$\overline{x}$
Female	154	2,83	1,09	3,32	1,07	3,34	0,98	3,16

Male	126	3,00	1,21	2,85	1,2	2,99	1,09	2,95
Total	280	**2,89**	1,16	**3,11**	1,16	**3,18**	1,04	**3,06**

Viewing the data in the sub-dimensions in Table 4 in a general perspective, we see that the teachers have partly agreed with the whole of the questionnaire with an arithmetic average of 3,06. We observe that while the teachers have partly agreed with all the sub-dimensions in the questionnaire of Administration Models, there is a difference between the agreement degrees as to the arithmetic averages. While the teachers have agreed with the sub-dimension of the "Freehand Administration Model" at the highest level with 3,08 arithmetic average, the model sub-dimension they have agreed with at the lowest level one of "Autocratic Administration Model". The teachers have agreed with the propositions in the sub-dimension of the autocratic administration with an arithmetic average of 2,89 en bloc. On the basis of these outcomes, we can say that these teachers are of the view that the administrators in their schools adopt a mixed administration approach and they apply the freehand administration model more than the other ones.

The Test of Mann Whitney U was used to evaluate the differentiation of the teachers' views as to the sub-dimensions of the "Administration Models" questionnaire in terms of gender variable. The related findings are shown below.

Table 5. The Outcomes of the Mann Whitney U Test relating the sub-dimension "Autocratic Administration Model" of the "Administration Models" Questionnaire

Administration Models	Items	Gender	n	Range Average	Range Total	U	P
Autocratic Administration Model -Item 1	The proposals made by teachers aren't taken into account by the administrative board.	F	154	63,43	4884,00	1881,000	,020
		M	126	79,14	4986,00		
Autocratic Administration Model - Item 8	The administrative board doesn't feel the need to share the success achieved in the school with the teachers.	F	154	62,32	4799,00	1796,000	,003
		M	126	80,49	5071,00		

Examining the responses given to the sub-dimension "Autocratic Administration Model" of the "Administration Models" questionnaire, we observe that the views about the item " The proposals made by teachers aren't taken into account by the administrative board" shows a significant difference in a significance level of "p < 0,05" (p = ,020). More male teachers have agreed with this view in comparison to the female teachers. It's observed that the views about the item " The administrative board doesn't feel the need to share the success achieved in the school with the teachers." also shows a significant difference in a significance level of "p < 0,05" (p = ,003). Also here, more male teachers have agreed with this view compared to the female teachers.

Table 6. The Outcomes of the Mann Whitney U Test relating the sub-dimension "Participative Administration Model" of the "Administration Models" Questionnaire

Administration Models	Items	Gender	n	Range Average	Range Total	U	P
Participative Administration Model -Item 1	The teachers and the administrative board take important decisions together.	F	154	76,62	5900,00	1954,0	,040
		M	126	63,02	3970,00		
Participative Administration Model -2	The administrative board devises the plans and projects for the future taking the views of the teachers into account.	F	154	77,57	5973,00	1881,0	,019
		M	126	61,86	3897,00		
Participative Administration Model -Item 3	The decisions in the school are taken with the consent of the teachers.	F	154	79,13	6093,00	1761,0	,004
		M	126	59,95	3777,00		
Participative Administration Model -Item 5	Meetings are organised with teachers when things don't develop as planned.	F	154	78,16	6018,50	1835,5	,010
		M	126	61,13	3851,50		
Participative Administration Model -Item 6	The administrative board creates a favourable environment enabling the teachers to take part in decision-making processes.	F	154	80,19	6175,00	1679,0	,001
		M	126	58,65	3695,00		
Participative Administration Model -Item 7	The administrative board shares its administrative power with the teachers.	F	154	80,43	6193,00	1661,0	,001
		M	126	58,37	3677,00		
Participative Administration Model -Item 8	In cases where conflicts arise in respect of duties and roles, the teachers and the administrative board finds a way out of the conflict in mutual consent.	F	154	80,06	6164,50	1689,5	,001
		M	126	58,82	3705,50		
Participative Administration Model Item 9 -	The administrative board takes the priorities of the teachers into consideration in the decision making process.	F	154	77,62	5976,50	1877,5	,018
		M	126	61,80	3893,50		

Participative Administration Model-Item 10	The administrative board shares the success achieved in the school with the teachers.	F	154	78,56	6049,50	1804,5	,006
		M	126	60,64	3820,50		
Participative Administration Model - Item 11	The administrative board believes that the teachers can present creative solutions in overcoming the problems.	F	154	82,12	6323,00	1531,0	,000
		M	126	56,30	3547,00		
Participative Administration Model - Item 12	The views of the teachers are taken into account in cases when there is a change in their duties.	F	154	81,51	6276,50	1577,5	,000
		M	126	57,04	3593,50		

Examining the responses given to the sub-dimension "Participative Administration Model" of the "Administration Models" questionnaire in Table 6, we observe that more female teachers have agreed with it compared to the male teachers. Viewing the difference degrees based on items with a significance level of "p < 0,05", we observe that the following significance levels come to light:(p =,040) in the item "The teachers and the administrative board take important decisions together."; (p =,019) in the item " The administrative board devises the plans and projects for the future taking the views of the teachers into account."; (p =,004) in the item " The decisions in the school are taken with the consent of the teachers."; (p =,010) in the item " Meetings are organised with teachers when things don't develop as planned."; (p =,001) in the item " The administrative board creates a favourable environment enabling the teachers to take part in decision-making processes."; (p =,001) in the item "The administrative board shares its administrative power with the teachers."; (p =,001) in the item " In cases where conflicts arise in respect of duties and roles, the teachers and the administrative board finds a way out of the conflict in mutual consent."; (p =,018) in the item "The administrative board takes the priorities of the teachers into consideration in the decision making process"; (p = ,006) in the item " The administrative board shares the success achieved in the school with the teachers."; (p = ,000) in the item "The administrative board believes that the teachers can present creative solutions in overcoming the problems." and (p = ,006) in the item "The views of the teachers are taken into account in cases when there is a change in their duties."

Table 7. The Outcomes of the Mann Whitney U Test relating the sub-dimension "Freehand Administration Model" of the "Administration Models" Questionnaire

Administration Models	Items	Gender	n	Range Average	Range Total	U	P
Freehand Administration Model -Item 5	The teachers decide for themselves about what to do and when.	F	154	78,55	6048,00	1806,000	,007
		M	126	60,67	3822,00		
Freehand Administration Model-Item 8	The teachers believe that they can administer themselves.	F	154	76,98	5927,50	1926,500	,029
		M	126	62,58	3942,50		
Freehand Administration Model -Item 9	The administrative board believes that the teachers could orientate themselves by their professions and the commitment they have against the institution they work in.	F	154	79,36	6111,00	1743,000	,003
		M	126	59,67	3759,00		

Examining the responses given to the sub-dimension "Freehand Administration Model" of the "Administration Models" questionnaire in Table 7, we observe that more female teachers have turned out to agree with it in comparison to the male teachers. Viewing the difference degrees based on items with a significance level of "p < 0,05", we observe that the following significance levels come into existence: a significance level of (p=,007) in the item "The teachers decide for themselves about what to do and when."; that of (p=,029) in the item "The teachers believe that they can administer themselves." and a level of (p=,003) in the item " The administrative board believes that the teachers could orientate themselves by their professions and the commitment they have against the institution they work in."

OUTCOMES
- *In view of the findings obtained in the study, the following outcomes have come into the picture:*
- The teachers employed in the schools included in the study have partly agreed with all the sub-dimensions, having urther stated that the administrators in the private schools adopt a mixed administrative approach and a mixed administrative style in line with this approach.
- The teachers in the private schools included in the study apply the freehand administration model a little more than the other administration models.
- Viewing the study basing on gender variable, we have observed that while both female and male teachers have partly agreed with the questionnaire of administration models as a whole, the female teachers have had a more positive approach to the questionnaire than the male teachers.

- When we view the outcomes, on the other hand, basing on the sub-dimension in respect of gender variable, we have seen that there is a significant difference between the views of the female and male teachers in some items. A closer examination of the items where there are differences indicate that while the male teachers have agreed with the items relating to the "the autocratic administration model" in a higher level compared to the female teachers, more female teachers have agreed with the items in connection with "the Participative Administration Model" and "Freehand Administration Model" in comparison to the male teachers.
- The teachers underline that "in case of a mistake, teachers are warned by the administrative board not to make a further mistake."; and that the administrative boards in the schools don't feel the need to share the success achieved in schools with the teachers.
- The teachers are of the view that the decisions in private schools aren't taken with the consent of the teachers.
- The teachers employed in private schools are of the opinion that every teacher serving in these school is aware of her/his duties and responsibilities.
- The teachers are assigned duties and invested with power so that new projects could be implemented in private schools.

PROPOSALS

Based on the outcomes of the study, we bring forward to following proposals that we deem to be appropriate in this sense:

- As the views of the teachers indicate that a mixed administration approach is implemented in the private schools put under the scope in this study, arrangements should be made to organise trainings enabling the school administrators to adopt a participative approach with distinguishing aspects of governance philosophy.
- In this sense, trainings should be organized with the aim of enabling the administrators in private schools to adopt governance philosophy with a participative understanding. Furthermore, diverse events such as workshops, meetings etc. should be held focusing on the administration models in private schools with the participation of diverse social segments including the school administrator.
- The administrators in private schools should be encouraged and promoted to have post-graduate education in the field of educational administration, because such an education could be effective in providing a mentality change in educational administration.
- Similar studies should be made with the participation of other related parties in the society so that we can have more general outcomes based on broader researches.
- Sharing the successes obtained in schools with teachers and enabling them to express their views in decision making processes will be effective in the institutionalisation of an understanding based on governance. For this reason, the view of the teachers expressed in the statement that the teachers employed in private schools be aware of their duties and responsibilities should be taken into consideration and the institutional successes achieved in private schools should be shared with teachers and it should be ensured that the teachers take part in processes where the institutional decisions are taken.
- In order to obtain more general outcomes, further researched should be conducted where the views of diverse parties are collected.

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ADOPTING PROPER METHODS FOR STUDYING MANAGEMENT IN POST-TRANSFORMATION ECONOMIES AND THEIR EFFECT ON THE EMPLOYMENT RATE

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ABSTRACT

This paper discusses the experience gained at our faculty when tailoring the study programme to take into consideration the links of education to other components of HDI (Human Development Index). HDI is a widely recognized index of the standard of living with education being one of its dimensions. Eurostat or the OECD reports demonstrate a strong relationship between ones education and position in the labour market, and between education and personal income. With the increasing speed of developing the information society and more recently knowledge economics, individuals participating in the labour market need other competencies and skills than those gained from previous education or training. This has been confirmed recently also by the Hays Global Skills Index 2015, a report published by Hays in collaboration with Oxford Economics. Some of these problems appear particularly in post-transformation economies. The paper outlines the missing skills and competences which are needed in managerial education and the methods adopted at our faculty with the goal of attaining them. The impact of these methods is then documented by the results university rankings of business and management faculties in our country according to the employment rate of their graduates.

INTRODUCTION

Education is a very powerful factor influencing the employment rate, income and even health status. Justifiably, education is considered to be one of the significant components of HDI (Human Development Index). HDI is a widely recognized summary index of the standard of living, combining three dimensions – life expectancy, education and the gross national income per capita. Many studies, including Eurostat or the OECD reports, demonstrate a strong relationship between ones education and position in the labour market, and between education and personal income. Studies showing and explaining a link between education and health status were already published as early as 1995 (Ross and Wu, 1995, Groot and Maasen van den Brink, 2006, Zimmerman et al., 2015). In 2013, the Office of Behavioral and Social Sciences Research (OBSSR) partnered with the Harvard Center for Population and Development Studies to examine the link between education and health and published their analysis in a special report of the U.S. Dept. of Health and Human Services, National Institutes of Health – special issue of Social Science & Medicine (Montez and Friedman, 2015).

The aim of this paper is to discuss the experience gained at our faculty when tailoring the study programme to take into consideration the above–mentioned links of education to other components of HDI. We took a chance to capitalize on the fact that we are an institution of higher education and our study programme in Management includes Human Resource Management, Labour Market and Health Care Management. Moreover, all these subjects are studied from the point of view of economics, as we are a part of the University of Economics, Prague.

With the increasing speed of developing the information society and more recently knowledge economics, individuals participating in the labour market need other competencies and skills than those gained from previous education or training. This is particularly true for the older (but still productive) generation; even for younger generations in some fields. One of these fields is management, or more specifically, education in Managerial Studies in post-transformation economies such as the Czech Republic. Prior to 1989, management was almost a "forbidden" word. Thus, the curricula in management needed to be quickly designed and gradually improved. However, the simple solution of adopting textbooks written by authors from prestigious universities and business schools abroad proved to be insufficient. Upon completion of secondary education and admittance to university education, students in our country lack the critical thinking and argumentation skills. These skills are essential, particularly for successful managers. Students in economically advanced countries, e.g. in the UK, are trained even from the very beginning of their education not to agree with their teachers, to evaluate the arguments of their teachers or classmates critically. Unfortunately, few of the graduates from secondary schools are equipped with these skills upon entering their university studies.

The importance of matching the skills required by businesses and industries with those attained by education and training is documented by the fact that it is included in the Hays Global Skills Index. This index, prepared annually

together with Oxford Economics, is a complex, statistically-based study designed to assess the dynamics of skilled labour markets across 31 countries. It consists of seven indicators, from which the following three are of particular interest for us: Education Flexibility, Labour Market Participation and Talent Mismatch.

These indicators and the endeavour to take them into account are closely linked to the methods adopted at our faculty for education in management which are discussed later in this paper. The second source of inspiration for improving the education methods is based on thorough discussions with experienced and successful managers in our country who know well which skills and competences our graduates lack.

RELATION BETWEEN ACHIEVED EDUCATION AND LABOUR MARKET

It is indisputable that changes in standard of living will be related to changes in approaches to education. The education structure is changing in all European countries. The ratio of individuals in the productive ages of 15–64 years having completed tertiary education in the Czech Republic increased from 9% in 1999 to 18.1% in 2013. A similar trend was recorded in that period in all other EU countries.

Many authors dealing with unemployment are interested in the impacts of demographic changes and other characteristics of the labour market with respect to the changes of age structure. However, as Biagi and Lucifora (2008) point out, the labour market is also strongly influenced by changes in the educational structure. Again, Jefferson (2008) critically states that many authors focus on the impact of the level of education achieved on wages and the total earnings of employees but not on the behaviour and competences related to the level of education and their influence on the one's possibility of participating in the labour market.

A great deal of research has been devoted to the relation between the level of education achieved, e.g. Wolbers (2000), Lauer (2003) or Valletta and Hodges (2005). Utilizing OECD data on member countries, Cahuc et al. (2014) show that the unemployment rate decreases together with the increasing level of education. While the average unemployment rate among individuals with a tertiary education was at the level of 4.7% in 2010, this level was 12.5% among those with a lower level of education than the secondary one. The levels of the unemployment rate rose during the economic recession in 2008, significantly more for individuals with a lower level of education compared to those with a higher one. Garrouste et al. (2010) analysed data with respect to various age groups, reaching the conclusion that although education plays a significant role during the whole active working life, its influence decreases with increasing age (above the age 40). According to the authors, this fact confirms the presumption that competences are becoming gradually outdated, the presumption originated from the theory of human capital.

The state of employment rate of adults (age group 25-64) according to their education in 2013 for selected EU countries is illustrated in Figure 1. We can see that in all these countries the highest employment rate is achieved by the individuals with the tertiary education. Another common feature is that on the contrary, the lowest employment rate is achieved by individuals with a lower than secondary education. The biggest gap can be noticed especially between those with a tertiary education and a basic one. In the graph in Figure 1, we can see that the biggest differences exist just in post-transformation economics (the Czech Republic, Slovakia, Poland and Hungary).
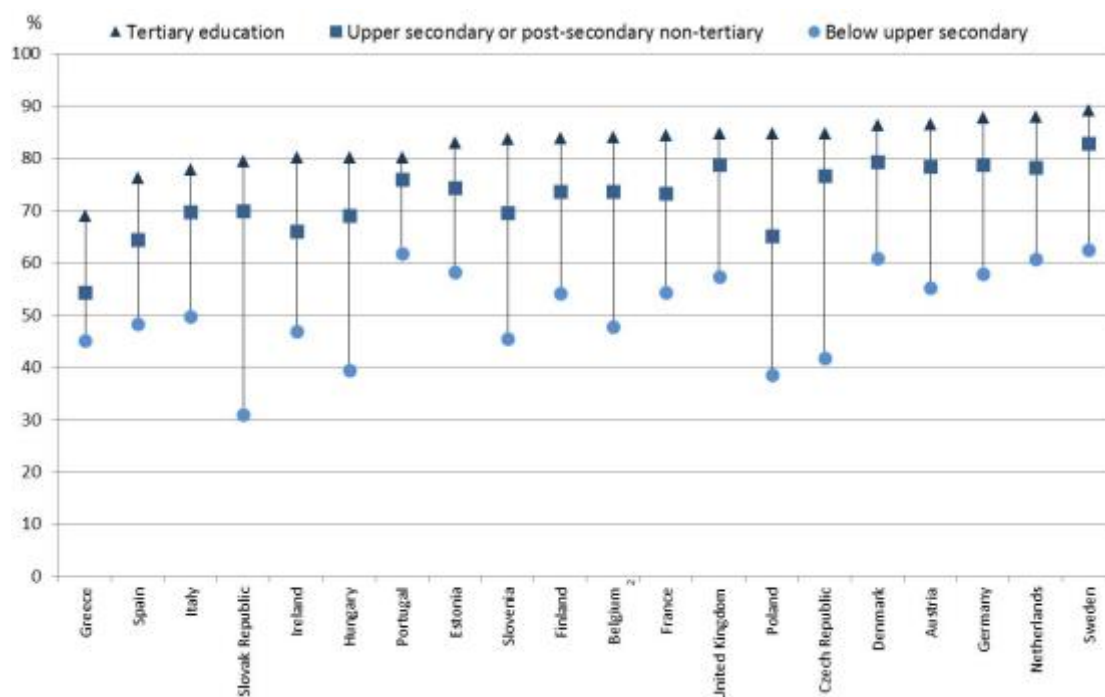
Figure 1. Employment rate for the age group 25-64 related to the education level

EDUCATION, COMPETENCES AND SKILLS

Education and competences represent mutually linked dimensions of human capital creating preconditions for asserting oneself (in the labour market as well as for the life success in general. Measuring human capital indirectly by means of the level or years of education was unavoidable at times when no research methods measuring competences and skills directly by tests were available. Hanushek a Woessmann (2012) point out that when only the number of years of education was a significant measure of human capital and no attention was paid to qualitative results of education. Therefore, acquired competences related to the economic product were not taken into account.

The situation began to change some 20 years ago when tests of skills and competences started to be used in international surveys. The first such survey for adults was the International Adult Literacy Survey (IALS) realised in several countries in 1994 (OECD, 2010), which the Czech Republic joined in 1997. This survey was followed by a much larger research project named the Programme for International Assessment of Adult Competencies (PIAAC) which was carried out in our country in 2011–2012.

It is possible to state that competences became a global currency of the 21st century, whereas the economic crisis with the high unemployment rate stimulated the urgency of their development (OECD, 2012, s. 3). The OECD Skills Strategy is formulated as an integrated intergovernmental and interdisciplinary framework aimed at learning and understanding how to optimally invest into competences so that they would drive the economy. Beside some other tasks, the main goal is to develop competences corresponding to the needs of the labour market so that the existing competences would be fully utilized, with a special emphasise on the young people (note that this corresponds to the Mismatch Index of the HGSI discussed in the following section). The goal is also to create positions requiring a high qualification and yielding a high added value. All this requires a strategic approach linking policies in a number of fields and prevents the overlapping of effort.

HAYS GLOBAL SKILLS INDEX

As stated in the introduction, the Hays Global Skills Index (further on HGSI), developed in collaboration with Oxford Economics, shows how labour markets around the world have been affected by the financial crisis and the ongoing recovery. Looking at 31 countries, it examines a range of pressure points including education policy, wage pressure, labour market participation and talent mismatch. The 2015 report stresses the necessity to ensure better training for employees and closer collaboration with schools, universities and technical colleges to deliver the skills pipeline of the future. Particularly it states: "Structured training is essential at all levels, from graduates and apprentices through to the oldest workers. There are huge economic gains at stake for countries that

raise their standards of education and training to better prepare young people for the workplace. It is clear that in the long term, education, training and apprenticeship schemes to upskill employees is the best way of boosting productivity and the pool of 'home-grown' talent".

The Hays Global Skills Index provides a score for each country of between 0 and 10 which measures the pressures present in its labour market. The score is calculated through an analysis of seven equally weighted indicators, each covering different dynamics of the labour market, such as education levels, labour market flexibility and wage pressures.

The full list of indicators is as follows:
1. Education flexibility
2. Labour market participation
3. Labour market flexibility
4. Talent mismatch
5. Overall wage pressure
6. Wage pressure in high-skill industries
7. Wage pressure in high-skill occupations

An overall score of above 5.0 indicates that the labour market is 'tighter' than normal. A score below 5.0 indicates the market is 'looser' than normal. Within these overall scores, however, the scores attributed to each of the seven indicators can vary significantly, highlighting the different dynamics and pressures faced by each country. (Source: Hays-Global Skills Index - Notes on methodology).

Taking into account our goal, we are interested particularly in the indicators of Education flexibility, Labour market participation and Talent mismatch. The comparison of these three indicators for the Czech Republic and for its neighbouring countries in the central Europe (Slovakia is not included in the Hays Global Skills Index analysis) is presented in the following, together with the Overall Index Score.
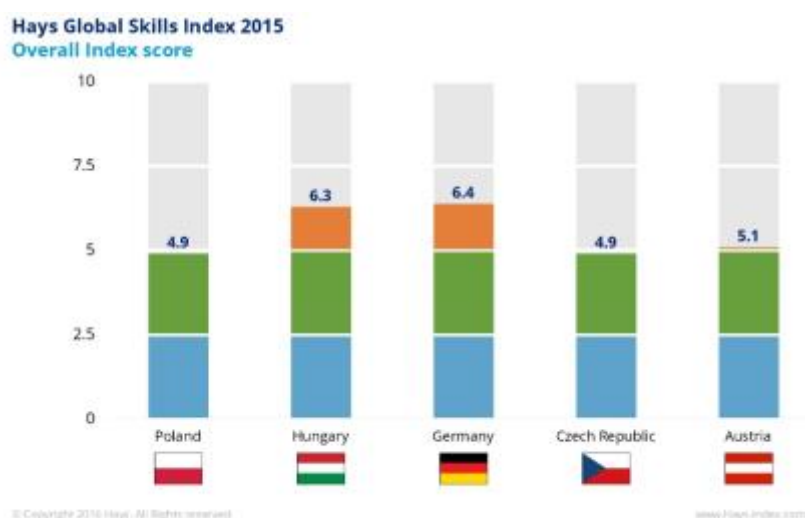
Figure 2: Comparison of the Overall Skills Index in the CR and its neighbouring countries

The comparison shows that in the Overall Skills Index 2015, the CR together with Poland has a lower score than all their neighbouring countries.

Labour market participation
Bringing more people into the workforce is a powerful way to improve economic and labour market performance. Countries that can raise the employee participation rate can gain an edge over countries with less scope to do so. The lower the score, the larger the untapped pool of workers. The higher the score, the lower number of workers there are available to join the workforce, giving less scope to boost overall participation rates.
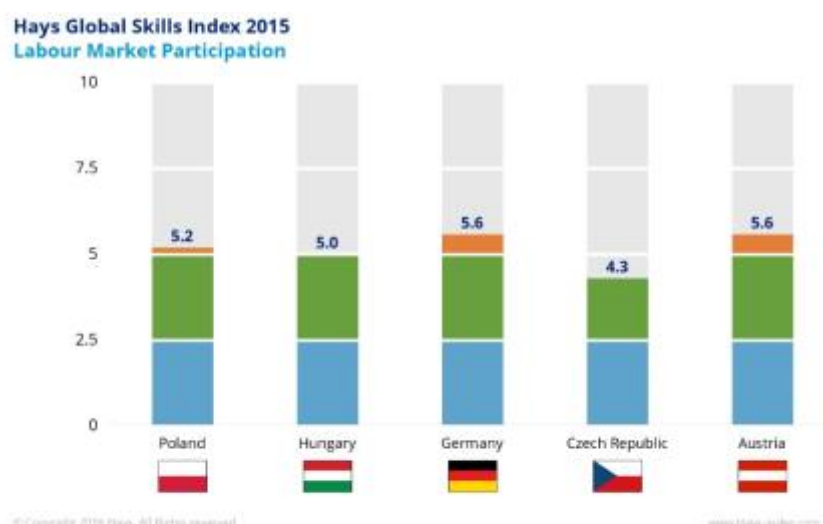
Figure 3: Comparison of the Labour Market Participation in the CR and its neighbouring countries

The comparison shows that labour market participation in CR is the lowest among its neighbours. One of the causes may be again the discussed gap between skills needed by industries and those available in the pool of workforce. This view may be supported by numerous regrets expressed by personal chiefs of companies that they are unable to fill in vacancies where certain skills are required.

Education flexibility
Raising educational standards in today's global and technology-driven economies is crucial to bridging skills gaps. This indicator provides a comprehensive view of the state of education. The lower the score, the better the chance that the education system is flexible enough to meet labour market needs. The higher the score, the less likely an education system is equipped to build a solid talent pipeline.
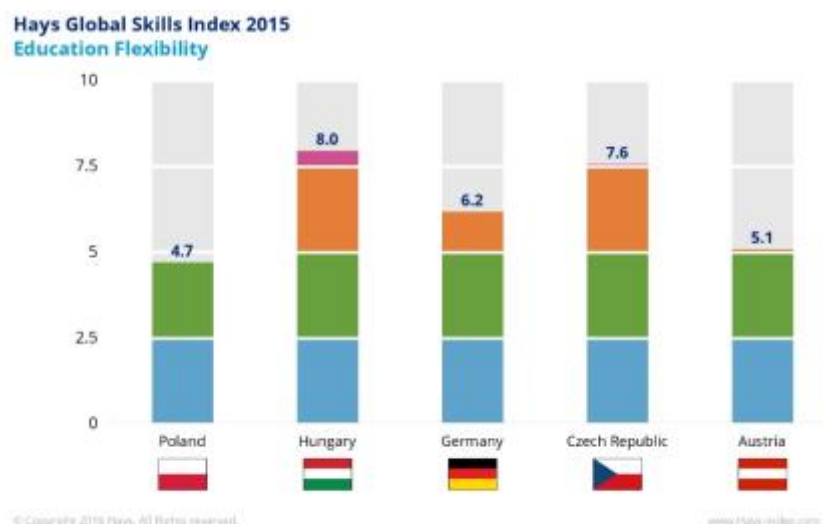
Figure 4: Comparison of the Education Flexibility Index in the CR and its neighbouring countries

Again, a relatively high score for CR indicates that its education system is not too flexible and thus some specific measures should be adopted by educational institutions (like e.g. our faculty).

Talent mismatch
This indicator measures the gap between the skills that businesses are looking for and the skills available in the labour market. A higher score indicates that businesses are facing a serious problem in matching unemployed candidates with available jobs. A lower score suggests employers are having an easier time finding workers with the skills they need.
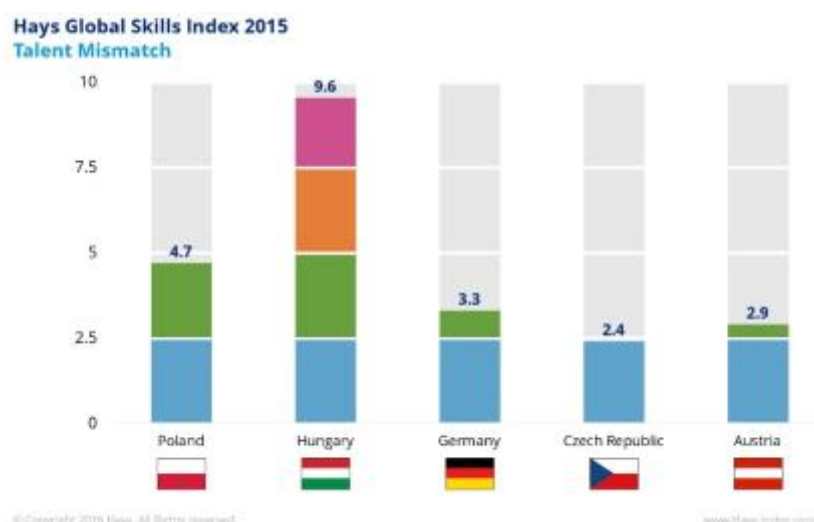
Figure 5: Comparison of the Talent Mismatch Index in the CR and its neighbouring countries

As far as this particular indicator is concerned, the position of our country is relatively good, among the neighbouring countries even the best one for potential employers. However, it does not mean that the situation is without any problems and there is no need to develop special competences and skills needed by businesses (particularly in turbulent conditions).

MEASURES ADOPTED IN TEACHING METHODS AIMED AT INCREASING THE RATE OF GRADUATES EMPLOYMENT

The comparison analysis just presented clearly shows that though an overall progress has been made in our country, some problems are remaining, among them in the education flexibility and the mismatch of talent in certain business. This is also confirmed by the Hays report 2015 for the Czech Republic (Hays GSI 2015 CR, 2015) that, moreover, emphasizes that the labour market participation rate among younger workers remain a concern.

The gap between the skills and competences acquired by education or training and those needed by industries is unfortunately increasing, as forecasted by WISE Initiative with a striking imbalance projected for 2020 (see Figure 6.) Though this forecast concerns mainly the necessity of acquiring tertiary education, the problem of the skills mismatch concerns even the tertiary education itself. The methods used at universities are not always sufficiently flexible to bridge the gap between the competences and skills they teach and the competences needed in the quickly changing information society and, more recently, knowledge economics.

Figure 6: Projected skills gap in 2020 (Source: www.wise-qatar.org)

As stated in the Introduction, specific problems exist particularly in management studies in post-transformation

economies like the Czech Republic. Throughout the course of management studies, we have to educate students who lack the skills for leading discussions and forming proper arguments, and do not have competences of critical thinking.

When innovating the curriculum of management disciplines at our faculty a few years ago we invited experienced and successful managers from practice and discussed with them what they expected from our graduates and what they lacked. One of these missing skills and competences which they emphasized was just the ability to lead discussions, put forward proper arguments and reasoning and also to work in teams. In order to train our students in these skills and competences we utilized the experience of members of our faculty who spent some time at universities abroad and witnessed methods of teaching with a high level of active student participation (particularly at INSEAD in Fontainebleau, France or Cambridge Judge Business School, U.K., and IMD Business School at Lausanne, Switzerland). We incorporated this experience into our teaching methods in the courses like Communication Skills and Rhetoric, or Managerial Decision-Making.

Teaching argumentation skills and ability to lead discussions
Case studies from Harvard Business School, used at INSEAD, were adopted for our purposes, namely for simulating managerial board discussions in the seminars of Managerial Decision-Making course.

The students, divided in several smaller groups, act as the members of a company´s managerial board and have to find arguments in favour or against the considered alternatives of strategic decisions and finally reach a decision about the optimal solution. It should be a consensual solution as in the real situation of a decision voted for only by a majority, a potential danger can arise. Those who were outvoted might have even a tendency to torpedo the solution they did not approve. In the opposite case, when they change their original opinion and on the basis of decisive and convincing arguments accept and approve the solution (which they disapproved at the beginning), the solution has a much higher chance to succeed. In such a case, there is no one defeated and the joint solution, the details of which have to be jointly planned, is considered by everyone as "their own" solution. These simulated "managerial board" discussions even sometimes last several hours and can get quite heated at moments, as it is not always easy to sway opponents with arguments.

This somewhat unusual style of seminars proved to be very successful and is highly evaluated by the students themselves. It was given a high credit in the anonymous assessment feedback even by part-time students who already work in some managerial positions and have, therefore, some experience with managerial discussions and debates in their companies.

Teaching teamwork
Problems facing managers in this quickly changing environment are often so complex that they cannot be solved by an individual but on the contrary, by a team. Therefore, another skill which students need to learn is to work and solve complex problems in teams.

The methods we use are again based on smaller groups of some 20-25 students (according to their study schedule) who have seminars together (e.g. from managerial decision-making). Each of the groups is then divided into teams consisting of 4-5 members. During the term, the teams have to choose gradually two different tasks from a set of tasks covering the material presented during the lectures. Then every team usually has 3-4 weeks to work jointly on the solution of the task assigned to them. In order to support this team work, special soundproof boxes ideal for team work of 5-6 students and equipped with Wi-Fi and wired internet were recently built during reconstruction of the faculty building.

Having prepared their solution in the form of presentation, they present it during the seminar attended by all the other students of the seminar group. In order to practice their presentation skills, all the team members have to actively participate during the presentation. After completing the presentation, one of the other teams is selected by drawing lots to critically review the presentation and the solution. In this way it is ensured that everybody has to pay attention to the presentation. Then, after other critical remarks by the teacher, the team is given another week to prepare a final report about the proposed solution. A similar approach is used also at Communication Skills and Rhetoric courses.

Lifelong learning courses
As already stated, the fields of management and public administration in our country in particular do not have such a long tradition like in Western countries. Therefore, taking into account the dynamic development of the field, many employees (regardless of the fact whether they hold or do not hold managerial positions) are in need of acquiring new knowledge and competences or brushing up on those they already have. For these individuals, the

faculty organizes various courses, either with a given contents or tailored to the specific needs of a company (when a company asks to organize a course for its employees). These courses are organized for various topics in management, public administration and health care management (e.g. medical doctors and hospital directors get some training in fundamentals of management and economy). The length of these courses varies according to the needs of the participants. Sometime it is just a one off day course or a several-day one, while in other cases it may be a semester-long course.

IMPACT OF ADOPTED TEACHING METHODS ON THE RATE OF EMPLOYMENT

The effectiveness of all these measures proved to be significant, as our faculty graduates are in high demand in the labour market. A study from 2012 of the employment rate of graduates carried out by the Centre of Educational Policy (Study of the Centre, 2012) ranked our faculty first place among all the economic and business faculties in our country.
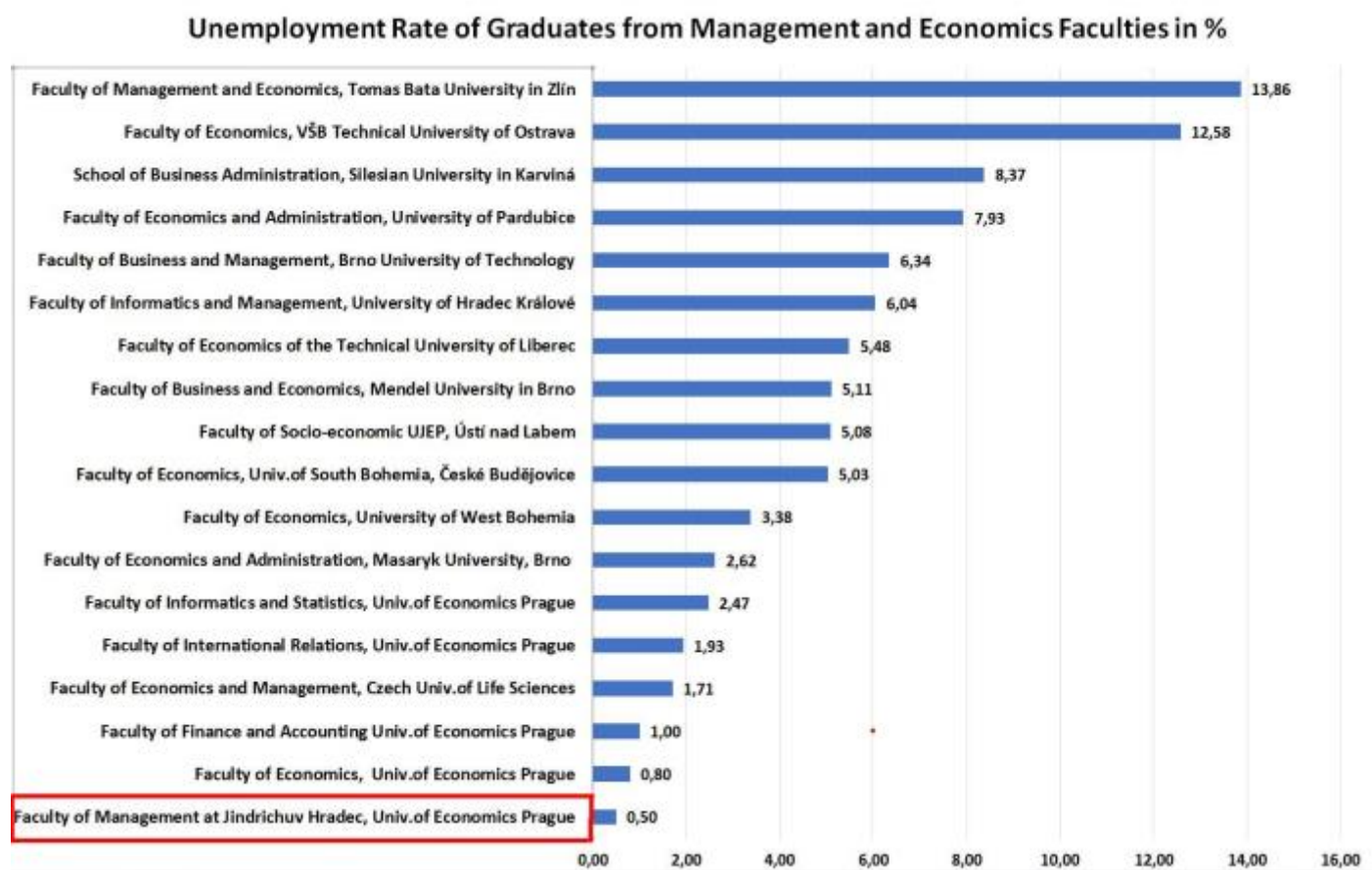
Figure 7: Unemployment rate of graduates from universities (Management and Economics faculties) according to the Centre for Educational Policy of Charles University, Prague (Source: Hospodarske noviny 25.2.2013)

A very low unemployment rate of the faculty graduates has continued until now. The University of Economics Prague carries out a survey every term where students anonymously evaluate all the courses (regardless of who teaches them) and the teachers as well in another part.

The courses where students actively participate and act as company managers and develop their critical thinking and argumentation skills get the highest score in this evaluation from some 95% of respondents.

CONCLUSIONS

In the current world there is a number of causes why competences and skills attained by previous education are becoming inadequate and out of date. This is particularly the case for adult participants of the labour market. However, in some countries, especially with post-transformation economies, specific problems are added. Students coming to universities are not sufficiently equipped with competences and skills like critical thinking, argumentation and teamwork.

Moreover, as the Hays Global Index and its indicators (particularly Education Flexibility and Talent Mismatch) show, the educational systems are not always flexible enough. Therefore, the educational institutions themselves have to try to remedy all these shortcomings.

Adopting proper methods aimed at more active participation of students during the teaching process, experimenting with simulation of real life decisions (where students act as if they are already top managers) is not only more fun for students but proves to be even more effective for acquiring missing competences and skills. This claim can be justified by the fact that the graduates of the faculty belong permanently among those with a very low unemployment rate.

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ALTERNATIVE HIGHER EDUCATION IN PRECARIOUS CONDITIONS: THE CASE OF CEJUS-CIDE

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ABSTRACT

An experience of learning and research not following the traditional track, successful in preparing individuals to get a doctoral degree and, while getting the credentials, engage in research related to the needs and desires of the regions of origin, is taking place in the mountain range of northwest Mexico, in the Sinaloa state. The Centre for Innovation and Educational Development (CIDE) is a Mexican private organization created by academics working in public universities, in an effort to contribute to the application of science to solve local/regional problems. CIDE emerges from the recognition that Mexico, as well as many countries of the Economic South, need more scientists, since the independent development of societies in the world is not possible without the creation of a critical mass capable of solving the scientific and technical problems which allow them to grow. CIDE aims to create "regional scientific communities" to help reduce the deficit of scientists in the country. The learning model combines: Learning based on problems (PBL), self-study as well as group-study, flexible curriculum, *intensive use of ICT's,* and the acquisition of generic competencies for research. The emphasis is changed from *teaching to learning*, based on personal and group study carried out by the students concentrating on specific topics of research. The individual learns to do research while engaging in the learning process. CIDE has no physical infrastructure. Professor-advisors do not receive a salary. Students and advisors meet once a month for two full days to socialize knowledge and advance the students' agenda. Students usually already teach full time in educational institutions. CIDE attracts students that are unable, for different reasons (age, workload, family obligations) to join conventional PhD programs. This leads to the formulation of individualized programs. CIDE has proved that the preparation of highly qualified, motivated scientists could be done with very limited resources. CIDE carried out its mission in several high education institutions in the Mexican province, with unequal results, until it found another alternative education project with similar characteristics and a legitimate interest in higher education, the Justo Sierra Studies Center (CEJUS) located in the mountain range of the Sinaloa state. CEJUS was covering studies from pre-primary to high school. An agreement was set up between both institutions and the resulting outcome has been the production of professionals in the sustainable exploitation of natural resources and other disciplines connected with real development.

Keywords: alternative learning and research, community development, science for development

INTRODUCTION

An experience of learning and research not following the traditional track, successful in preparing individuals to get a doctoral degree and, while getting the credentials, engage in research related to the needs and desires of their regions of origin, is taking place primarily in the mountain range of northwest Mexico, in the Sinaloa state. The Center of Innovation and Educational Development (Centro de Innovación y Desarrollo Educativo, CIDE) is a non-profit organization defined by its constituency as "a learning community based on their scientific and methodological activity, as well as in the potential of the technological platform supported by the informatics and telematics advancements (CIDE, 2002)". CIDE'S activities also take place in other states of Mexico, among them: Coahuila, Michoacán, and Puebla.

CIDE members are convinced that the Mexican society needs scientists, and that the independent development of societies in the world is not accomplished without the formation of a critical mass of scientists capable to approach the scientific and technical problems of the country, which allow them to grow based on the rational and sustainable exploitation of its natural resources.

To face a known demand of growth, and recognizing the Mexican state's limited financing capability to offer quality education, at least for the next 20 years, CIDE offers an alternative of better quality than the traditional apparatus. CIDE'S graduate offering explores new forms of education, with a stronger student – professor interaction, carrying out learning activities in non-traditional places and schedules, according to the nature of the object of study, while making use of new generation computing technologies and virtual

networks (CIDE, 2002). The following sections explain how CIDE was born, the learning model implemented by CIDE, the strategic alliance between CIDE and CEJUS, some remarkable results, and the conclusions and recommendations of this learning and research experience.

HOW CIDE WAS BORN

Miguel Arenas: The creator of CIDE (López-Pérez, Juárez-López, 2012). Miguel Arenas (1940-2016) was an indefatigable educator who dedicated his entire life to the construction of institutions. He was a veterinarian surgeon who specialized in higher education in several institutions like the Lázaro Spallanzani in Milan, Italy; the Sanitary Pan-American Office in Washington, D: C., the Institute of Agrarian Research in Madrid, Spain, and others. He was a founding member of the Autonomous Metropolitan University-Xochimilco (UAM-X) in Mexico City which right from the beginning makes use of the Modular Curriculum Proposal by Transformation Objects (Díaz Barriga, 2016), instead of the traditional curriculum by subjects used in most of the educational institutions both in Mexico and the Western world. He posed to himself the following question: "How does a man learn?" By answering this question, he starts a revolution in education, first by putting the student at the center of the process. Second, by taking as the primary premises of his method that learning must be self-directed and that scientific research must be the way of learning. The so-called Arenas Method, to be defined in the next section, has the central objective *to achieve the intellectual independence of the students through the development of abilities and attitudes for scientific research.*

Arenas put his ideas into practice in several educational institutions, namely in the Autonomous Metropolitan University campus Xochimilco, in the Graduate Nursery Program of the Autonomous University of Zacatecas, in the Graduate Farming Program of the University of Colima, in the Justo Sierra Studies Center(CEJUS) in Surutato, Sinaloa, and many others. This educational crusade usually took place mostly over the week-ends, when Arenas and some of his colleagues visited higher education institutions in the provinces. The method gradually developed -and continues to develop- with the participation of Arenas' colleagues adding to it the experience gained with its application in different academic settings.

CIDE'S formal creation. CIDE took an official format as a civil association in August 23, 2000 (CIDE-CEJUS, 2016), after several years of educational activity without bearing an official name. It looks at itself as a learning community dedicated to the attention of a wide range of adult population, at different university levels, interdisciplinary, where students of different disciplines and motivations converge to learn forms of proceeding as scientists. The number of academics pertaining to CIDE in any given time fluctuates to around 20 members. All of them are full-time professors of at least 20-year experience in innovating learning methods, working at public higher education institutions. CIDE aims to create *regional scientific communities* to help reduce the deficit of scientists in the country and increase scientific literacy. These communities are located around the sites where CIDE's method has been implemented. They are made up of the students, alumni, nearby institutions and/or labs doing science, enterprises, big or small, using the results of research done in the region, people interested in science.

Regarding infrastructure, CIDE does not have any edifice or laboratories. Their places of reunion are the installations where the students work, or any other site dedicated to science. When a student needs to use a laboratory, he gets permission to use the lab at his place of work or CIDE's members negotiate with peers to use a lab of other institution. CIDE's members are not paid for their services. The students cooperate to cover CIDE's travel expenses to the place of reunion.

THE LEARNING MODEL

Arenas was never concerned in baptizing his method with his or any other name. Actually, the method as it stands now is the product of the experience and contributions of a number of academics who accompanied Arenas in his incursions in several institutions of the Mexican province. The method continues evolving thanks to the contributions of the CIDE members. However, López-Pérez and Juárez-López baptized the method as the Arenas Method (López-Pérez, Juárez-López, 2012, p. 19). The Arenas Method combines intelligently a number of known tools: Problem-based learning (PBL), Modular Curriculum Proposal by Transformation Objects (Díaz Barriga, 2016), self-directed learning, self and group study, flexible curriculum, and of primary importance the intensive use of ICT's.

One important feature of the method is the *socialization of knowledge* that takes place once every month in a meeting of students and tutors for two full days, to share the students' advances in his personal research agendas, receiving feedback from both tutors and students. This is a multi-level inter-disciplinary meeting bringing together students of diverse disciplines and dissimilar levels of advancement to share not only

knowledge of different disciplines but also the CIDE's specific methodology to collect up-to-date scientific information.

The other feature of paramount importance of the method is the construction by the students of his particular *scientific network*. The tutors recommend to the students, right from the beginning, to intensively use the ICTs to collect the most important works carried out in their field of study, and to communicate personally with the leaders of their area of interest. This network comprises not only national scientists but particularly those international scientists that are the referents of a specific discipline. By cultivating these relationships the students eventually reach a personal acquaintance with prime scientists in the field, thus opening the door to participate in international academic meetings, engaging in some cases in collaboration with these scientists, to eventually insert them in mainstream science.

THE ASSOCIATION WITH CEJUS

Surutato Studies Center (CEJUS). The Justo Sierra Studies Center (CEJUS) is another successful educational project located up in the mountain range of the Sinaloa state, Northwest Mexico (Jiménez, 1992; Jiménez, 2008a; Jiménez, 2008b). It is a rather isolated region with splendid forests, some streams, and a lukewarm climate, apt for the raising of flowers and fruits like peaches, pears and plums. The community dedicates to the agriculture of vegetables, fruit and flower rising, in addition to some family cattle rising. The community experienced a serious problem: the schools in the region were not preparing children appropriately. The teachers were frequently absent; they did not live in the community. A single teacher often had to attend two or three elementary courses simultaneously. Also the school buildings were in a deplorable condition. The parents approached J. Antonio Malacón, an engineer from Culiacán, the capital of the Sinaloa state, who had a cottage nearby Surutato. After a number of meetings with the parents, and with the assistance of other education experts Malacón brought from Culiacán, the group of parents was able to formulate a set of petitions to the highest levels of authority in the federal capital. The result of these demands was very positive: the parents were able to select new teachers, the schools were rebuilt by the community, and the federal authorities ask the parents to propose their own educational program, suitable for the local needs.

In November 1978, the Surutato inhabitants started their own Educational Program, the CEJUS, covering primary and post-primary education. The project was successful and gradually was able to offer pre-primary and full high-school. The students finishing high school were prepared to become community promoters, and were sent to open similar centers in the near-by towns.

The Association CEJUS-CIDE. After trying the Arenas Method in several higher education institutions with varied results, CIDE approached CEJUS in 2003. Both institutions signed an agreement by which CIDE would provide higher education (bachelors, masters and doctoral degrees) to the inhabitants of the Sinaloa mountain range in the Surutato region, under the auspices of CEJUS. This arrangement has produced good results for the benefit of both institutions. CIDE students spread over the Mexican territory had now a place to gather together and perform the *socialization of knowledge* prescribed by the Arenas Method. Once every month students of several states meet at CEJUS premises for two full days along with some CIDE advisors to exchange advances of their personal research agenda. Another advantage of the CEJUS-CIDE arrangement is that now CIDE can grant academic degrees, given that CEJUS has official recognition as academic institution.

SOME REMARKABLE RESULTS

As mentioned before, the conjunction of CEJUS and CIDE started in 2004 has produced very good results. A number of high quality doctoral degrees have been granted in disciplines generally connected with the human wellbeing, ranging from Veterinary Medicine, Ecology, Phytomining (the extraction of minerals by plants), Genetics Veterinary, Biology, Medicine and others. Table 1 shows data of the PhD graduates until 2014. The age of graduates is higher than the age of standard students who opt to study a PhD after getting the bachelors' degree. This is explained by the fact that CIDE students started graduate work at a later age than ordinary students; they usually work in academia as full teachers, therefore the curriculum and academic load is decided by the own students according to the time available.

Table 1. *CEJUS-CIDE PhD graduates since its association with CEJUS.*

	Examination date	Name	Age	Place of work
1	July / 2008	Rocio González	48	Public Health Institute
2	July / 2008	Víctor M. Wilson	40	Public University
3	July / 2008	Ángeles Verduzco	59	Independent
4	Nov / 2008	Rosa Xicohténcatl	52	Public University
5	Nov / 2008	Carmen Reza	38	Public University
6	Nov / 2008	Nora Fernández	53	Public University
7	Aug / 2009	Marcos Bucio	47	Public University
8	Nov/ 2009	Ramiro Álvarez	50	Public University
9	Jan / 2013	Norma E. Dominguez	48	Public University
10	Nov / 2013	Félix S. Juárez	55	Public University
11	Nov / 2013	Alberta L. Granada	58	Public University
12	Nov / 2013	Victor M. Salomon	48	Public University
13	Nov / 2014	Maria N. Herrera	43	Public University
14	Nov / 2014	Ana F. Sandoval	46	Public University
15	Dic / 2014	Miguel A. Aguilera	52	Public University

Source: personal communications, Jiménez 2012: 122, and CIDE-CEJUS, 2015.

A sample of remarkable dissertations includes Marcos Bucio Pacheco's (Bucio, 2009) research in a local feature of climate change. By analyzing satellite images taken since 1970 of the northwest region of Mexico, Bucio discovered how an ecological stressed corridor was gradually augmenting in size. The clue for this discovering was the observation of a population alteration of a desert rat appearing far beyond the original desert limits.

Víctor Manuel Wilson Corral (Wilson, 2008) did research about a recent discovery concerning the property of some plants to absorb minerals called phytomining. A particular "harvest" of gold is of interest not only for scientific purposes but also as a possible viable business. Víctor selected eight plants to experiment in the area nearby a gold mine in Sinaloa. He was able to identify four vegetable species worth using for mineral recollection.

Finally, Rocío González (González, 2008) was able to identify an endemic area of a disease common in Southwest USA and Northeast Mexico. She observed that a number of patients were wrongly diagnosed as having pneumonia. Since this was a flown diagnosis, many of the patients could not survive. So she made an intensive field work both in Mexico and the USA until she discovered the cause of the desease: a fungus called Coccidioides SPP. Once the endemic area was identified, measures have been taken to prevent the infection by this fungus, thus reducing the population's mortality.

CONCLUSIONS AND RECOMMENDATIONS

CEJUS-CIDE has proved it is possible to provide a solid preparation to students who were not able to continue studies after finishing a career, with a considerable reduced budget. Indeed, the cost for obtaining a degree through the CEJUS-CIDE path is low since it has no infrastructure and Faculty doesn't get a salary. The Arenas Method is a proven tool capable of making available higher studies to individuals whose academic trajectory is not lineal (see Jiménez and Escalante, 2016). Although these doctoral recipients are ready to produce scientific research at a later age, their life span as scientists is worth in a country lacking a critical mass of scientists. Moreover, the professional interests of these academicians gyrate around real local/regional problems, thus contributing to real development. Development is not the accumulation of material goods but the solution of community problems to augment their quality of life (Ackoff, 1977).

It must be noticed that although the tutors don't belong to the mainstream science, they have the ability to conduct students in attract that leads to join scientists of the highest level.

It is clear to the author that this method will not solve the lack of researchers in the country. However, some of the features of the Arenas Method should be incorporated to the public education, such as:

- *In educational institutions, the emphasis must change from teaching to learning.*
- *The student must build his own academic network using intensively the ICTs.*
- *Students and tutors learn more via socialization of knowledge in a multi-level, multi-thematic environment.*

- *Individuals with a scientific vocation should have the opportunity to engage in a scientific career no matter the age of starting.*

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AMATÖR OLARAK VÜCUT GELİŞTİRME İLE İLGİLENEN BİREYLERDE BESİN DESTEĞİ KULLANIMI (TÜRKİYE-ANTALYA ÖRNEĞİ)

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ABSTRACT
A total of 110 amateur body builders, 28 women and 82 men, (age average,27.23±8.64, height average 175.54±8.33 cm, weight average 73.97±13.30 kg), non-professionally interested in body building, who attend sports centers in Antalya, have volunteered to participate in the study conducted with the purpose of determining the use of nutritional support in individuals non-professionally interested in body building. 41.8% of the individuals participating in the study use nutritional support. There is statistically significant difference (p<0.05) between women and men in using nutritional support. The use of nutritional support in men is higher. 63.0% of the individuals use nutritional support to increase body muscle ratio, 39.1% obtain these products from shops selling nutritional support products, 34.8% from sports centers, and 23.9% from the internet. 58.7% of the individuals have declared that these products were recommended by their trainers. There is no statistically significant difference (p>0.05) in the number of those satisfied with their body fat ratio and body muscle ratio, and those not satisfied, based on using nutritional support. The most widely used product is whey protein (% 41.2).

GİRİŞ

Besin desteği, Amerika'da 1994 yılında kabul edilen Besin Desteği Sağlık ve Eğitim Kanunu (DSHEA)'na göre, ağızdan alınan, beslenmeyi takviye etmek amacıyla besinsel bir bileşene sahip olan üründür. Besinsel bileşenler vitaminler, mineraller, bitkiler veya botanikler, aminoasitler ve enzimler, organ dokuları, glandular, metabolitler gibi maddeleri kapsayabilir. Besin destekleri aynı zamanda bitkiler veya yiyeceklerin konsantreleri veya ekstraktları olabilir. Genellikle tablet, kapsül, yumuşak jel, sıvı, toz ve barlar şeklinde satılır. İlaç olarak sınıflandırılmazlar (Kreider et al., 2010). Besin destekleri, performansı arttırmak, beden yağını azaltmak, kas kütlesini arttırmak, ağırlık kaybı sağlamak, hastalıkları engellemek, medikal problemleri tedavi etmek, bağışıklığı arttırmak, mental aktiviteyi veya uyanıklığı arttırmak, stresi azaltmak gibi amaçlarla kullanılmakta, reklamları ve satışı yapılmaktadır (Goston & Correia, 2010).

Bu ürünlerin en büyük tüketici grubunu sporcular oluşturmakta ve düzenli olarak spor merkezlerine giden bireyler gibi diğerleri onları takip etmektedir (Morrison, Gizis & Shorter, 2004). Amerikan Diyetetik Derneği, Kanada Diyetisyenleri ve Amerikan Spor Hekimliği Koleji, enerji alımı düşük, ağırlık kaybı programında olan, diyetinde bir veya birden fazla besini alamayan, yüksek karbonhidratlı, düşük besin öğesi içeriğine sahip diyetle beslenen bireylerin bazı besin desteklerine ihtiyacı olabileceğini belirtmiştir (Goston & Correia, 2010). Ayrıca besin desteklerinin etiketlerinde belirtilmediği halde yasaklı madde içermesi veya kontaminasyon kaynaklı problemlerin ortaya çıkmasına bağlı olarak, sporcular arasında besin desteği kullanımına bağlı, kasıtsız doping haberleri hala devam etmektedir (Kratzenstein, Carlsohn, Heydenreich & Mayer, 2016). Bunlara rağmen, yine de günümüzde hem elit hem de rekreasyonel sporcular tarafından besin desteği kullanımı çok yaygındır (Molinero & Marquez, 2009; Kratzenstein, Carlsohn, Heydenreich & Mayer, 2016).

Vücut geliştirme fiziksel görüntünün önemli olduğu bir spordur. Amaç özel bir antrenman ve beslenme programı ile kas kütlesini ve kasın ayrıntılarını ortaya çıkarmaktır (Van der Ploeq et al., 2001). Besin desteği kullanımının çok yaygın olduğu branşlardan biridir (Goston & Correia, 2010; Spendlove et al., 2015). Amatör olarak vücut geliştirme ile ilgilenen bireylerin birçoğu beslenmenin önemini görmezden gelerek, besin desteklerinin istedikleri seviyeye ulaşmada daha önemli olduğuna inanmakta ve daha fazlası daha iyidir inancı ile yüksek dozlarda besin desteği kullanabilmektedir (Guardia, Cavallaro &Cena, 2015). Sporcular arasında besin desteği

kullanımı ile ilgili birçok araştırma olmasına rağmen (Goston & Correia, 2010), spor merkezlerine giden ve amatör olarak vücut geliştirme ile ilgilenen bireyler arasında besin desteği kullanımı ile ilgili daha az sayıda çalışma bulunmaktadır. Bu çalışmanın amacı amatör olarak vücut geliştirme ile ilgilenen bireylerde besin desteği kullanım prevelansını, ürün kullanma nedenlerini ve en çok kullanılan ürünleri belirlemektir.

MATERYAL VE YÖNTEM
Katılımcılar
Araştırmaya Antalya merkezde bulunan spor merkezlerine devam eden, en az bir yıldır amatör olarak vücut geliştirme ile ilgilenen, 28 kadın (yaş ortalaması 25,71±7,38 yıl, boy ortalaması 166,30±6,64 cm, ağırlık ortalaması 61,44±9,82 kg), 82 erkek (yaş ortalaması 27,76±9,01 yıl, boy ortalaması 178,59±6,36 cm, ağırlık ortalaması 78,10±11,64 kg) toplam 110 birey gönüllü olarak katılmıştır. Bireyler haftada ortalama 4,34±0,9 gün, günde ortalama 1,53±0,6 saat antrenman yapmaktadır.

Verilerin toplanması
Araştırma durum tespitine yönelik olup, çalışmanın amacına yönelik hazırlanmış anket kullanılmıştır. Anket soruları konusunda uzman kişiler tarafından hazırlanmıştır ve sorular bireylerin demografik özelliklerini, vücut geliştirme sporu ile ilgili ve besin desteği kullanımı ile ilgili bilgilerini içermektedir.

Verilerin değerlendirilmesi
Verilerin değerlendirilmesinde frekans (f), yüzde (%) gibi tanımlayıcı istatistiksel yöntemler kullanılmıştır. Cinsiyetlere göre besin desteği kullanımını belirlemek ve vücut yağ oranından ve kas oranından memnun olma durumu ile besin desteği kullanımı arasındaki ilişkiyi ortaya koymak amacıyla kikare testi uygulanmıştır.

BULGULAR

Araştırmaya 28 kadın (yaş ortalaması 25,71±7,38 yıl, boy ortalaması 166,30±6,64 cm, ağırlık ortalaması 61,44±9,82 kg), 82 erkek (yaş ortalaması 27,76±9,01 yıl, boy ortalaması 178,59±6,36 cm, ağırlık ortalaması 78,10±11,64 kg) toplam 110 birey gönüllü olarak katılmıştır. Bireyler haftada ortalama 4,34±0,9 gün, günde ortalama 1,53±0,6 saat antrenman yapmaktadır.

Araştırmaya katılan bireylerin % 50,0'ı besin destek ürünleri ile ilgili yeterince bilgisinin olduğunu, % 42,7'si çok az bilgisinin olduğunu belirtmiştir. Bireylerin % 42,4'ü bilgiyi fitness eğitmeninden, % 22,8'i aile/akraba/arkadaştan, % 21,7'si internet/gazete/televizyondan edinmektedir. Bireylerin % 90'ı besin desteklerinin performansı arttırdığını ve % 73,3'ü vücut geliştirme ile ilgilenen kişinin besin desteği alması gerektiğini düşünmektedir. Besin destekleri doping etkisi yaratır mı? sorusuna bireylerin % 49,0'ı hayır, % 28,8'i bilmiyorum, % 22,1'i evet cevabını vermiştir. Bireylerin % 39,0'ı besin desteklerinin yan etkisinin olmadığını, % 30,0'ı olduğunu düşünürken, % 31,0'ı bilmediğini belirtmiştir. Bireylerin % 79,6'sı besin desteklerinin yasal olduğunu düşünmektedir. Vücut geliştirmede doğal beslenme yeterli midir, besin desteği kullanılmadan da istenilen düzeye gelinebilir mi? sorusuna bireylerin % 42,7'si evet, % 38,8'i hayır, % 18,4'ü bilmiyorum cevabını vermiştir (tablo 1).

Tablo 1. Bireylerin besin destek ürünleri ile ilgili bilgi düzeylerine göre dağılımları

	f	%
Besin destek ürünleri ile ilgili bilgiye sahip olma durumu		
Yeterince bilgim var	55	50,0
Çok az bilgim var	47	42,7
Bilgim yok	8	7,3
Bilgi edinilen kişi/kitle iletişim araçları		
Aile/akraba/arkadaş	21	22,8
Fitness eğitmeni	39	42,4
Doktor/eczacı	6	6,5
Diyetisyen	3	3,3
İnternet/gazete/televizyon	20	21,7
Kitap/dergi	3	3,3
Besin destekleri ile ilgili sorular/cevapları		
Besin destekleri performansı arttırır		
Evet	90	90,0
Hayır	1	1,0
Bilmiyorum	9	9,0

Vücut geliştirme ile ilgilenen kişinin besin desteği kullanması gerekir		
Evet	77	73,3
Hayır	18	17,1
Bilmiyorum	10	9,5
Besin destekleri doping etkisi yaratır		
Evet	23	22,1
Hayır	51	49,0
Bilmiyorum	30	28,8
Besin desteklerinin yan etkisi vardır		
Evet	30	30,0
Hayır	39	39,0
Bilmiyorum	31	31,0
Besin desteklerinin kullanımı yasal değildir		
Evet	4	3,9
Hayır	82	79,6
Bilmiyorum	17	16,5
Vücut geliştirmede doğal beslenme yeterlidir. Besin desteği kullanmadan da istenilen düzeye gelinebilir.		
Evet	44	42,7
Hayır	40	38,8
Bilmiyorum	19	18,4

Araştırmaya katılan bireylerin % 41,8'i besin destek ürünü kullanmaktadır. Bireylerin % 58,7'si fitness eğitmeni önerisiyle, % 15,2'si aile/akraba/arkadaş önerisiyle, % 13'ü internet/gazete/televizyon aracılığı ile besin destek ürünü kullandığını belirtmiştir. Bireylerin % 63,0'ı kas oranını arttırmak için ürün kullanmaktadır ve % 34,8'i bir yıldan daha uzun süredir bu ürünleri kullandıklarını belirtmişlerdir. Bireylerin % 39,1'i bu ürünleri sporcu ürünleri satan mağazalardan, % 34,8'i gittikleri spor merkezinden, % 23,9'u internetten temin etmektedir (tablo 2).

Tablo 2. Bireylerin besin destek ürünleri kullanım durumlarına göre dağılımları

	f	%
Kullanım durumu		
Evet	46	41,8
Hayır	64	58,2
Öneren kişi/kitle iletişim araçları		
Fitness eğitmeni	27	58,7
Doktor/eczacı	1	2,2
Diyetisyen	4	8,7
İnternet/gazete/Televizyon	6	13,0
Aile/akraba/arkadaş	7	15,2
Kullanım amacı		
Vücut ağırlığını azaltmak	1	2,2
Vücut ağırlığını arttırmak	6	13,0
Vücut kas kütlesini arttırmak	29	63,0
Vücut yağ yüzdesini azaltmak	6	13,0
Yorgun hissetmemek	1	2,2
Sağlıklı yaşam	3	6,5
Alınan yer		
Spor merkezi	16	34,8
İnternet	11	23,9
Market	1	2,2
Sporcu ürünleri satan mağazalar	18	39,1
Kullanılan süre		
1 ay ve altı	8	17,4
1.1-3 ay	15	32,6
3.1-6 ay	5	10,9
6.1-12 ay	2	4,3
1 yıldan fazla	16	34,8

Araştırmaya katılan kadın ve erkekler arasında besin desteği kullanım durumu açısından istatistiksel olarak anlamlı bir fark vardır (p<0,05). Besin desteği kullanımı erkeklerde daha fazladır (tablo 3).

Tablo 3. Cinsiyetlere göre besin destek ürünü kullanımı

	Kadın (n=28)		Erkek (n=82)		Toplam (n=110)		χ^2
Besin destek ürün kullanımı	f	%	f	%	f	%	5,34*
Kullanıyor	6	21,4	40	48,8	46	41,8	
Kullanmıyor	22	78,6	42	51,2	64	58,2	

* p<0,05

Araştırmaya katılan bireylerden vücut yağ oranından memnun olanlar ve olmayanlar arasında besin desteği kullanım durumu açısından istatistiksel olarak anlamlı bir fark yoktur (p>0,05) (tablo 4).

Tablo 4. Vücut yağ oranından memnun olma durumuna göre besin desteği kullanımı

	Ağırlığından memnun olma (n=61)		Ağırlığından memnun olmama (n=49)		Toplam (n=110)		χ^2
Besin destek ürün kullanımı	f	%	f	%	f	%	0,60
Kullanıyor	28	45,9	18	36,7	46	41,8	
Kullanmıyor	33	54,1	31	63,3	64	58,2	

Araştırmaya katılan bireylerden vücut kas oranından memnun olanlar ve olmayanlar arasında besin desteği kullanım durumu açısından istatistiksel olarak anlamlı bir fark yoktur (p>0,05) (tablo 5).

Tablo5. Vücut kas oranından memnun olma durumuna göre besin desteği kullanımı

	Kas oranından memnun olma (n=52)		Kas oranından memnun olmama (n=57)		Toplam (n=109)		χ^2
Besin destek ürün kullanımı	f	%	f	%	f	%	0,37
Kullanıyor	24	46,2	22	38,6	46	42,2	
Kullanmıyor	28	53,8	35	61,4	63	57,8	

Araştırmaya katılan bireylerin %84,8'i besin destek ürünlerini sağlıklı bulmakta ve % 93,5'i kullandığı besin destek ürünlerinden yarar gördüğünü belirtmektedir. Bireylerin % 26,1'i ürünleri kullandıktan sonra kas oranlarının arttığını, % 15,2'si yağ oranlarının azaldığını belirtmiştir. Bir kişi ürünü kullandıktan sonra akne oluşumu gibi bir yan etkisinin olduğunu bildirmiştir (tablo 6).

Tablo 6. Bireylerin besin destek ürünlerinden yarar görme durumlarına göre dağılımları

	f	%
Ürünleri sağlıklı bulma		
Evet	39	84,8
Hayır	5	10,9
Üründen yarar görme durumu		
Evet	43	93,5
Hayır	1	2,2
Görülen yarar		
Kas kütlesinde artış	12	26,1
Yağ yüzdesinde azalma	7	15,2
Ağırlık artışı	3	6,5
Kuvvet artışı	1	2,2
Gelişime yardımcı	1	2,2
Hacim artışı	2	4,4
Üründen zarar görme durumu		
Evet	1	2,2

Hayır	44	95,7
Görülen zarar		
Akne oluşumu	1	2,2

En çok kullanılan besin destek ürünleri sırasıyla whey protein (% 41,2), dallı zincirli aminoasit (BCAA) (% 13,2), ağırlık artışı sağlayan ürünler (gainer) (% 10,3), L-karnitin, glutamin (% 8,8), kreatin, diğer aminoasitler (% 5,9), multivitamin (% 2,9), çinko-magnezyum ve tribulustur (tribulus terrestris-demirdikeni-testesteron seviyesini arttırıcı olarak kullanılıyor) (% 1,5) (tablo 7).

Tablo 7. Besin desteği kullanan bireylerin kullandıkları besin destek ürünlerine göre dağılımları

	f	%
Kullanılan besin destek ürünleri		
BCAA	9	13,2
Whey protein	28	41,2
Kreatin	4	5,9
Glutamin	6	8,8
Aminoasit	4	5,9
Gainer	7	10,3
ZMA(Çinko-magnezyum)	1	1,5
Tribulus	1	1,5
L-karnitin	6	8,8
Multivitamin	2	2,9

TARTIŞMA VE SONUÇ

Hem elit hem de rekreasyonel olarak spor yapan bireyler arasında besin desteği kullanımı giderek artmaktadır. Sporcular arasında besin desteği kullanımı ile ilgili yayınlanmış çok sayıda çalışma bulunmaktadır. Spor türü, kültürel farklılıklar, yaş, cinsiyete göre değişmekle birlikte literatürde % 40-% 88 aralığında raporlar bildirilmektedir (El Khoury & Antonie-Jonville, 2012). Spor merkezlerine rekreasyonel olarak egzersiz yapmaya gelen bireyler arasında besin desteği kullanımı ile ilgili yapılan çalışmalarda farklı sonuçlar bulunmaktadır. Farklı ülkeler, bölgeler, spor merkezlerinin ve merkezlere gelen bireylerin farklılıkları, uğraşılan spor türündeki farklılıklar bu sonucu ortaya çıkarmış olabilir (Goston & Correia, 2010).

Bu araştırmada bireylerin % 41,8'i besin destek ürünü kullanmaktadır. İran İsfahan'da 250 kadın, 250 erkek toplam 500 vücut geliştirme ile ilgilenen bireyde yapılan çalışmada bireylerin % 49'u besin desteği kullandıklarını belirtmişlerdir (Karimian & Esfahani, 2011). Brezilya'nın Belo Horizonte bölgesinde yapılan bir başka çalışmada, spor merkezlerinde rekreasyonel olarak egzersiz yapan 1102 bireyin % 36,8'i besin desteği kullanmıştır. Bu çalışmada sadece vücut geliştirme ile ilgilenen bireyler değil merkeze gelen tüm bireyler değerlendirilmiştir (Goston & Correia, 2010). Yunanistan'da rekreasyonel olarak spor yapan, spor merkezlerine giden 180 erkek, 149 kadın toplam 329 birey üzerinde yapılan çalışmada besin desteği kullanım prevelansı % 41,1'dir (Tsitsimpikou et al., 2011). Üniversitede rekreasyonel olarak spor merkezine devam eden 116 erkek, 84 bayan toplam 200 birey üzerinde yapılan çalışmada bireylerin % 44,2'si besin desteği kullanmıştır (Jackson et al., 2010). Beyrut'ta rekreasyonel olarak spor merkezlerine giden 512 birey üzerinde yapılan çalışmada da bireylerin % 36,3'ü besin desteği kullanmıştır (El Khoury & Antonie-Jonville, 2012). Çalışmalardaki besin desteği prevelansları birbirine yakındır. Türkiye'de yapılan çalışmalarda farklı sonuçlar elde edilmiştir. Eskişehir'de spor merkezlerinden yararlanan hem rekreasyonel, hem de amatör veya profesyonel sporcuları içeren 235 kişi üzerinde gerçekleştirilen çalışmada besin desteği kullanım prevelansı % 47,2'dir (Argan & Köse, 2009). Ankara'da bulunan spor merkezlerinde en az iki yıldır amatör olarak vücut geliştirme ile ilgilenen 50 erkek üzerinde yapılan çalışmada bu oran % 72,0'dır (Alpar, 2011). Ankara'da yapılan bir başka çalışmada vücut geliştirme antrenmanı yapan 30 bireyden % 46,7'si besin desteği kullandığını belirtmiştir (Coşkun, 2011). İstanbul'da sağlık için egzersiz yapan 60 bireyden % 35,0'ı besin desteği kullanmıştır (Demirci, 2012).

Bireylerin % 58,7'si fitness eğitmeni önerisiyle, % 15,2'si aile/akraba/arkadaş önerisiyle, % 13,0'ı internet/gazete/televizyon aracılığı ile besin destek ürünü kullandığını belirtmiştir. Amatör olarak vücut geliştirme antrenmanı yapan 50 birey üzerinde yapılan çalışmada bireylerin % 50,0'ı kendi araştırması sonucunda, % 27,28'i arkadaş önerisiyle, % 19,44'ü antrenör tavsiyesi ile destek ürün kullandığını belirtmiştir (Alpar, 2011). Ankara'da vücut geliştirme antrenmanı yapan 30 birey üzerinde gerçekleştirilen araştırmada bireylerin % 64,3'ü kendi isteği ile, % 21,4'ü ise fitness eğitmeni önerisiyle ürünleri kullanmaktadır (Coşkun, 2011). İstanbul'da sağlık için egzersiz yapan 60 birey üzerinde yapılan çalışmada kullanılan besin destek

ürünleri ayrı ayrı değerlendirilmiş ve daha çok ürünleri öneren kişilerin hekim ve antrenör olduğu belirtilmiştir (Demirci, 2012). Spor merkezlerine egzersiz yapmaya giden bireylerle ilgili çalışmalarda bireyler kendi araştırmaları ile, fitness eğitmeni, arkadaş önerisiyle destek ürünleri kullanmaktadır (Tsitsimpikou et al., 2011). Yapılan çalışmalarda çok az birey sağlık profesyonellerinden veya besin destekleri konusunda uzman spor diyetisyeninden bilgi almaktadır (El Khoury & Antonie-Jonville, 2012).

Araştırmaya katılan kadın ve erkekler arasında besin desteği kullanım durumu açısından istatistiksel olarak anlamlı bir fark vardır (p<0,05). Besin desteği kullanımı erkeklerde daha fazladır. Vücut geliştirme antrenmanı yapan ve rekreasyonel olarak egzersiz yapan bireylerde besin desteği kullanımının incelendiği çalışmalarda, araştırma ile benzer olarak, besin desteği kullanımı erkeklerde daha fazla bulunmuştur (Brill & Keane, 1994; Jackson et al., 2010; Goston & Correia, 2010; Karimian & Esfahani, 2011; Tsitsimpikou et al., 2011; El Khoury & Antonie-Jonville, 2012;). Elit ve elit olmayan gruplarda besin desteği kullanımı ile ilgili yapılan sistematik derleme ve metaanalizde ise erkekler ve kadınlar arasında çok az fark olduğu belirtilmiştir. Cinsiyetler arası farklılık araştırma grubu, uğraşılan spor dalı, sosyoekonomik, kültürel farklılıklar gibi birçok faktöre göre değişmektedir (Knapik et al., 2016).

Çalışmada en çok kullanılan besin destek ürünleri sırasıyla whey protein (% 41,2), dallı zincirli aminoasit (BCAA) (% 13,2), ağırlık artışı sağlayan ürünler (gainer) (% 10,3), L-karnitin, glutamin (% 8,8), kreatin, diğer aminoasitler (% 5,9), multivitamin (% 2,9), çinko-magnezyum ve tribulustur (tribulus terrestris-demirdikeni-testesteron seviyesini arttırıcı olarak kullanılıyor) (% 1,5). Protein en çok kullanılan besin desteklerinden bir tanesidir (Argan & Köse, 2009; Goston & Correia, 2010; Sanchez Oliver, Miranda Leon & Guerra-Hernandez, 2011; Tsitsimpikou et al., 2011; Alpar, 2011; Coşkun, 2011; El Khoury & Antonie-Jonville, 2012; Demirci, 2012). Proteinler çeşitli vücut yapılarının sentezinde ve birçok metabolik süreçte görev alırlar. Fakat iyi programlanmış bir egzersiz programı olmadan, sadece protein tüketmek ile kas kütlesi ve kuvveti artmaz (Tarnopolsky, 2004; Campbell et al., 2007). Protein gereksinimi 1.2-2.2 g/kg/gün arasında değişebilir. 2014 yılında yayınlanan bir derlemede vücut geliştirme sporcularının (hepsi için değil, kalori kısıtlaması yapılan dönemde), 2.3-3.1 g/yağsız kütle kg/gün'e kadar çıkabileceği belirtilmektedir (Helms, Aragon & Fitschen, 2014). Gereksinimin üzerinde, uzun süreli protein alımının etkileri tam olarak aydınlanmamış olmasına rağmen (Guardia, Cavallaro &Cena, 2015); ketozis, gut, böbreklerde aşırı yüklenme, beden yağı artışı, dehidrasyon, idrarla kalsiyum atımının artması ve kemik kütlesi kaybı gibi yan etkiler olabilir (Goston & Correia, 2010; Sanchez Oliver, Miranda Leon & Guerra-Hernandez, 2011). Ağırlık antrenmanı yapan bireylerin iskelet kaslarında pozitif nitrojen dengesi için bireyin enerji alımı da önemlidir (Tarnopolsky, 2004; Campbell et al., 2007). Karbonhidrat diğer önemli besin öğelerinden birisidir. Karbonhidrat gereksinimi 8–10 g/kg/gün'dür (Guardia, Cavallaro &Cena, 2015).

Bireylerin % 63,0'ı kas kütlesini arttırmak için ürün kullandıklarını belirtmiştir. Literatürde besin destekleri ile ilgili yapılan çalışmalarda erkekler genellikle kuvvet, güç, kas kütlesi artışı sağlamak, kadınlar ise sağlık için veya yetersiz beslendikleri için besin desteği kullandıklarını belirtmişlerdir (El Khoury & Antonie-Jonville, 2012; Knapik et al., 2016).

Bireylerin % 39,1'i bu ürünleri sporcu ürünleri satan mağazalardan, % 34,8'i gittikleri spor merkezinden, % 23,9'u internetten temin etmektedir. Spor merkezlerinde protein kullanım prevelansının araştırıldığı bir çalışmada bireylerin proteinleri spor merkezlerinden, sporcu ürünleri satan mağazalardan ve alışveriş merkezlerinden temin ettikleri belirtilmiştir (Sanchez Oliver, Miranda Leon & Guerra-Hernandez, 2011). Rekreasyonel olarak spor merkezlerinde egzersiz yapmaya giden 320 birey üzerinde yapılan bir başka araştırmada bireylerin % 67,1'i ürünlere sporcu ürünleri satan mağazalardan ulaştıklarını ifade etmiştir (Tsitsimpikou et al., 2011).

Beden imajı, kişinin bedeni hakkındaki bireysel algısını ifade eden bir kavramdır. Fiziksel görüntüsünden memnun olmayan veya düşük beden algısına sahip bazı bireyler, daha çekici bir görünüme sahip olabilmek için vücut geliştirme sporuna yönelmektedirler (Coşkun, 2011). Bu anlamda araştırmada vücut yağ oranından ve kas oranından memnun olanlar ve olmayanlar arasında besin desteği kullanım durumu açısından farklılık olup olmadığı araştırılmış ve istatistiksel olarak anlamlı bir fark bulunmamıştır (p>0,05).

Araştırmaya katılan bireylerin %84,8'i besin destek ürünlerini sağlıklı bulmakta ve % 93,5'i kullandığı besin destek ürünlerinden yarar gördüğünü belirtmektedir. Bireylerin % 26,1'i ürünleri kullandıktan sonra kas oranlarının arttığını, % 15,2'si yağ oranlarının azaldığını belirtmiştir. Bir kişi ürünü kullandıktan sonra akne oluşumu gibi bir yan etkisinin olduğunu bildirmiştir.

Spor merkezlerine giden bireylerin çoğu yeterli ve dengeli beslenmesine rağmen, besin desteği almadan kas kütlesinin ve kuvvetinin artmayacağı, fiziksel performanslarının gelişemeyeceği inancını taşır. Besin desteği kullanmadan önce yeterli ve dengeli beslenmenin önemi vurgulanmalıdır. Bazı besin desteklerinin ve sporcu besinlerinin kullanılabilirliği ile ilgili bilimsel kanıtlar mevcuttur (spor içecekleri, spor barları, spor jelleri, protein takviyeleri, kreatin, kafein, sodyum bikarbonat, β-alanin, nitrat, medikal olarak önerilmişse; kalsiyum, demir, D vitamini takviyeleri, omega-3, multivitamin-mineral destekleri-Thomas, Erdman & Burke, 2016). Fakat aktif bileşen, gereklilik, doz, zamanlama, kullanım süresi gibi konularda bireysel değerlendirme gerekmektedir. Besin destekleri konusunda uzman sağlık profesyonellerinin (hekim, diyetisyen) gözetimi altında, güvenilirliği, etkinliği, yasallığı değerlendirilerek besin destekleri önerilmelidir. Besin desteklerinde sağlığa zarar veren ya da doping listesinde yer alan yasaklı maddeler bulunabilir. Bu maddeler etikette belirtilmeyebilir ya da kontaminasyon riski olabilir. Besin destekleri ile ilgili etkin bir kontrol mekanizması olmalı ve denetimler yapılmalıdır. Sporcular, spor merkezlerine egzersiz yapmaya gelen bireyler, fitness eğitmenleri ve antrenörlere besin destekleri konusunda eğitimler verilmelidir.

Yapılan çalışma, Antalya merkezdeki spor merkezlerini kapsamaktadır. Sınırlı sayıda katılımcı çalışmada yer almıştır. Özellikle kadın katılımcı sayısı çok düşüktür. Çalışma sonuçlarının genellenebilirliği açısından daha fazla örneklem grubu ile Türkiye çapında yapılacak çalışmalara ihtiyaç duyulmaktadır.

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AMBIDEXTERITY LEARNING PROCESS FOR EXPLORATION AND EXPLOITATION: A MODEL OF HYBRID AMBIDEXTROUS UNIVERSITY

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ABSTRACT

Empirical evidence suggesting that most organizations are largely inert and ultimately fail. A second perspective argues that some firms do learn and adapt to shifting environmental contexts. Changes in the environment is very dynamic and the organization is required to be able to adjust for these changes. Capabilities of the organization should be improved as a step of adaptation in order to the sustainability of organization maintained. Ambidextrous organization refers to organization which have ability to exploring potential opportunities and finding new strategies to improve. Ambidexterityconcept is important because it can improve performance and create competitive advantage of the organization. This study aims to analyze the application of the ambidexterity concept in the university regarding to the concept is generally applied to business organizations. The study used a quantitative approach and for collecting data used questionnaires, in-depth interviews, and the benchmark study as well. The results showed that the pattern of ambidexterity at the Universitas Indonesia reflects both structural and contextual ambidexterity. The perceptions of researchers in the faculties who were the respondents indicate favorable attitudes as the ambidextrous university's indicators.

Keywords: ambidexterity, ambidextrous university, competitive advantage, world class research university

INTRODUCTION

In the face of a dynamic surrounding, organizations are required to continuously discover new ways or strategies, as well as exploring and utilizing their acquired skills to follow every changes that take place (Comez, 2013). Furthermore, Huseini (2000) explained that the efforts to explore its own potential becomes a strategy which creates value and competitive advantage for an organization. The concept of digging for potential and conducting exploration is basically contradictive to one another. However, when done simultaneously, an organization can continue to innovate, and therefore is able to create a competitive advantage and attain success. Both concepts, in the realm of strategic organization, is known as ambidexterity (namely, an ability co conduct exploration and exploitation simultaneously for the sake of innovation). Exploration, within the realm of ambidexterity, is defined as the skill which is accompanied by knowledge to conduct searches, novelty (discovering something new), experiment, innovate, creating radical changes, as well as creating in itself, be it new processes, products, or services; on the other hand, exploitation is the skill which is based on knowledge to continuously improve, modify, and make change in stages concerning the process, product, and service (March, 1991; O' Reilly and Tushman, 2008). The practice of ambidexterity proves that an organization will be able to survive if they employ exploration and exploitation simultaneously (O'Reilly and Tushman, 2008). This finding is in line with that of Jansen, et al., (2005) which claimed that exploration and exploitation is important to be done by an organization. From now on, such organization is referred to as ambidextrous organization. This research will be focused on reviewing ambidexterity within the setting of an academic organization. A university is an organization which has the duty to develop science. Therefore, the implementation of ambidexterity must remain a main priority considering the fact that science develop from time to time. Academicians are also required to continue to learn to adapt (Nguyen, 2011) to every changes that take place, therefore they are expected to become an ambidextrous university. Scientific publication is one of the proxy of scientific development and educational quality. This is in line with the claim of Lodhi (2012) which stated that academic work is an important contributing factor to the development of science-based economy which is currently ongoing. The choice of University of Indonesia as the focus of the study is due to (1) University of Indonesia has good reputation, especially in regards to its international ranking and its standing in

Asia (according to QS World University Rankings), and (2) University of Indonesia is a leading university in Indonesia, especially in regards to research (according to World Class Research University).

THE STUDY

The framework used in this research is demonstrated in Figure 1. This framework is created in order to analyze the research university model as University of Indonesia's competitive advantage in realizing World Class Research University based on theories and literature revies on ambidexterity.
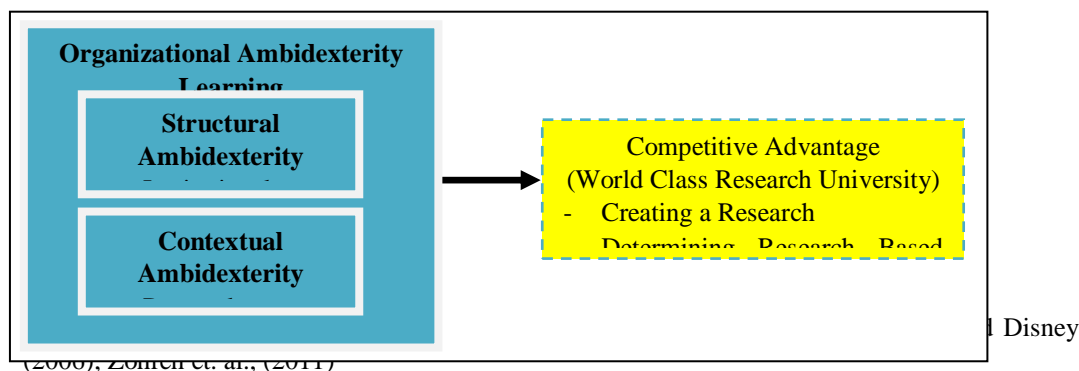
Figure 1. Theoretical Framework Scheme

The concept of ambidexterity was introduced by Duncan (1976), who referred it as a concept of dual structure that is defined as a mechanism (exploration and exploitation) which, in simultaneous and integrated manner, manage innovation and produced higher performance achievement. Kusumastuti (2013) claimed that the perspective of ambidexterity implicitly posits that exploitation and exploration are complemetary to one another in terms of learning outcome, but mutually exclusive in the context of learning approach, and are competitive in terms of research. Furthermoer, ambidexterity provides better learning benefit due to its ability to stimulate an acceleration in terms of learning within the corridor of exploitation and exploration which results into higher and more successful learning performance (Smith and Tushman, 2005; Raisch and Birkinshaw, 2008; Raisch et al. 2009). Ambidextrous organization is able to (1) reach higher performance level and sustain it, (2) prevent large or abrupt changes inside the organization, especially the costs which emerge due to those changes, such as the shift in organizational management, (3) divert organizational inertia, as well as (4) adapt and even provide benefit from the changes that take place because the organization has anticipated every change which will happen as a consequence of a dynamic surrounding (Han and Celly, 2008).

Within structural ambidexterity, different sub-units have different competence, system, incentive, proceess, and culture which will internally be aligned and adjusted for the purpose of exploration and exploitation. Meanwhile, contextual ambidexterity is "the behavioral capacity to simultaneously demonstrate alignment and adaptability accross an entire business unit" (Birkinshaw and Gibson, 2004). Contextual ambidexterity focuses on capacities on an individual level. Contextual ambidexterity is seen as a resource that is valuable, scarce, and highly costly to be immitated, and has the potential to become an important resource for a company's competitive advantage. Birkinshaw and Gibson (2004) further elaborated that cont4extual ambidexterity can be attained by building a set of system or process (combination of discipline, support, trust, and power) which enables and supports individuals within the organization to make their own judgment of the actions that are undertaken. Within the context of ambidextrous organization, Kusumastuti (2013) saw tha the the focus of ambidexterity lies on how the organization then use the activity of exploration and exploitation internally, which is then strengthened by the existence of study concerning the dynamic capability that indicates the existence interrelation between internal and external knowledge process which plays an important role in terms of renewing an organization.

FINDINGS

There are four sources of competitive advantage (Barney and Clark, 2007), namely culture, trust, human capital aspect and information technology – IT. Of all the four, academic organization (university) must be able to utilize them maximally within the creation of the achievement strategy of a research university. Several characters need to

exist within the university if it wishes to be called a research university. Those characteristics include (1) possess a mission with global perspective; (2) research intensive; (3) large investment in human capital development; and many others. The basic requirement of research university achievement is through the implementation and development of research culture. In practice, building a research university desperately requires large resources in the form of human resource capacity, supporting information technology system, sufficient laboratory facility, and many others.

The process of innovative learning to become a world class research university happens in two forms, namely both structural ambidexterity and contextual ambidexterity learning process. The former can be viewed from the institutional legitimacy and organizational supports, meanwhile the latter can be viewed from the personal networking dan personal capabilities (Birkinshaw and Gibson (2004); Chang et. al., (2009); Sivrais and Disney (2006); Zohreh et. al., (2011)). If viewed from the perspective of structural ambidexterity, institutional legitimacy can be interpreted as an innovation activity implemented by University of Indonesia. Viewed from the perspective of institutional legitimacy, a majority of respondents agree that policies concerning innovation in UI includes research and development, the policy does not only apply on university-level but also on faculty-level. Aside from the form of policy, organizational support that is present within the university is also realized into many types of activity. The common practice employed to attain ambidexterity within an organization is by creating structural ambidexterity. According to Duncan (1976), structural ambidexterity refers to the existence of a separate and different unit, along with different competence, system, incentive, process, and culture which will internally be aligned and adjusted for the purpose of exploration and exploitation.

In accordance to the vision and mission of University of Indonesia to become a "World Class Research University", the focus of research becomes one of the pillars of *Tri Dharma Perguruan Tinggi* (Three Duties of a Higher Education) which needs to be conducted. As a consequence, University of Indonesia established the Directorate of Research and Community Service (DRPM), a special unit that handles numerous research and community service programs for the teaching staffs with international qualifications. The separation of research activity in this Directorate also result into different type of activity that is carried out in contrast to other existing Directorates.

Viewed from the aspect of contextual ambidexterity, there are two dimensions which become the reference point, namely personal networking and personal capabilities. Evident from the indicator of "University has a strong information network in terms of distribution of information related to research and development of teaching staffs". The discussion concerning contextual ambidexterity of this type can be seen from the existence of culture and value, incentive mechanism, mindset, and even foresight strategy. The effort to build a research culture in the context of university should not only be done by DRPM. Each faculty must be able to employ many means to boost the ability of teaching staffs in conducting research, such as counseling in creating proposal or to create clusters which are able to boost the creation of research proposal to attain grants.

According to resource-based persepective, an organization can only build its capacity to create a competitive edge through organizational culture, trust, human resource, and technology (Barney and Clark, 2007). To manifest its vision as a World Class Research University, University of Indonesia must see the construction of research culture as a necessity. The university's commitment to create a research culture within its context is evident since 2010 through the Assemblies Trustees' Decree. Therefore, the academic organization must also be able to utilize it maximally through the implementation of steps or achievement strategies to become a research based university. Aside from becoming a media of knowledge transmission, the role of university is also to become a place that produce new knowledge (production of new knowledge/innovation). Aside from that, research university is a tool, and can evenbe considered as the fastest and easisest way to attain prosperity for the state through science-based economy (Ramli, et al., 2013). Therefore, the competitive advantage through the capability of conducting research becomes an important point for a university. As of this far, University of Indonesia has exerted efforts to build research culture in accordance to the concept of the creation of research culture posited by Sivrais and Disney (2006). In several faculties which serve as our sample, there are many efforts that they have employed to develop a research culture. In general, each faculty has established strategies and steps to develop research culture according to the characteristic of their respective field.

Table 2. Stages in Building Research Culture

Stage	Implementation
Determine Direction and Research Policy of University and Faculty	• Empowerment of research organization through the establishment of structures
Organizational Support	• Allocation of research budget • Collaboration of research funding with industries and other entities.
Determine Training Neeed and Create Program	• Provision of many types of training • Scheme of Core Research Lectureres • Creation of research system and information center
Empower the role of Professors	• Empowering Professors to determine the direction of research development
Build a community	• Facilitating the establishment of special interest group in research and research cluster • Every existing research cluster will refer to the 10 focus of research are in the context of University of Indonesia
Build network with external entities	• Build, develop, and strengthen research cooperation with industrial entities. • In the realm of social science, conduct field work and research in related institutions
Create Team for Problem Solving	• Providing more value to the community through research studies required by industries, which will therefore be able to help solve problems
Recognize Individual and Groups.	• Career paths for researchers and many incentive designs for researchers that are productive in many faculties. • Incentives to disseminate research findings, be it on a national or international scale. • Many grant schemes for the publication of research
Source : Results of Researcher's Processed Data (2015)	

CONCLUSIONS

The pattern of ambidexterity in University of Indonesia indicates that there are two patterns of ambidexterity, namely structural and contextual. The tone of structural ambidexterity is reflected in UI's internal structure which distinguishes research unit from other units. Such form of structural ambidexterity handles and manages the researches carried out by the teaching staffs, be it on university of faculty level. In the realm of University, it is managed by DRPM which allocates many grant schemes to every field of science in 10 focus of research areas which covers 3 categories of science in the University, namely social humaniora, health, and natural science. Meanwhile, the support from university in the realm of faculty vary in every faculty. This is due to the different amount of research budget that is allocated according to the financial capacities of each Faculty. Meanwhile, contextual ambidexterity is reflected from the research activity and teaching that is based on capability and personal network, hence the exchange and knowledge combination between each teaching staffs are able to take place. In its implementation, the existing network of organization and individuals (researchers) as well as the personal capabilities of each teaching staffs in attaining grants also determines the success of the faculty in implementing its research policies.

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AN ANALYSIS OF THE RELATIONSHIP BETWEEN CURIOSITY AND SELF-DIRECTED LEARNING SKILLS OF TEACHER CANDIDATES

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ABSTRACT

The aim of this study is to analyze the relationship between the self-directed learning skills and the curiosity levels of teacher candidates. Whether their self-directed learning skills and curiosity levels differ in terms of gender, department of education and achievement is analyzed as well. The study group of this research consists of the senior students attending Elementary Teaching, Turkish Teaching, Pre-School Teaching, Mathematics and English Teaching departments of Hacettepe and Kastamonu Universities. To collect data in the study, 'Curiosity Scale' developed by Erwin, Coleman and Orlando (1998) and adapted by Demirel and Diker Coşkun (2009) and 'Self-Directed Learning Skills Scale' developed by Aşkın (2015) is used. According to the results of the study, it is clear that the curiosity and self-directed learning skills of teacher candidates don't differ in terms of gender and department. According to the results of the study, it has been revealed that the curiosity levels of teacher candidates differ in terms of their achievement. In other words, the students who are more successful academically have higher levels of curiosity and self-directed learning. However, the results also show that there is a positively and medium level relationship between curiosity and self-directed learning skills.

INTRODUCTION

Curiosity

An individual's need to learn and understand what's going on around them first originated in the early periods of history and it contributes to the improvement of both the individual himself and the society he lives in. The desire to learn and understand something is defined as 'curiosity' by Turkish Language Society (2016). Curiosity emerges when an individual is born and it causes the individual to discover new things (Perry, 2001). Einstein's (1952) saying "… I have no special talents, I am only passionately curious" emphasizes the importance of being curious in terms of self-development (Seelig, 1952, as cited in Isaacson, 2007).

Curiosity has been defined as a desire to know, an interest leading to inquiry, an inquisitive interest in others' concerns, or nosiness. In academic literature, curiosity has been described in numerous ways: a drive, a personality characteristic or a motivation to explore (Koranda & Sheehan, 2014). In other words, curiosity is defined in literature as going towards new, interesting, contradictory or mysterious things; giving positive reactions such as researching and managing; displaying desire or wish to learn more about the individual himself or the environment; studying the environment and exploring new experiences and insisting on researching and examining to obtain more information (Demirel & Diker Coşkun, 2009). Curiosity is a motive that operates within definite frameworks and can be satisfied through using standard procedures. It relates to the kind of problems we meet in ordinary daily life or in a technical or scientific setting (Opdal, 2001).

Curiosity increases the self-confidence and self-respect of an individual and it enables them to gain new skills. In addition, curiosity also contributes to the individual's ability to learn. A curious learner has the tendency to do research, find a problem, ask questions and scrutinize them. People who have affective tendencies for curiosity are sensitive to unasked questions, secret facts and differences and they are able to determine deficiencies in their own knowledge and understanding. Such individuals have the ability to observe carefully, specify assumptions, produce antitheses and ask provocative questions (Demirel & Diker Coşkun, 2009).

Curious people take risks, try things out, allow themselves to become productively distracted. They know that something they learn by chance today may well come in useful tomorrow or spark a new way of thinking about an entirely different problem (Leslie, 2014). What families and teachers can do to increase the individuals' level of curiosity could be summarized as:
- Parents should let their children wonder and encourage them.
- Teachers should encourage students to learn through active exploration. Encourage questions such as

'what would happen if…?'
- Teachers should encourage cooperative learning.
- Teachers should answer students' questions and encourage them asking questions.
- Teachers can build strategies for develop students' curiosity
- Teachers can implement problem based learning (Honig, Susan and Church, 2006; Engel, 2011; Young, 2015)

Self-Directed Learning
A curious individual is a person who is eager to learn, has the habit of asking questions, plans and determines what he's going to learn in the light of his curiosity and interests and also scrutinizes what he's learnt. Therefore curiosity takes its place amongst life-long learning skills, just like self-directed learning skills. And in literature there are some studies analyzing the relationship between curiosity and self-directed learning (Edmondson, Boyer & Artis, 2012). Some studies emphasize that self-directed learning and curiosity together increase the academic success (Reio, 2004); and some studies mention that activities that involve curiosity, discovery and games contribute to self-directed learning (Deci & Ryan, 1982).

Self-directed learning emerges when an individual determines his need to know and learn and manages his learning as a result of this. As defined by Knowles (1975), self-directed learning involves an individual's determination of his need to learn, setting his goals in the light of these needs, his use of suitable ways of learning to reach his goals and assessing his learning outputs. In other words, self-directed learning is to be able to set the learning targets, define one's learning needs with or without others' help, attempt to learn, to determine resources for learning, to choose the correct strategy to learn concerning the knowledge he's going to gain and to be able to apply it and finally, it's the process of being able to assess the results of learning (Tough 1979; as cited in Merriam & Caffarella, 1999). Self-direction or self-directedness in learning refers either to the propensity to accept and exercise control over valued instructional functions within an instructional setting, or else the ability and willingness to learn things for oneself without institutional support or affiliation (Candy, 1987).

The first studies on self-directed learning were done in 1960s and they gained speed in 1970s. Among these studies, Houle's (1988) study which aims to reveal why people are interested in the topic of self-direction and presents self-directed learning as a field of study steps forward. Tough's (1979) and Knowles's (1970, 1975) studies in 1970s pointed out the role of self-directed learning in adult education. "The Self-Directed Learning Readiness Scale", developed by Guglielmino (1977) in his PhD dissertation, has been used in many studies, been modeled several times and taken its place as one of the most important studies on self-directed learning. Oddi's (1984) "Oddi Continuing Learning Inventory" is also one of the most commonly used studies on self-directed learning. The studies on self-directed learning have continued since 1990s (Tough 1979; as cited in Merriam & Caffarella, 1999) until our day and this concept has taken its place in literature amongst one of the most important topics.

Self-directed learning can be defined as a method of organizing teaching and learning and is carried out under the learners' own control. Besides this, self-directed learning could be considered as a target aimed to be reached by the learners. To reach this target, individuals accept self-determination, individual preferences and to take the responsibilities of their own learning (Kaufman, 2003). Self- directed learning contributes to individuals' taking initiatives in learning, developing self-confidence, making them feel the urge to learn and therefore, performing a more purposeful learning. Self-directed learners are defined as individuals who are eager to learn, curious, motivated and they treasure learning (Jennett, 1992).

The aim of this study is to analyze the relationship between curiosity and self-directed learning skills of teacher candidates. In accordance with this aim, the sub-problems of the study are as follows:
1. Do teacher candidates' curiosity levels differ according to their gender, their department of education and academic success?
2. Do teacher candidates' self-directed learning skills differ according to their gender, their department of education and academic success?
3. Is there a meaningful relationship between curiosity and self-directed learning skills?

This study is considered as essential since it points out to the changes in curiosity levels and self-directed learning in terms of certain variables and it reveals the relationship between these two variables. When the studies carried out in Turkey are considered, no studies on the relationship of these two characteristics were found; and therefore, the findings of this study are expected to contribute to literature.

METHOD
As it is aimed to describe the relationship between the curiosity levels and self-directed learning skills of teacher candidates, in other words, as the present situation is aimed to be described, descriptive method is used.

Study Group
The study group consists of 365 students who are presently educated at the universities of Hacettepe and Kastamonu. 73.92% (n=270) of the study group is made up of female students and 26.03% (n=95) of it is male students. 23.28% (n=85) of the students are being educated at Turkish Teaching, 21.10% (n=77) are educated at English Teaching, 21.10% (n=77) are educated at Pre-School Teaching, 19.45% (n=71) are educated at Elementary Teaching and 15.07% (n=55) are educated in Mathematics Teaching. 23.84% (n=87) of the group has an academic average between 1.5 and 2.49, 47.67% (n=174) of it has an academic average between 2.50and 2.99. The students with an average academic success of 3.00 and above make up of 28.49% (n=104) of the group.

Instruments
The data of the study are collected with two different scales. The curiosity levels of the students are measured by 'Curiosity Index' which was developed by Erwin (1998) and adapted into Turkish by Diker Coşkun (2009) during her PhD thesis. The self-directed learning skills of the students are measured by 'Self-Directed Learning Skills Scale' developed by Aşkın (2015) during his PhD thesis.

Curiosity Index is a 6-Likert Type Scale consisting 47 items and 2 dimensions. The sub-dimensions of the scale are breadth and depth. Breadth is the individual's analysis of a large content of information in variety. In this dimension of the curiosity feature, the individual has the desire to live encouraging experiences. Depth is the individual's curiosity on a specific topic, idea or a person and his continuous effort to obtain knowledge about these. In this dimension the individual wants to do a detailed research on the specific subject he's interested in and he wants to gain more. During the adaptation of the scale, a factor analysis was done and the items in the scale are determined to gather in 2 sub-dimensions as in the original scale. The Cronbach's Alpha Coefficient was calculated as 0.86 and the reliability of the scale in this study is 0.91.

Self-directed learning skills formed the scale as 21 items and 4 dimensions after the exploratory factor analysis was applied. These dimensions are named as motivation, self-control, self-monitoring and self-confidence. After the confirmatory factor analysis was applied, the structure of the scale was confirmed as a 21- item model. The Cronbach's Alpha Coefficient of the 5 Likert type scale was calculated as 0.89 and the reliability of the scale in this study is 0.91.

Data Analysis
In the analyses of the data, t-test of independent groups, one way variance analysis (ANOVA) and Pearson Product-Moment Correlation Coefficient was used. SPSS 20 was used to analyze the data.

FINDINGS
Findings Regarding the First Sub-Problem
In this sub problem the changes in the curiosity levels of teacher candidates are analyzed in terms of gender, department of education and academic success. Firstly, the averages of the curiosity levels of teacher candidates were calculated. The related information is presented in Table 1.

Table 1. The Descriptive Statistics Related to Curiosity Index

	n	Minimum	Maximum	$\overline{X}$	ss
Scale (Total)	365	94	270	226,09	1,27
1. Breadth	365	45	152	125,67	,80
2. Depth	365	37	109	89,74	,52

The lowest score of the curiosity scale is 47 (47x1), the highest score is 282 (47x6), and the expected average score is 165 (47x3.5). Analyzing the data concerning the study group in Table 1, the teacher candidates' lowest score is 94 and their highest score is 270. The average score of the study group is 226.09. According to these results, the arithmetic average of the students' curiosity turns out to be above the scale average score.

In the dimension of breadth, the lowest score is 26 (26x1), the highest score is 156 (26x6), and the average score is 91 (26x3.5). In the dimension of depth, the lowest score is 21 (21x3), the highest score is 126 (21x6) and the average score is 73.5 (21x3.5). Analyzing the scores of the study group, the lowest score of the scale concerning

the sub dimension breadth is 45 and the highest score is 152; the lowest score of the scale concerning the sub dimension depth is 37 and the highest score is 109. The average score concerning the sub dimension breadth is 125 and the sub dimension depth is 89.97. So these results show that the average of the two sub dimensions is above the sub dimension average scores.

The findings related to the analysis of the curiosity levels of the teacher candidates in terms of gender are shown in Table 2.

Table 2: The t-Test Results Related to the Comparison of the Curiosity Levels of the Teacher Candidates on the Basis of Gender

Gender	n	$\overline{X}$	ss	t	p
Female	270	227,84	22,81	2,33	,41
Male	95	221,12	27,80		

p>0,05

Table 2 shows that there is no significant difference between the curiosity levels and the gender of the teacher candidates. (p>0.05).

The statistics concerning the departments of education and the curiosity levels of the teacher candidates are presented in Table 3.

Table 3: The Descriptive Statistics of Curiosity Levels of the Teacher Candidates on the Basis of Departments

Departments	n	$\overline{X}$	ss
English Teaching	77	228,39	22,45
Mathematics Teaching	55	226,05	21,81
Pre-School Teaching	77	225,86	21,56
Elementary Teaching	71	230,34	24,95
Turkish Teaching	85	220,71	28,61
Total	365	226,09	24,35

Table 3 points out that the highest curiosity average score belongs to the students of Elementary Teaching ($\overline{X} = $ 230.34), whereas, the lowest curiosity average score belongs to the students of Turkish Teaching ($\overline{X} = $ 220.71). The average score of the students of English Teaching is 228.39 and the average score of the students of Mathematics Teaching is 226.05. Table 4 shows the results of the ANOVA which was done to find out whether there is a significant relationship between curiosity levels and departments of education.

Table 4: ANOVA Test Results of Curiosity Scores of the Teacher Candidates on the Basis of Departments

Source of Variance	Sum of Squares	Df	Averages of Squares	F	P
Between Groups	4156,72	4	1039,18	1,77	,14
Within Groups	211640,11	360	587,89		
Total	215796,83	364			

According to the results presented in Table 4, there is no significant difference between the curiosity levels and the departments of education of the teacher candidates.

The statistics concerning the achievement and curiosity levels of the teacher candidates are presented in Table 5.

Table 5: The Descriptive Statistics of Curiosity Levels of the Teacher Candidates on the Basis of Achievement

Achievement	n	$\overline{X}$	Ss
1,50-2,49	87	219,17	27,33
2,50-2,99	174	227,44	23,64
3,00 and above	104	229,63	21,83
Total	365	226,09	24,35

Table 5 shows that the students with the highest curiosity average score are the ones whose academic success average is 3.00 and above ($\overline{X}$ = 229.63). This group is followed by the group of students who have an average of 2.50-2.99 ($\overline{X}$ = 227.44). The group with the lowest curiosity level is the group of students who have an average of 1.50-2.49. The results of the ANOVA which was done to find out whether there is a significant difference between curiosity levels and academic success are shown in Table 6.

Table 6: ANOVA Test Results of Curiosity Scores of the Teacher Candidates on the Basis of Achievement

Source of Variance	Sum of Squares	Df	Average of Squares	F	p
Between Groups	5785,50	2	2892,75	4,97	,007
Within Groups	210011,33	362	580,14		
Total	215796,83	364			

p<0,05

According to the results presented in Table 6, there is a significant difference between the curiosity levels and achievement of the teacher candidates. (p<0.05). A Bonferroni Test was done to find out the reason of this difference. The analysis results are shown in Table 7.

Table 7: Multiple Comparisons of Curiosity Scores of the Teacher Candidates on the Basis of Achievement

	Groups	Mean Difference
1,5-2,49	1,5-2,49	
	2,50-2,99	-8,26437
	3,00 and above	-10,46220
2,50-2,99	1,5-2,49	8,26437
	2,50-2,99	
	3,00 and above	
3,00 and above	1,5-2,49	10,46220
	2,50-2,99	
	3,00 and above	

The results presented in Table 7 show that the average concerning the curiosity of the teacher candidates with an average of 3.00 and above and between 2.5 and 2.99 are significantly higher than the ones with an average of 1.5-2.49.

Findings Regarding the Second Sub-Problem

In the second sub problem the changes in the self-directed learning skills of the teacher candidates in terms of gender, department of education and academic success were analyzed. The averages regarding the self-directed learning skills of teacher candidates are presented in Table 8.

Table 8: The Descriptive Statistics Related to Self-Directed Learning Skills Scale

	n	Minimum	Maximum	$\overline{X}$	ss
Scale (Total)	365	32	105	86,26	10,57
1. Motivation	365	13	35	30,53	3,85
2. Self-control	365	5	25	15,54	3,53
3. Self-monitoring	365	4	20	15,89	2,50
4. Self-confidence	365	7	20	17,23	2,26

The lowest score that an individual could get from the self-directed learning skills scale is 21 (21x1), the highest score is 105 (21x5) and the average score is 63 (21x3). When the data collected from the study group and presented in Table 8 is analyzed, it could be stated that the lowest score that teacher candidates got from the self-directed learning skills scale is 32 and the highest score is 105. The average score the study group is 86.26. According to these results, the arithmetic average of the students' curiosity turns out to be above the scale average score.

In the dimension of motivation, the lowest score is 7 (7x1), the highest score is 35 (7x5) and the average score is 21. (7x3). In self-control dimension, the lowest score is 5 (5x1), the highest is 25 (5x5), and the average score is 15 (5x3). In self-monitoring dimension, the lowest score is 5 (5x1), the highest score is 25 (5x5), and the average score is 15. (5x3). In self-confidence dimension, the lowest score is 4 (4x1), the highest is 20 (4x5), and the average score is 12 (4x3). The scores collected from the study group are as follows: In the dimension of motivation, the lowest score is 13, the highest score is 35; in self-control dimension, the lowest score is 5, the highest is 25; in self-monitoring dimension, the lowest score is 4, the highest is 20; in self-confidence dimension, the lowest score is 7, the highest is 20. The average score of motivation is 30.53; the average score of self-control is 15.54; the average score of self-monitoring is 15.89; the average score of self-confidence is 17.23. These averages are above the average score of each sub dimension.

The findings concerning the analysis of teacher candidates' self-directed learning skills in terms of gender are presented in Table 9.

Table 9: The t-Test Results Related to the Comparison of the Self-directed Learning Levels of the Teacher Candidates on the Basis of Gender

Gender	n	$\overline{X}$	ss	t	p
Female	270	86,39	10,76	,389	,107
Male	95	85,89	10,05		

p>0,05

Table 9 shows that there is no significant difference between the self-directed learning skills of the teacher candidates and their gender (p>0,05).

The statistics regarding the relationship between the teacher candidates' departments of education and their self-directed learning skills are presented in Table 10.

Table 10: The Descriptive Statistics of Self-directed Learning Levels of the Teacher Candidates on the Basis of Departments

Departments	n	$\overline{X}$	ss
English Teaching	77	87,14	10,55
Mathematics Teaching	55	83,65	10,15
Pre-School Teaching	77	86,42	10,62
Elementary Teaching	71	88,04	8,45
Turkish Teaching	85	85,51	12,12
Total	365	86,26	10,57

According to the results presented in Table 10, the highest self-directed learning skill scores belong to students of Elementary Teaching ($\overline{X}$ = 88.04); and the lowest self-directed learning skill scores belong to students of Mathematics Teaching ($\overline{X}$ = 83.65). The average of English Teaching students is 87.14 and the average of Turkish Teaching students is 85.51. The results of the ANOVA done to determine whether there is a significant

difference between self-directed learning skills and departments of education are presented in Table 11.

Table 11: ANOVA Test Results of Self-directed Learning Scores of the Teacher Candidates on the Basis of Departments

Source of Variance	Sum of Squares	Df	Average of Squares	F	p
Between Groups	709,11	4	177,28	1,60	,17
Within Groups	39950,69	360	110,97		
Total	40659,79	364			

p>0,05

Table 11 proves that there is no significant difference between the self-directed learning skills of the teacher candidates and their departments of education.

The statistics concerning the relationship between the academic success and self-directed learning skills of teacher candidates are shown in Table 12.

Table 12: The Descriptive Statistics of Self-directed Learning Levels of the Teacher Candidates on the Basis of Achievement

Achievement	n	$\overline{X}$	ss
1,50-2,49	87	83,30	10,77
2,50-2,99	174	87,06	10,15
3,00 and above	104	87,39	10,74
Total	365	86,26	10,57

Table 12 shows that the students with the highest self-directed learning skill scores are the ones who have an academic average of 3.00 and above ($X =$ 87.39). Students with an academic average of 2.50-2.99 come next ($X =$ 87.06). The group of students who have the lowest self-directed learning skills are the ones with an academic average of 1.50-2.49 ($X =$ 88.30).

The results of the ANOVA done to determine whether there is a significant difference between self-directed learning skills and academic success are presented in Table 13.

Table 13: ANOVA Test Results of Self-directed Learning Scores of the Teacher Candidates on the Basis of Achievement

Source of Variance	Sum of Squares	Df	Average of Squares	F	p
Between Groups	1007,30	2	503,65	4,60	,011
Within Groups	39652,49	362	109,54		
Total	40659,79	364			

Table 13 shows that there is a significant difference between the teacher candidates' self-directed learning skills and their academic success (p<0.05). A Bonferroni Test was done to find out the reason of this difference. The analysis results are shown in Table 14.

Table 14: Multiple Comparisons of Self-Directed Learning Skills Scores of the Teacher Candidates on the Basis of Achievement

	Groups	Mean Diffence
1,5-2,49	1,5-2,49	
	2,50-2,99	-3,75682
	3,00 and above	-4,09538
2,50-2,99	1,5-2,49	3,75682
	2,50-2,99	
	3,00 and above	
3,00 and above	1,5-2,49	4,09538
	2,50-2,99	
	3,00 and above	

According to the results of Table 14, the teacher candidates with an academic average of 3.00 and above and the ones with 2.50-2.99 have higher self-directed learning skill scores than the teacher candidates who have an academic average of 1.5-2.49.

Findings Regarding the Third Sub-Problem

In this sub problem the relationship between self-directed learning and curiosity is analyzed, and the results of the analysis are presented in Table 15.

Table 15: Correlation between Curiosity and Self-directed Learning Skills

		Self-directed Learning	Curiosity
Self-directed Learing	Pearson	1	,606*
	p		,000
	n	365	365
Curiosity	Pearson	,606*	1
	p	,000	
	n	365	365

The results presented in Table 15 prove that there is a positively, medium level, significant relationship between curiosity and self-directed learning. This shows that curiosity and self-directed learning change simultaneously.

DISCUSSION and CONCLUSION
When the curiosity levels of the teacher candidates are analyzed, it has been found out that curiosity scores are above scale average score. In this case it could be mentioned that the teacher candidates have a high level of curiosity. In literature there are some studies which present that teacher candidates and university students have high levels of curiosity (Demirel & Diker Coşkun, 2009; Deringöl, Yaman, Özsarı & Gülten, 2010). Curiosity levels of the teacher candidates haven't shown a significant difference in terms of gender. There are some findings in literature mentioning about the differences of curiosity in male and female students. As a result of the study, it has also been revealed that the curiosity levels of teacher candidates don't differ significantly in terms of their department of education. This finding may have arisen as the study was carried out on students studying at the same faculty. There are some findings which point out to the differences in the curiosity levels of the students studying in different faculties (Demirel & Diker Coşkun, 2009). It could be accepted that the students studying in the same faculty have more similar characteristics compared to the ones studying in different faculties. This finding coincides with Deringöl, Yaman, Özsarı & Gülten's (2010).

According to the results of the study, it has been revealed that the curiosity levels of teacher candidates differ in terms of their achievement. In other words, the students who are more successful academically have higher levels of curiosity. Curious people are considered as individuals who have the habit of studying and analyzing to gather information about themselves and their environment; they are able to determine deficiencies in their knowledge and understanding, ask questions, are sensitive to solving problems they face with and create new problematic situations. This contributes to individuals' academic success positively. Individuals who are aware of their own deficiencies and ask questions for self-improvement can also overcome their academic deficiencies and succeed. That curiosity differs according to academic success and individuals who are more successful academically have higher levels of curiosity are mentioned in certain studies in literature as well (Maw & Maw, 1961; Hogan &

Greenberger, 1969; Vidler & Rawan, 1975).

The results of the study have shown that the self-directed learning skills of teacher candidates are above the scale average score. According to this result, it could be stated that teacher candidates have high self-directed learning skills. Self-directed learning skills are considered among the expected skills of individuals with university education or individuals who attained a certain level of success. Therefore, university students are expected to have average or high self-directed learning skills. When studies on this topic are considered, it is realized that teacher candidates and university students have a high scale average score of self-directed learning skills (Aşkın, 2015; Sarmasoğlu & Görgülü, 2014). When teacher candidates' self-directed learning skills are analyzed in terms of gender, it is realized that there is no significant difference. In literature, in some studies, there is a significant difference found between self-directed learning skills and gender and in other studies, there is no significant difference between these two. In this study, it has been proven that teacher candidates' self-directed learning skills show no significant difference in terms of departments that they are educated in. In literature, there are some studies which show that there is a significant difference between the self-directed learning skills of university students being educated in different faculties. The fact that no significant difference found in this study could be explained by the study group consisting of students being educated at the same faculty.

The self-directed learning skills of teacher candidates differed according to their academic success. The findings have shown that students with high academic success have higher self-directed learning skills. Self-directed learners are individuals who have positive contributions to academic success and they are able to determine their learning needs, different learning strategies, take advantage of methods and techniques, manage their own learning process and after detecting their learning problems, they manage to overcome these problems themselves. This shows that students with high self-directed learning skills are considered as more successful academically. Some studies in literature point out that the self-directed learning skills of teacher candidates differ parallel to their academic success (Acar, 2014; Karataş, 2013).

A positively, medium level relationship has been discovered between the curiosity levels and self-directed learning skills of teacher candidates. Curious individuals are ready to learn, they ask questions, plan and specify what to learn in accordance with their interests and the things they wonder about and they are known to be individuals who question the things they have learnt about. When these features are analyzed, it is believed that curiosity and self-directed learning are concepts that are related to each other. It is accepted that the emotion of curiosity causes the individual who feels a lack of knowledge to step into action, by feeling the urge to explore his environment in order to fill in this gap (Loewenstein, 1994). And in this case, the self-directed learning skills of the individual become active (Edmondson, Boyer & Artis, 2012). In literature it is also emphasized that these two features together have positive contributions to academic success and they support each other. Deci & Ryan (1982) have stated in their studies that inner motivation is essential in order to ensure self-directed learning and the activities that trigger students' emotions of curiosity lead to inner motivation and this contributes to self-directed learning. Similar to that, Loewenstein (1994) also states that curiosity helps an individual to get motivated for learning. And Reio (2004) claimed in his study applied on 121 university freshman students that self-directed learning and curiosity together predict the learning performance. Edmondson, Boyer & Artis (2012) also did a meta-analysis of the studies carried out on self-directed learning and found a positive and significant relationship between self-directed learning and curiosity.

In the light of these findings, some suggestions could be made for future studies. It is important to provide the students attending faculties of education with activities which will help them arouse their curiosity about topics that will help them improve personally and professionally by specifying their learning needs, following their learning process and improving their assessment skills. That self-directed learning skills and curiosity being related to each other points out that both the curiosity of teacher candidates and their self-directed learning skills can be improved. And therefore, to increase their curiosity level, curricular activities within or outside the classroom could be arranged and this would help them become self-directed learners. Besides, certain experimental studies could be carried out in different educational levels in order to emphasize the influence of educational environments which will help to develop self-directed learning skills. By carrying out qualitative studies, some detailed data could also be obtained concerning self-directed learning skills and curiosity.

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AN INVESTIGATION OF PHYSICS EDUCATION DOCTORAL DISSERTATIONS MADE IN TURKEY BETWEEN 2010 AND 2015

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ABSTRACT

The purpose of this study was to investigate doctoral dissertations on physics education conducted in Turkey between the years of 2010 and 2015. The year, institution, language, researcher's gender, advisor position, research design and method, number and properties of samples, subject, data collection tools and theme distribution of the doctoral studies were investigated. The document analysis technique, which is a qualitative research method, was used. The population for research was all doctoral dissertations in the field of physics education at various institutes in Turkey. The sampling group consisted of 78 dissertations accessed through the online National Thesis Centre. To collect data, a form of structure determination developed by the researcher was used. Data were analysed with categorical analysis techniques The findings indicated that the number of physics education doctoral dissertations has increased when compared with the number of dissertation made in the years 2001-2009. Most of these doctoral dissertations were conducted at Karadeniz Technical University and Middle East Technical University, with a mixed research method preferred by researchers. In general, high-school students and pre-service teachers were the sample for these dissertations. The theme of success and attitudes were the most frequent research topics used in dissertations on physics education.

INTRODUCTION

The investigation of historical development of scientific knowledge is needed to reveal the point where such knowledge becomes available and open to new forms of research. The point where scientific knowledge becomes a source of new research shows how much knowledge is available before that point (Bağ, Kara & Uşak, 2002). New studies related to special fields of education and new researchers, known as field educators, show these fields have developed. However, new researchers have some limitations in the field of education and in finding previous studies published in Turkey (Karamustafaoğlu, 2009). However, the construction of special departments within in education faculties can speed up development.

One developing field is physics education, which differs from physics departments and the faculties of arts and sciences in how academicians work, think and are interested in education. With the development of physics education in universities, fundamental changes have been made in instructional programmes in Turkey. For example, the instructional physics programme in high schools changed based on constructivism in 2004 (Çakıcı ve Ilgaz, 2011); this was strengthened with the reconstruction of the programme in 2011.

Developments in physics education and in instructional programmes are also reflected in doctoral dissertations. The first physics education doctoral dissertation in Turkey was published in 2001 (Doğru, Gençosman, Ataalkın & Şeker, 2012), which shows that the history of doctoral dissertations in the field of physics education goes back approximately 15 years. An increase in the number of doctoral dissertations on a subject is important for understanding how the field has developed and finding out where it is now and where it is going (Göktaş ve Erdem, 2006). In this context, there are some studies (Balcı, 2004; Altıparmak & Nakiboğlu, 2005; Gürdal, Bakioğlu & Öztuna, 2005; Çakıcı & Ilgaz, 2011; Doğru, Gençosman, Ataalkın& Şeker, 2012; Çeliker & Uçar, 2015) that investigate doctoral dissertations in Turkey.

The literature review of these studies gives three main points. First, until now master theses were mostly searched for and investigated through many variables. However, doctoral dissertations are not searched for in the same way as a master's thesis. This could be because the publishing language of some dissertations is English and there are access limitations from the doctoral dissertations' own researchers. At present, access to doctoral dissertations is easier than in past with the use of the National Thesis Centre of Higher Education Institutions. In a study conducted by Doğru, Gençosman, Ataalkın & Şeker (2012) looked at doctoral dissertations before 2009. An investigation of doctoral dissertations from 2010 to the present is needed. Because of the one-year access limitations of doctoral dissertations, this study was conducted to investigate doctoral studies between 2010 and 2015. Second, when accessing dissertations from the National Thesis Centre, more than one keyword should be used to find dissertations on a specific field. Some dissertations could not be found just through the keywords

"physics education" or "physics teaching" because the dissertations were indexed in the fields of physics or engineering. As a result, the searched keywords were carefully selected to find all physics education dissertations. Finally, the independent variables searched in the studies were listed. The year, institution, language, researcher's gender, advisor position, research design and method, number and properties of samples, subject, data collection tools and theme distribution of the doctoral studies were investigated. As a result, for Turkish doctoral dissertations on physics education between 2010 and 2015 the following questions were investigated:

- What was the distribution in terms of years?
- What was the distribution in terms of institutions?
- What were the languages?
- What was the distribution of researchers' genders?
- What was the distribution of advisor positions?
- Which designs or techniques were used?
- Which research methods were used?
- What were the sample sizes and properties?
- Which physics subjects were studied?
- Which data collection tools were used?
- Which themes were used?

AIM OF THE STUDY
The purpose of this study was to investigate physics education doctoral dissertations published in Turkey between the years of 2010 and 2015. The year, institution, language, researcher's gender, advisor position, research design and method, number and properties of samples, subject, data collection tools and theme distribution of the doctoral studies were investigated.

METHOD
The document analysis technique, which is a qualitative research method, was used to investigate the doctoral dissertations in physics education between the years of 2010 and 2015. The technique covers the analysis of written materials containing information about the targeted case or cases and has five steps: (1) finding documents, (2) controlling originality, (3) understanding documents, (4) analysing data and (5) using data (Yıldırım & Şimşek, 2013).

During the study, the National Thesis Centre's online search engine was used to access doctoral dissertations on physics education. First, the years 2010 to 2015 and the situation of doctoral dissertations were selected. Second, the dissertations that used an English or Turkish physics word in the title or abstract were searched. Third, the dissertations that had access permissions and were in the category of education and training were listed. Finally, the list of titles was checked and the dissertations related to physics education field were selected for inclusion. A total of 78 doctoral dissertations were accessed this way; all were downloaded.

To collect data, the researcher developed a form of structure determination. This contained all independent variables: year, institution, language, researcher's gender, advisor position, research design and method, number and properties of samples, subject, data collection tools and themes. A total of 78 doctoral dissertations were investigated this way. The data were then coded into a computer to make categorical analysis. The collected data are presented in the findings of this study.

FINDINGS
The distributions of doctoral dissertations in terms of years, institutions, the language used, the distributions of researcher's gender and advisor positions, designs, techniques and methods used, sample sizes and sample properties, physics subjects studied, data collection tools and themes are listed below.

- What was the distribution of doctoral dissertations in terms of years?
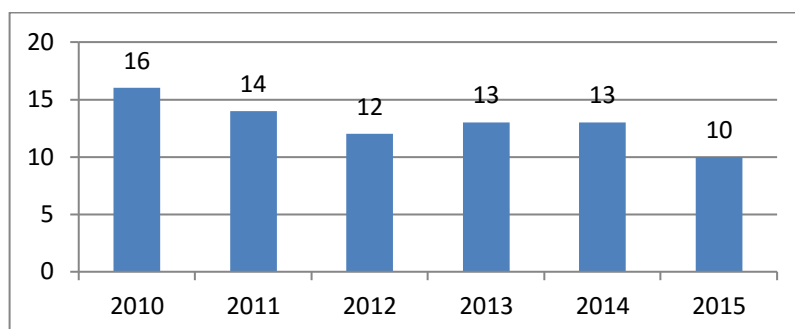
Figure 1. The distribution of doctoral dissertations in terms of years

According to Figure 1, there are 78 doctoral dissertations on physics education between 2010 and 2015. The highest number of dissertations was published in 2010 and the lowest in 2015. The decrease could be a result of the one-year access permission for doctoral dissertations. The average number of doctoral dissertations per year between 2010 and 2015 is 13.

- What was the distribution of doctoral dissertations in terms of institutions?

Table 1: The distributions of doctoral dissertations in terms of institutions

University	Number	%
Karadeniz Technical University	16	21
Middle East Technical University	15	19
Gazi University	9	12
Atatürk University	8	10
Balıkesir University	7	9
Marmara University	6	8
Dicle University	3	4
Dokuz Eylül University	3	4
Ankara University	2	3
Hacettepe University	2	3
Selçuk University	2	3
Celal Bayar University	1	1
Dumlupınar University	1	1
Ege University	1	1
Fırat University	1	1
Trakya University	1	1

Table 1 shows the distributions of doctoral dissertations in terms of institutions. There are 16 universities in Turkey that published doctoral dissertations on physics education. Karadeniz Technical University (21%) and Middle East Technical University (19%) published the most; Celal Bayar University, Dumlupınar University, Ege University, Fırat University and Trakya University published the fewest.

- What were the languages of doctoral dissertations?

Of the 78 doctoral dissertations, 15 (19%) were in English and 63 (81%) were in Turkish. Only the doctoral dissertations from the Middle East Technical University were in English.

- What was the distribution of researchers' genders in doctoral dissertations?

Of 78 doctoral dissertations, 45 (58%) were by males and 33 (42%) were by females; the number of male researchers is higher than the number of females.

- What was the distribution of advisor positions in doctoral dissertations?

In total, 35 professors (45%), 23 associate professors (30%) and 13 assistant professor doctors (17%) participated as an advisor on physics education. Four doctoral dissertations used double advisors: professor/associate professor, associate professor/assistant professor doctor, doctor/assistant professor doctor and assistant professor doctor/instructor.

- Which designs or techniques were used in the doctoral dissertations?

Table 2. The distribution of designs/techniques used in doctoral dissertations

Research design	Number	%
Pre-test/post-test control group design	42	53
Case study	15	19
One group pre-test/post-test design	6	8
Content analysis	4	5
Factor analysis	3	4
Survey study	2	3
Document analysis	2	3
Other	6	8

According to Table 2, the doctoral dissertations used 14 different research designs and the pre-test/post-test control group design was preferred. The 'other' category includes meta-analysis, phenomenological research method, longitudinal developmental research methods, didactic engineering research theory, material and test development.

- Which research methods were used in doctoral dissertations?
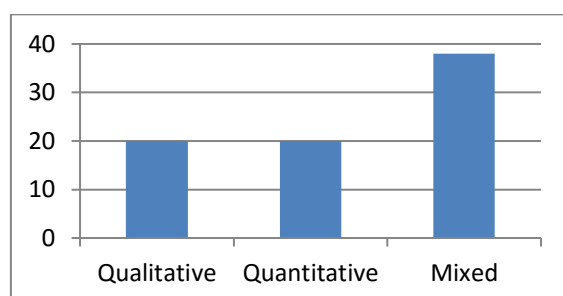
Figure 2. Research methods in doctoral dissertations

As in Figure 2, the mixed method (f=38, 48%) was most used in doctoral dissertations. The number of qualitative studies (f=20, 26%) was equal to the number of quantitative studies (f=20, 26%).

- What were the sample sizes and sample properties of doctoral dissertations?

Table 3: The Distribution of sample properties, number of dissertations and sample sizes

Sample properties	Number of dissertations	Sample size
High school students	34	4533
Pre-service teachers	36	2954
Teachers	14	1189
Parents	1	196
Articles	1	77
Doctoral dissertations	1	25
Doctoral students	1	10
Administrators	1	2
Books	1	1

According to Table 3, high-school students and pre-service teachers were preferred participants in doctoral dissertations. The numbers of studies conducted with parents, articles, doctoral dissertations, doctoral students, administrators and books were very low.

- Which physics subjects were studied in doctoral dissertations?

Table 4: Physics subjects studied in doctoral dissertations

Subjects	Number	%
Mechanics – force and motion	16	20
Electricity	14	18
Modern physics	6	8
Work and energy	5	6
Magnetism	5	6
Heat and temperature	2	3
Optics	2	3
Waves	1	1
Electrostatics	1	1
Impulse and momentum	1	1
Radioactivity	1	1
Sound	1	1
Torque and angular momentum	1	1
No subject	22	28

Table 4 shows the distribution of physics subjects in doctoral dissertations. Of the 78 doctoral dissertations, 22 (28%) did not cover any physics subjects. Mechanics (20%) and electricity (18%) were the preferred subjects.

- Which data collection tools were used in doctoral dissertations?

Table 5: Data collection tools used in doctoral dissertations

Tool	Number	%
Achievement test	48	26
Interview form	39	21
Attitude scale	22	12
Observation form	21	11
Special tools	16	9
Survey	11	6
Science process skills test	10	5
Other scales	9	5
Other tests	4	2
Misconception test	3	2

According to Table 5, 10 data collection tools were used 183 times in 78 doctoral dissertations. This shows that on average more than two tools were used in each dissertation. Achievement tests were the preferred data collection tool followed by interview forms and attitude scales. Misconception tests were used the least, which suggests they could be coming to an end within physics education.

- Which themes were used in doctoral dissertations?

According to Table 6, 66 themes were used 195 times in 78 doctoral dissertations. Thus, an average of 2.5 themes were used in doctoral dissertations. Achievement and attitudes were the most used themes in doctoral studies.

Table 6: Themes used in doctoral dissertations

Theme	N	%	Theme	N	%	Theme	N	%
Achievement	41	21	Learning styles	2	1	Cooperative learning	1	1
Attitude	22	11	Pedagogical content knowledge	2	1	Comparative education	1	1
Computer-based learning	9	5	Problem solving performances	2	1	Concept understanding	1	1
Material development	8	4	Simulation	2	1	Concept maps	1	1
7E instructional model	6	3	Inquiry learning	2	1	Conceptual change texts	1	1
5E instructional model	5	3	Drama	2	1	Conceptual physics problems	1	1
Science process skills	5	3	Mental model development	2	1	Laboratory methods	1	1
Modern physics	5	3	4mat teaching method	1	1	Mathematical modelling	1	1
Problem-based learning	5	3	Academic self-concept	1	1	Meta-analysis	1	1
Web-based learning	5	3	Active learning	1	1	Model based learning	1	1
Context-based learning	4	2	Meaning making processes	1	1	Modelling	1	1
Physics instructional program	4	2	Analogical modelling	1	1	Out of school activities	1	1
Misconceptions	4	2	Augmented reality	1	1	Literacy activities	1	1
Self-sufficiency	4	2	Science history based learning	1	1	Teaching applications	1	1
Project-based learning	3	2	Course book	1	1	REACT learning strategy	1	1
Constructivism	3	2	Affective characteristics	1	1	Hot conceptual change theory	1	1
Peer instruction	2	1	Physics experiments	1	1	Technological pedagogical content knowledge	1	1
Thought experiment	2	1	Physics courses	1	1	Test development	1	1
Critical thinking	2	1	Physics laboratory	1	1	Learning science by typing	1	1
Epistemological belief	2	1	Physics and music relationship	1	1	Creativity	1	1
Professional developmental program	2	1	Blind students	1	1	Mode-method interaction	1	1
Motivation	2	1	Internet-based learning	1	1	Method-approach interaction	1	1

CONCLUSIONS AND DISCUSSION

The aim of the study was to investigate 78 doctoral dissertations on physics education published between the years of 2010 and 2015. Document analysis was carried out for the dissertations; this is one of the most commonly used qualitative research methods. The conclusions of the study are as follows:

- The average number of dissertations published each year between 2010-2015 is 13. There were 2,6 between 2001 and 2009 according to the study conducted by Doğru, Gençosman, Ataalkın ve Şeker (2012). So the increase in the number of average dissertations shows interest in physics education is growing.
- There were 16 universities that produced physics education dissertations; Karadeniz Technical and Middle East Technical Universities published the most. Literature on this figure for previous (before 2010) the earlier years was not found; however, the number of universities is increasing as more people graduate with doctorate degrees in physics education and choose to work in this field. That could be why these universities produced more dissertations than others. Additionally, these universities are older (Çetinsaya, 2014).

- Most doctoral dissertations were published in Turkish; only dissertations published by the Middle East Technical University (METU) were in English. At METU lessons are taught in English; the others teach in Turkish.
- 58% of dissertations were written by males with the rest by females. The findings also indicated that the advisors of these dissertations were mainly professors (45%).
- The mixed method and pre-test/post-test control group design were the preferred research design and method. When these findings were compared with Doğru et al's study, it can be seen that the percentage of these methods and designs has increased. Quantitative research methods were used the most between 2001 and 2009; this then changed to mixed research methods. Çeliker and Uçar (2015) state that in science and technology dissertations, pre-test/post-test control group design was used the most, which is similar to this study.
- Similar to Doğru et al's study, electricity and mechanics were the most-studied subjects in physics education. However, while there were seven dissertations on physics education about these subjects until 2009, this study demonstrated that this number increased to 30.
- Achievement tests, interview forms, attitude scales and observation forms were most-selected data collection tools.
- According to Karadağ (2009), physics education studies have not spread because there were limited themes in doctoral dissertations. However, this study found 66 different themes in doctoral dissertations while Doğru et al found just 20 themes between 2001 and 2009. So it can be concluded that physics education studies becoming more widespread.

In conclusion, these findings indicate that physics education is developing with studies scattered over a wide range in terms of both study topics and study methods. The number of doctoral dissertations and the themes within them are increasing. Still, achievements and attitudes are the most-used themes that are repeated in doctoral studies as discussed in Karadağ (2009). The recommendation for academics is to repeat these reviews every five years because this kind of review may beneficial for other academics to see where we are in physics education. The recommendation for doctoral students is that studies should be high quality and themes should be chosen to reach the wider field of physics education.

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AN INVESTIGATION ON PRESERVICE SCIENCE TEACHERS' USAGE SOCIAL MEDIA FOR EDUCATIONAL PURPOSES: IMPLICATIONS FOR TEACHER EDUCATION

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ABSTRACT

There is an ongoing debate regarding the integration of social media in education. Advocates of social media usage point to the benefits of using social media for academic/educational purposes and practice while critics are calling for regulations and/or the removal of such online technologies in the classroom. Finding middle ground has become a challenge. Additionally, in the literature, the number of the studies investigating the pre-service teachers' usage social media is limited. This research was carried out to determine the social media usage of pre-service science teachers for academic and educational purposes. This research was carried out by using descriptive/survey method. The participants of this study were comprised of 126 pre-service science teachers. The data were collected by the researchers and analyzed by using descriptive analyses. The results indicated 100% use of social media either for personal, academic, educational, research, or professional purposes, with the majority using Facebook for personal communication, LinkedIn for professional connections, and blogs for educational aims. Most of them think that social media can be used for educational purposes if they are used truly and effectively. The results of this study are expected to contribute to current literature on social media/network using for teaching, learning, professional development and teacher education.

Key words: teacher education, social media, preservice science teachers

INTRODUCTION

The rapid growth in Internet technologies, todays' teachers, who born in the 1990's, are digital natives (Prensky, 2001a; 2001b) who are also "digitally literate" (Meyers, Erickson, & Small, 2013). They and their future students are Internet-ready generations. Social media will play a key role in education reforms to implement 21st century learning (Howard & Carceller, 2010; Rice, Thomas & O'Toole, 2009) and as teacher educators, we need to understand our students' current practices in using social media in order to profit from the widespread availability of such tools.

Social media technologies are currently being promoted to engage 21st century learners in science learning. They have been integrated into curriculum design and implementation, providing invaluable teaching and learning settings and functions for educators and students. For example, using social media as a communications tool to communicate with students, parents, educators and experts in various fields from around the world (Facebook, Google Plus, and Twitter). Also social media is powerful, flexible, and efficient tool for collecting "real time" data/information (Wikipedia), for publishing and delivering teachers' and students' work (Pinterest, SnapChat, Flipagram, Instagram, YouTube, etc), for learning new things, and searching new academic studies, and professional/research purposes (e.g., LinkedIn, Research Gate, Academia.edu, etc) (Allen, 2012; Greenhow and Gleason, 2014; Manca and Raineri, 2013; Raodriguez-Hoyos, Haya Salmón, & Fernández-Díaz, 2015).

These opportunities in education are required changes to classroom practices and the preparation of current and future science teachers. Integration of social media into education has transformed the teaching and learning paradigm and, consequently, face to face learning has started to give way to web based instruction via internet based resources. We can also question the degree to which pre-service science teachers are technically proficient or competent in their use of social media tools. Teacher educators and teacher education programs can potentially benefit from enhanced understanding of how pre-service teachers use social media tools for science learning in their degree programs. Although there are numerous studies on social media integration into education in recent years (Raodriguez-Hoyos, Haya Salmón, & Fernández-Díaz, 2015; Greenhow and Gleason, 2014; Manca and Raineri, 2013; Gao, Luo, & Zhang, 2012; Allen, 2012; Hew, 2011; Aydin, 2011), little is known about pre-service teachers' usage social media tools. Thus, we ask the following two research questions:

(1) What social media do the pre-service science teachers prefer to use? (2) Why do pre-service science teachers prefer to use social media tools, for educational purposes?

THE STUDY

The study is a survey of the extent to which Turkish pre-service science teachers use social media. The sample of this study consists of all first year science teacher education students (N= 126) at a large university, in Turkey. The limitations of this study include sample size and location. The size of the study is limited to the number of pre-service science teachers who are enrolled in graduate classes this year in Turkish Universities. While the location of the university is in a wealthy, suburban community, the pre-service science teachers in this study are from a variety of ethnic and social-economic backgrounds throughout the country.

A survey instrument was administrated to examine what and why these pre-service science teachers used a list of social media tools derived from the literature, including blogs, micro blogs, Wikis, Photo/Slides sharing software, Video sharing software, music and sound sharing, document managing, Syndication of content through RSS, social networking, broadcasting, location-based, social bookmarking, other tools including survey and pools, online diagrams, virtual worlds-virtual conference, team meetings, etc. (Kaplan and Haenlein, 2010; OECD, 2007; OECD, 2012).

The data was collected during the final week spring of 2016 semester. All data were entered into SPSS, which was used to conduct descriptive analyses. Descriptive statistics were used to summarize and present the quantitative data from the survey. Additionally, qualitative data from the open-ended survey items (Other………..) were content analyzed to provide more in-depth information in the pre-service science teachers' voices and chooses.

FINDINGS

The two research questions were used to organize presentation of the study results as follows.

What social media do the pre-service science teachers prefer to use?

Table 1 shows what social media tools were being used by pre-service science teachers who were participated in this study. According to the participants' self-reported frequencies, we finalized the percentage of pre-service science teachers prefer to use social media tools and also rank frequency and percentage.

Table1. Current use Social Media by Pre-service Science Teachers

Statements	F	%	Rank
Higher pre-service science teachers' reports			
Facebook (Social networking)	120	95.2	2.5
YouTube (Social networking)	124	98.41	2
Wikipedia (Wikis)	126	100	1
Foursquare-Swarm (location-based sharing)	65	51.58	10
Twitter (Social networking)	87	69	5.5
Slide share	69	54.76	9
Dropbox (document managing-storage and sharing)	74	58.7	8
Blogs	78	61.90	7
Facebook Messenger (Social Networking)	120	95.2	2.5
Online games	94	74.6	4
Instagram (Photo sharing)	87	69	5.5
Less pre-service science teachers' reports			
LinkedIn (Social networking)	38	30.2	11
Skype	23	18.3	13
E-bay (Selling/purchasing management system)	11	8.7	17
Flipagram (video editing- sharing)	21	16.7	14
Podcasting	9	7.1	18
RSS Feeds	3	2.4	20.5
Restricted Online Communications	15	11.2	15
Broad Casting	24	19	12
Vimeo (Video sharing)	14	11.1	16
Pinterest (Book marking)	34	24.6	12

Flickr (document mamaging-Storage and sharing)	5	3.9	19
Snapchat (Video sharing)	46	36.5	10
Other social media tools (Survey Monkey)	3	2.4	20.5
ResearchGate (Social networking)	2	1.5	22
Academia (Social networking)	1	0.80	23

As seen Table 1, social networking and Wikis tools including Wikipedia, Facebook, Facebook Messenger, YouTube, and Twitter, are the two most commonly used social media technologies among all pre-service science teachers. Similar results were observed earlier studies which were conducted on different cultural context (Guy, 2011; Poellhuber & Anderson, 2011). The ranking indicated that the most popular social media tool is YouTube among pre-service science teachers in this study context. In earlier studies, different researchers have empirically evidenced varying pedagogic effects of YouTube (Graham Borup, & Smith, 2012; Krauskopf; Zahn, & Hesse, 2012; Lee and Lehto, 2013, Szeto, Yan-Ni Cheng, & Hong, 2016). They have indicated that using YouTube in teaching is a cognitive process which needs to underpin the lesson plan. YouTube can be integrated in teaching as an online digital video resource for demonstration, a trigger for constructivist inquiry of knowledge in shaping the cognitive process.

Why do pre-service science teachers prefer to use social media tools, for educational purposes?

All of the pre-service science teachers (100%) have replied in affirmative that social media is used for educational and academic purposes. Table 2 shows the frequency distribution of pre-service science teachers' aims of social media usage.

Table 2. Frequency and percentages of the pre-service science teachers' responses on the use of social media for educational purposes

Statements	f	%	Rank
Using social media to			
Contribute educational/academic knowledge to other educators (Facebook, Twitter, LinkedIn, Academia, ResearchGate, YouTube etc)	103	76	3
Seek specific information about an education/academic problem/situation (Wikis)	83	65.9	4
Scan/explore educational/academic knowledge for new insights (Blogs, Microblogging, YouTube, Instagram, Pinterest, etc.)	102	80.96	2
Other (personal communication, develop personal, academic and professional skills as an educator using blogs, wikis, e-mail, messenger, Facebook, YouTube, etc)	126	100	1

As seen Table 2, the results indicated 100% use of social media tools for personal, academic, educational, research, or professional purposes. The ranking results indicated that all of the participants, 126 (100%), prefer social networking tools including using blogs, wikis, e-mail, messenger, Facebook, YouTube, etc., for personal communication and, academic, personal, and professional development.

CONCLUSIONS & IMPLICATIONS

Based on the results of this study, we are confident in the claim that all of our participating pre-service science teachers aware of social media tools and use of some of them for educational, academic, professional, and personal communication. The findings from this study suggest that there is a window of opportunity within teacher education to develop the learning potential of social media tools in our teacher education programs. The implications are that the teacher educators need to open to new technologies such as social media or Web 2.0 tools knowledge and approaches to integrating them in educational setting from a broader perspective, and to embrace the new culture of learning and teaching of digital natives as future teachers. Such an understanding is provided continuous support and guidance for our teacher candidates, answering questions and giving advice, as well as opening up their classrooms for field experience opportunities. In other words, teacher educators need to scaffold the kinds of uses of social media tools that help our pre-service science teachers bridge their social and learning worlds. In this context, teacher educators likewise must adopt changes in their own practices to both understand their students and utilize the potential of social media applications as tools for learning in the 21st century. As noted by Nielson et al. (2013), these pre-service science teachers will be teaching the next generation of scientists/children, whose digital proficiencies are likely to be even greater, thus attention at the program level in teacher education will have far-reaching consequences.

Although generalization of the findings is not the purpose in consideration of the small sample size and location, the findings can help policy makers and teacher educators envisage the impacts of the rapidly changing technological advancement on pre-service teachers' pedagogies.

The follow-up studies must be conducted with rigor and must move the science of professional learning and development forward in discernible steps to fully embrace a collaborative approach to education. Future studies should examine potential differences between other populations of teachers and other branches of teachers (art, social sciences, math, classroom teachers) in terms of their use of social media to share and exchange educational knowledge. Studies should also examine different types of social media usage beyond the sharing of knowledge with other educators.

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AN OVERVIEW OF THE REPORTS BELONGS TO FOREIGN COUNTRIES' EDUCATION SYSTEMS AND THEIR CONTENTS WHICH GUIDED THE EDUCATION IN THE REPUBLICAN PERIOD (1925-1927)

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ABSTRACT

Both quantitive and qualitative changes resulting from the social, political and cultural changes and developments happened in education and schooling in the Turkish National Education system during the II. Constitutionalizm period after the Reforms period. It can be said that education and schooling models which were applied in the western countries made the greatest effect to these changes and developments. For this purpose, the newly established Republic of Turkey organized training trips to other countries in order to examine their educational systems on one hand and invited foreign experts to the country so that they can examine the current educational system of the country on the other hand so that it could adapt the Education System which was inherited from the II. Meşrutiyet, that is the final period of the Ottoman Empire to the modern pedagogic approach of the era. Mr. Muallim Talat, Education Chairman Mr. Mustafa Necati, Ali Enver of Uskudar, Mr. Selim Sirri, Mr. Ismail Hakki, Dr. Alfred Kuhne, Mr. Zekai, Nafi Atuf ve Audit Commitee Chairman Mr. Rıdvan Nafiz, George Stiehler, Ahmet Hilmi, Mrs.Vildan and Mr. Nizamettin, James Graham filed reports to the Ministry of Education between 1924 and 1927. This study focuses on the contents of the Mr. Muallim Talat's"Avrupa'da Maarif Tetkiki (Inspection of the Education in Europe)" In this study, Muallim Talat Bey's Impressions from "Inspection of the Ministry of Education in Europe" Trips, the report about trade schools in Germany, Great Britain and Czechoslovakia by Hakkı Bey who was the handicraft teacher of the Ankara Teacher's Institue, Mr. Nafi Atuf and Mr. Rıdvan Nafiz's report about the Russian Education, Mr. Ahmet Hilmi's reports about German forestry schools and vocational education were examined. Upon analyzing the contents of the reports it was seen that they focused on the mode of national education, the place of the handicraft courses in the curriculum and their purposes, vocational technical training, teacher training, special education, and education systems of the countries examined.

Key Words: Foreign Education Systems, Handicraft, National Education, Vocational Training, Special Education

INTRODUCTION

The Republic of Turkey entered into many pursuits in order to adapt the education system that it inherited from the Ottoman to the conditions of the period. When these efforts were examined in general it was seen that research was conducted on foreign school organizations, curriculums, approaches applied and models especially while Mr. Mustafa Necati was the Minister of Education. It was seen that two paths were followed in establishing a contemporary education environment in the country. As the first path, expert foreign educators from the related fields on demand were invited to the country and their views were taken. As the second, foreign education systems were examined in the place. Ministry of Education appointed many educators to examine the educaion systems of Germany, Great Britain, Czechoslovakia, Romania, Hungary, several Scandinavian countries and Russia. The educators who conducted these studies were asked to present a detailed report about the countries whose education systems were examined to the ministry.

1. Mr. Talat's Report:

A delegation consisting of council members, mayors, school principals and several teachers did a study and research visit to Romania and Hungary chaired by the Governor of Bilecik Mr. Talat. As a result of this visit a report about the schooling periods, school order, national discipline and national aim was written and sent to the Ministry of Education (Talat, 1926, p: 663). Looking at the content of the report it was seen that it focused especially on how and why handicraft lessons were given and the shape of the national education administration. Handicraft teaching attracted the most attention in all schools. It was seen that handicraft courses embodied other

courses and helped students in understanding abstract topics. Furthermore handicraft courses plays an important role in identifying the abilities and skills of a child. The main objective of handicraft lessons is to grow children as artists. The schools which applies handicraft courses in order to improve the creativity of the children give these courses in the mornings. Our handicraft courses could not get rid of systematic form yet. In Romania, other lessons were tailored to real life through handicraft courses.

The views of the famous pedagogues of the era like Stanleyhull, John Dewey, Rabelas, Dalton, Bedalez, Herbart, Feriyyer and Kuzine was given place in schools. In Hungary, another country which was visited, it was observed that education and teaching methods were made more democratic and streamlined to teach national discipline.

It was also seen that scouting organization was given a great deal of importance in Hungary schools. According to this result, that Hungary education system is more developed than Romania education system was included in the report (Talat, 1926, p: 665). While examining the tools that has an effect on a child's education, it was observed how they used tales in education and teaching. Every nation has many heroic legends. These legends arouse a national joy in children. However, another important issue which attracted attention was that parents should not tell fairy tales to their children. It was observed that this was given great importance in Europe. It was observed that heroic legends, family history and family names were benefited from in teaching the national discipline and these subjects were included in curriculum. Another factor in teaching the national discipline is parks and gardens. Children develop their creativity in these places. When it comes to school buildings, it was stated that the more historical the school buildings are the more effective they are on children's feelings. Another instution in teaching the national discipline was libraries. Reading houses were opened to address this need in villages. Cinemas and theaters (especially in Hungary, there are many children's theaters), national museums, national music and national language were used in teaching the national discipline to the students. It was witnessed that libraries, health homes, dance halls, public baths, and pianos were used in education all around Hungary. Villagers are given lectures by the doctor or the teacher once a week. The aim of these efforts is to improve national discipline in villagers (Talat, 1926, p: 671).

2. Mr. Ismail Hakkı's Report:

Another report was given to the Ministry of Education by Mr. Ismail Hakkı (1925), a handicraft teacher in Ankara Teacher Training Institue, who was sent to Europe to examine vocational schools (İsmail Hakkı, 1341/1925, p:46). This report gives information about vocational education in Germany, the Great Britain and Czechoslovakia besides emphasizing the importance of vocational and technical education. In this report(İsmail Hakkı, 1341/1925, p:47): The most important mission of the government in economic life is to educate the citizens so that they become productive members of the society. The need to educate productive citizens requires giving importance to vocational discipline, and educate people like apprentices, craftsmen, workers and day laborers. Since our presents schools cannot act in accordance with this purpose, there is need to adapt our education institutions to economical needs of life and ongoing changes. Governments of the civil countries focused their attention on general and vocational discipline of their citizens and become countries that we need to examine.

German Trade Schools(İsmail Hakkı, 1341/1925, p:47)*:* Contemporary trade schools in Germany has their roots in "Sunday Schools" in the 18th century. Sunday schools and new schools opened with the name (Drawing Schools for Masters) formed a basis for trade schools. Trade schools were established along with the first compulsory schools. It was the Würtenburg government who established the first Sunday school and made it compulsory in Germany in 1960. These schools were opened in Baden in 1760 and in Bayern in 1771. Drawing Schools for Artists were established especially with personal efforts of teachers and mayors who wanted to eternalize the artists' schools. Artisans Community Regulations in 1816 made these schools compulsory for apprentices and craftsmen. In 1836, industry schools were opened in Mecklenburg Schwerin in order to develop the vocational knowledge and skills of the apprentices and headworkers and teaching them useful knowledge and skills. With the Prusian Industry Regulation in 1845 it became mandatory for apprentices to learn reading, writing, mathematics, civizilation and religion. The second developmental stage of trade schools started after 1870. There is no doubt that the government who shows outstanding efforts to undertake the education and discipline or the nation will not neglect vocational education. The laws made after this date makes it mandatory to go to these schools for two or three years for children who completed primary school, besides making trade schools mandatory for girls. Seperate vocational education programs and curriculums were prepared for girls and boys. German Vocational Schools Board was established in 1900. Munich Vocational Schools Board attracted attention and established the following organization which may set an example for Germany.

1- Munich Vocational Education Schools and Industry Schools (İsmail Hakkı, 1341/1925, p:48)

Munich vocational education schools were seperated into two divisions for girls and for boys.

A- Vocational Education Schools For Boys

In 1879, these schools were opened in order to increase and develop the knowledge which was taught in primary schools. In this school the profession that the students will be oriented was not taken into account. After 1900, students of these schools were seperated into professional branches. The aim of this education was to provide jobs to individuals. The duration of these schools were 3 or 4 years. There were 8-10 lessons a day and these lessons were given in two half days or one full day. One hour religion, one hour German, one hour accounting (account book), one hour civics and civilization were the main subjects.

Physics, chemistry, art, material and equipment lessons were added according to the needs of each class. In trade-related parts, trade lessons were important. Teachers who graduated from teacher training institues were employed for German, mathematics and civics courses. Important branches and numbers of these schools are as follows(İsmail Hakkı, 1341/1925, p:49);

1- 17 schools for smithery jobs

2- 7 schools for woodworking jobs

3- 7 schools for construction jobs

4- 4 schools for graphics industry jobs

5- 6 schools for food jobs

6- 4 schools for clothing jobs

7- 2 schools for agriculture and tranportation

8- 2 schools for paper and lesson jobs

9- 2 schools for trade jobs

10- 3 schools for other jobs like music, dentist, clerk training

B- Vocational Education Schools For Girls

These schools have two classes. 6.5-9 hours of daytime courses are given a week. They are seperated into industry and trade departments. Compulsory courses in the industry department are religion, home economics and health, general manners. Apart from these compulsory courses handicraft for women, French, English, industrial drawing are also given as optional courses. Compulsory courses in the trade departments are religion, German for telecommunication and trade along with trade courses, accounting, banking, account book keeping, stenografi, French and English courses were given. The important branches of trade schools for girls are as follows(İsmail Hakkı, 1341/1925, p:51).

1- Bakery

2- Tailoring

3- Fashion

4- Accounting

5- Marketing

2- Professional Expertise Schools for Apprentices

There are two schools of this kind which gives 30 lessons a week. One is wood sculpture school and the other is dressmaking school. Apart from these two professional expertise schools, schools for apprentices are divided into two large groups(İsmail Hakkı, 1341/1925, p:53):

1- *Sunday and Night Professional Expertise Schools for Apprentices and Craftsman:*
Foundation of the schools is based on the idea of equipping students with scientific, agricultural, commercial and industrial knowledge. Women developed themselves by taking part in needlework, tailoring, cloth washing, ironing, cooking, working as a maid, shoe making, tie making and toy production.

2. Weekday Professional Expertise Schools: These are schools which gives education in certain days according to certain clasess like industrial schools. They consist of branches like construction, jewellery, stonemasonry, locksmithry, graphics industry, carpentry, woodworking, decorative painting, glass and pocelain painting, sculpture, coppersmitry.

Industrial Schools and Industry Education in the Great Britain

Almost all British children took industry education in certain periods of their lives. Using basic tools, learning their characteristic through experience, recognizing building materials, understanding aesthetic through producing something, experiencing the joy of applied learning, training the hand and the eye, strenghtening the children's wrists are the most important objectives of British schools. Massive bridges, perfect railway works, building stores whose some floors are hidden underground, construction of factories, use of natural resources in industry, producing nice and durable goods indicates that vocational education achieved its objectives in the Great Britain(İsmail Hakkı, 1341/1925, p:59):

Works which start in the kindergartens of public schools in accordance with Froebel, Montessorie model, paper crafts, basket weaving, carpentry starting with basic wood work with a simple knife, sculpting, wire work, model making, housework for girls, handicraft for women, cooking methods in primary schools formed the basis of industry schools. Industrial schools in the Great Britain are divided into two groups as industry schools and expertise schools. First group; prepares children to jobs which requires handicraft skills like carpentry, shoemaking, tinkering, and so on. The second group trains people who will work in expertise areas like electrician, decorative painter, civil engineer. "Barbados Technical School" can be an example of the first group schools and "Art and Product Centers School" can be an example of the second.

William Berker Industrial School (Barbados Technical Schools)***:*** This school is located in Hertford Town and it belongs to Barbados Institues. It has four buildings consisting of a dining hall, a dormitory, laboratory, a library, a gym, machinery and shoemaking, tinkering and printing branches and vinegrowing rooms. Primary school graduates are accepted to Barbados institutes. Vocational education is given with the newest methods, tools and machines at this school(İsmail Hakkı, 1341/1925, p:60):

Professional Expertise Vocational School of London(İsmail Hakkı, 1341/1925, p:62) (Art and Product Centers School)***:*** This school is a industrial expertise school located in an industrial district of London. Carpentry, coppersmithry, porcelain works, drawing modelling lessons are given by famous artists and craftsmen. It has two groups of students as boarding and day students. It is a coeducational school. Teachers are selected carefully. It was seen that teaching tools are very modern and workshops are in excellent condition. There are enough workbenches and equipment available for each student.

Czechoslovakia Education Institute Vocational Schools

There are two types of vocational schools in Czechoslovakia. High and Secondary Vocational Schools, Compulsory (primary) vocational schools. The first was constructed on four classes. Graduates of these schools go to high schools. Compulsory vocational schools were opened to improve commercial, agricultural and vocational knowledge and skills in children.

Students have to graduate from primary school or graduated from the fourth year of secondary school to qualify for the entrance test to the first group schools. The students who wants to go to second group schools have to complete the mandatory education. In addition to this, the students who did not graduate from primary school can also go to compulsory vocational schools after taking a simple exam. Both of these schools are managed partially by the government and private institutions. There are three kinds of vocational schools(İsmail Hakkı, 1341/1925, p:63).

1- Trading school

2- Art and ve job schools

3- Craftsman and minor arts schools

These schools were directly managed by Ministry of Education.

Commercial Schools:

a)   ***Trading academies.*** Duration of these schools is 4 years. Trading academies accept students who graduated from secondary school with a good grades without an exam. The students who graduated with low grades and the students who graduated only from primary and high school has to take a language, mathematics and geography test. Trading academies offer the most comprehensive knowledge and skills from all branches of trading. Graduates of this schools can go to Higher School of Trading. Students who will go to higher school of trading take a proficiency test. This is a written and oral test. There were 34 trading academies in Czechoslovakia 22 of which were Czechoslovak, 9 were German, 2 were Magyar and one was Ruten. %16 percent of the students at these academies were girls. There are 8 academies managed directly by the government.

b)   ***One-year and two-year trading schools***: This school only teaches trade related knowledge.

c)   *School for Artisans*: Duration is two or three years. It is for apprentices in trade business and compulsory.

2-   *Vocational and Industrial Schools:* The purpose of these schools is to provide vocational knowledge and skills training for whom wants to prepare for small industry craftsmanship. They have a number of structures and curriculums. Some of the vocational and industrial schools train individuals who will be managers at various trade branches. Academic staff of these schools also varies. Some of the teachers have high school degree while others graduted from secondary school and some even didn't have a secondary school degree. Individuals who were trained in experience schools are considered more suitable for teaching in these schools. Main types of these schools in 1923-24 are as follows: Industrial schools, Expertise schools, other vocational schools, school for preparation to a women's job (home management school, hospital knowledge schools, young lady public schools) and courses for young people who are in minor arts and trade business.

High Education(İsmail Hakkı, 1341/1925, p:65)*:* High education is diretcly affliated to the ministry of education. Their expenses are paid by the government.

Prague German Universty High Technical School:

There are four high tecnical schools in Czechoslovakia. Two of these are in Prague. One of them is German and the other is Czechoslovak. Structure of these schools are same as the university. Departments of Prague High Technical School are: High Road and communication department, High School of Engineering, High School of Arthitecture, High School of Mechanic and Electric Engineering, High School of Chemistry-Technology.

1- High School of Trading

2- High School of Industry

3- German High School of Industry in Prague (Opened in 1803)

4- German High School of Industry in Berto 1849

High School of Metallurgy 1849, High School of Agriculture 1849, Yüksek Maden Mektebi 1849, Yüksek Ziraat Mektebi 1919, School of Fine Arts 1799, Independed University of Ukraine : Opened by Ukranian nationalists in Prague. It has a School of Law for Russians. It was also seen that there is a music school, a national conservatory school, High military schools, librarian, stenographer and driving schools(İsmail Hakkı, 1341/1925, p:64).

3. Moscow ambassador Mr. Zekai' Report

Another report which was submitted to Ministry of Education is the report about Russian Education by Moscow ambassador Mr. Zekai in 1926. When the content of the report was reviewed, the reform in the Russian education system was described as follows. It was seen that they used theatre, cinema, private papers and illustrated plates to educate people more widely than Europeans (Zekai,1926, p:33). It was also noted that some new methods called wall newspapers, live examples, and comparative tables are used in crowded places. Due tp widespread illiteracy in Russia new methods which used eyes and ears (learning by experience) were developed besides learning by reading and writing(Zekai,1926, p:35).

Handwritten wall newspapers were organized directly by children and workers, in public libraries, recration rooms in factories, public clubs, on steamboats and in every classroom of the schools. They include comparative tables and statistics which was shown with diagrams, colors and illustrations (Zekai,1926, p:35). One of the most significant reforms in Russian schools is that students govern themselves. Classses are divided into teams in Russia. Each team has ten members. Every team has a chief. There is also a class commitee consisting of these chiefs. In addition to this, commissions are formed in schools.

Some of these comissions are(Zekai,1926, p:36);

1-   Library Administration Comission

2-   Good Manners Comission

3-   Wall Newspaper Organisation Comission

4-   Schoolyard Comission

5-   Aid to a Smaller Village School in the Neighbourhood Comission

6-   Travel and Trip Comission

7-   Buying from Worker Cooperatives Comission

I.   Report of Secretary Mr. Nafi Atuf and Chariman of the Inspection Comission Mr. Ridvan Nafiz.

Another report which was submitted to Ministry of Education is the report of Secretary Mr. Nafi Atuf and Chariman of the Inspection Comission Mr. Ridvan Nafiz who visited Russia to examine the education life and organisation in the country. In this report (Nafi Atuf and Rıdvan Nafiz, 1926, p: 2);

It was noted that Republics of Socialist Board are independed, each republic has its own education comission and these comissions organize the education activities according to needs of the country. For this reason, there are some differeces in curriculums and regulations in education board of each republic(Nafi Atuf and Rıdvan Nafiz, 1926, p: 3). In the tractate which was given in order to have an idea about Russian education; the purpose of the education comissions was explained as follows(Nafi Atuf and Rıdvan Nafiz, 1926, p: 4).

1- Facilitate the development of national economy in line of socialist principles and to increase the productive skills and abilities.
2- To educate people in line with communist principles.
3- To promote general culture and national civilization of the people all around Russia.
Mr. Nafi Atuf and Mr. Rıdavan Nafiz visited each education comission and received information from their chiefs. Mr. Nafi Atuf and Mr. Rıdvan Nafiz also spent time with students in boarding schools and interviewed their teachers, visited the villages and saw village houses, went to factories and visited the nearby schools which were opened in order to train skilled, knowledgeable workers(Nafi Atuf and Rıdvan Nafiz, 1926, p: 13).
Mr. Nafi Atuf and Mr. Ridvan Nafiz's report on Russian education includes information about, central and provincial organizations, inspection, education organization in the province, budget, school organization, preschool education, museums, school education, vocational schools, the first vocational schools, secondary vocational schools, Moscow fabric teknikum, labor schools, higher vocational schools, worker courses, other children's institutions, teacher training, and pedology institute. These were explained in detail in the report.

It was observed that the general view of the new Russia which is different from all other countries is not similar to tsarist era. That was described with great importance for the survival of the new regime. *To transmit the new principles and ideas to the people, to take the necessary steps to grow a new generation who will defend and preserve the new regime ny faith, organize the education and schooling according to this and re-establish the education instituties in line with the aim of the state.*

Lunacarsky states that raising an underdeveloped people inwardly requires a very active and tiring work. Russian schools are getting more and more developed in line with communist pedagogy. School is seperated into three groups as good, almost good and underdeveloped. A number of good schools are performing an important task in training teachers. Education administrators work very hard for developing the other two schools to the good schools level.

Lunacarsky points out that the Russian education is in a phase of gaining experience and developing. Some of the most important departments of Russian Education Comission Organization is as follows(Nafi Atuf and Rıdvan Nafiz, 1926, p: 15).

1- *Education board*: Divided into pedagogy, political education, technical education, fine arts, and province based curriculum etude branches. This is the comission which prepares curriculum, identifies the methods to administrate and evaluate the education processes, and guides schools according to data gained from this evaluation process. Each agency submit their projects to here. The comission gives these to pedalogy and pedagogy institue (there are two institues of this type in Russia). The comission declares its final decision after taking the opinion of the institue. Members of this comission are elected for one year.

2- *Social education agencyi*. The only vocational school, its tasks are common education, primary education, infant education and nursing, education of people with disorders, improving teacher quality.

3- *Vocational Education Agency: This* agency is engaged in vocational education and schooling, and it is divided into five branches.

4- *Political Education and Unschooling Agency:* The structure of this agency is more complex than the others and it has fifteen branches. It is engaged in organizing the fine arts education of the people, increasing social and intellectual level of people, and adopting people to sommunist principles. The new Russia expects a lot from this agency. It's branches are: a)Education in villages, b) Education at home, c) clubs, d) Fine arts education, e) educating the illiterate, f) Communist newspaper, g) Libraries, h) Book knowledge, i) Exhibitions, trips, j) Drawing, graphic, program, etc. This agency is managed by Lenin's wife Krupskaya. Krupskaya plays an important role in the political life and has a strong authority in Russia. A daily paper is published for teachers working in this field by this agency.

Supervision(Nafi Atuf and Rıdvan Nafiz, 1926, p: 16): The central office of education instutions is supervised by Rusya'da maarif müesseseleri merkezi, area and borough inspectors.

Education Organization in Provinces consists of five agencies. These agencies apply the orders of their administration. Their duties are(Nafi Atuf and Rıdvan Nafiz, 1926, p: 19)**;**

1- Discussing the curriculum and methods and adaptinbg and correcting the curriculums given by the state considering the local needs.

2- Introducing new curriculums to the teachers and guide the teachers in applying them.

3- Evaluating the applications of schools which want to engage in pedadogical experiences and guidig them.

4- Observing the publication activites between provinces. Benefiting their experiences.

School Organization: Schooling philosophy of Soviet education is expressed as follows(Nafi Atuf and Rıdvan Nafiz, 1926, p: 24).

1- Productive and creative activites must be the axis of every school. A child must grow up with pleasure and love of work.

2- Laboratory applications which will encourage children to engage in activities and promote their invention and production skills must be given importance in education.

3- Embedding principles of self management rather than appliying old discipline methods which demands unconscious obedience and puts pressure on their will by threatening them with disciplinary penalties. Schools must be encouraging and attractive homes homes rather than being gloomy and repulsive places.

4- Schools must open their doors to the public and nature, emphasize field work and encourage students to interact with social, economic and political activities in their environment.

5- School must not only observe the life in the city or village it is located in but also take an active role in their work life.

6- Schools will observe the labor movements both in developed countries and other countries carefully, will encourage students to take part in political life, give importance to train them as citizens equipped with skills to compete in political struggle they will encounter in the future.

7- Discrimination in the education of girls and boys will be ended, both genders will be encouraged to participate social life under equal conditions and with equal rights.

Preschool Education: First education insitutes, kindergartens and nurseries are open 6 hours a day. Education language is the mothertongue.

School Education: In the Soviet countries, primary and secondary education were combined and a new structure that is called polytechnic single job school was formed. This school is open to students between 8 and 17 years. Schools were divided into nine groups or nine classes. Schools consist of two grades. The first grade has four groups and the second grade has five. Second grade was divided into two periods. First period consists of 3 groups and the second period consists of 2 groups. The purpose of the first period was explained as follows: It is to educate students as conscious citizens of the Soviet Republic. The purpose of the second period is to prepare consciuos and licensed workers for certain jobs. Students are accepted to these groups with exams except the first group. Students are included in the groups according to their own choice. School defines the proper group for the student after a two-week observation period. Transition from one group to another is done by school commitee. Students who gradute from the second period earn the right to high schools. ın both periods, students can join social life if they opt not to go to high school. Curriculums were planned on this basis(Nafi Atuf and Rıdvan Nafiz, 1926, p: 26).

There was not an agency for vocational education in Russia before the Revolution. Vocational schools were shared between various ministries as is in our country. It is planned and executed by vocational education comission at present. Types of vocational schools are as follows:

1- *Factories and Workshops, Fabrika ve İmalathaneler*, these schools are affliated to agricultural institutions (primary vocational schools): established on the first part of single job school and its studetns are (14-17) years old. These are opened under the supervision of agricultural, industrial or commercial institutions. Puprpose of these is to have the young generations complete the general education and train them to be skillful and intellectual workers in line with communist discipline. These are divided into three divisions. Indutrial Aprrentice schools, agricultural apprentice schools and commercial apprentice schools. Classrooms were removed from these schools and laboratories were implemented. There are separate laboratories for various lessons in the school. All expenses of the schools are met by workshops.

2- *Teknikums (Secondary middle vocational schools):* Middle vocational schools: The purposes of these schools were explained as follows. It is to supply mid-level experts to various business branches and train good workers.

The duration of middle vocational schools is 3-4 years. Students have to be 15 years old and be graduated from the second grade first period of the single job school or primary vocational school. Students do not have to take a methodic ability test for being accepted to either first vocational schools or teknikums.

Information about the criteria for being acceptance to these schools, if they take the students choices and requests or abilities into account, how their abilities are identified if it is taken into account was requested from the vocational education agency. But it was stated that the studies on this matter is still in progress.

While the expenses of factory schools are met by factories, expenses of the teknikums are met by the state. Types of teknikums are: general agriculture, field and agriculture expertise, forest, cadastre, vegetable growing, fishing, topography, mechanic, construction, chemistry, metallurgy, textile, printing, tractor, agricultural machine building, cinema, fire department school, precision equipment (cadastral survey tools), private faculty, medicine, trade, cooperative, accountant training, trade goods, fiscal management, various trade branches, fine arts (painting, music, graphic arts), art teacher training schools, sculpture, theatre, music schools (Nafi Atuf and Rıdvan Nafiz, 1926, p: 28).

3- *Labor Faculties;* Labor Faculties, are instutions whih prepares the skillful workers for higher educaiton as quickly as possible and provide their students medium level knowledge. The duration of these faculties are 3 years for day classes and four years for night classes. School is free of charge. Requirements for these faculties are(Nafi Atuf and Rıdvan Nafiz, 1926, p: 33);

To be between 18-30 years old, literacy, minimum 3 years work experience in production field. Labor schools are divided into for sections after second grade.

1- Technical(prepares to high technical schools)

2- Biology(prepares to medicine, veterinary, agricultural institutes)

3- Socio-economy (prepares students to schools of this type)

4- Pedagogy(prepares students to pedagogy institute)

Russian education comission made the following statement about labour faculty. "

Rusya maarif komiserliği amele fakültesi konusunda şu açıklamayı yapmıştır. *"Like all other countries under the governance of bourgeoisie, peasants and workers received a very small share of education in tsarist Russia. What peasants and workers learned in the religion school of tsarist Russia was not more than the alphabet and prayers. Sometimes with the rare help of fortune, some of them got access to the high primary schools. In these schools, they trained few and mediocre people for management and techinical labor. It was very difficult for children of peasanst and workers to overcome these difficulties. Duma (legislative comission which was active in tsarist Russia between 1905 and 1917) deemed it necessary to allow peasants and workers to take high education in 1912. But the 6 year debates were fruitless. Temporary government could not show courage on this matter. We had to wait for the October Revolution and the victory of peasants and villagers before the horizons of higher education could be opened to these classes of the society. Soviet government planned to educate the best and competent workers to achieve this. Soviet government struggled to gain access for to these high schools which were controlled by proletarians for peasants and workers persistenly and achieved it. Thus, gradutes of labor faculties have access to higher schools without any exams.*

4- Courses for Major Labor: Labor Courses; Apart from labor faculties and primary and middle schools, there are training courses for elder workers who has professional abilities. The purpose of these courses to;

1- Put non-qualified workers to qualified category

2- Increase the qualifications and skills of the workers

3- Training qualified workers as expert instructors

5- High Vocational Schools: These schools accept graduates single job school graduates and teknikum graduates who wants to be promoted further with an entrance exam and the gradutes of labor schools witout exam. The purpose of high vocational schools; training experts for various social activities; prepare good educational environments at science, applied science institues and especially at high vocational schools. Providing higher education to a large portion of peasants.

Other Children Institues(Nafi Atuf and Rıdvan Nafiz, 1926, p: 36)**:** There are some institues for children in Russia. These are, mother and chil homes, forestry schools, institue for abandoned children, hospitals for children with syphilis and tuberculosis, orphanages, schools for children with disorders, detention homes for criminal children which are administered by Health Commission. Mother and child homes are located both in

cities and villages. Instiues for abandoned children cares children abandoned by their mothers. Another useful aspect of these schools is that they train expert women in child care.

Teacher Training: In Russia, primary school teachers are trained in pedagogy teknikums. Secondary schools teachers are trained in pedagogy insitute(Nafi Atuf and Rıdvan Nafiz, 1926, p: 38):. A pedagogy instute in Leningrad accepts graduates of nine-year single job schools. Students who complete teknikum education are accepted to first grade without any exams. Students who completes labor faculties can also register these schools without exams as they can register to other high schools and university branches. Exam is required only for disabled students. Individuals who graduated from other high schools can be accepted to first grade on if they want to go register.

Duration of the institute is four years. Student start job training at single job schools in the third year. They visit sample schools in the third year and work as a teacher in the fourth year at single job schools. Students habe to take these exams to be accepted to the school(Nafi Atuf and Rıdvan Nafiz, 1926, p: 39).

1-   Sociology

2-   Russian Language - Oral

3-   Physics and mathematics

The institute consists of nine branches:

Social-Economic (trains literature, history, economics and geography teachers), language (Russian, German, French, Latin, Finnish were added to languages), physics and tecnhnique, (trains mathematics and phyisics teachers), Biology-chemistry (trains nature and chemistry teachers), preschool education agency trains principals, counselors and organizers for infants, psychology and pedalogy agency prepares psychology and discipline teachers for pedagogy teknikums, Social-judical pedagogy agency trains teachers who will interact with criminal children, trains teachers for deaf, blind and people with mental disorders, physical education branch organizes courses to prepare seniot teachers to new schools. On the other hand, technology institue opens courses for technical education teachers and agriculture institue opens courses for agriculture teachers.

Pedalogy Institute (Nafi Atuf and Rıdvan Nafiz, 1926, p: 40)**:** This two year old institute has a scientific purpose. It is divided into three parts.

1- Method and Program

2- Pedology and Pschology

3- General Pedadogy

Pedalogy institute mainly focuses on children living in villages. Institute has a newly build pschology laboratory. The institute has recently worked on;

   1-   How should schools programs be organised?

   2-   How should counrty information be included in the curriculum?

   3-   How should Dalton plan be applied?

It was also seen that the pedalogy institute exchanges information with many countries in Europe and the United States to conduct international projects.

II.   Ministry of Education Student Inspector Mr. Ahmet Hilmi's Report 1:

When the the report about Forestry Schools and Vocational Education in Germany which was sent by Ministry of Education Student Inspector Mr. Ahmet Hilmi was reviewed, it was seen that it focuses on school systems that were developed for students who need special education (Ahmet Hilmi, 1927a, p:8).

   Forestry School – Open Air School: Valdschule- Forestry school – Education methods of Open Air School is similar to urban schools. The difference between them is that the child is always clean air and under the shining sun they are relaxed and motivated. Valdschule teacher is very careful in education and schooling. The teacher shows a great effort to grow children healthy, improve them intellectually and prepare them to life (Ahmet Hilmi, 1927a, p:10).

   Economical Mechanism of Valdschule: Woman unions, child protection agency provides a great support. This school continued to exist with the support of rich families(Ahmet Hilmi, 1927a, p:12).

Government offices that are responsible for preparing the Turkish youth to life : Child Protection Agency, Red Crescent and charities like these have to give great importance to use forests and open air systems. I

wholeheartedly wish that Republic of Turkey would keep the extraordinary efforts to grow the young generation as strong and healty individuals systematically and open similar institutes. As a result of this research I want to declare my opinion[1].

1- *Health training should be an objecitve of education.*

2- *Every province need to have several school doctors and they need to be prepared by school health courses during their medical education (medicine students in Germany take school health courses and cooperate with schools)*

3- *Books about health education should be translated and published.*

4- *Especially in our cities, one or two open air schools should be opened in the most airy, wooded, highland places of every city or around them.*

5- *Urban schools should organize holiday camps in our most beautiful forests, mountains, vineyards and orchards, seashores or riverbanks.*

6- *Besides paying great attention to food in boarding schools, food and air aid should be provided to poor children.*

7- *Schools should have big yards and lectures should be given in open air if possible. NOTE: Especially Heybeli and Buyukada orphanages can be converted into open air schools and Adalar, Camlica, Mount Alim, Kartal, Yakacik, Bosphorus shore, mountains and forests should become headquarters of students army during summer holidays.*

8- *Physical examination of chilren should be given importance at schools and transition of children who need open air schools these places for a small fee should be compulsory.*

9- *In cities, towns, dirty places where children play should be cleaned and covered with sand and the surrounding of these places should be landscaped and converted to good playgrounds and municipalties should take care of this issue.*

10- *Building several modern sports facilities in every city should be compulsory.*

Support School Organization: Children with mental difficulties spend the first year in primary school until their handicaps are identified. After a six year education in support school, they can take the first four year's training of the eight year public school. To be more open, it takes two years for these to learn things which normal children can learn in one year. Support schools do not accept students directly. Children are sent to these schools from other public schools' B classes or on the urgent need reported by the school doctor. Support schools were divided into departments according to disability level of the children with mental difficulties. There are seperate institues for more serious cases(Ahmet Hilmi, 1927a, p:14).

Students of support school is morally or mentally weak. These children are not only mentally disabled but also have self management and emotional problems. Support schools integrate these children with mental disorders to social life. Support school system will represent a honorable page in the history of education. Support school monitors the students for years even after they graduated**.** The first legislation on teacher training for support schools was done in 1909 (Ahmet Hilmi, 1927a, p:15).

I. VI. Ministry of Education Student Inspector Mr. Ahmet Hilmi's Report 2:

After Mr. Ismail Hilmi, another report about German vocational education was sent to Ministry of Education by Education Inspector Mr. Ahmet. In order to attract attention to education, he starts his report as follows(Ahmet Hilmi, 1927b, p:1).

.... In this part of the report about the instuties some of which I had chance to visit personally, my purpose is to present an outline of the vocational education institue, recognize their names and mention other organizations which help it by summarizing the most important points.

As an example we can mention the importance of a chemistry lab and chemistry education in brickwork and tile production education and application which seems very simple. Also in shomaking schools which seems very simple, students study foot anatomy and learn different foot structures through plaster foot models and learn foot diseases. This means they are not ordinary shomaking schools but institues that are opened to technically improve young craftsmen. Another point I noted in my report is that people who are working in that area were employed in vocational institues. In some places they formed tradesmen and craftsmen societies, in other places these institues are supported by governments or municipalties. This report also mentions the relationships and

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[1] a.g.r., .14.

interactions between vocational schools. Painting schools interacts with textile schools; textile schools interacts with tailoring schools and all of them have relationships with trade schools and these interact with muralist schools. Especially in industry, drawing has an important role for every profession.

High Vocational Schools: Their organization must be explained before talking about the aim of vocational schools. There are 11 Science High Schools in Germany today. 30 metallurgy schools were added to these. Requirements for applying science schools. Graduates of science schools or Oberrealschule and Chemnitz Industry Academy or Bavyera Industrieschule are accepted. There is no entrance exam. When its organization eamined it consists of following branches(Ahmet Hilmi, 1927b, p:6):

1-   High Construction department (architecture)

2-   Engineering department (civil enginering)

3-   Mechanics department (Machine building, electirical installations, factory management)

4-   Chemistry department (Chemical installations and factory management)Chemical engineer

5-   General department (mathematics and nature)

Gradutes of Science High Schools usually have the "high engineer" title and have PhD degree.

Secondary Vocational Schools (Teknikums): There are secondary vocational schools and junior vocational schools all around Germany in addition to these. These are state, private, municipal or some are administered by factories or companies. Secondary vocational schools are divided in to two sections as secondary engineering division and machine building division. Engineering division(mechanical and electirical engineer), machine building department trains formens and technical officers. The first division's duration is five semesters, the second division's duration is three semesters. Konstanz teknikum has the same characteristics too. Graduates of oberschules are accepted to technical schools like these. According to requirements of the job, one to three years experince in a factory is compulsory. (Ahmet Hilmi, 1927b, p:18).

Vocational Courses: A course was opened at Charlotenburg technical high school in Berlin for vocational school teachers by Prussian government. These courses are in five indutrial branches(Ahmet Hilmi, 1927b, p:23).

1- Mining Industry : machinery, electirician, locksmitry, stove making, technical drawing, tool courses, material courses

2- Construction industry:

3- Industrial decoration. Decorative drawing, graphics, drawing methots education, occupational accounting

4- Food industry: Practical training for grain, chemical and occupational knowledge, techical drawing, material courses, tool courses, bakery, butchery, pastry, cooking, etc…

5- Clothing indutry: Tailoring, shoemaking, knitting, greenhouse farming, technical drawing, applied training, material courses and the history of these arts.

Teacher courses offer lectures in religion, teaching methots, civil knowledge, economics, German, physical education regardles of the branches.

Other vocational schools in German are(Ahmet Hilmi, 1927b, p:23-26).

1- Construction Works school

2- Machine building schools

3- Business schools

4- Textile schools

5- Handicrat and fine arts school

6- Private vocational schools

7- Farming schools

8- Photography school

9- Leatherworks school

10- Tailoring school

11- Food Industry schools

CONCLUSION

When the content of the reports were viewed, what took the most attention in the curriculums was they suggest that handicraft lessons form a basis for other lessons. It was also seen that tales, child names, family history, cinemas, theaters, libraries, parks and gardens has an important role in national education. It was noted that the basic idea is to grow each children as a productive member of the society and that vocational and technical training were given in the scope of formal education.

It was understood that vocational and technical education started earlier in Germany than other countries. The first Sunday school was opened in 1960. Due to this experience it can be stated that Germany is more advanced in the vocational and technical fields. Many schools were open in iron, wood, construction, graphic industry, professions related to food, clothing, agricultural transportation, paper and lesson works, trade professions, music, dentist, clerk training areas with 1900s. In Germany, formal schools were open in the fields like bakery, tailoring, fashion, acounting, marketing in order to provide jobs for girls.

The basic philosophy of the British education system is also to train each individual as an expert in a profession. It was noted that vocational and technical training institue teachers were selected carefully in Germany and the Great Britain. Czechoslovakia applied German model in the education system and many schools in Germany set examples for Czech people.

Russian education system was introduced the public in a socialist frame after the revolution. Effort were made to train each individual to have a profession and be productive. It was seen that pedagogy institues played an important role in the curriculum development process. Studies were made to train students so that they would have self management skills and be responsible members of the society. Vocational and technical training had a very important place in the Russian education system as it did in Germany and the Great Britain and it was seen that they continued their education at the Polytechnic schools. Education of individuals who need special training had an important place in the German education system. Both treatment and jobs were provided for these students. Through sanatorium schools.

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ANA BABA TUTUMLARININ ERGENLERİN ÖZSAYGISI ÜZERİNDEKİ ETKİSİNİN İNCELENMESİ

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ÖZET

Birçok ihtiyacımızı karşıladığımız ve doyuma ulaştırdığımız en doğal ortam ailedir. Gelecekte kendi ayakları üstünde duracak olan bireyin biyolojik, psikolojik, duygusal, zihinsel ve sosyal gelişim alanlarının temelinin atıldığı ilk yer olan aile çocuğun en önemli diyebileceğimiz. Çevresini oluşturmaktadır. Ailenin birey üzerinde birçok fonksiyonları bulunmaktadır. Çocuğun yetişmesi, disipline edilmesi ve birey kendi ayakları üzerinde durana kadar destek sağlanan bir çevre olması, ailenin temel fonksiyonları arasında sayılabilir. Sağlıklı bir birey, sağlıklı bir aile ortamında yetişecektir. Sağlıklı bir ailede ise her bireyin varlığı ve düşünceleri değerli olacak ve bireyin gelecekte ihtiyaç duyacağı birçok gelişim alanında üst düzeyde destek sağlanacaktır. Böyle olumlu bir aile ortamında yetişen birey çevresine ve kendine olumlu bakacak ve olumlu bir benlik saygısı geliştirecektir. Hiç kuşkusuz benlik saygısı insanın en çok değer verdiği anne babasının, kendine verdiği değere sıkı sıkıya bağlıdır. Anne babanın ittiği, değersiz bulduğu, umursamadığı bir çocuğun kendine saygı beslemesi beklenemez. Benlik saygısı düşük bir kişi başta anne babası olmak üzere onun için önemli kişilerin, kendisini sevmediklerine, değer vermediklerine inanır. Çünkü sürekli etkileşim yoluyla çocuk kendisini anne babasının gözüyle görmeye alışır. Benlik saygısı kavramı; öğrenilmiş bir yaşantıdır, yaşam boyu devam eder.

Bu araştırmada temel problem lise düzeyindeki öğrencilerde öz saygısı ile algılanan anne baba tutumu arasındaki ilişkiyi ebeveynlerin eğitim durumları, sosyo-ekonomik düzeyleri, evlilik yılları ve çocuk sırasına göre anlamlı düzeyde farklılaşıp farklılaşmadığı araştırılmış ve önemli bazı bulgulara ulaşılmıştır.

Anahtar Kelimeler: Aile, Anne ve baba tutumu, özsaygı,

1.GİRİŞ

Ergenlik dönemi özelliklerinin anne baba tarafından bilinmemesi bundan kaynaklı ergenlerin davranışlarının nedenlerinin anlaşılamaması olumsuz sonuçların yaşanmasına, ergenin yaşamını olumsuz etkilemeye neden olan önemli bir sosyal problemdir.

Ergenlik dönemi genel olarak 11-19 yaşları olarak kabul edilir. Bazı kişiler, ergenlik döneminin özelliklerini 20 ya da daha ileri yaşlarda da göstermeye devam edebilir. Ergenlerin kimlik oluşturmaya başladığı dönemdir. Aileden bağımsız olma düşüncesinin kazanıldığı dönemdir.

Ergenlik, bireyin gelişim süreci içerisinde çocukluk döneminin bitişiyle başlayan fizyolojik olarak erişkinliğe ulaşıncaya kadar geçen bir gelişim dönemidir (Çelik, 2007). Bu geçiş döneminde, fizyolojik, bilişsel, duygusal ve toplumsal değişiklikler kendini göstermekte, büyüme, sosyal rol tanımı, cinselliğin ayrımına varılması, kimlik arayışları, anne babadan ayrılma ve psikolojik olarak bağımsızlaşma düşüncesi ve kişiler arası ilişkilere duyulan yoğun gereksinmeler ortaya çıkmaktadır (Akbaba, 2008).

Ergenlik döneminin temel özelliklerinden biri olan güvensizlik, ergenin atılgan, gösterişçi ya da çekingen bir birey olmasına yol açabilir. Bu evrede ergen, başkalarının kendisi hakkında verecekleri hükümler konusunda aşırı derecede duyarlıdır. Ergenlik döneminin önde gelen sorunlarından biri de, ergenin değişmekte ve gelişmekte olan bedenini kabul etmesi ve bu değişime uyum gösterebilmesidir. Ergenliğin bir beceriksizlik dönemi olması, bu evrede kemik ve kas koordinasyonunun bozukluğundan kaynaklanmaktadır. Ergende artmakta olan benlik bilincinin yanında, bu fiziksel beceriksizliği giderek onu rahatsız etmeye başlar (Sekmenli & Pembe, 2012).

Ergenin temel görevi bir kimlik oluşturmaktır. Kimlik oluşumu, ergenler için kritik görevlerden bir tanesidir. Çünkü bu, bir genç yetişkin olarak kendilerini ve dünyayı nasıl göreceklerine ilişkin bakış açısını şekillendirmektedir. Kimlik oluşumu aslında yasam boyu devam eden, deneyimlerle

şekillenen ve genelde bilinçsiz şekilde oluşturulan bir yapıdır. Kişinin tanımı, onun dünyadaki anlamını ve kendine olan güveninin arttırmaktadır. Ayrıca dünya ile ilişkisini sürdürmesine yardımcı olan bir bağdır.

Kimlik oluşumu ergenlik döneminin önemli duraklarından bir tanesi olduğu için seçilen yol da yetişkinliğin en önemli belirleyicisidir denilebilir. Öğrenimlerinin son yıllarını başarılı, enjekte, dağılmış ya da kararsız şekilde geçirenlerin, yetişkinlik dönemlerine de büyük oranda bu şekilde devam ettikleri görülmektedir. Ergenlik döneminde başarılamamış olanın üstesinden daha ileri dönemlerde gelmek ise genelde daha zor başarılan islerden bir tanesidir. Buna göre sağlıklı bir ergenlik dönemi kişilik gelişimi, yetişkinlik döneminde de bu sağlıklı gelişimin devam edeceği anlamına gelmektedir.

Hemen her anne-babanın çocuklarını daha iyi tanıma ihtiyacı duydukları bilinmektedir. Ergenleri daha iyi tanımak ise onların içinde bulundukları gelişme döneminin özelliklerinin bilinmesini gerektirmektedir. Gelişme, hayat boyu süren ve yaşam süreci içinde meydana gelen düzenli değişiklikler biçiminde tanımlanabilir. Bu gelişim sürecinin her bir döneminin kendine özgü psikolojik ve fizyolojik özellikleri vardır (Sekmenli & Pembe, 2012).

Ebeveyn tutumları ergenin aile içindeki davranışlarını ve psikolojisini şekillendirmektedir. Otoriter bir ailede yaşayan bir ergen, ergenlik dönemi ve sonrasında her şeye başkaldıran ya da içine kapanık bir kişilik gelişimi gösterebilir. Her şeye baş kaldıran çocuk otoriter aile yapısında kendisiyle sağlıklı iletişim kurulmadığı için kendini kontrol edemeyen ama çevresine hakimiyet kurabilen bir yapıya sahip olmaktadır. İçine kapanık bir kişilik geliştiren gençler ise her şeye boyun eğen, korkak, çekingen, kendisinden istenileni fazlasıyla yapan bir yapıya bürünür. Ergenlik döneminin gerektirdiği belli özellikler ve bu özellikler bazı sorunları beraberinde getirir. Bu sürecin sağlıklı bir şekilde atlatılabilmesi için ailenin ergenlikteki çocuğuna nasıl yaklaşacağını bilmesi gerekmektedir (Akt. Turgut, 2010).

Aile fizyolojik, ekonomik, kültürel ve toplumsal olarak çocuk ve ergenin ruhsal gelişimini ve davranışlarını biçimlendirip yönlendiren, insan yaşamında doğumdan önce başlayan ve hayatın sonuna kadar etkisini sürdüren bir kurumdur. Ergenin çocukluk döneminden itibaren ailede anne-babanın çocuğa karşı tutum ve davranışları, çocuğun gelecekteki yaşantısı açısından önemli olduğu kadar, çocuğa ailenin bir üyesi olduğu bilincini de aşılamakta ve topluma uyumun temelini atmaktadır. Aynı zamanda ergen ailede bir birey olarak sosyal deneyimlerini edinmekte, tercihler yapmakta ve kararlarda etkin rol alarak karar vermeyi de öğrenmektedir (Yalçınkaya, 2003)

Otoriter tutumu benimseyen ailelerde, anne babada çocuklarının hakimi oldukları düşüncesi, yoğun baskı, itaat ve ceza vardır. Koyulan katı kurallara uymayan çocuklar genelde fiziksel şiddetle cezalandırılırlar. Böyle ailelerde çocuk, anne-baba arasında korkuya dayalı bir ilişki vardır.

Aile ve arkadaşları tarafından desteklenen adölesanlar, birçok açıdan olumlu özelliklere sahip olmakta, daha az depresyon ve anksiyete yaşamakta, daha az fiziksel semptom deneyimlemekte, yüksek benlik saygısı ve güçlü bağışıklık sistemine sahip olmaktadırlar. Aynı zamanda aile ve arkadaşlardan algılanan sosyal destek adölesanın sosyolojik ve psikolojik sorunlarının önlenmesinde, çözümlenmesinde, zor durumlarla başa çıkabilmesinde, ruh sağlığını koruyabilmesinde ve akademik başarılarının yükseltilmesinde güçlü bir kaynak olarak da yer almaktadır (Akt. Kahriman&Polat, 2003)

Kimlik gelişimi yaşam boyu sürmesine karşın, en önemli dönüm noktası ergenlik dönemidir. Ergende yeterlilik duygusu, tutum ve başarı için gerekli bir koşul ve bir ruh sağlığı göstergesi gibi değişik anlamları olan benlik saygısının gelişimi de oldukça önemlidir (Karadağlı, 1993). Benlik saygısı, bireyin kendi hakkında ne hissettiği ya da neye inandığı ile ilgili "kendini algılayışıdır. Benlik saygısı, motivasyon, tutum, davranış ve emosyonel algılamaların etkisini tanımlar. Çuhadaroğlu (1986), benlik saygısı ve ergenlik dönemi arasında çift yönlü ilişki olduğunu, benlik saygısının bugüne kadar olan durumunun ergenin gelişimini etkileyeceğini belirtmektedir. Bu dönemde, içsel faktörler ile birlikte, çevresel faktörlerin etkisi ile gelişen benlik imgeleri, ergenin kendine yaklaşım biçimini de belirlemektedir. Bu yaklaşımın yönü, yani kendisi hakkında olumlu

ya da olumsuz bakış açısına sahip olması, kendini değerli ya da değersiz görmesi benlik saygısını belirlemektedir. Benlik saygısı ergenin ileriki yaşamında düşüncelerini, duygularını ve davranışlarını belirleyen kimliğinin çekirdeğini oluşturur.

Özsaygının tanımına bakıldığı zaman kendisine yakın üç kavramla ilişkilendirilerek açıklanmaya çalışıldığı görülmektedir. Bunlar; "benlik kavramı", "ideal benlik kavramı", "benlik imgesi" olarak sıralanabilir (Körükçü, 2004).

Özsaygı, bireyin özünü bir nesne olarak ele alıp onu değerlendirmesi sonucunda kendisi hakkında vardığı yargı ve geliştirdiği tutumdur. Benlik saygısı, öze saygı, kendine saygı gibi terimlerle ifade edilen bu tutum, kendini önemli görme, kendini kabul gibi kavramlarla betimlenen ya da bu kavramları içeren bir üst kavram olarak düşünülebilir (Kuzgun 2000). Benlik kavramının, beğenilip benimsenmesi özsaygıyı (self esteem) oluşturur. Benlik saygısı, "kişinin kendisini değerlendirmesi sonucu ulaştığı, benlik kavramını onaylamasından doğan beğeni durumudur". Kişinin kendini beğenmesi ve kendi benliğine saygı duyması için üstün niteliklere sahip olması gerekmez. Çünkü benlik saygısı, kendini olduğundan aşağı ya da üstün görmeden kendinden memnun olma durumudur. Kendini değerli, olumlu, beğenilmeye ve sevilmeye değer bulmaktır. Benlik saygısı, kendini olduğu gibi kabullenmeyi, özüne güvenmeyi sağlayan olumlu bir ruh halidir (Yörükoğlu, 2000).

Çocuğun kişiliğinin oluşumunda temel role sahip olan anne babaları kendilerine örnek alan çocuklar, adeta onların yaşam biçimlerini taklit yoluyla öğrenmekte ve böylece olumlu ya da olumsuz kişilik özelliği geliştirebilmektedir (Yavuzer 1995). Sağlıklı bir kişilik yapısında özsaygı düzeyi önemli rol oynamaktadır. Çocuğun kişiliğinin temel belirleyicilerinden biri olan özsaygının gelişiminde anababa tutumlarının etkisinin önemli olduğu bilinmektedir. Özsaygının yüksek olması bireyin içinde bulunduğu topluma uyum sağlamasını kolaylaştırmaktadır. Ayrıca bireyin topluma etkin bir şekilde katılımı kişisel başarı ve mutluluğu da beraberinde getirmektedir (Güçray, 1989).

Özsaygı, bireyin özünü bir nesne olarak ele alıp onu değerlendirmesi sonucunda kendisi hakkında vardığı yargı ve geliştirdiği tutumdur. Benlik saygısı, öze saygı, kendine saygı gibi terimlerle ifade edilen bu tutum, kendini önemli görme, kendini kabul gibi kavramlarla betimlenen ya da bu kavramları içeren bir üst kavram olarak düşünülebilir (Kuzgun, 2000).

Açıklanan tüm bilgiler ışığında bu araştırmanın temel amacı ergen çocuklara sahip anne babaların tutumlarının ergen öz saygısına etkisi araştırılmıştır. Aile tutumları ve öz saygı testi kullanarak aile tutumlarının ergen öz saygısına olan etkisi incelenmiştir.
Bu amaca ulaşmak için şu alt problemlere cevap aranmıştır.
1) Ergen öz saygısı ve cinsiyet arasında anlamlı bir ilişki var mıdır?
2) Ergen öz saygısı ve kardeş sıralaması arasında anlamlı bir ilişki var mıdır?
3) Ergen öz saygısı ve kardeş sayısı arasında anlamlı bir ilişki var mıdır?
4) Ergen öz saygısı ve gelir durumu arasında anlamlı bir ilişki var mıdır?
5) Ergen öz saygısı ve annenin eğitim durumu arasında anlamlı bir ilişki var mıdır?
6) Ergen öz saygısı ve babanın eğitim durumu arasında anlamlı bir ilişki var mıdır?

2.YÖNTEM
2.1.Araştırmanın Modeli
Bu araştırma lise düzeyindeki öğrencilerde "Anne- Baba Tutum Ölçeği" sonuçları ve Rosenberg Benlik Saygısı ölçeği sonuçları öğrencilerin cinsiyetleri, yaşları, kardeş sayıları, lise türü, gelir düzeyi, anne eğitim düzeyine göre aradaki ilişkinin anlamlılık düzeyi ve ne şekilde farklılaştığı incelenmiştir.

2.2. Araştırmanın Evren ve Örneklemi
Bu araştırmanın evrenini Sakarya ili Hendek İlçesinde bulunan lise öğrencileri oluşturmaktadır. Araştırma örneklemi lise 1. 2. 3. 4. sınıf öğrencilerinden tesadüfi örnekleme yöntemi ile belirlenmiş olan her sınıftan 50 şer öğrenciden oluşmuştur.

2.3.Veri Toplama Araçları
Bu araştırmada benlik saygısı puanlarını belirlemek için "Rosenberg Benlik Saygısı Ölçeği", algılanan anne-baba tutumlarını belirlemek için Yıldız Kuzgun tarafından geliştirilmiş ve Eldeklioğlu tarafından yeniden ele alınmış olan "Anne-Baba Tutum Ölçeği" ve araştırma kapsamında incelenecek olan değişkenleri (cinsiyet, yaş, kardeş sayısı, kardeş sırası, gelir düzeyi, anne-baba eğitim düzeyi, lise türü, spor, hobi, ilköğretim diploma notu) belirlemek üzere araştırmacı tarafından geliştirilen kişisel bilgi formu kullanılmıştır. Araştırmada kullanılan veri toplama araçlarına ilişkin bilgiler aşağıda verilmiştir.

2.4.Kişisel Bilgi Formu
 Ergenlerle ilgili birtakım değişkenler hakkında bilgi toplamak amacıyla araştırmacı tarafından geliştirilmiştir. Kişisel Bilgi Formunda öğrencinin cinsiyet, sınıf, fakülte, bölüm, sosyo-ekonomik düzey, anne ve babanın eğitim düzeyi ve kardeş sırası (ilk, ortanca, sonuncu) bilgileri bulunmaktadır. Etik kurallar ve gerçekçi cevap alabilmek amacıyla araştırma sırasında öğrencilere kimlik bilgilerini içeren sorular yöneltilmemiştir.

2.5.Rosenberg Benlik Saygısı Ölçeği
Araştırmada benlik saygısı ölçümü için kullanılan bu ölçek 1963 'te Morris Rosenberg tarafından geliştirilmiştir. Rosenberg geçerlik ve güvenirlik çalışmalarını yaptıktan sonra, ölçek birçok araştırmada araç olarak kullanılmıştır. Bugün psikiyatrik ve psikolojik çalışmalarda benlik saygısı ölçümü için kullanılan güvenilir dört ana ölçekten biri olarak literatürde yer almaktadır. Rosenberg Benlik saygısı ölçeği çoktan seçmeli sorulardan yapılmış 12 alt kategoriden oluşan, maddeli bir özbildirim testidir. Alt kategorileri şunlardır. Benlik saygısı, kendilik kavramı, insanlara güven duyma, depresif duygulanım, hayalperestlik, psikosomatik belirtiler(anksiyete göstergesi kabul edilir.), kişilerarası ilişkilerde tehdit hissetme, tartışmalara katılabilme derecesi, ana-baba ilgisi, babayla ilişki ve psişik izolasyon. Araştırmamızda benlik saygısı alt kategorisi kullanılmıştır.
Puanlama Benlik saygısı dışındaki alt kategoriler değerlendirilirken cevap anahtarına göre her doğru yanıt için bir puan verilir.

Benlik saygısı kategorisinin puanlaması ise şöyledir. Bu bölümde Guttman ölçme şekline göre düzenlenmiş on madde yer almaktadır. Olumlu ve olumsuz yüklü maddeler ardışık sıralanmıştır. Ölçeğin kendi içindeki değerlendirme sistemine göre denekler 0-6 arasında puan almaktadırlar. Sayısal ölçümlerle yapılan karşılaştırmada benlik saygısı yüksek(0-1), orta(2-4) ve düşük(5-6) puan olarak değerlendirilmektedir.

Rosenberg özsaygı ölçeğinin Türkçeye ve Türk kültürüne uyarlanması Çuhadaroğlu (1986) tarafından yapılmıştır. Yapılan çeviri öğretim üyeleri tarafından kontrol edilmiş ve düzeltmeler yapılmıştır. Elde edilen ölçeğin anlaşılabilirliğini test etmek için, çocuk hastanesinde 10 ergene uygulanmış ve gerekli değişiklikler yapılmıştır. Geçerlilik ve güvenirlik çalışması Ankara ilinde 205 öğrenci üzerinde gerçekleştirilmiştir. Diğer ölçeklerle tutarlığı için SCL-90'la karşılaştırılmış, korelasyon katsayısı .71 olarak hesaplanmıştır. Test tekrar test güvenirliği için korelasyon .75 olarak hesaplanmıştır (Çuhadaroğlu, 1986). Bu sonuçlar ölçeğin uygulanabilirliği bakımından psikometrik ölçülere sahip olduğunu göstermektedir.(Türkmen, 2012)

2.6.Anne- Baba Tutum Ölçeği
Araştırmada öğrencilerin ana-baba tutumlarını belirlemek için Kuzgun(1972) tarafından geliştirilmiş ve Eldeleklioğlu (1993) tarafından revize edilmiş olan Ana-Baba Tutumu Envanteri kullanılmıştır. Envanterin Demokratik Ana-Baba Tutumu, Otoriter Ana-Baba Tutumu ve Koruyucu-İstekçi Ana-Baba Tutumu olmak üzere üç ana alt boyutu bulunmaktadır. Uygulamada, maddelere verilecek yanıtların 5 basamaklı Likert tipi bir ölçekte derecelenmesi istenmiştir.

Ana-Baba Tutumu Envanteri toplam 40 maddeden oluşmaktadır. Envanterdeki her madde için cevaplar 1'den 5'e kadar derecelendirilmiştir. Derecelendirme söyle yapılmıştır; Hiç uygun değil (1), Çok az uygun (2), Kısmen uygun (3), Oldukça uygun (4), Tamamen uygun (5) şıklarından birini işaretlemesine göre puan almaktadır. Deneklerden her maddeyi okuyup, ana ve babaları için en uygun ifadenin (cevabın) yanına işaret koymaları istenmiştir. Hesaplamalar, 1'den 5'e kadar derecelenmiş bu puanlar üzerinde yapılmıştır.

Demokratik Ana Baba Tutumunu Ölçen Maddeler; çocuğuna karşı içten sevgi ve saygı duyan, çocuğunun ihtiyaçlarına karşı duyarlı olan, yaşına göre çocuğu kendisiyle ilgili bazı kararları almaya teşvik eden, çocuğun görüşlerine değer veren, sözel iletişime olanak sağlayan, hemen hemen her konuda çocuğuna iyi bir rehber olan ana-baba tutumlarını içerir. Demokratik Ana-Baba Tutumu alt ölçeği maddeden oluşmaktadır.

Otoriter Ana Baba Tutumunu Ölçen Maddeler; çocuktan mutlak itaat bekleyen, çocukla sözel iletişime pek yer vermeyen, istek ve emirlerinin tartışmasız yerine getirilmesini isteyen, çocuğu yerine göre kendini yönetebilecek ve kendi hakkındaki kararları alabilecek güçte görmeyen ve her türlü kararı kendisi alan ana baba tutumlarını içerir. Otoriter Ana-Baba Tutumu alt ölçeği 15 maddeden oluşmaktadır.

Koruyucu-İstekçi Ana Baba Tutumunu Ölçen Maddeler; çocuktan ayrılmakta güçlük çeken, onlar yerine kararlar alan, onlardan kusursuz işler bekleyen, çocuğun bağımsız olmasından korkan, onun tüm davranışlarının kontrolleri altında olmasını isteyen, çocuğun iş ve sorumlulukları yüklenen ana baba tutumlarını içerir. Koruyucu-İstekçi Ana Baba Tutumu alt ölçeği 10 maddeden oluşup, 10 maddenin 3'ü "koruyucu" 7'si "istekçi" tutumu ölçen maddelerdir. Bu tutumları betimleyen 40 maddelik ölçeğin geçerlik ve güvenirliği saptanmıştır.

Aracın güvenirliği, ölçeğin 54 kişilik bir öğrenci grubuna on beş gün ara ile
iki kez uygulanması ve elde edilen puanlar arasındaki korelasyon katsayılarının hesaplanması ile saptanmıştır. Buna göre, test-tekrar test korelasyon katsayıları; demokratik tutum boyutu için 0.92, otoriter tutum boyutu için 0.79 ve koruyucu istekçi tutum boyutu için 0.75 olarak bulunmuştur.

Ölçeğin iç tutarlılık katsayısı Cronbach Alfa formülüyle hesaplanmış ve
korelasyon katsayıları demokratik alt ölçek için 0.89, koruyucu-istekçi alt ölçek için 0.82 ve otoriter alt ölçek için 0.78 olarak bulunmuştur. Ölçekler arası korelasyon katsayıları da beklenen doğrultuda ve düzeyde bulunmuştur.

1 Demokratik ile koruyucu-istekçi -0.13
2 Demokratik ile otoriter -0.64
3 Otoriter ile koruyucu-istekçi -0.36

Anne-baba tutum ölçeğinde cevaplar, her madde için (A)'dan (E)'ye kadar beşli dereceleme şeklinde sınıflandırılmıştır. Sınıflandırma ve puanlama aşağıdaki gibidir:

(A) Hiç uygun değil (1 puan)
(B) Pek uygun değil (2 puan)
(C) Biraz uygun (3 puan)
(D) Uygun (4 puan)
(E) Tamamen uygun (5 puan)

Anne baba tutum ölçeğinin cevaplarının yorumlanması, koruyucu-istekçi ve otoriter anne baba tutum alt ölçeklerinde puanlar yükseldikçe bireylerin anne babalarını demokratik, koruyucu-istekçi ya da otoriter olarak algılama düzeylerinin de arttığı puanları düştükçe, anne babalarının anılan tutumlara sahip olarak algılama düzeylerinin de azaldığı şeklinde doğru orantılı olarak yapılmaktadır. Anne baba tutum ölçeğinin demokratik ve koruyucu-istekçi tutum alt ölçeklerinden alınabilecek en yüksek puan 75, en düşük puan ise 15'dir (15'er madde ve 5'li dereceleme). Otoriter tutum alt ölçeğinden alınabilecek en yüksek puan 50, en düşük puan ise 10'dur (10 madde ve 5'li dereceleme).

Demokratik tutumu ölçen maddeler;
1, 2, 6, 7, 13, 14, 15, 20, 21, 22, 29, 30, 36, 37, 39 dur.

Koruyucu-istekçi tutumu ölçen maddeler;
4, 9, 10, 11, 17, 18, 19, 24, 25, 26, 27,28, 32, 33, 34 tür.

Otoriter tutumu ölçen maddeler;

3, 5, 8, 12, 16, 23, 31, 35, 38, 40 tır.

2.7.Problemler

Bu araştırmada temel problem lise düzeyindeki öğrencilerde öz saygısı ile algılanan anne baba tutumu arasındaki ilişkiyi ebeveynlerin eğitim durumları, sosyo-ekonomik düzeyleri, evlilik yılları ve çocuk sırasına göre anlamlı düzeyde farklılaşmakta mıdır?
Bu temel problem ışığında aşağıdaki alt problemlere cevap aranacaktır.

2.7.1.Alt Problemler

1) Ergen öz saygısı ve cinsiyet arasında anlamlı bir ilişki var mıdır?
2) Ergen öz saygısı ve yaş arasında anlamlı bir ilişki var mıdır?
3) Ergen öz saygısı ve sınıf düzeyi arasında anlamlı bir ilişki var mıdır?
4) Ergen öz saygısı ve kardeş sıralaması arasında anlamlı bir ilişki var mıdır?
5) Ergen öz saygısı ve kardeş sayısı arasında anlamlı bir ilişki var mıdır?
6) Ergen öz saygısı ve gelir durumu arasında anlamlı bir ilişki var mıdır?
7) Ergen öz saygısı ve annenin eğitim durumu arasında anlamlı bir ilişki var mıdır?
8) Ergen öz saygısı ve babanın eğitim durumu arasında anlamlı bir ilişki var mıdır?

3.BULGULAR VE YORUM

Tablo 1. t-testi sonuçları

	Cinsiyet	N	M	St	t	P
Koruyucu Aile Tutumu	Kız	79	2,6101	0,575	-2,393	,018*
	Erkek	71	2,8629	0,716		
Demokratik Aile Tutumu	Kız	79	3,7248	0,858	-1,362	,175
	Erkek	71	3,9164	0,861		
Otoriter Aile Tutumu	Kız	79	2,2949	0,755	-0,333	,739
	Erkek	71	2,3380	0,827		
Özsaygı toplam puanları	Kız	79	0,2667	0,128	0,269	,789
	Erkek	71	0,2609	0,132		

*P<0,05

Tablo 1'de yer alan verilere göre cinsiyet ile koruyucu aile tutumu arasında t= 2,393 ve p= 0,018 olduğu için anlamlı bir ilişki vardır. Aynı tablodan ortalamalar incelendiğinde M(erkek)= 2,8629, M(kız)=2,6101 olduğu görülmektedir. Elde edilen bu verilere göre erkek öğrenciler kız öğrencilere oranla ailelerinin daha koruyucu olduklarını algılamaktadırlar bulgusuna ulaşılmıştır. Yine Tablo 1'de yer alan verilere göre cinsiyet ile öz saygı arasında anlamlı bir ilişki bulunmadığı görülmektedir.

Tablo 2. **Tek Yönlü Varyans Analizi (One-Way ANOVA) Sonuçları**

	Bağımlı Değişken		Kareler Toplamı	Sd	Kareler Ort.	F	p
	Koruyucu Aile Tutumu	Gruplar arası	,691	3	,230	,530	,662
		Grup içi	63,458	146	,435		
		Toplam	64,149	149			
	Demokratik Aile Tutumu	Gruplar arası	1,836	3	,612	,820	,485
		Grup içi	108,977	146	,746		
		Toplam	110,813	149			
	Otoriter Aile Tutumu	Gruplar arası	1,499	3	,500	,801	,495
		Grup içi	91,116	146	,624		
		Toplam	92,615	149			
	Özsaygı toplam puanları	Gruplar arası	,067	3	,022	1,334	,266
		Grup içi	2,446	146	,017		
Yaş		Toplam	2,513	149			

Tablo 2'de yer alan verilere göre yaş ile öz saygı puanları arasında anlamlı bir ilişki görülmemektedir.

Tablo 3. Tek Yönlü Varyans Analizi (One-Way ANOVA) Sonuçları

	Bağımlı Değişken		Kareler Toplamı	Sd	Kareler Ort.	F	p
	Koruyucu AileTutumu	Gruplar arası	,930	3	,310	,716	,544
		Grup içi	63,220	146	,433		
		Toplam	64,149	149			
	Demokratik Aile Tutumu	Gruplar arası	2,326	3	,775	1,043	,375
		Grup içi	108,487	146	,743		
		Toplam	110,813	149			
	Otoriter Aile Tutumu	Gruplar arası	1,319	3	,440	,703	,552
		Grup içi	91,296	146	,625		
		Toplam	92,615	149			
	Özsaygı toplam puanları	Gruplar arası	,111	3	,037	2,255	,084
		Grup içi	2,401	146	,016		
Sınıf Düzeyi		Toplam	2,513	149			

*P<0,05

Yukarıdaki verilere göre Sınıf düzeyi ile öz saygı arasında anlamlı bir ilişki bulunmamaktadır.

	Bağımlı Değişken		Kareler Toplamı	Sd	Kareler Ort.	F	p
Çocuk Sayısı	Koruyucu AileTutumu	Gruplar arası	2,023	5	,405	,938	,459
		Grup içi	62,127	144	,431		
		Toplam	64,149	149			
	Demokratik Aile Tutumu	Gruplar arası	8,801	5	1,760	2,485	,034
		Grup içi	102,011	144	,708		
		Toplam	110,813	149			
	Otoriter Aile Tutumu	Gruplar arası	3,669	5	,734	1,188	,318
		Grup içi	88,946	144	,618		
		Toplam	92,615	149			
	Özsaygı toplam puanları	Gruplar arası	,057	5	,011	,672	,645
		Grup içi	2,455	144	,017		
		Toplam	2,513	149			

Tablo 4. Tek Yönlü Varyans Analizi (One-Way ANOVA) Sonuçları
*P<0,05

Çocuk sayısı ile demokratik aile tutumu arasında anlamlı bir ilişki bulunmuştur. Tek çocuk olan öğrencilerin ailelerini daha demokratik algıladıkları bulgusuna ulaşılmıştır.

Tablo 5. Tek Yönlü Varyans Analizi (One-Way ANOVA) Sonuçları

	Bağımlı Değişken		Kareler Toplamı	Sd	Kareler Ort.	F	p
Kaçıncı Çocuk	Koruyucu AileTutumu	Gruplar arası	2,890	5	,578	1,359	,243
		Grup içi	61,259	144	,425		
		Toplam	64,149	149			
	Demokratik Aile Tutumu	Gruplar arası	12,652	5	2,530	3,712	,003
		Grup içi	98,160	144	,682		
		Toplam	110,813	149			
	Otoriter Aile Tutumu	Gruplar arası	1,662	5	,332	,526	,756
		Grup içi	90,953	144	,632		
		Toplam	92,615	149			
	Özsaygı toplam puanları	Gruplar arası	,094	5	,019	1,125	,350
		Grup içi	2,418	144	,017		
		Toplam	2,513	149			

*P<0,05
Yukarıdaki tablo göz önünde bulundurularak, kardeş sıralamasında ikinci sırada olan çocukların ailelerini daha demokratik algıladıkları sonucuna ulaşılmıştır.

Tablo 6. Tek Yönlü Varyans Analizi (One-Way ANOVA) Sonuçları

Bağımlı Değişken		Kareler Toplamı	Sd	Kareler Ort.	F	p
Koruyucu AileTutumu	Gruplar arası	1,506	4	,377	,872	,483
	Grup içi	62,643	145	,432		
	Toplam	64,149	149			
Demokratik Aile Tutumu	Gruplar arası	1,700	4	,425	,565	,689
	Grup içi	109,113	145	,753		
	Toplam	110,813	149			
Otoriter Aile Tutumu	Gruplar arası	5,833	4	1,458	2,437	,050
	Grup içi	86,782	145	,598		
	Toplam	92,615	149			
Özsaygı toplam puanları	Gruplar arası	,044	4	,011	,642	,633
	Grup içi	2,469	145	,017		
Gelir	Toplam	2,513	149			

*P<0,05

Bonferroni istatistiğine göre gelir düzeyi 3000- 5000 lira arasında olan aile ile gelir düzeyi 1501-2000 lira arasında olan otoriter aileler arasında anlamlı bir ilişki bulunmuştur.

Yukarıdaki tablodaki verilere bakılarak gelir düzeyi yüksek olan ailelerin çocuklarında otoriter aile tutumu algısının daha yüksek olduğu bulgusuna ulaşılmıştır.

Bağımlı Değişken		Kareler Toplamı	Sd	Kareler Ort.	F	p
Koruyucu AileTutumu	Gruplar arası	5,930	4	1,482	3,692	,007
	Grup içi	58,220	145	,402		
	Toplam	64,149	149			
Demokratik Aile Tutumu	Gruplar arası	5,057	4	1,264	1,733	,146
	Grup içi	105,756	145	,729		
	Toplam	110,813	149			
Otoriter Aile Tutumu	Gruplar arası	6,861	4	1,715	2,900	,024
	Grup içi	85,754	145	,591		
	Toplam	92,615	149			
Özsaygı toplam puanları	Gruplar arası	,034	4	,009	,499	,737
	Grup içi	2,479	145	,017		
Anne Eğitimi	Toplam	2,513	149			

Tablo 7. Tek Yönlü Varyans Analizi (One-Way ANOVA) Sonuçları

*P<0,05

Yukarıdaki verilere göre okur-yazar eğitim durumuna sahip olan anneler çocukları tarafından, diğer eğitim durumlarına sahip annelerden daha fazla koruyucu olarak algılanmaktadır bulgusuna ulaşılmıştır.

Ayrıca okuryazar olmayan annelerin çocukları tarafından diğer eğitim durumlarına sahip annelere göre daha fazla otoriter olarak algılanmaktadır bulgusuna ulaşılmıştır.

Bağımlı Değişken			Kareler Toplamı	Sd	Kareler Ort.	F	p
Baba Eğitim	Koruyucu AileTutumu	Gruplar arası	1,540	4	,385	,891	,471
		Grup içi	62,610	145	,432		
		Toplam	64,149	149			
	Demokratik Aile Tutumu	Gruplar arası	1,616	4	,404	,537	,709
		Grup içi	109,196	145	,753		
		Toplam	110,813	149			
	Otoriter Aile Tutumu	Gruplar arası	,820	4	,205	,324	,862
		Grup içi	91,795	145	,633		
		Toplam	92,615	149			
	Özsaygı toplam puanları	Gruplar arası	,080	4	,020	1,197	,315
		Grup içi	2,432	145	,017		
		Toplam	2,513	149			

Tablo 7. Tek Yönlü Varyans Analizi (One-Way ANOVA) Sonuçları
*P<0,05

Yukarıdaki tablodaki verilere göre baba eğitim durumu ile öz saygı arasında anlamlı bir ilişki bulunmamaktadır.

4.SONUÇ
Bu araştırma sonucunda beklenenin aksine cinsiyet, yaş, sınıf düzeyi, kardeş sayısı, kardeş sıralaması, gelir durumu, annenin eğitim durumu, babanın eğitim durumu ile öz saygı arasında anlamlı bir ilişki bulunmamıştır.
Bu sonucun oluşmasında etken olarak ergenlerin, ergenlik dönemi nedeniyle benlik algılarının benzerlik göstermesi ve değişkenlerin etkisinin az olması gösterilebilir.
Okur-yazar eğitim durumuna sahip olan anneler çocukları tarafından, diğer eğitim durumlarına sahip annelerden daha fazla koruyucu olarak algılanmaktadır, ayrıca okuryazar olmayan annelerin çocukları tarafından diğer eğitim durumlarına sahip annelere göre daha fazla otoriter olarak algılanmaktadır.
Çocuk sayısı ile demokratik aile tutumu arasında anlamlı bir ilişki vardır ve tek çocuk olan öğrencilerin ailelerini daha demokratik algıladıkları bulunmuştur.
Bonferroni istatistiğine göre gelir düzeyi 3000- 5000 lira arasında olan aile ile gelir düzeyi 15001-2000 lira arasında olan otoriter aileler arasında anlamlı bir ilişki bulunmuştur, ayrıca gelir düzeyi yüksek olan ailelerin çocuklarında otoriter aile tutumu algısının daha yüksek olduğu görülmektedir.
Elde edilen bu verilere göre erkek öğrenciler kız öğrencilere oranla ailelerinin daha koruyucu olduklarını algılamaktadırlar.

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ANALYSING THE FACTORS AFFECTING STUDENT ACHIEVEMENT IN E-LEARNING EDUCATION

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ABSTRACT
This study investigated the factors that affect student success in an online computer course. In this research, the authors developed a questionnarie and several dimensions were taken into account for it to shed light on student achievement in e-education. Students, who have taken the above-mentioned course which is taught in English in the academic year 2015-2016, participated in the study. The differences in overall marks of such students were investigated to find the underline reasons for the differences in the performance of such students on the online programming course. Information obtained on demographical data, such as educational backgrounds and lifestyle factors were examined. Data obtained from around 482 students were analysed by using SPSS v.21. Results obtained from this research showed that the performance of the students who have taken this online-computer course for the first time were highly affected. Moreover, the academic performance of working students is directly related with the prior e-learning experience.

1. INTRODUCTION

During the last decade, advances in information technology and the Internet have affected educational delivery methods. Therefore, the idea of using online education for learning has been caused a noticeable interest with the development of e-learning in universities. Hence, some studies have focused on finding out the factors affecting student success in e-learning education which may affect the universities policies about course offerings, student support services and assigning resources for instructional technologies (Bubaš, 2008; Colorado, 2010).
From the student's perspective, the reasons for taking online courses instead of traditional courses may be varied due to their needs and challenges. Today, unlike the traditional behaviorism approach, the use of instructional technology under the principles of a student-centered constructivist approach is more demanding among working students because of its flexibility of hours (Dobbs, 2009).

Educational backgrounds may be another factor that influence student success. Some of the existing studies indicated that having prior experience in e-learning should be taken into account as planning an effective learning environment to improve student success(Colorado, 2010). According to (Haverila, 2011), having prior experience with e-learning influenced the perceptions of the students and this may affect their success in e-learning courses.

This study aims to analyse the factors affecting students success based on their educational background and life styles. For this purpose a questionnarie was developed consisting of a series of questions about demographical data of students.

2. REVIEW OF LITERATURE

Up to today, there has been a reasonable amount of reserach to identify the important factors for the student success in the field of e-learning. To date, the focus of published work has been largely on the impact of e-learning on students' perceptions and their contentments for academic success. Most of these studies considered motivational features affecting student's behavioral intention and usefulness of e-learning (Bubaš, 2008; Dobbs, 2009; Rhema, 2014). However, few of these studies have been looked the effect of having prior e-learning experience and its motivation to the student's perception affecting student success (Vidanagama, 2016; Hixon, 2016). Beside these

studies, limited number of researchers argued the impact of demographical characteristics and working status to the student success in e-learning(Colorado, 2010; Pi-Tzong, 2012).

Dobbs (2009) believed that, having prior experience in e-learning is one of the significant dimension influencing student success. Therefore, Hixon (2016) have founded that advanced knowledge in e-lerning provided positive intention on students' perception and this leaded having better learning outcomes. In line with these studies, Haverila (2011) indicated that taking an e-learning course before is significantly correlated with achieved student success. On the other hand, Vidanagama (2016) stated that having prior experience has no effect to the perceptions of students for success in an online course.

Student age may be one of the significant demographical characteristic affecting student success in e-learning that needs to be taken into account. Therefore, Colorado (2010) indicated that student age did not significantly affect academic performance. In the line with the study mentioned above, Amro (2015) also indicated that online course did not impact the student grade.

Unlike the studies mentioned above, correlation between employment status and academic success in e-learning discussed in (Erdogan, 2008). According to Erdoğan, working status significantly affect academic performance in online courses. Hixon (2016) believed that employment status for working students has to be considered in connection with student experiences and perceptions. On the contrary,Battalio (2009) concluded that employment status did not significantly affect the student success in e-learning.

Moreover, it is concluded in (Pi-Tzong, 2012) that prior e-learning and working experience differences had no impact on students' perspective and their success in e-learning. Yüceltürk (2007) founded that employment characteristics on student success was inconclusive.

Hannay and Nawvine (2006) indicated that e-learning is an efficient way to learn more than traditional classroom (Dobbs, 2009). Also, the authors in (Dobbs, 2009) concluded that students did more readings in an online course than a traditional course.

THE STUDY

In general, this paper was motivated to analyse the factors affecting student success in e-learning. The results outlined in this paper mainly focused the impact of the students' age, educational backgrounds and their lifestyle factors to the student success. The following research questions quided the research presented in this article:

1. What is the relationship between student age and course performance?
2. What is the impact of having previous e-learning experience to the student success?
3. What is the impact of employment status to the student success?
4. Is there a positive effect of having previous experience to the student achievement for working students?

Almost 482 undergraduate students participated in this study. The course was offered in the academic year 2015-2016, at the fall semester, and delivered via e-learning platform moodle. Students' demographical characteristics collected were mainly consisted age, gender, e-learning experience and work status as given in Table 1. The majority of respondents were male (n=297) and 185 were female. Students' ages are varied from 18 up to 34 with the largest group consisting of individuals between the ages of 18 and 23 (%88.2). There were respondents in the 24 to 28 age group (%11.2) then the 29 to 34 (%0.6). Although most of the students took the course first time (%91.9), more than half of the respondents had e-learning experience before (%57.1). Over %74 of the students were not working during the course.

Demographic Factors		Frequency(N)	% of total(P)
Age (n=482)	18-23	425	%88.2
	24-28	54	%11.2
	29-34	3	%0.6
Course experience (n=482)	First time	443	%91.9
	Repeat	29	%8.1
Work status (n=482)	Currently working	125	%25.9
	Currently not working	357	%74.1
Gender (n=482)	Female	185	%38.4
	Male	297	%61.6
Elearning experience (n=482)	Having e-learning experience	275	%57.1
	Not having e-learning experience	207	%42.9
Grade (n=482)	A	9	%1.9
	A-	12	%2.5
	B+	26	%5.4
	B	30	%6.2
	B-	14	%2.9
	C+	47	%9.8
	C	48	%10.0
	C-	43	%8.9
	D+	76	%15.8
	D	91	%18.9
	D-	64	%13.3
	F	21	%4.4
	NG	1	%0.2

Table 1 Demographical characteristics of participants

The students' responses were assessed by the prepared questionnaire. The survey questionnaire was uploaded to moodle. The students accessed to the system and replied all the questions in a given limited time and therefore the data collection was carried out by using the moodle. All analysis were performed by using the SPSS v.21 for Windows. Considering purposes of the study, one-way and two way ANOVA, Independent sample t-test, and Pearson moment's correlation were figured out in data analysis. The statistical significance level was accepted as .05 in the study.

THE FINDINGS
In this study, the following results were found according to the problem statement and research questions of the study. For demographic characteristics involving more than two independent categories, one-way analyses of variance were conducted to compare the variable with academic performance. Independent sample t-test were used for variables using two categories.

According to the results obtained, the student's age did not significantly affect academic performance in e-learning course (p=.001 < 0.05). The findings in this research showed that there is a significant correlation between employment and course performance where non-working students had better results in e-learning course.

Similar to the study discussed in (Vidanagama, 2016), this study also concluded that there is no relationship between student success and prior e-learning experience (p=0.690>0.05). However, the authors found that there is a relationship between prior e-learning experience and course performance for working students (p = 0,001, p < 0,05), as provided in Table 2. Please also note that the average of academic achievement of working students who took before e-learning course was 0.29 while for others was 0.16.

Experience	N	P	$\bar{X}$	Sig.
working and having prior e-learning experience	48	39	0,29	.001
Working and not having prior e-learning experience	76	61	0,16	

Table 2 E-learning experience for working students

N: Number of Students who attend the study, P: Percentage of students who attend the study.

$\bar{X}$: Mean

	Freqency				P	$\bar{X}$
	Strongly Disagree	Disagree	Agree	Strongly Agree	df	
Working students	15	104	206	34	.000	0.31
E-learning experience	15	104	206	34	.000	0.71

Table 3 Working status and e-learning experience effects on students' perceptions

In Table 3, the impact of working status and e-learning experience on student's perceptions for academic success was evaluated. To obtain the result, one-way Anova test was applied. It was asked to the participants whether e-learning is an efficient way to learn. The impact of e-learning on working students' perceptions was investigated and found significant differences for p=.000<0,05. The same question was used to evaluate the students' perceptions but this time considering the students who had prior e-learning experience. The results indicated significant differences among these students (p=.000<0,05).

Moreover, student academic success was compared against working status by using sample t-test. The part-time and full-time students' feedbacks were analysed. The findings indicated that student success did significantly differ in terms of employment status since p=.01<.05.

CONCLUSIONS

The results of this study has concluded that prior e-learning experience for working students has positive effect on the improvement of student success. According to authors point of view, having prior e-learning experience provided ease usage of e-learning platforms and this may be resulted to enrich the motivation of the students to have better grades. Therefore, the universities policies should be changed about course offerings. For the working students, workshops including some basic fundamental knowledge and the quidence for using e-learning platforms should be mandotory in order to register to any e-learning course.

It is also found that part-time students were more successful than full-time students. This may due to the reason of having overloaded working hours for the full-time working students. It is also conflicted with the idea that e-learning courses are more easier that traditional courses.

Moreover, it is found that student age did not impact the student success in e-learning. This showed that e-learning can be offered to all students in any age group as a lifelong education option.

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ANALYSIS OF THE ATTITUDES OF PRE-SERVICE SCIENCE TEACHERS ON RENEWABLE ENERGY SOURCES

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ABSTRACT
The present study was conducted to determine the attitudes of pre-service science teachers on renewable energy sources. Mixed methodology was used to determine the attitudes of pre-service science teachers in depth in the study. Study sample included 116 freshmen, sophomore and junior students attending Fırat University Faculty of Education, Science Teaching Department. Renewable energy sources attitude scale developed by Güneş, Alat and Gözüm (2013) and which has a reliability coefficient of .87, and an interview form were used as data collection tools. Study findings demonstrated that pre-service teachers generally had a positive attitude towards renewable energy sources. It was determined that training on renewable energy sources was important since there would be projects in classes in their future careers. Pre-service teachers stated that utilizing renewable energy sources would contribute to national economies and their development and the environment would be protected. Pre-service teachers demonstrated that Turkey was not a developed country in renewable energy use due to the lack of adequate technological infrastructure and awareness among the people.
Keywords: Socio-scientific subjects, renewable energy sources, attitude, pre-service science teachers.

INTRODUCTION
The development level achieved as a result of rapid increase in world population and industrialization came with several needs and problems. Energy leads these needs and humankind fulfill this need utilizing fossil energy sources. These resources cause different environmental problems such as global warming, acid rain and nuclear radiation (Akova, 2008). Furthermore, the possibility of depleting fossil sources is significant in underlining the need for a transformation to renewable energy sources (Avinç, 1998; Akın, 2005; Orbay, Cansaran and Kalkan, 2009; Doğan, 2011).
In a period where bearing towards renewable energy sources is necessary for a sustainable environment, the responsibility of teachers in creating the required sensitivity for this issue in generations is paramount. Educational activities that teachers conduct about renewable energy sources would enable the students to acquire a positive attitude on the issue (Kaldellis, Kapsali and Katsanou, 2012). Teachers who have positive ideas about renewable energy sources, would guide students in achieving adequate abilities to utilize these sources in their daily lives (Liarakou, Gavrilakis and Flouri, 2009). In this case, teachers' attitudes on renewable energy sources would affect the attitudes of their students on the issue.

Previous studies measuring the attitude and perceptions of teachers and pre-service teachers related to renewable energy sources were conducted (Güneş, Alat and Gözüm, 2013; Bilen, Özel and Sürücü, 2013; Saraç and Bedir, 2013).

Since renewable energy sources is a subject in science course curriculum, the present study aims to research the attitudes of pre-service science teachers towards renewable energy sources that are one of the most important methods to reduce pollution and for a sustainable environment.

RESEARCH MODEL
To investigate the attitudes of pre-service science teachers towards renewable energy sources in depth, mixed research method where qualitative and quantitative research methods are used in conjunction was utilized in the present study (Creswell, 2003).
Study Group

Study sample included 116 freshmen, sophomore and junior students attending Fırat University, Faculty of Education Science Teaching Department.

Data Collection Tool

To determine the attitudes of pre-service teachers towards renewable energy sources, renewable energy sources attitude scale for pre-service science teachers developed by Güneş, Alat and Gözüm (2013) was used. This scale

contains 4 factors and the scale reliability coefficient was calculated as .87. An interview form was developed based on the analysis conducted after the scale was applied to pre-service teachers. Developed interview form was organized based on expert opinion and finalized.

Data Analysis

Data collected with renewable energy sources attitude scale for pre-service science teachers were interpreted based on never = 1.00 - 1.80, little = 1.81 - 2.60, partially = 2.61 - 3.40, considerably (4) = 3.41 - 4.20, extremely (5) = 4.21 - 5.00 ranges. Semi-structured interview data were assessed by the authors. To determine the reliability of comparative agreement, between the assessments of the researchers, Cohen kappa number was calculated as .80. This value shows that there was an almost perfect agreement between the researchers.

FINDINGS

The responses given by pre-service science teachers to renewable energy sources attitude scale were analyzed based on mean values and interview data were analyzed through categories.

Renewable Energy Sources Factors	$\bar{x}$
Willingness to Implement	3,06
Importance of Education	3,45
National Interests	3,60
Environmental Awareness and Investments	3,00

Table1: Pre-Service Science Teachers' Factor Averages in Renewable Energy Sources Attitude Scale

Renewable energy sources attitude scale factor averages for participating pre-service science teachers are presented in Table 1. It was found that the attitudes of pre-service teachers towards renewable energy sources education and its contribution to national interests were quite positive. It was determined that they had partially positive attitudes towards the willingness to implement applications related to renewable energy sources in their professional lives. Furthermore, they also had partially positive attitudes towards investments in these resources and the effects of these investments on the environment.

It was determined that they had partially positive attitudes towards the willingness to implement applications related to renewable energy sources in their professional lives. Based on this fact, a semi-structured interview was conducted with pre-service teachers. The thoughts of pre-service teachers on conducting applications related to renewable energy sources in their professional lives were scrutinized. The responses given by pre-service teachers are categorized and presented in Table 2.

	Categories	F	%
Thoughts of pre-service teachers on conducting applications related to renewable energy sources.	*Devices that could charge cell phones using solar energy could be developed.*	6	31.5
	Transportation vehicles that use RES could be developed.	6	31.5
	Devices that could charge computers could be developed.	5	26.3
	Devices that could charge home electronics could be developed.	4	21.05
	Solar panels could be installed on farm fields	1	5.2
	Initially projects to increase RES awareness could be conducted	1	5.2

Table 2: The thoughts of pre-service teachers on conducting applications related to renewable energy sources

Data analysis demonstrated that pre-service teachers had quite a positive attitude towards the view that students' awareness for renewable energy sources could be achieved with educational activities. Based on this finding, the views of pre-service science teachers on active renewable energy sources training in their professional lives were asked during the interview. The responses given by pre-service teachers are categorized and presented in Table

3.

The views of pre-service science teachers on active renewable energy sources training in their professional lives .	Categories	F	%
	I would try to bring material to the class related to RES (such as weathercock)	6	31.05
	I would explain the importance and benefits of RES.	5	26.3
	I let them to watch a related video first.	5	26.3
	I would design an experiment fort he students.	3	15.7
	I would assign a Project homework on the subject..	1	5.2

Table 3: The views of pre-service science teachers on active renewable energy sources training in their professional lives.

It was found that the attitudes of pre-service teachers towards the contribution of renewable sources to national interests were quite positive. Based on this finding, what would be this contribution to national interests was asked during the interview. The responses given by pre-service teachers are categorized and presented in Table 4.

The views of pre-service science teachers on the contribution of renewable energy sources on national interests	Categories	F	%
	These would contribute to the development levels of the nations.	9	47,37
	They would have a great contribution to national economy.	8	42,11
	If it would become national policy, more aware individuals will be trained and it would contribute to the increase in the number of qualified individuals.	2	10,52

Table 4: The views of pre-service science teachers on the contribution of renewable energy sources on national interests

It was concluded that pre-service teachers had quite a positive attitude towards the investments in renewable energy sources and the effects of these on the environment. Based on this finding, the views of pre-service science teachers on the utilization level of renewable energy sources in Turkey and its relationship with the environment were asked during the interview. The responses given by pre-service teachers are categorized and presented in Tables 5 and 6.

Views of pre-service science teachers on the utilization level of renewable energy sources in Turkey	Categories	F	%
	Level of use is insufficient in Turkey. Because the technology that could utilize these is not available in our country.	11	57.8
	Level of use is insufficient in Turkey. Because the awareness is insufficient.	8	42.10

Table 5: Views of pre-service science teachers on the utilization level of renewable energy sources in Turkey

Views of pre-service science teachers on the relationship between utilization level of renewable energy sources and the environment	Categories	F	%
	There is a direct relationship. Increase in RES use would result in more preservation of the environment.	19	100

Table 6: Views of pre-service science teachers on the relationship between utilization level of renewable energy sources and the environment

RESULT AND DISCUSSION

The present study was conducted to determine the attitudes of pre-service science teachers towards renewable energy resources. As a result of the study, it was determined that pre-service teachers shared partially positive views on renewable energy sources. This finding was parallel to the results of previous studies in the literature (Çelikler and Kara, 2011; Akçöltekin and Doğan, 2013; Bilen, Özel and Sürücü, 2013; Zyadin, Puhakka, Ahponen and Pelkonen, 2014). Pre-service teachers gave examples such as development of devices that could charge cellular phones using solar energy and manufacturing transportation vehicles that utilize renewable energy sources for applications in their professional lives. This finding was consistent with the results of a study by Bozdoğan and Yiğit (2014) in the literature.

It was determined that their attitudes towards the understanding that students' awareness for renewable energy sources could be established through educational activities were quite positive. Pre-service teachers stated that they head ideas such as developing related material and explaining the importance of these sources about the renewable energy sources training methods that could be implemented in their professional lives. This finding was parallel to the results obtained in a study by Bozdoğan and Yiğit (2014) in the literature.

It was identified that pre-service teachers had quite positive views on the contribution of renewable energy sources to national interests. They stated that renewable energy sources would greatly contribute to nations' development levels and economies. This finding was consistent with the finding obtained in the study by Seçken (2008) that renewable energy sources would contribute to energy savings.

It was determined that the views on investments in renewable energy sources and the effects of these investments on the environment were partially positive. They stated that these resources were not utilized sufficiently in Turkey, and that was due to lack of sufficient technology and awareness. Furthermore, they stated that as the utilization of renewable energy sources would increase, the environment would be preserved further. There are similar results in the literature (Avinç, 1998; Zeray; 2010; Bozdoğan and Yiğit, 2014; Saraç and Bedir, 2014).

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ANALYSIS OF VIEWS ABOUT CONSTRUCTIVIST LEARNING IN INTERNATIONAL STUDIES

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ABSTRACT
Constructivism which depends on the idea that people learn new information by constructing it on previous knowledge and experiences have been the dominant approach in education for long years and every part of curricula is continuously reformed depending on the changes and improvements in constructivism. As a result, there are many studies investigating constructivism idea in many different aspects. The aim of this study is to present the tendency of studies selected by given criteria: i) consisting "constructivism", "constructivist" or "constructive" 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, survey studies, document analysis, literature review

INTRODUCTION
Constructivism dates back to Socrates and Plato as a theory and it is as old as our traditions (Hawkins, 1994). It is a theory about knowledge and learning and describes not only what knowing means but also how one comes to know. According to this theory which combine the findings of works in psychology, philosophy, science and biology, knowledge is not truths to be transmitted or discovered but emergent, developmental, nonobjective, viable constructed explanations by humans engaged in meaning-making in cultural and social communities of discourse (Fosnot, 2005). In constructivism theory, learning is an active process in which learners construct new ideas or concepts based upon their current or past knowledge (Brandon & All, 2010). Constructivist views are on individual process of knowledge-building and individual interaction with the environment to create their knowledge (Kala, Isaramalai, & Pohthong, 2010). Instead of explaining the learning as a prescriptive theory, constructivism explains learning as the way people learn or develop which is descriptive (Richardson, 1997). Constructionism is the further development from behaviorism to cognitivism.

Studies on constructivism in education have become common starting at 1990s (Glasersfeld, 1989; Hawkins, 1994; Steffe & Gale, 1995). According to Applefield, Huber, & Moallem (2001) constructivist perspectives on learning have become increasingly influential in the past twenty years and can be said to represent a paradigm shift in the epistemology of knowledge and theory of learning. Even though studies on constructivist education started with some pioneering studies such as Yaşar (1998), Yanpar Şahin, (2001) and Erdoğan & Sağan (2001), the real influence of constructivism in Turkish education system started with curricula reform movement in 2005.

Problem
What is the tendency of the studies on constructivism in education in international literature published between 2005 and 2016?
1. What is the distribution of the studies on constructivism between 2005 and 2016?
2. Which methods were employed in those studies?
3. Who were the sample of the studies?
4. What number of samples were used in the studies?
5. What topics were studied in those studies?

Aim

The aim of this study is to present the tendency of the studies in international literature (limited with ScienceDirect and EBSCO databases) on constructivism in education published between 2005 and 2016 in order to give an opportunity of comparing with national literature to researchers in Turkey.

METHOD

The descriptive analysis that helps to summarize the data collected in many different ways according to pre-determined themes and interpret it and content analysis that includes exploration of themes which cannot be directly seen but can only be coded or categorized and of their relations with each other (Yıldırım and Şimşek, 2003) were used together for data analysis.

Data Collection

Data collection was carried out through documentary analysis. It is a very helpful analysis method that is beneficial to examine the changes of situations, cases, etc. in a longer period (Cohen, Manion, & Morrison, 2007).

Reliability

Miles and Huberman (1994) inter-rater reliability formula was used to check the reliability of independent coding by the researchers. The result shows 84% matching which is above the minimum expected level of 70% by Miles and Huberman, so coding is accepted as reliable.

Sample and Universe

Following four criteria were taken into account in study selection process. The study should be published:

1. In a journal indexed in EBSCO and ScienceDirect databases,
2. Between 2005 and 2016 (until May when data collection was carried out),
3. With one of the keywords in its title
   a) Constructivism
   b) Constructive education
   c) Constructive approach
4. And its method should be survey.

A two-stage process was followed in the sampling. The purposive sampling was done as there were some pre-defined criteria and 19 studies in EBSCO and 19 studies in ScienceDirect databases were collected. Following this stage, snowball sampling was done by checking the references of previously collected studies and 17 more studies were collected. A total of 54 studies were collected but in initial control 14 of them were seen not to be appropriate to the topic of the study.

FINDINGS

Sub-problem-1: What is the distribution of the studies on constructivism between 2005 and 2016?
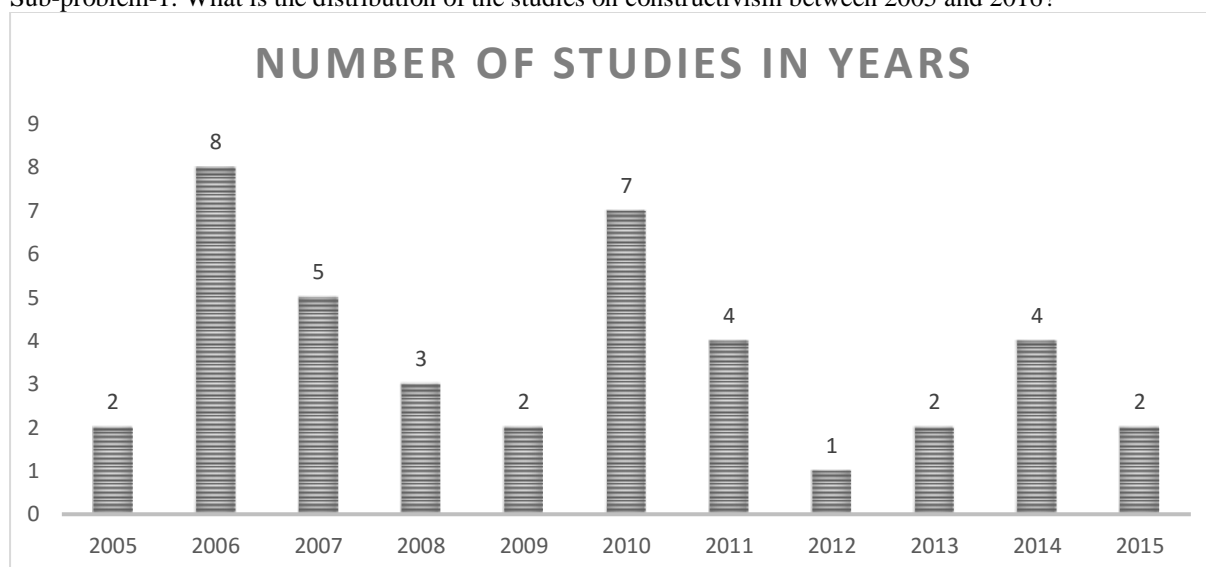
Figure-1 Studies categorized according to publish year

When the collected studies were categorized according to publish year (Figure-1), it is seen that there were no studies found in 2016. The years with higher number of publications are 2006 with 8 and 2010 with 7 studies. Following these two years comes 2007 with 5 studies and 2011 and 2014 with 4. There are 3 studies in 2008 while there are 2 in 2005, 2009, 2013 and 2015. In 2012, there is only one study.

Sub-problem 2: Which methods were employed in those studies?
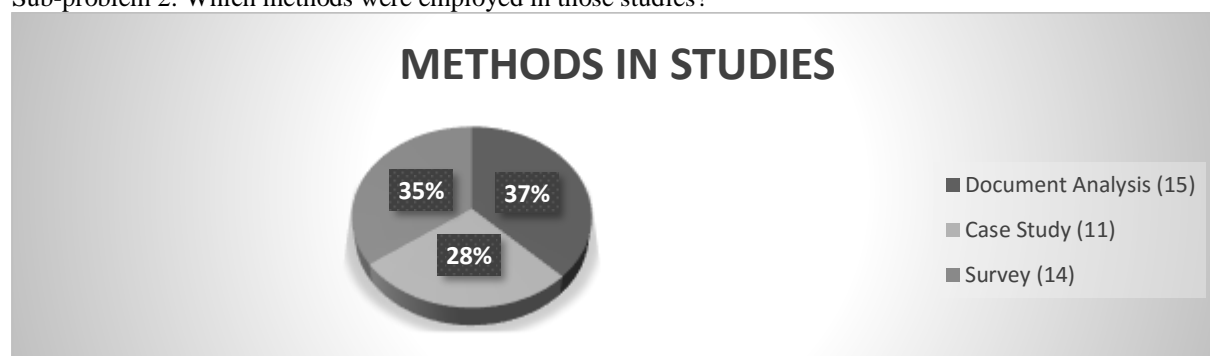
Figure-2 Methods of The Studies

The collected studies were seen to be employing one of the three methods (Figure-2): document analysis was employed in 15 studies and it is 37% of the total. There were 14 survey studies counting as 35% and 11 case studies as 28% of the total.

Sub-problem 3: Who were the samples of the studies?
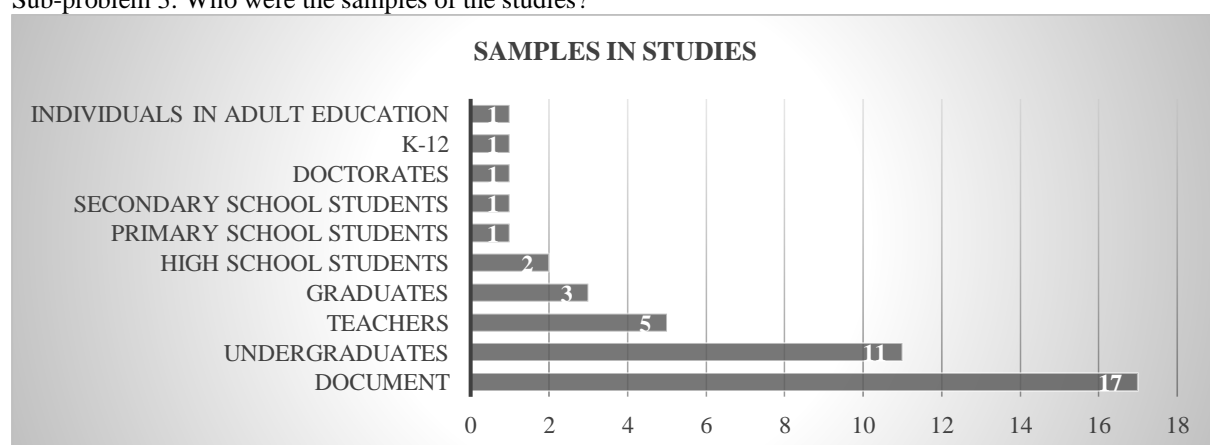
Figure-3 Samples used in studies

The most common sample in the collected studies is the document which was used in 17 studies. It is followed by undergraduate students in 11 and teachers in 5 studies. While graduates were taken as sample in 3 and high school students in 2 studies, individuals in an adult education program, K-12 students altogether, doctorates, secondary and primary school students were all taken as sample in 1 study each.

Sub-problem 4: What number of samples were used in the studies?

Table-1 Number of Samples in the Studies

Group	Number of Samples in Different Studies									
Undergraduates	5	5	10	18	42	67	190	209	229	301
Teachers	4	24	25							
Graduates	17	34	188							
High School Students	967	1079								
Primary School Students	67									
Secondary School Students	4									
Doctorates	Not given									
K-12 Students	66									
Individuals in an Adult Education Program	541									

High school students were taken as sample in two studies both of which are really high in number, 1079 in one and 967 in the other. The other sample with highest number is individuals in an adult education program with 541. Undergraduates are the second most common sample and their number in the studies change between 5 and 301. The least number of sample in the rest of the studies is 4 and the highest is 188. The study sampled doctorate students did not give the exact number of participants (Table-1).

Sub-problem 4: What topics were studied in those studies?

Table-2 Topics of the studies in 2005

Author(s)	Year	Topic
Rebekah k. Nix; Barry J. Fraser and Cynthia E. Ledbetter	2005	Development of a constructivist learning environment scale
David Palmer	2005	The role of the motivation as a variable in the success of constructive learning

Two studies were collected for the year 2005 (Table-2) and the one by Nix, Fraser and Ledbetter is a validity and reliability study of a constructivist learning environment scale. The other one by Palmer examines motivation as a variable in the success of a constructive learning environment.

Table-3 Topics of the studies in 2006

Author(s)	Year	Topic
Jonathan Miller-Lane	2006	Constructivism in democracy education
Jere Brophy	2006	Graham Nuthall's ideas on Social Constructivism
Kevin C. De Berg	2006	Constructivism in chemistry education researches
Peter Boghossian	2006	The relation between Socratic pedagogy and behaviorist and constructivist approaches
Liberato Cardellini	2006	An interview with Ernst von Glasersfeld on the basics of Radical Constructivism
David Gijbels; Gerard Van De Watering; Filip Dochy; Piet Van Den Bossche	2006	Student views on the difference between lesson-centered and constructivist learning environments
Ernst von Glasersfeld	2006	A look at the experimental basics of mathematical concepts through a constructive approach
Keith S. Taber	2006	The nature of constructivism in science education: general critics and future perspectives

There are 8 studies in 2006 (Table-3) and two of them (Brophy; Cardellini) consist of the ideas of two pioneering characters' ideas on social and radical constructivism. Four studies (Miller-Lane; De Berg; von Glasersfeld; Taber) examine constructivist pedagogy in four different courses: democracy, chemistry, math and science. The study by Boghossian questions the relation of Socratic pedagogy with behaviorist and constructivist approaches. Gijbels et. al research how student views differ on lesson-centered and constructivist learning environments.

Table-4 Topics of the studies in 2007

Author(s)	Year	Topic
Marnie K. Jorenby	2007	Changing student ideas by learning experiences formed appropriate to the constructivism
Sofie M. M. Loyens; Remy M. J. P. Rikers; Henk G. Schmidt	2007	Identification of student perceptions on knowledge construction, cooperative learning, self-regulation and authentic problem solving in constructivism
Emery J. Hyslop-Margison & Johannes Strobel	2007	A literature review of constructivism in order it to be understood better by teacher educators and teachers
Younghee Woo; Thomas C. Reeves	2007	The evaluation of meaningful interaction in web-based learning as an interpretation of social constructivism

There are 4 studies in 2007 (Table-4). While Jorenby examines how constructive learning experiences change student ideas, Loyens et. al tries to identify student perceptions on some basic concepts of constructivism such as knowledge construction, cooperative learning, self-regulation and authentic problem solving. Margison and Strobel offer a collection of constructive literature to help teacher educators and teachers understand it better. Woo and Reeves look at social constructivism from a different perspective and use a web-based learning experience to try to provide a meaningful interaction which is an important factor in social constructivism.

Table-5 Topics of the studies in 2008

Author(s)	Year	Topic
Farrah Jackson Chandler & Dewey T. Taylor	2008	The outcomes of a constructive learning based lesson at undergraduate degree
Mustafa Cakir	2008	The explanation of constructive learning, conceptual change and cognitive development
Mansoor Niaz	2008	Teacher awareness of different constructive approaches in science education
Florence Mihaela Singer; Hedy Moscovici	2008	The proposal of a new model that is appropriate to constructivism for organizing the classroom interactions

There are 4 studies in 2008 (Table-5). Chandler and Taylor explain the results of a constructive learning based lesson at undergraduate degree. Cakir gives an outline of some basic concepts and Niaz researches for the teacher awareness of different constructive approaches in science education. A model proposal is provided by Singer and Moscovici on organizing the classroom interactions through constructive approach.

Table-6 Topics of the studies in 2009

Author(s)	Year	Topic
Elaine H. J. Yew; Henk G. Schmidt	2009	The role of constructivist approach in problem-based learning
R. J-C. Chu & C-C. Tsai	2009	A model explaining the factors that affect adult education in a constructive web-based learning environment

In the two studies in 2009 (Table-6), Yew and Schmidt explain the role of constructivist approach in problem-based learning and Chu and Tsai propose a model which explain the factors that affect adult education in a constructive web-based learning environment.

Table-7 Topics of the studies in 2010

Author(s)	Year	Topic
Perry J. Hartfield	2010	Active learning strategies and development of team-work
Pia Williams & Sonja Sheridan	2010	Creation of a co-operative learning and constructive competition environment
Beatriz Martín-del-Campo; Lidia Rodríguez García; Manuela Martínez Lorca; Gema de las Heras Mínguez; María del Rosario Díaz-Perea	2010	Use of techniques appropriate to constructive learning in teaching reading & writing to children with special needs and their resistance
Sasikarn Kala; Sang-arun Isaramalai; Amnart Pohthong	2010	A model on integration of constructive approach into electronic learning
Cheryle Moss; Laurie Grealish; Sarah Lake	2010	Student opinions on a lesson organized appropriate to constructive learning
David Samper; Jorge Santolaria; Ana Cristina Majarena; Juan José Aguilar	2010	A constructive approach model proposal on teaching camera calibration
Hsiu-Mei Huang; Ulrich Rauch; Shu-Sheng Liaw	2010	Learner opinions on virtual reality environments designed on constructive approach

There are 7 studies in 2010. Hartfield represents active learning strategies and development of team-work as a part of constructive learning. Similarly, Williams and Sheridan argue how to create a co-operative learning and constructive competition environment. Campo et. al explain the results of an intervention in teaching reading and writing to the children with special needs through constructive approach. Kala, Isaramalai and Pohthong proposes a model on integration of constructive approach into electronic learning. In a similar study, Samper et. al propose a constructive model on teaching camera calibration. Moss, Grealish and Lake explain students' responses to a constructive lesson. Huang, Rauch and Liaw represent Learner opinions on virtual reality environments designed on constructive approach.

Table-8 Topics of the studies in 2011

Author(s)	Year	Topic
Graham D. Hendry; Nikki Bromberger and Susan Armstrong	2011	The effect of constructive guidance and feedback on learning
Mei-Shiu Chiu; David Whitebread	2011	How teachers accustomed to traditional approach perceive and apply new mathematics curriculum designed on constructive approach
Young-Jin Lee	2011	The difficulties teachers face while preparing a constructive learning environment and their ideas on it
Andrea R. Milner; Mark A. Templin; Charlene M. Czerniak	2011	The effect of constructive classroom contextual factors on motivation and learning strategies

As seen in Table-8, there are 4 studies in 2011. Hendry, Bromberger and Armstrong explain the results of constructive guidance and feedback in an intervention. Chiu and Whitebread research traditional teachers' perception of a constructive curriculum and how they apply it. Lee represents the difficulties that constructivism brings in terms of teachers, especially when they need to create a constructive learning environment. Milner, Templin and Czerniak investigate the effect of constructive classroom contextual factors on motivation and learning strategies.

Table-9 Topics of the studies in 2012

Author(s)	Year	Topic
Marijke van Bommel, Kitty Kwakman & Henny P. A. Boshuizen	2012	Observation of a case that authentic learning context overemphasizes the effective use of the information and self-directed learning challenges students much both of which are constructive components

There is only one study that match the selection criteria and published in 2012 (Table-9). In that study by van Bommel, Kwakman and Boshuizen question if authentic learning context and self-directed learning both of which are constructive elements overemphasize the effective use of the information and challenge students much.

Table-10 Topics of the studies in 2013

Author(s)	Year	Topic
Hongliang Yan	2013	Effect of a constructive unit in a Tourism PhD. program on students' attitudes
Peggy A. Ertmer; Timothy J. Newby	2013	Comparison of Behaviorist, Cognitive and Constructive approaches in terms of teaching design

In the study by Yan which is one of the two studies published in 2013 students' attitudes towards a PhD. program on tourism after a constructive unit are represented while in the other study in that year by Ertmer and Newby a comparison of Behaviorist, Cognitive and Constructive approaches in terms of teaching design is given (Table-10).

Table-11 Topics of the studies in 2014

Author(s)	Year	Topic
Nita L. Cherry	2014	Constructivism in life long/vocational education
Barbara T. Duane; Maria E. Satre	2014	Student views on the use of constructive learning theory in collaborative testing
Lina Kantar	2014	The use of constructive approach in problem-based teaching
Yu-Chun Wang	2014	The use of wikis in language teaching as a social constructive approach

There are four studies in 2014 (Table-11). Cherry investigates how constructivism works in life long/vocational education while in another study by Duane and Satre constructive learning theory in collaborative testing is questioned through student opinions. Similar to Cherry, Kantar argues the use of constructive approach in problem-based teaching. Wang gives an example of technology integration to constructive approach by using use of wikis in language teaching as a social constructive approach.

Table-12 Topics of the studies in 2015

Author(s)	Year	Topic
Yee Wan Kwan; Angela F.L. Wong	2015	Relation between constructive learning environment and critical thinking ability
Marijke van Bommel; Henny P. A. Boshuizen; Kitty Kwakman	2015	Student opinions on a constructive curriculum that fills the gap between theory and practice

Kwan and Wong investigate the relation between constructive learning environment and critical thinking ability in their study and van Bommel, Boshuizen and Kwakman represent Student opinions on a constructive curriculum that fills the gap between theory and practice (Table-12).

RESULTS

This study examines the tendencies of the international studies published in journals indexed in ScienceDirect and EBSCO databases between 2005 and 2016 on constructivism in education and a total of 40 studies were appropriate for the aim of the study while 54 were collected. One of the things to notice is that the number of studies in the years 2006 (8 studies) and 2010 (7 studies) is more than one third of the total and there is only one study collected from the year 2012. When the studies are examined in terms of the method, the most common is documentary analysis with 15 studies and 37%. These studies were seen to be giving the details of the constructivism, providing new models for using constructivism in new environments and explaining new types of constructivism such as radical or social. The second most used method is survey with 14 studies and 35% and dominantly teacher and/or learner opinions on constructive approach, constructive learning environments and constructive learning activities were collected. The least used method in the examined studies is case study in 11 studies with 28% and observations and interviews were used to collect data about the effect of constructivism, constructive learning environments and activities on opinions and behaviors of small samples.

Undergraduates have been the most used data source with 11 studies after documentary analysis in 17. The main reason behind it may be the freer environment at universities to organize the lessons appropriate to the constructive approach. Sampling size differs between 5 and 301 in studies with undergraduates; 4 and 25 with teachers, 18 and 188 with graduates, 967 and 1079 with high school students. The number of sample in the

study with primary school students is 67; it is 4 with secondary school students, 66 with K-12 and 541 with adults.

The collected 40 studies were examined in terms of their topics to find if they had similar themes. The two studies published in 2005 examine the constructive learning environment and motivation as an element that effects the success of the constructivist approach. In 2006 which is the year with highest number of studies with 8, 4 studies include application of constructivist approach into different contexts, difficulties experienced in that process and critics; 3 include information about constructivism and types of it like social or radical constructivism; 1 includes a comparison of traditional and constructive classrooms through student opinions. There were 5 studies in 2007 and 4 of them present student opinions on and perceptions of the classroom applications of constructivism while 1 includes a literature review to explain the approach in general. 2 studies of 3 that were published in 2008 are again a literature review to explain some basic concepts of constructivism and the other explains the change in student behaviors after a constructive lesson. Some findings about the results of integration constructivism into different learning environments are represented in the two studies published in 2009. The year with second highest number of studies is 2007 with 7 studies and 4 of them explain applications of constructivist ideas in different courses. There are model proposals for applying constructivism to educational context in 2 studies and a literature review on explaining the cooperative learning and constructive competition that are important factors of constructivist approach in the other study. Of the 4 studies published in 2011, there is a literature review that explains some components of the constructivist approach in two studies and teacher opinions on and reactions to the transition from traditional to constructive approach. There is a case study in the only study published in 2012 examining the critics about that constructivism overloads student responsibilities. There is not a common theme in the two published studies in 2013 and one of them questions the effect of constructivism on students' attitude towards the lesson and the other is a literature review on the comparison of constructivist approach with behaviorist and cognitive ones. There is an explanation about the results of the application of constructivism in different areas in 3 studies of 4 in 2014 and the other study presents student opinions on the evaluation and assessment principles of constructivism. There is not a common theme in the two studies published in 2015; one of them examines the relation between constructive learning environment and critical thinking ability and the other study presents student opinions on a constructive program.

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ANALYZING THE RELATIONSHIP BETWEEN THE SECONDARY SCHOOL STUDENTS' ATTITUDES TOWARDS THE EDUCATIONAL COMPUTER GAMES, AND THEIR REFLECTIVE THINKING SKILLS

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ABSTRACT

The aim of this study is to reveal the relationship between the secondary school students' attitudes towards the educational computer games, and their reflective thinking skills. As the model of the research, it's utilized from the correlational research model. The target population of the study consists of secondary school students that receive education in city center of Siirt. And the sample that is composed of 653 students in total, being as 262 girls and 391 boys, is determined according to the appropriate sampling method among the selective sampling methods. A personal information form which includes variables like gender, class, computer and internet ownership status of the students who participated to the research; the "*The Educational Computer Games Attitude*" scale developed by Çankaya and Karamete (2008), and the "*Reflective Thinking Skills Towards Problem Solving*" scale developed by Kızılkaya and Aşkar (2010) were used as the data collection tools. In the analysis of data, in order to determine the students' attitudes towards the educational computer games and reflective thinking skill levels, the descriptive statistics; to determine the relationship between the variables, the correlation analysis; and to determine the predictive power, the linear regression analysis are used. At the end of the research, it's determined that there is a significant relationship positively and in an intermediate level between attitudes towards the educational computer games' and reflective thinking skills' levels. Also, it's observed that attitude towards the educational computer games is a significant predictor of the students' reflective thinking skill levels.

Keywords: The educational computer games, secondary school students, reflective thinking, attitude

INTRODUCTION

The emerging developments in the educational technology requires the learning environments in the teaching process to be rearranged in such a way that enable the student-centered applications. Prensky (2002) indicated that, in the 21st century, the most important innovations can be possible only by making the education enjoyable (qtd. in: Tüzün 2006). This can be maintained easily by the educational computer games. The educational computer games provides environments where students can spend enjoyable times and also learn important information for themselves. According to Güngörmüş (2007), the educational computer games are the softwares that the lesson contents which are intended to be thought to the students are prepared in a game format. And Hwang et al. (2012) state the educational computer games as softwares designed according to the students' interests and motivations in order to reach the educational goals. Pinnell (2015) states it as entertaining environments that make the students show interest to the lesson content by developing their will and interest towards learning. Within this scope, when related terms in the body of literature are reviewed, the educational computer games are the introduced environments that will empower the students' learning experience, make them concentrate on learning contents, encourage them to learn, improve their self confidence, increase their creativeness and provide visual, tactual and intellectual stimulus (Bouzid, Khenissi, Essalmi and Jemni, 2016; Calvo- Ferrer, 2016; Peterson, 2016). When the literature regarding the educational computer games is analyzed; in the study where the educational computer games effect on students' academic success is analyzed Yağız (2007) indicated that there is a significant difference in favor of students' academic success. Kula (2005), in his study analyzing the

effect of the educational computer games on students' basic transaction skills, determined that the educational computer games have a significant effect on students' basic transaction skills' development. In the study carried out by Papestrergiou (2008), he stated that the educational computer games have a significant effect on students' learning and motivation levels. It's declared that the educational computer games develops students' characteristics like decision-making, discussing and affective bonding by revealing their imagination (Prensky (2008). Hence, it's stated that, a learning environment is formed by the educational computer games, where the student forms its own knowledge, and which sees the relations between these knowledges and the previous ones, organizes the knowledge and produces new ones, and grounds on the constructivist learning approach (Bakar, Tüzün and Çağıltay, 2008).

Lately, by the developing learning technologies, the usage of the educational computer games in teaching environments by utilizing from its entertaining and motivating feature shows an increasing tendency (Egenfeldt-Nielsen, 2010). Along with this, Kirriemuir and McFarlane (2004) indicate that the educational computer games can be used conveniently for students in making them gain cognitive skills like reflective thinking, planning , struggling, competing, communicating and decision-making. It's also stated that the educational computer games visualize the abstract concepts hard to learn, and this way reduce the learning anxiety (Chen et al., 2012; Sönmez and Artut, 2011). Also, it's emphasized that educational computer games improve students' creative and reflective thinking skills (Can and Çağıltay, 2006), help to improve their problem solving and reflective thinking skills (Demirel, Seferoğlu and Yağcı, 2003).

Rodgers (2002) defines the reflective thinking as a smart action movement that is based on analyzing, which reveals as a result of the experiences, while John Dewey (1993) defines the reflective thinking as active and terminal learning process that is based on the cause and effect relation of the related information. John Dewey (1993) lists the characteristics the individuals should have in order to carry out the reflective thinking as being open-minded, tam willingness and responsibility. Kızılkaya and Aşkar, (2010) stated that reflective thinking reveals by the result of perceiving the problem and can be monitored most easily during the problem solving process. Hence, it's observed that the reflective thinking skill towards problem solving is an improvable skill but a range of supportive strategies are needed for this. These supportive strategies include strategies like asking questions by oneself, constructing one's knowledge by its own statements, decision-making, planning and self-assessment, and also can support by a range of educational computer games. In the body of literature, it's possible to come across with many studies on both the educational computer games and the reflective thinking skill. But in the body of literature, studies analyzing directly the relationship between the attitudes towards the educational computer games and the reflective thinking skill of the secondary school students have not been come across with. The research arose from the need of filling this gap in the body of literature and analyzing the relationship of the attitudes towards the educational computer games and the reflective thinking skill of the secondary school students.

Aim Of The Study

In this research, the aim is determining the relationship between the secondary school students' attitudes towards the educational computer games and the reflective thinking skills. With this common aim, it was searched for answers for the below questions:

1- Is there a relationship between the secondary school students' attitudes towards the educational computer games and the reflective thinking skill?
2- Are the secondary school students' attitudes towards the educational computer games predicting the reflective thinking skills?
3- Do the secondary school students' attitudes towards the educational computer games and the reflective thinking skills' levels show a significant difference due to the variables as gender, class, computer and internet ownership at home status?

METHOD

Research Model

In this research, correlational research method is used.

Target Population and Sampling

The target population of the research is composed of the students who receive education in the secondary schools in the city center of Siirt affiliated to Provincial Directorate for National Education, in 2015-2016 school year's spring term. Its sample is composed of 653 students receiving education in four schools determined by the appropriate sampling among selective sampling methods. Findings concerning the demographical features of the students that participate to the study are given in Table 1.

Table 1. *Distribution of the students according to their demographical features*

Demographical Feature	**Category**	**N**	**Percentage (%)**
Gender	Boys	391	59,9
	Girls	262	40,1
Class level	5. grade	183	27,9
	6. grade	156	23,9
	7. grade	147	22,5
	8. grade	168	25,7
Computer ownership status	Available	594	91
	Unavailable	59	9
Internet ownership status	Available	346	53,1
	Unavailable	307	46,9

When Table 1 is reviewed, regarding the students participating to the research, 40,1% of the students are boys and 59,9% of them are girls. 27,9% of them are 5th grade students, 23,9% are 6th grade, 22,5% are 7th grade and 25,7% of them are 8th grade students. 91% of the same students own a computer at home and 9% of them do not. In addition, it's determined that 53% of the students have internet connection at home, and 46,9% of them do not.

Data Collection Tool

A personal information form which includes demographical information of the students; the "*The Educational Computer Games Attitude*" scale developed by Çankaya and Karamete (2008), and the "*Reflective Thinking Skills Towards Problem Solving*" scale developed by Kızılkaya and Aşkar (2010) were used as the data collection tools. Attitudes towards the educational computer games scale is a five point likert scale, and consists of 5 items. The Cronbach alpha reliability coefficient is stated as .66. In our study, the Cronbach alpha internal reliability coefficient of the scale was calculated as .84. And the reflective thinking skills towards problem solving scale is a five point likert scale, and consists of 14 items and 3 dimensions: causation, questioning and assessment. The developed scale's Cronbach alpha internal reliability coefficient for the whole scale, from the sub-dimension of .83, is indicated as .71 for causation, .73 for questioning and .69 for assessment. And in the study we carried out, the Cronbach alpha internal reliability coefficient of the scale was calculated as .75. For the sub-dimensions, it's calculated as .68 for causation, .73 for questioning and .66 for assessment.

The Analysis of Data

In the analysis of data gathered in the research, SPSS 22.0 statistical data analyze program is used. Also, to determine the relationship between students' attitudes towards the educational computer games and reflective thinking skills, arithmetic mean, standard deviation, correlation and regression analysis techniques are used. In order to determine if the students' attitudes towards the educational computer games and the reflective thinking skills differ or not according to the gender, class, computer and internet ownership at home status variables, independent samples t-test and one-way Analysis of Variance (ANOVA) are used. To determine the root of the intergroup difference, it's utilized from the Turkey-HSD test.

FINDINGS

In order to determine the relationship between attitudes towards the educational computer games and reflective thinking skills of students who participated to the research, the findings obtained are shown as below. The results concerning the secondary school students' attitudes towards the educational computer games and reflective thinking skills are given in Table 2.

Table-2. The results concerning the secondary school students' attitudes towards the educational computer games and reflective thinking skills (n=653)

	x̄	sd
Attitude towards the educational computer games	2.95	.636
Reflective thinking skill	3.06	.671
Causation	2.96	.815
Questioning	3.12	.762
Assessment	3.07	.799

As can be seen in Table 2, the arithmetic mean of the scores that secondary school students got from the students' attitudes towards the educational computer games scale is found as 2.95 and the arithmetic mean of the scores that they got from the reflective thinking skill scale is found as 3.06. When arithmetic means of the sub-dimensions of the students' reflective thinking skill, the determined scores are 2.96 for causation sub-dimension, 3.12 for questioning sub-dimension, and 3.07 for assessment sub-dimension. It's observed that scores of the students' attitudes towards the educational computer games and the reflective thinking skills are in an intermediate level. The results regarding the relationship between the secondary school students' attitudes towards the educational computer games and the reflective thinking skills are given in Table 3.

Table 3. The results regarding the relationship between the students' attitudes towards the educational computer games, and the reflective thinking skills towards the problem solving levels.

	Attitude towards the educational computer games
Causation	.620**
Questioning	.549**
Assessment	.609**
Reflective thinking skills	.698**

** p<.01

As can be seen in Table 3, a positively and significant relationship between the secondary school students' attitudes towards the educational computer games and the reflective thinking skills' levels (r=,698; p<.01) are determined. And when the relationship between the causation, questioning and assessment, which are the sub-dimensions of the reflective thinking skill of the students, and the attitudes towards the educational computer games, there is again a significant relationship positively and in an intermediate level between the sub-dimensions causation (r=.620; p<.01), questioning (r=.549; p<.01) and assessment (r=.609;p<.01), and the attitudes towards the educational computer games. The regression analysis results concerning reflective thinking skills towards problem solving's prediction of the students' attitudes towards the educational computer games are given in Table 4.

Table 4. The regression analysis results concerning reflective thinking skills towards problem solving's prediction of the students' attitudes towards the educational computer games.

Predicted Variable	Predictor Variable	Reg. Kat.	St. Error	R	R^2	Stable	t	P
Reflective Thinking Skill	Attitude Towards The Educational Computer Games	0,737	0,030	0,698	0,488	0,698	24,887	,000

As can be seen in Table 4, it's observed that according to the regression analysis results, the secondary school students' attitudes towards the educational computer games are a significant predictor of the reflective thinking skills (R=0,698, R^2=0,488; p<.01). According to this, it's determined that 48% of the total variance concerning the students' reflective thinking skills is explained by the attitude towards the educational computer games. The results of the t-test carried out in order to determine if there is a significant difference in the secondary school students' attitudes towards the educational computer games or not, according to the variables as gender, class, computer and internet ownership at home status, are given in Table 5.

Table 5. T-test results of the attitude towards the educational computer games and reflective thinking skills concerning variables as gender, computer and internet ownership status

Variables		Attitude Towards The Educational Games				Reflective Thinking Skills		
		N	$\bar{x}$	sd	t	$\bar{x}$	sd	t
Gender	Male students	391	3,03	,682		3,06	,711	
	Female students	262	2,83	,540	3,87**	3,06	,608	-0,14*
Computer ownership status	Available	594	2,95	,618		3,23	,486	
	Unavailable	59	2,,95	,651	-0,08*	3,04	,685	-2,01**
Internet ownership status	Available	346	3,00	,618	-2,08**	3,13	,672	-2,67**
	Unavailable	307	2,90	,651		2,99	,664	

*p>.05; **p<.05

As can be seen in Table 5, among the students who participated to the research, according to their gender, it's determined that there is a significant difference in favor of male students (t=3,87; p<.05) between the attitudes towards the educational computer games; and according to the internet ownership status, it's determined that there is a significant difference in favor of "Available" (t=-2,08; p<0.05) between the attitudes towards the educational computer games. Notwithstanding, it's determined that there is no significant difference between the students' computer ownership status and attitudes towards the educational computer games (t=-0,08; p>0.05). As can be seen in Table 5, when the t-test results of the students' reflective thinking skills concerning the variables as gender, computer and internet ownership status are analyzed, it's determined that there is no significant difference according to the gender variable (t=-0,14; p>.05); but there is a significant difference in favor of "Available" according to the students' computer (t=-2,01; p<.05) and internet (t=-2,08; p<.05) ownership status. Findings concerning the arithmetic mean and standard deviation results regarding the students' attitudes towards the educational computer games and reflective thinking skills according to the class level variable are given in Table 6.

Table 6. The arithmetic mean and standard deviation results regarding the students' attitudes towards the educational computer games and reflective thinking skills according to the class level variable

Class level variable		Attitude Towards The Educational Computer Games		Reflective Thinking Skill	
	N	$\bar{x}$	sd	$\bar{x}$	sd
5.grade	182	3.13	.634	3.29	.653
6. grade	156	2.78	.523	2.85	.594
7. grade	147	2.77	.604	2.92	.639
8. grade	168	3.06	.682	3.14	.698

As it can be seen in Table 6, the arithmetic mean of the students' attitudes towards the educational computer games according to the class *(level)* variable is determined as 3.13 for the 5th grade, 2.78 for the 6th grade, 2. 77 for the 7th grade, and 3.06 for the 8th grade. And when the arithmetic mean of the students' reflective thinking skills level according to the class *(level)* variable is analyzed, it's determined as 3.29 for the 5th grade, 2.85 for the 6th grade, 2.92 for the 7th grade, and 3.14 for the 8th grade. The ANOVA analyses and Turkey-HSD results concerning the differences between arithmetic means of the students' both attitudes towards the educational computer games, and the reflective thinking skills, according to their class level variable, are given in Table 7.

Table -7. The ANOVA analyses and Turkey-HSD results concerning the students' attitudes towards the educational computer games and reflective thinking skills

	Source of the Variance	Sum of squares	sd	Average of squares	F	Turkey-HSD
Attitude towards the educational computer games	Intergroup	17,46	3	5,82	15.330**	5-8
	Intra-group	249,48	649	,380		6-7
	Total	263,95	652			
Reflective thinking skill towards problem solving	Intergroup	20,44	3	6,81	16,18**	5-8
	Intra-group	273,36	649	,421		6-7
	Total	293,81	652			

**p <.01

       As can be seen in Table 7, significant differences are determined between the secondary school students' current class level and both their attitudes towards the educational computer games (F=15,33;p<.01) and the reflective thinking skills (F=16,18;p<.01). In the result of the Turkey HSD test carried out to determine the source of the significant difference, both the attitude towards the educational computer games and the reflective thinking skills towards problem solving are determined between the 5th grade to 8th grade, and between the 6th grade to 7th grade.

THE ARGUMENT AND THE RESULTS

At the end of the study, it's observed that the secondary school students' attitudes towards the educational computer games, who participated to the research, and the reflective thinking skills have a significant relationship positively and in an intermediate level between each other. And this state can be interpreted as the reflective thinking skills can be improved when the students' attitudes towards the educational computer games are enhanced. When similar studies done on the body of literature are analyzed; in the study carried out by Donmuş and Gürol (2015), it's indicated that the educational computer games have a positive impact on the students' permanence and access levels. In a study done by Topçu, Küçük and Göktaş (2014), they indicated that the educational computer games make the students' learning more permanent, and improve their thinking skills by visualizing the concepts and reinforcing the knowledges learnt.

When the students' attitudes towards the educational computer games are analyzed in terms of various variables, a significant difference in favor of the male students is observed in the variables of internet connection and gender. Internet connection ownership of the students can be interpreted as this may enhance their attitudes towards the educational computer games and a higher enhancement may occur in male students' attitudes. In a study done by Çankaya (2007), a difference occurring in favor of male students in the students' attitudes towards the educational computer games, and in a research done by Egenfeldt-Nielsen (2004), the internet connection's effect occurring on the school students' attitudes towards the educational computer games, correspond to the findings of this research. In addition, according to the variables as the gender, and the computer and internet ownership at home status, no significant difference is observed in students' reflective thinking skills, but in the class level variable, significant differences in favor of 8th and 5th grades are determined.

Nevertheless, within the research, it's observed that attitude towards the educational computer games is a significant predictor of the reflective thinking skill. It's thought that this situation originates from presenting the experience and questioning based activities of the educational computer games together with the entertaining feature (Tüzün et al., 2006). In this regard, the reflective thinking skill's state of being a skill based on questioning where the mistakes and corrects are determined by analyzing (Dewey, 1993), promotes this opinion. And this shows that the educational computer games should be overemphasized regarding the increasement of its efficiency. As there are no studies in the literature analyzing directly the relationship between the attitude towards the educational computer games and the reflective thinking skill, as the research results have not been compared enough with other research's findings, and as the study was carried out with a limited number of students that receive education in secondary school level, all these can be considered as a limitation. In studies to be done according to this, it is possible to utilize from a wider community that receive different levels of education.

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ANTECEDENTS OF TRAIT AGGRESSIVENESS AMONG SPORTS STUDENTS

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ABSTRACT
In light of the speed increase of aggressive episodes and disorderly incidents in sporting contexts both on and off the field of play, psychologists' interest has been focused on normative standards regarding socio-moral interaction such as sportspersonship and fair play, as well as on those intra and interpersonal factors influencing aggressiveness. The current research aimed at pinpointing the extent to which self-determined motivation and trait self-control influence aggressiveness considered as a personality trait. 448 students (M = 240, F = 208; M_{age} = 23,04, SD = 6,65) enrolled in Italian Faculties of Sport and practicing competitive sports filled out a questionnaire composed by: the socio-anagraphic section, the Sport Motivation Scale (SMS), the Aggressiveness Questionnaire (AQ), and the Brief Self-Control Scale (BSCS). Descriptive and regression analyses were applied to the data. Results showed that aggressiveness was negatively predicted by self-determined motivation and trait self-control. Consequently, practical recommendations should be addressed to coaches, trainers, etc. to plan appropriate intervention strategies for enhancing students' higher levels of self-control and motivational dispositions.

INTRODUCTION

In the 1960s the notion of aggressiveness was introduced by Buss in terms of personality trait formed by a habit to attack, i.e., a relatively stable characteristic to react frequently and intensively to stimuli (Buss, 1961, 1989). In this sense, aggressiveness should be distinguished from aggression, a process commonly defined as a behaviour directed toward another individual in order to cause harm (Bushman & Anderson, 2002, p. 28). In spite of this distinction, both notions are indifferently used in scientific literature because they generally refer to maladaptive behaviours (e.g. Archer, 2004; Sherrill, Magliano, Rosenbaum, Bell, & Wallace, 2016).

Nowadays, aggressive behaviours represent an emerging social problem involving many aspects of everyday life, including the context of sport. Although sport should develop moral values such as support, fair play, and cooperation, many episodes of athletic aggression are prevalent before, during, and after competitions: not only athletes become aggressive and violent towards opponents, coaches, and spectators, but also spectators become aggressive and violent towards coaches and police (Kerr, 2004). In the last decades sport psychologists, in identifying the main risk factors that could predict maladaptive and aggressive behaviours, have assumed different orientations, from the psychoanalytic to neo-associationist approaches vs. the social-learning and social-cognitive approaches, on one hand, and the personological vs. experimental-social psychological approaches, on the other hand. Among the personological approaches, one of the most traditional variants was focused on personality traits considered as inborn dispositions that account for variations between people in aggressive behaviours (Buss & Plomin, 1984; Caprara, Barbaranelli, & Zimbardo, 1996). According to this perspective, trait aggressiveness was found out a robust predictor of aggressive behaviour in sport (Bushman & Wells, 1998).

In addition, in line with the assumption that anti-social behaviour increases when self-regulatory strength is impaired (Mead, Baumeister, Gino, Schweitzer, & Ariely, 2009), the effects of low self-control were investigated revealing that athletes with lower self-control capacity and higher levels of anger and aggressiveness are also more prone to show a bad performance (Englert & Bertrams, 2012; McEwan, Martin Ginis, & Bray, 2013). To our knowledge, there have been only few studies that have examined the relationship between trait aggressiveness and self-control. For example, Denson, Pedersen, Friese, Hahm, and Roberts (2011) found that a two week self-control training reduces individuals' aggressive responses, and Sofia and Cruz (2015) indicated that trait self-control, considered as a personality structure, has a central role in the regulation of aggression, since a large multivariate effect has emerged between athletes groups with high and low trait self-control capacity.

A theoretical key framework useful when understanding the phenomenon of adaptive/maladaptive behaviours is the self-determination theory (Deci & Ryan, 1985, 1991), according to which individuals behave in an agentic or autonomous way in their daily activities. This theory postulates three different types of motivations, i.e., intrinsic motivation (involving high levels of competence and autonomy), extrinsic motivation (characterized by feelings of constraint and lack of competence), and amotivation (the relative absence of motivation). The findings of certain studies converged on the conclusion that intrinsic motivation is associated to positive outcomes, whereas extrinsic motivation and amotivation are linked to adverse consequences in multiple life domains, including prosocial and maladaptive behaviours in sport (e.g. Chantal, Robin, Vernat, & Bernache-Assollant, 2005; Chantal, Soubranne, & Brunel, 2009; Dunn & Dunn, 1999; Monacis, de Palo, & Sinatra, 2014, 2015).

The set of variables taken into account in the current research was targeted on the basis of the above-mentioned investigations with the primary concern of examining the extent to which self-determined motivation and trait self-control influence aggressiveness. The integrated examination of these factors, which were separately analyzed in the previous research, may provide the beneficial information about the nature of their relationships.

METHOD

Sample
The sample consisted of 448 students (M = 240, F = 208; M_{age} = 23,04, SD = 6,65) enrolled in Italian Universities of Sport and practicing competitive sports. After the consent form was signed, the participants completed voluntary the questionnaire before the training session with the presence of the authors, who explained that the questionnaire was anonymous and that personal data would be disclosed or used only for research purpose.

Instruments
The variables considered for analyses were sport motivation, trait aggressiveness, and trait self-control.

Self-determined sport motivation was assessed adopting the back-translated version of the Sport Motivation Scale (Pelletier, Fortier, Vallerand, Tuson, Brière, & Blais, 1995). The scale consists of 28 items rated on a 5-point Likert scale (from "strongly disagree" to "strongly agree"). In line with past research mean scores on the SMS subscales were combined into a composite index obtained by weighting each of the above-mentioned types of motivation according to its position on the self-determination continuum, and then by summing the products (Vallerand & Bissonnette, 1992; Vallerand, Pelletier, & Koestner, 2008; Monacis, de Palo, & Sinatra, 2014, 2015). In particular, the mean scores were combined as follows: (2 x (IM to know + IM to accomplish things + IM to experience stimulation)/3 + (EM Identified regulation)) − ((EM Introjected Regulation + EM External Regulation)/2 + (2x Amotivation)). Higher positive scores on this index reflect higher self-determined sport motivation, while higher negative scores show low levels of self-determined motivation (Vallerand & Rousseau, 2001). In this study, the level of internal consistency was high with Cronbach's alpha of .88.

The Italian translation of the short version of the Aggression Questionnaire (AQ-SF; Bryant & Smith, 2001) is composed of 12 items rated on a five point Likert scale ranging from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). The AQ-SF includes four components. The physical and verbal components refer to the behavioural dimensions of aggression; the anger and hostility components refer to the cognitive dimensions assessing the anger-related arousal and the sense of control and the feelings of resentment, suspicion, and alienation, which increase the likelihood of anger responses. Numerous studies have provided evidence for the reliability and validity estimates of the AQ-SF (Abd-El-Fattah, 2013; Ang, 2007). For the statistical analyses it was considered the total score with a Cronbach's alpha of .80.

The Brief Self-Control Scale (BSCS; Tangney, Baumeister, & Boone, 2004) consists of 13 items designed to assess dispositional self-regulatory behaviours (e.g. "I have a hard time breaking bad habits" and "I do certain things that are bad for me, if they are fun"). Each item is rated on a five-point Likert scale (1 = not like to me at all, 5 = very much like to me). Evidence of stability and internal consistency of the BSCS were provided (de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012). In this study reliability was α = .83 for the total score.

FINDINGS
In Table 1 descriptive statistics for the total sample, males and females, in scoring scales are showed. T-test was performed to examine gender effect on the variables of interest. Data showed no significant differences ($p > .05$) in scores between males and females.

Table 1: Descriptive analyses

	Total Sample		Males		Females	
	Min - Max	Mean (SD)	Min - Max	Mean (SD)	Min - Max	Mean (SD)
Trait Aggressiveness	12 - 46	24.03 (7.04)	12 - 46	24.54 (7.40)	12 - 44	23.44 (6.55)
Self-determined Motivation	-20 - 42	19.79 (9.21)	-12 - 42	19.08 (9.43)	-20 - 39	20.62 (8.90)
Trait Self-control	20 - 65	45.47 (8.45)	20 - 65	45.09 (8.77)	20 - 62	45.91 (8.07)

Bivariate correlations coefficients are showed in Table 2. Results showed negative associations of aggressiveness with self-determined motivation and trait self-control and a positive association between self-determined motivation and trait self-control.

Table 2: Bivariate Correlations among the variables of interest

	Trait Aggressiveness	Self- Determined Motivation
Trait Aggressiveness	-	
Self-Determined Motivation	-.282[**]	-
Trait Self-control	-.435[**]	.294[**]

$** p < 0.01$

Causal relationships were examined by hierarchical regression analysis with aggressiveness as dependent variable and the other constructs as independent variables. The criteria for entering variables into the regression model were based on the *r* coefficients: the first predictor with the largest correlation was trait self-control (step 1) and the second predictor with the next highest shared variance was self-determined motivation (step 2). The first step accounted for 19% of variance (*Adj R^2* = .19), the second for 21% of variance (*Adj R^2* = .21). Self-control significantly increased the predicted variance, *Adj R^2 change* = .19, whereas self-determined motivation moderately increased the predicted variance, *Adj R^2 change* = .03. Aggressiveness was negatively predicted by trait self-control (β = - .39) and self-determined motivation (β = -.17).

CONCLUSIONS
The current investigation sought to examine the intrapersonal factors influencing aggressiveness in an Italian sample of university athletes. Trait self-control, strictly related to personality trait, and self-determined motivation were considered together in order to clarify the extent to which each of them accounted for variation in aggressiveness. Findings supported the expected associations, i.e., both dispositional factors were negatively linked to aggressiveness showing that higher levels of self-control and self-determined motivation were related to a lower tendency to adopt aggressive behaviours. These associations were further confirmed by regression analyses, which revealed that trait-aggressiveness was negatively predicted by individual differences in terms of motivation and self-control. Consistently with previous studies (e.g. Chantal, Robin, Vernat, & Bernache-Assollant, 2005; Chantal, Soubranne, & Brunel, 2009; Dunn & Dunn, 1999; Monacis, de Palo, & Sinatra, 2014, 2015), individuals with lower self-determined motivation tend to develop unsportsmanlike and aggressive behaviors. Likewise, the ability to interrupt undesired behavioral tendencies determines a lower level of aggressiveness (Denson, Pedersen, Friese, Hahm, & Roberts, 2011). It is worth noting that self-control resulted the best negative predictor of aggressiveness: this influence could be justified by the inhibitory nature of the personality antecedent considered a mechanism for controlling maladaptive conducts in sport domains, too (Sofia & Cruz, 2015). Moreover, the positive association between self-control and self-determined motivation could indicate the protective role played by such factors against the tendency to react frequently and intensively to provoking stimuli (Pelegrín-Muñoz, Serpa, & Rosado, 2013).

In agreement with Anderson and Bushman's assumption that "certain traits predispose individuals to high levels of aggression" (Anderson & Bushman, 2002, p. 35), this investigation lends an empirical evidence to the general framework based on personality-traits and aimed at understanding how particular personality variables predict aggressive behavior in sport contexts. To this regard, the authors have underlined that the development of aggression-related knowledge structures can shape personality increasing the likelihood to engage in aggressive behaviours. In addition, as greater levels of aggressive behaviours have been likely associated with self-regulation failure (Caprara, Regalia, & Bandura, 2002), a particular focus on the main role of trait self-control would fill the gap in most current theories of aggression, which have paid a limited attention to this personality trait.

The findings of the current research added empirical information to the patterns of relationship between dispositional factors and aggressiveness, thus increasing the knowledge of aggressive and violent behaviours in sport. However, the status of the variables as mediators/moderators, as well as the differences across gender and types of sport (team and individual, contact and no contact, etc) were not explicitly assessed. Further studies should expand the scientific exploration of these issues to clarify such a status by using sophisticated path-analytic models.

Finally, in terms of practical implications, the kind of information emerged in this study could be useful because it provides a more broader comprehension of those factors on which coaches should intervene with appropriate aggression/emotion-management trainings. The purpose is to enhance students' higher levels of self-control and motivational dispositions, which promote good performance, more success and athletes' well-being, thus reducing maladaptive behaviours. Likewise, educational interventions on fair play programs, including workshops and lectures, videos, etc., could develop those moral values, i.e., support, sportspersonship, and cooperation which should be favoured and developed by sport.

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APPLICATION OF COMPLEXOMETRIC TITRATION OF BISMUTH SUBNITRATE IN THE INGREDIENT WHITENING SKINS COSMATICS

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ABSTRACT

The experiments were designed and were advanced for the titrations technique of acid-base in the chemistry laboratory course. The students were skilled in using organic solvents extracted the organic compounds, monitoring components by thin layer chromatography and calculated the bismuth ions by complexometric titration. The cheap whitening creams have the ingredient in cosmetics which was keratolytic agents for the whitening skins. It was toxic when used overdose and repeated or prolonged. Quantities of bismuth ions were titrated with ethylenediamine acetic acid (EDTA) as a chelating agent (ligand). Xylenol orange is indicator that showed the endpoint color changing from red to yellow. The applied experiments in laboratory for students were able to improve their problem solving skills and understanding of concepts of titration of complexing of metal.

KEYWORDS: Bismuth subnitrate, chelating agent, complexometric titrations, keratolytic agents, indicator

INTRODUCTION

The cheap whitening cosmetic cream certified reference material contained titanium dioxide (TiO_2), zinc oxide (ZnO_2), bismuth subnitrate ($Bi_5O(OH)_9(NO_3)_4$)(BS) and the keratolytic agents such as salicylic acid, resorcinol, sulfur and Kojic dipalmitate are not well absorbed in the dermis skin layer and are safe during pregnancy and lactation (Andersen, 2003).The components in the facial whitening creams have control limited quantity and quality by Food and Drug Administration (FDA) instituted of government of Thailand (Ng & et.al, 2015).Women can buy them at the local market and convenient stores (Bird,Caldwell, & DeFanti, 2010).Thai women have believed when they have white skins are symbolized youthfulness, high quality, wealth whiich the reasons were attractive for men (Chaipraditkul, 2013). The desire for beauty became to addict the whitening cosmetic products and used them for prolongs which caused the irritant skins (Numata, 2015).This study selected BS because it has used agents in the facial whitening creams and it used as a cosmetic white pigment (Viseras & etal, 2007). BS is the white crystalline, almost odorless, and is used pharmaceutically in wound dressing, ointment component and as an antacid. Toxicological properties of BS was reported by Material Safety Data Sheet (MSDS) which is harmful by inhalation, skin and eye were irritated when contacted it (Bocca & et al, 2014). Laboratory of chemistry have teaching about an acid-base titration for the determining of the concentration of an acid or base by exactly neutralizing and was calculated the concentration acid or base. BS is complexed metals, and is ingredient in the facial whitening creams. The complexometric titration (CT) technique is used for analyzing the quantitative of BS. CT is determined the concentration of the bismuth ions. Bismuth have oxidation number are +3 and +5 can complex ligand with EDTA disodium EDTA is commonly used to standardize aqueous solutions of transition metal cations and forms four coordinate covalent bonds to metal cations at pH 2.0 and xylenol orange as indicator (Raoot,1985). The students have the opportunity to develop higher-order skills in the methods of titration and applied to analyzing the quantity of metals in the other products to using in them life (Reid &Shah, 2007). The steps of experiments required the students to preparing the samples by solvent extracted, accuracy and precision measurement out by using pipettes and burets. The xylenol orange indicator is changing color red to yellow. The accuracy was considered by the end pointed is nearly equilibrium points. CT was developed their problem-solving skills when performing the calculated bismuth ion in the cosmetic whitening products (Mistry& etal, 2016).

MATERIALS AND METHODS
Sampling of the facial whitening cream products
        A total of 30 facial whitening cream samples were purchased from the local markets and convenient stores in Thailand. The samples were certified check by FDA instituted of government of Thailand that were certainly causing interference of lead or mercury.
Materials

The reference of bisnuth subnitrate was purchased from Sigma (0.001 M, $Bi_5O(OH)_9(NO_3)4$; Mol.Wt. 1464.99, (Sigma,USA), xylenol orange tetrasodium salt (0.1 gram in 10 ml of deionized water, $C_{31}H_{28}N_2O_{13}SNa_4$; Mol.

Wt.760.6)(HIMIDIA, India) is indicator, ethylenediaminetetraacetic acid disodium salt-2-hydrate (0.001M of EDTA in buffer solution, pH 5.5; $C_{10}H_{14}N_2Na_2O_8.2H_2O$; Mol.Wt. 372.24)(Sigma,USA), nitric acid(0.1 M, HNO_3; Mol.Wt. 63.01 (RCI Labscan, Thailand) and organic solvent; n-butanol and $CHCl_3$(RCI Labscan, Thailand). Buffer solution, pH 2.0 is preparing by dissolve 40 g of anhydrous sodium acetate in 500 ml of distilled water. Add 35 ml of concentrated AR acetic acid and dilute to one litre with water.

METHODS
Experiments
A facial whitening cream was accurately weighed 1.000 g and extracted with the organic compounds with the solvent system of deionized water: n-butanol (10ml: 10ml). In the layer of water was repeated extracted with chloroform and kept the water layer for quantitative analysis of BS. BS in water solution was dissolved in 0.1 M of nitric acids and adjust in 100 ml by volume metric flask. Pipetted 10 ml of BS solution and added a pinch of xylenol orange indicator. Titrate slowly using 0.001 M EDTA to complete by changing color from red to yellow. Perform points 3 three times minimum. Calculated mass of bismuth in grams in the original sample in formula: $m_{Bi}v_{Bi}=m_{EDTA}V_{EDTA}$. These methods were repeated with the 29 samples. CT involved titrating metal ions with a complexing agent or chelating agent (ligand) and the metal ions are transformed into a metal complex or metal co-ordination compounds and the equivalence point is determined by using metal indicators Figure 1.
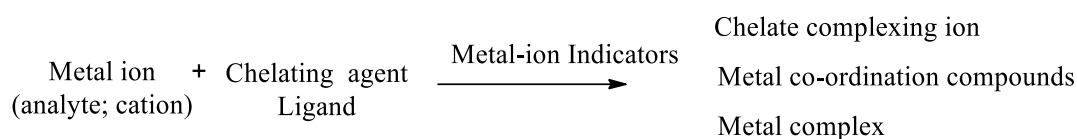
Figure 1. Reactions of CT.

Course structure and experiment design

The experiment was introduced to a third-year undergraduate students in laboratory course for the project research of requirement of chemistry. The senior research was planned and the teacher advised and trained the students for the project research. For 25 students are separated for 5 groups which each group kept 5 samples of the facial whitening creams in their local markets and the samples were low cost in 30-50 cents US$. Structure of the experiment were designed by recorded the data of ingredient of the facial whitening creams samples, planning the experiment, educated the theory of the CT, preparing the equipment and chemical experiment and joining and summarized the data of experiments Figure 2. The study used 1 month in the end of semester.
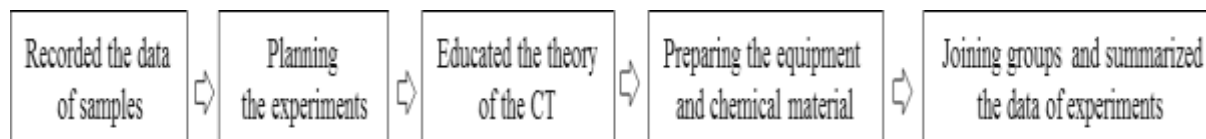
Figure 2: Planning of experiments.

RESULTS
For 30 samples of the facial whitening creams were used CT methods for calculated and quantitative analysis of BS in the environment of EDTA. Usually, EDTA titrations are conducted in alkaline conditions under which EDTA will be present in different forms including H4Y, H3Y-, H2Y2-, HY3-, and Y4- . Therefore, controlling of Bi ions in the pH 2 is one major factor that affects complexation. The indicator is xylenol orange changing color from red to yellow. Experiments used 1 g/sample and prepared in the nitric acid solutions. Then, an accurately known volume of the sample solution for 10 ml, is pipetted into a titration vessel and the analyze of interest is carefully titrated with standardized with EDTA solution an appropriate titrant to the endpoint or equivalence point of the titration of 30 samples showed in Table 1.The Quantitative of BS were calculated in formula of

$m_{Bi} = m_{EDTA}V_{EDTA}/V_{Bi.}$

Table : 1 The volume of EDTA in the end point of 1g for each of sample

Sample No.	V_{EDTA}(ml)	Sample No.	V_{EDTA}(ml)	Sample No.	End point of EDTA(ml)
1	1.63	11	2.10	21	1.65
2	1.73	12	1.57	22	1.53
3	1.93	13	2.01	23	1.73
4	1.53	14	1.93	24	1.60
5	1.60	15	1.63	25	1.78
6	1.89	16	1.88	26	1.63
7	1.77	17	1.58	27	1.46
8	2.10	18	1.77	28	1.81
9	1.85	19	1.49	29	1.58
10	1.56	20	1.43	30	1.52

The molar of m_{Bi} were multiply the molecular weight of BS 1464.99 gave the gravimetric of BS and were calculated the percentage of BS in the facial whitening creams of 30 tradition bands in Table 2.

Table : 2 Quantitative and percentage of BS in the facial whitening creams for 30 samples

Sample No.	g/1 bearing	%BS	Sample No.	g/1 bearing	%BS	Sample No.	g/1 bearing	%BS
1	1.91	47.86	11	2.46	61.53	21	1.65	48.34
2	2.03	50.79	12	1.84	46.00	22	1.53	44.93
3	2.27	56.65	13	2.36	58.89	23	1.73	50.79
4	1.80	44.93	14	2.26	56.55	24	1.60	46.88
5	1.88	46.88	15	1.91	47.76	25	1.78	52.15
6	2.22	55.38	16	2.20	55.08	26	1.63	47.76
7	2.07	51.76	17	1.85	46.29	27	1.46	42.78
8	2.46	61.53	18	2.07	51.86	28	1.81	53.03
9	2.17	54.20	19	1.75	43.66	29	1.58	46.29
10	1.83	45.71	20	1.68	41.90	30	1.52	44.54

When the experiments were completed. The students were knowledge the steps of research which were handling the experiments in the course times and save times. The teacher aim to improve our student's ability to perform inquiry based experiments and develop their higher-order cognitive skills, guided-inquiry experiments have been introduced into the project research of chemistry.

DISSCUSION

The one sample of facial whitening cream was bought it in cost of 30-50 cents of $US. Manufactory reduced the costs by using the chemicals which low toxic and low costs. Although, FDA instituted of government of Thailand are control the dose for ingredient in the cosmetic. The worker women have low income used these facial whitening creams for prolongs which have not the knowledge and the 30 samples of facial whitening creams have average of BS in 49.85 % when the women used them and detection the sunlight for longs times the BS were irritated skin and eye. Skin-whitening agents are mostly thought to be safe, but there are some reported cases of allergic contact dermatitis due to the ingredients of these agents.

CONCLUSIONS

This experiment is an example of a classic titrimetric analysis. Classical methods of analysis such as titrimetric and gravimetric analyses are usually capable of very high precision and accuracy. Bismuth can be determined by instrumental method, in particular spectroscopy. However, it reacts easily with EDTA forming stable coordination compounds even in acids, so this method is worth consideration, too.

ACKNOWLEDGMENT

I thank the third undergrad students are interesting in the applied of technique titration and have persevering work, and thank the staff of chemistry department of Suansunandha Rajabhat University was take care and prepared the chemical and instruments for the students

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APPRAISING THE INNOVATION WEEK PARADIGM IN LINE WITH MALAYSIAN MINISTRY OF HIGHER EDUCATION BLUEPRINT

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ABSTRACT
Malaysian Education Blueprint 2015-2025 (MEBP) identified 10 Shifts to be capable of producing job-creating graduates. In turn, the Faculty of Medicine and Health Sciences (FMHS) took the initiative by conducting the Innovation Week (IW) annually to implement these shifts. The IW paradigm was composed of five main activities which were *Seminar competition, Exhibition show, Smart Model competition , On- Line Quiz and Hands-on Workshop*.
The theme of the *seminars* was related to the application of technology in medical fields and community. The *exhibitions* showed the innovative projects and medical gadgets. The *hands-on* workshops had sharpened the students' skills and promoted the spirit of research. These skills were supportive in executing projects .The number of projects created by students in the *smart model competition* had significantly increased year after year. So also was the participation in the *on-line quiz*. The latter aimed to increase the participants' curiosity. The high number of participants, their satisfaction, and appreciation for IW activities indicate that IW paradigm is not just an annual event, but it is also a learning process. The analysis of activities revealed that IW paradigm addressed the substantial component of 10 shifts towards global education standards and it also flourished variety of intelligence among students.
Keywords: Innovation week, Blueprint, intelligence, experiences, skills, creativity, online, curiosity, prototype

BACKGROUND
Malaysian Education Blueprint (MEBP) 2015-2025 has introduced 10 shifts in the education system aiming to develop high caliber graduates who are skillful, creative and well equipped with appropriate ethics and attitude towards overall social development (Ministry of Education Malaysia, 2015). In the current competitive market, only the intelligent, creative and innovative graduates could secure the good chances for employment. As such, achieving the above goals is crucial for the graduates generally. The educators at large are trying hard to overcome the foreseeable obstacles to reach those goals. As for the medical graduates, these goals are an integral part of the professional standards. Medical students face particular challenges in promoting their creativity. They have to encounter an abundance of information they should absorb, digest

and stored in for further application. At the same time, compact schedules of learning activities in both preclinical and clinical phases allow them a minimal chance to stimulate their creativity and innovative skills, in comparison to their colleagues in faculties of Arts and Engineering.   Sir William Bragg said "The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them". (Gurteen,1998). The faculty (FMHS) has established annual Innovation Week paradigm platforms for exploring and exercising creative skills among students and staff alike. Also it is an opportunity to invest students' intelligence, talents and skills since 2012. Meanwhile this IW paradigm is a main channel to implement the Blueprint (MEBP). This appraisal work was done to assess *to what extent the IW paradigm could address various components of 10 shifts introduced by (MEBP) and activate students' multiple intelligence.*

THE IW PARADIGM

Since the inception of the Faculty of Medicine and Health Sciences (FMHS) under the auspices of Universiti Malaysia Sabah (UMS), the faculty has identified that there is a need to promote innovative ideas and enhance creative talents of the students. In response to that need, a joint student and staff club for nurturing, promoting and exchanging innovative ideas and creative thinking among members was established. The club is named da'Vinci in inspiration by the thinking ways of the brilliant and visionary Leonardo da Vinci (1452-1519) (Gelb, 2009.p38).   The club members (the Davincians) worked together to develop activities in which all students and staff can participate in a delightful way and at the same time explore their creativity, personal talents, and innovative ideas. Then the concept of Annual Innovation Week (IW) was born and gradually translated into activities. The faculty promoted the IW paradigm every year since 2012. In the context of IW paradigm, three competitive events, one major exhibition and one co-curriculum workshop had been organized yearly. Each activity was designed to address a particular aspect of students' intelligence and interests as proposed by the students and faculty members.

The first competitive event was the *Seminar* session which was a platform for brainstorming innovative ideas about different medical issues. In 2015, the theme of the seminar was "Application of Technological Advances in Medicine", whereas in 2016 it was "Usefulness of Technology in Community Practice".

It was opened to all medical and nursing students in FMHS. The the seminar proposal was usualy prepared 3 months prior to the event (Appendix 1) . The guidelines of the seminar and application forms were available on-line to all participants to help them in organizing the presentation systematically. Each seminar managed around 10 presentations . The presenters were in groups. The composition of the group allowed inter-professional education and ensured horizontal and vertical integration as students from different levels (year of studies) and different professions (medical and nursing) could be in one single group. Each group got an allocated time of 10 minutes to deliver their own presentation and 5 minutes for question and answer (Q&A) session . This interaction between presenters , audience and panel was achance for exchanging ideas, suggestions and further brain storming. Fairness of evaluation was guaranteed by having a panel of 10 judges from various disciplines together with the students' representative. The overall marks given by the panel were ranked to choose the best presentations. The top three winning groups were appreciated with attractive awards to motivate a further generation of innovations and creations.

Within the above event, two keynote speakers were invited to enhance culture of creativity and innovation among the students. These lectures covered multidisciplinary issues usually untouched in the formal curriculum. The **keynote speeches** included topics like "*How to develop creative thinking?", "How to appreciate fine arts?"* and *"Concepts of technology applied in medical gadgets"* etc.

The second competitive event under the IW paradigm was the *Online-Quiz Competition*. The Davincians developed the quiz with the help of faculty members and the quiz was opened to all students and staff. The FMHS e-learning system was the channel used to conduct the Online-Quiz Competition. The questions were in multiple choice (MCQ) format and prepared in three different levels of difficulty. Generally, it aimed to increase the participant's curiosity and interest in innovation, science and critical thinking. Those achieving highest scores in this competition were also awarded grand prizes during the annual events of the faculty.

The third competitive event designed in the Innovation week was the *Smart Model Competition*. It was set to enhance psychomotor skills, spatial intelligence and artistic capabilities of students and meant to motivate students to learn the complex basic sciences while developing the models. The event promoted the culture of learning-by-doing in which students comprehended and analyzed the complex concepts and structures by creating interactive or static models.   The competition was opened for all students and they had submitted the models as individual project or team project. As the organizers had gained experiences over the successive years, the rules and regulations were revised and updated to keep the competition effective and interesting. Creating dynamic models and practical prototypes were encouraged.

Parallel to the seminar, an *exhibition* was held to display the real examples of technology in medical practice. The FMHS invited third parties to showcase their innovated appliances in the medical field. The posters, prototypes, innovative designs and projects created by the FMHS lecturers were placed in the interactive corner of the exhibition. This exhibition aimed to expose the students to current innovations in medical and health fields so as to inspire them to create own projects. In 2016, the students managed to sell own created products as an income-generating attempt for the da'Vinci club. Also, a competition among students on "Hands-on Cardiopulmonary Resuscitation (CPR)" using a high fidelity simulator, was sponsored by the invited third party company. It aimed to make learning a pleasant quest.

The fifth event in IW paradigm were ***Hands-On Workshops*** which was catered to expose the students to relevant para-curricular concepts. Each workshop was designed to inculcate the research and inventing culture among students in a unique approach. With the intent of bridging the gap between biology and technology, two hands-on workshops namely *Robolab and Mechatronics workshop* were held in 2014 with the instructors from the faculty of engineering. In the Robolab workshop, students learned how to design simple robots using ROBOLAB and MINDSTORMS Education, version 4.0 from LEGO Company. Students attempted experiments with the robots to simulate the laws governing the nervous system. In Mechatronics workshops, the students learned how to construct simple electronic circuits which are the cornerstones of basic robots and medical gadgets. In 2015, the Department of Pathobiology and Medical Diagnostics in conjunction with the da'Vinci Club conducted a *Histo-Technique workshop* to expose students to the skills of preparing pathology slides. Meanwhile, in 2016, a *Medic-Art workshop* was held in collaboration with the Faculty of Arts and Humanities. The students learned how to use practical and affordable materials in creating aesthetic medical models .The number of students in each workshop was limited to a maximum of 20 participants to allow individual quality time for hands-on experiences and close supervision by instructors.

METHODOLOGY
This study aims to appraise the IW paradigm in line with the Malaysian Education Blueprint 2015-2025 (MEBP) and to explore its role in enhancing creative and innovative culture among students and staff of the FMHS-UMS. The parameters for appraising this paradigm includes the magnitude of students' participation in each activity (Appendix 1) , the quality and quantity of submitted projects and models and students' satisfaction after each event (Appendix 2). As hundreds of schools across the globe have incorporated principles of Multiple Intelligence into their missions and curricula for better performance and improving academic standards (Davis, Christodoulou , Seider,& Gardner, 2013) , this study also analyzes both MEBP and IW activities in view of multiple intelligence theory.

RESULTS
Overall, the tendency of the students to contribute in IW paradigm activities has been increased in the last couple of years in comparison to the previous year as shown in figure 1.
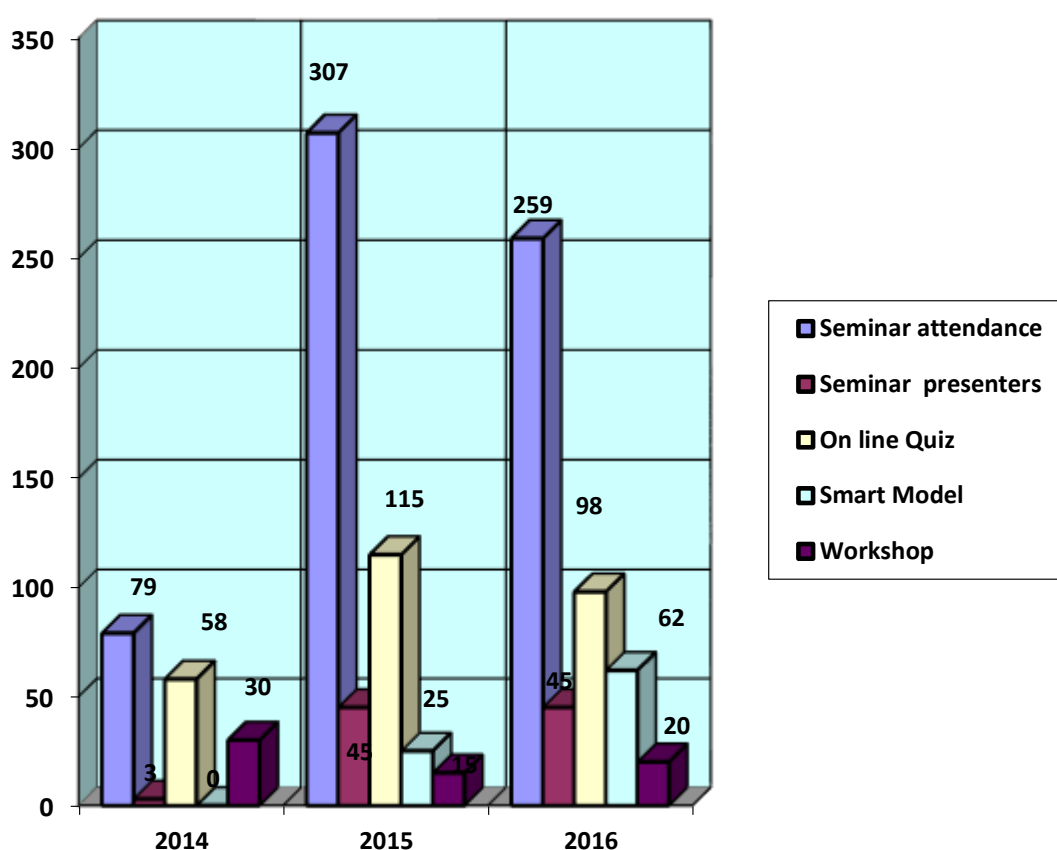
Figure 1:The students' participation in Innovation Week Paradigm activities from 2014 to 2016

PARTICIPATION AND ATTENDANCE IN THE SEMINAR:

The peak of *seminar* attendance was in 2015, in which 307 attended it. It dropped to 259 in 2016 as the nursing students were in semester break. Anyhow the attendance in both years is higher than 2014 when only 75 members attended. 13 groups (45 students) presented in 2015, compared to 10 groups (35 students) in 2016 and only one group of students in 2014. The majority of presenters were from freshmen years. Only one group from year 4 medical course contributed in 2016 and eventually got the first prize. Most of the presentations reflected general topics related to basic concepts and principles of medicine and technology relevant to the first year learning contents.

Figure 2, represents the breakdown of disciplines presented in 2015 seminar. The first winner in 2015 seminar proposed a medical gadget. However, they could not develop it into a prototype because of the heavy study workload in the successive years. However, the first winner in 2016, introduced new ideas of telecommunication to bridge the doctor-patient relationship. The range of scores for the first 3 ranks was wide (85% to 72%) in 2015, but was narrower (73% to 71%) in 2016 indicating the close competition among the participating groups Students` feedback was asked on a rating scale in response to the structured questionnaires, each component focusing on specific aspects of the seminar. In 2016, the overall Program gained 83% of attendee satisfaction. The Scientific Contents (Q1+Q2+Q3 + Q4) obtained 69% satisfaction and the venue and time management (Q6+Q7) was rated as satisfactory by 76% of attendees. In order to gather further opinions, comments and suggestions, the questionnaires also included an open-ended section. 33.35% of students in 2015 claimed that the seminar had introduced new concepts and generated creative ideas and several students put up constructive criticism and suggestions for improvements.
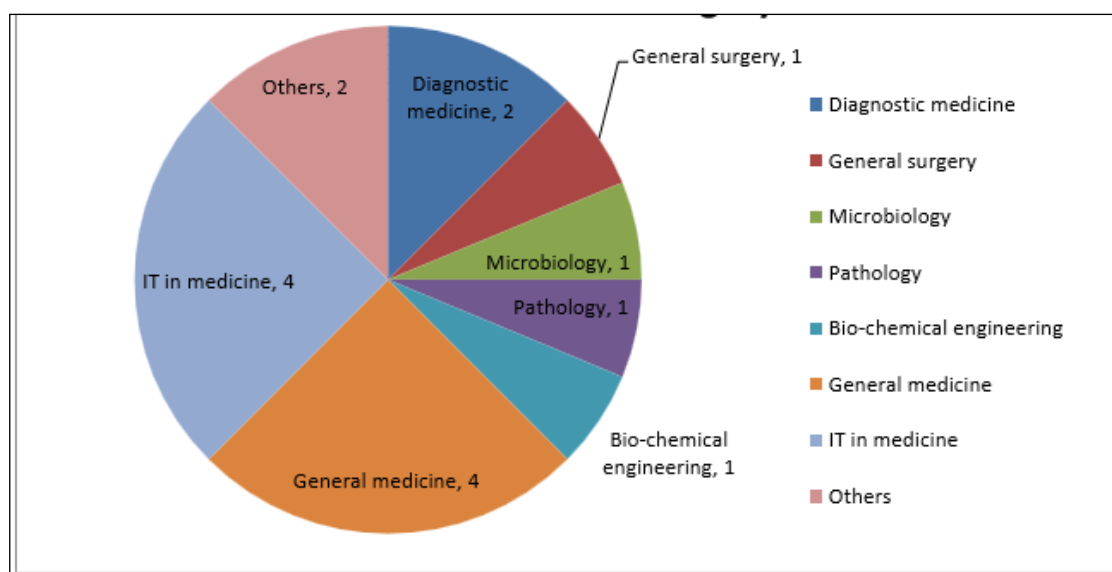
Figure 2: Disciplines of presentations in Seminar competition Innovation week 2015
(Some presentations covered more than one category)

PARTICIPATION IN EXHIBITIONS

Almost all students attending the seminar participated in the *exhibition*. The activities during the exhibition in IW 2016 were graded as highly satisfactory by 70% of attendees. Students got opportunities to test with the innovation models created by the faculty members and tried the CPR simulator. The interest and assistance by the FMHS staff promoted the success of the event.

PARTICIPATION IN ONLINE-QUIZ

For the *On-Line Quiz* competition, the highest number of participation was 115 in 2015, but a bit declined to 98 participants in 2016. However, it was still higher when compared with 2014 in which only 58 participants were recorded. Both students and staff participated in all years indicating the level of interest ignited by the online quiz within the faculty.

PARTICIPATION IN SMART-MODEL COMPETITION

The number of prototypes created by students in *Smart-Model* competition had significantly increased year after year. In 2015, 25 students presented only 17 projects. The majority were from first-year medical program and nursing program. In that year, the 3 best models were created by nursing students. In 2016, 62 projects were submitted for the competition by first and fourth-year medical students. Nursing students submitted 8 projects.   The best model in 2016 was a dynamic model for extra-ocular muscles submitted by the fourth year medical students. They claimed that the idea was incepted in their freshmen year, but was only able to develop the model after gaining some in-depth knowledge of eye movements. The rising number of smart-model project submissions indicates that culture of innovation is flaring up among students.

Figure 3, illustrates some important facts about the smart model projects submitted in 2016. The majority of projects created by year 1 medical program followed by nursing students and the minority from senior students. Most of the projects were done individually but about 20% were developed by teams. Most of the projects accomplished in less than one week time. The majority of students made those models by themselves at home and at the da'Vinci club
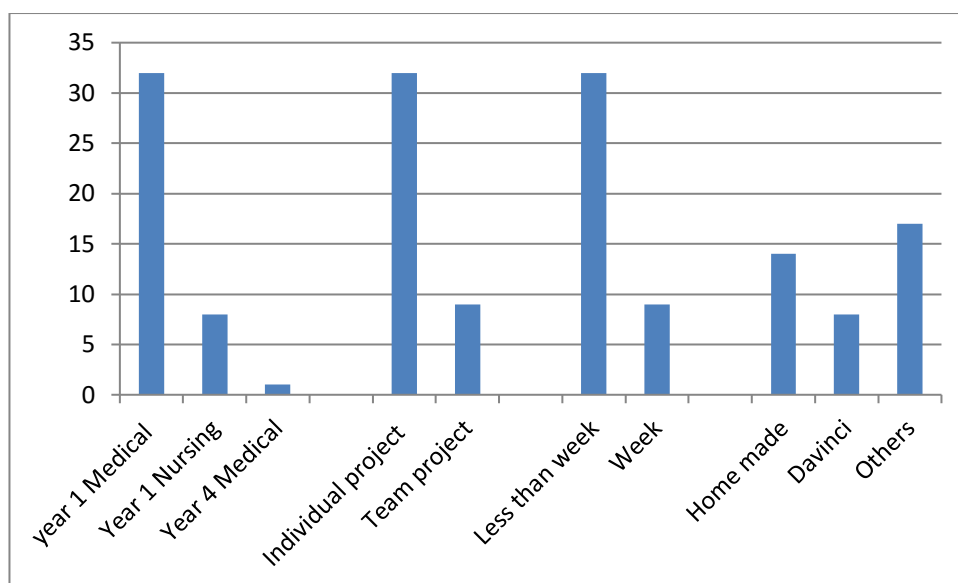
Figure 3: Facts about Smart Model projects submitted in 2016.

In figure 4, the pie-chart shows the materials used in creating Smart Model projects. 30% of participants used paper clay in their projects. Using paper clay in modeling was introduced to the students during *Medic-Art workshop* which was held earlier in February 2016.
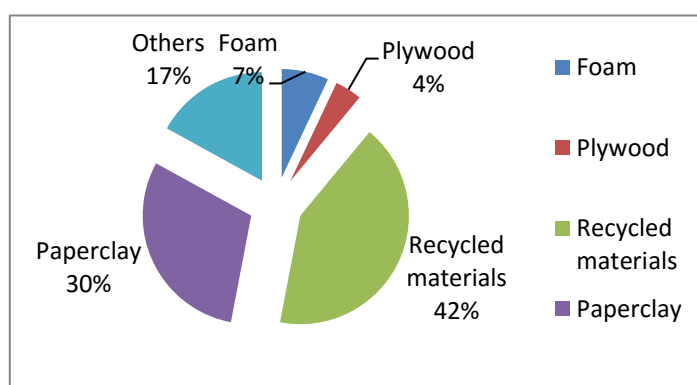
Figure 4: Materials used in creating Smart Models.

In 2016 feedback about Smart-Model Competition, 88% of participants reported that they got new skills by joining the competition (Appendix 2). Around 80% found it was really motivating for them to create new projects. The rules and regulations were perceived by the students as quite clear. 50% of participants came to know about Smart Model competition during the launching of the Innovation week and they implemented the projects after that. 78% used the materials and tools available in da'Vinci club. In the open-ended questionnaires, 38 students expressed that this competition helped them to improve their skills, enhanced their creativity (by 17 students), they got better understanding to basic sciences (by 3 students), managed to think critically and creatively (by 3 students), and improved their artistic skills (by 4 students). 10 students responded that they enjoyed making models and 3 students found it was interesting and amazing.One project was chosen in 2015 to be upgraded for the competition at the university level. It was awarded a bronze medal in PEREKA 2015 (a yearly competition for research and innovation held by the university). From Smart–Model 2016, 2 projects had been chosen to be upgraded and compete at the university level in September 2016.

PARTICIPATION IN HANDS-ON WORKSHOPS

The attendance was based on the limited number of seats available for each workshop. Students' feedback in response to Hands-On Workshops reflected their high satisfaction of the contents and processes. Overall they acquired new skills and had been motivated to think and perform creatively.   Table 1 represents the

percentage of attendees grading excellence or highly satisfactory in specific categories. Over 3 successive years, more than 90% categorized the workshops as excellent. Students were impressed by the 2014-workshops' exposure to basics of robotics, mechanics and electronics and were appalled by their capability in making basic circuits on their own. It bridged the gap between technology and biology, as the students picked up the concepts of diagnostic and therapeutic gadgets used in medical field.

Table1: Comparison between workshops held in IW 2014 until IW 2016

Feedback analysis	2016 Medic-Art	2015 Histo-Tec.	2014 Robo Lab	2014 Mecha-Tronics
Mean (Q1,3,4,6) Scientific content	89.9%	97.5%	92%	90%
Mean (Q5) Inspiriting Innovation	90.5%	86.7%	83%	95%
Mean (Q2,7) Logistics of workshop	83.3%	86.7%	90%	90%
Mean (Q8) Overall activities	97.6%	100%	93%	93%
Attendance	20	15	18	12

The students found Histo-Techniques workshop held in 2015 well scheduled and optimally managed within the allocated time. The scientific content delivered during the workshop was said to be appropriate and relevant for their future application. Feedback from participants of Medic Art Workshop in 2016, was highly positive. Some participants described it as "*interesting, fun and useful in spite of being tiring!*". It is worthy to note that the multidisciplinary workshops inspired innovation among 89.3% of the participants according to their feedback.

DISCUSSION
Preparing Malaysian youths to thrive in the ever-advancing future and competing market requires a fundamental transformation in the higher education system. For this reason, MEBP (2015-2025) outlined 10 shifts for developing graduates who are active job creators rather than passive job seekers and able to shape their own future (Sani, 2015). This study thus appraises the concepts and outcomes of IW paradigm as a tool in implementing MEBP at the faculty level. Parallel to that, IW paradigm is discussed as a compatible medium to flourish students' multiple intelligence (MI) because the graduates need to ignite their intelligence, skills and experiences to be able to compete globally.

INNOVATION WEEK (IW) AND MULTIPL INTELLIGENCE (MI)
According to Gardner's analysis, only two types of intelligence (linguistic and logical-mathematical) out of eight have been valued and tested for in modern education. In further studies, Sternberg (1985, 1990) categorized theses 8 bits of intelligence in a triarchy theory of intelligence that identified analytic, creative, and practical intelligence (Davis et al.,2003). The intelligence in this sense , can be developed throughout life and offers a powerful inspiration for aspiring people to think like da'Vinci (Gelb,2009, p.4) . IW paradigm with its different activities flourished most of MI categories offered by these theories. The only the intelligence which could not be practiced in this paradigm was the musical one. The students could be trained, encouraged and valued by the academic culture; but development is by own effort and external coach (Davis et al., 2013). Table 2 matches IW activities with the compatible intelligence that is required to perform it.

Table 2: Matrix of IW activities, 10 shifts of MEBP and multiple intelligence

Innovation Week Paradigm						10 Shifts MH Blue Print	Multiple Intelligences							
Hands-On Workshop	Smart Model	On-Line Quiz	Seminar Present.	Seminar Audience	Exhibition		Logic-math	Linguistic	Spatial	Naturalistic	Musical	Kinesthetic	Interperson	Intraperson
X	X	X	X	X	X	Innovation Ecosystem	X	X	X	X		X	X	X
X	X	X	X	X	X	Holistic think.	X	X	X	X		X		X
X	X	X		X		Life Long learning	X	X	X	X		X		X
X	X		X			Transfer. skills	X	X	X	X		X	X	X
X	X		X			Talent Excellence	X	X	X	X		X		X
X	X		X		X	TVET			X					
		X				Online Learn.	X							X
	X				X	Entrepreneurship								

During IW, *On-line Quiz* and *Seminar* presentations activated linguistic, logical-mathematical and interpersonal and bodily-kinaesthetic intelligence. *Smart model competition and Hands-On workshops* encouraged spatial and naturalistic intelligence.

Different activities in IW paradigm opened the gate for the organizers and participants to discover their capabilities, which is also another important shift in MEBP. The special intention was given to arrange multidisciplinary *Hands-On workshops*. Through different workshops, new skills and experiences could be acquired. were great chances to acquiring new skills which demand to learn new techniques and gain experiences to flourish the related intelligence. In the Hands-On workshops candidates learn by imitation first, then they progress to practice, experiment and create own ideas or products (Wissink, 2013.p 69). Gardener sees skills as the cognitive performances resulting from the operation of one or more intelligence (figure 5). Meanwhile, *intelligence* is a combination of heritable potentials (*talents*) and *skills*, and can be developed through relevant *experiences* (Gardner & Moran, 2006).

Figure 5: The interrelation between skills and intelligence

In the *seminar* presentations, most of the presenters took the chance to improve their communication skills. Meanwhile some showed exceptional skills in using body language, bodily-kinaesthetic and social intelligence. They got compliments from the judges as they were able to speak confidently. These are crucial skills for medical students to pass the examinations and for the practitioners to work effectively. The seminar is a good occasion for training to develop these types of intelligence which may or may not be offered in medical courses (Chazal & McCarter, n.d.). Extensive research has shown that "*no matter how knowledgeable a clinician might be, if he or she is not able to open good communication with the patient, he*

or she may be of no help "(IHC, 2011). As IW is considered a student-centred activity. It sharpened their leadership and decision-making skills. In IW, the senior brothers and sisters from year 2 guided their juniors from year 1 to develop projects, presentations and models for IW activities. A significant increase in participation was thus observed.

INNOVATION WEEK (IW) AND 10 SHIFTS OF MEBP

THE INNOVATION ECOSYSTEM is required to move from academia operating in isolation to the development and commercialisation of ideas. MEBP encourages universities to establish co-utilisation of infrastructure and sharing talent development programs (MEM,2015). Davis et al (2013) define the ecosystem is an environment that influences and shapes students' intelligence, skills and creativity.

IW paradigm enhanced the Ecosystem in the faculty as it nurtured an environment of creativity and an atmosphere of innovation utilizing most of the faculty facilities and infra-structures. The e-learning portal of FMHS, the da'Vinci club facilities and fine arts gallery were fully utilized during implementing IW activities. The exhibition was another chance to bring in the real world of innovation to the preclinical students, so they could see, feel and try the medical technology. Also, Ecosystem was inculcated as teamwork culture was essential to get along with IW activities. In 2016, a team of 20 academicians, 11 staff and 32 students worked in harmony to facilitate 5 grand activities and manage around 400 participants and competitors. During that experience, the team had to find some creative means to handle different attitudes, behaviors and skills. It was a challenge to inculcate the habit of being creative in every minute of students' lives and in every decision and interaction (Gurteen,1998). On the other hand, as IW was established as an annual event, the culture of innovation was sustained among faculty members. These loop of creative activities where students learn (in hands-On workshops), practice and experiment (in the da'Vinci club), compete and rewarded (in Smart Model competition) implement the concept of the ecosystem in FMHS. This sequence in the IW paradigm motivates the students mass to display their best capabilities, invest their intelligence and build a rich foundation of creativity and innovation culture (Wissink,2013,p.75).

HOLISTIC AND BALANCED GRADUATES

Developing of **Holistic and Balanced students** is another shift MEBP would like to achieve. Preparing the graduates for future requires imbuing the students with transferrable skills, instilling ethical foundations and impregnating the spirit of resilience to forge new opportunities for themselves and others (MEM, 2015).

IW paradigm helped the faculty to implement the concept of balanced and holistic curriculum through its themes. The diverse activities in the paradigm invested the different bits of intelligence and encouraged brainstorming among studens. The brainstorming approach was developed by Alex Osborn in the 1950s. *In brainstorming, quirky ideas are welcomed, so many of the issues of group problem-solving are overcome*. (Cook,n.d.). The ability to think divergently and to stimulate the process of generating as many ideas as possible defines our creativity (Mean, 2006.p35). Creativity involves solving problems or fashioning products in a novel way (Davis et al., 2013) . Sufficient mastery of a domain is required to formulate new techniques, ideas or products and it might take thousands of hours to master a domain, (Hayes, 1989; Simon & Chase, 1973). Continuity of IW activities (workshops and competitions) year after year exposes the students to various domains and motivates them to master the learned skills and create new ideas. The successful implementation of creative ideas is the precursor and starting point of innovation which demands the skills of creativity (Taylor, 2013.p18). The balanced activities and different techniques of holistic thinking, came out with fabulous ideas and products in IW. At the same time, it inculcated a crucial attitude in practicing clinical medicine (Ramanathan, Gupta, Walk & Carstens, 2015).

TALENT EXCELLENCE

MEBP intends to **attract, recruit and retain best talents**. Developing and promoting talented students, researchers and educators are vital for higher education instates (MEM, 2015). During IW paradigm, the loop of activities synergized the students' talents and creativity. So, the medical student could transform the academic knowledge into an innovative project in *Smart Model* or an interesting presentation in the *Seminar* by using the creative skills learned in *workshops*. The talented candidate could be recognized during his/her performance in this process.

In this study, IW paradigm was seen as an opportunity to discover potential talents among staff and students. During implementing IW paradigm activities, the personal differences and the profile of intelligence were highlighted (Davis et al.,2013). The IW activities required many tasks as planning , leading , administrating, designing flyers , developing   IT system , communications, creating multimedia materials, etc. Accordingly different tasks had been assigned to the committee members to give them a chance to master their talents. The IW had identified few creative talents among quiet students and staff. In 2015, a student created an interactive model which was awarded a gold medal. With guidance from the faculty members, the model got improved and upgraded and was awarded at the university level (figure 6). In the 2016 season, a student (with moderate cognitive achievement) had shown high spatial intelligence. He designed the project and completed the prototype in a relatively short time. He showed a high level of skills in using a variety of tools. This project was awarded a gold medal in Smart Model competition (figure 7). Davis et al.(2013) found that the skills act on the external world, so it may be flourished by the supports or discouraged by the constraints of the environment.

Figure 6: Swallowing process (left) & figure 7. Extraocular muscles model (right)
Dynamic projects were created by talented students in 2015 and 2016 respectively.

GLOBALIZED ON LINE LEARNING

As Internet penetration in Malaysia is currently ranked at the seventh highest position across Asia, MEBP aims to encourage the power of online learning. It emphasizes on **Globalized Online Learning** and encouraging the **Life Long Learning** (MEM, 2015). During the IW activities, the campus website, the cyber infrastructures and personal electronic devices were used in conducting *On-Line Quiz*. This quiz enhanced the Life Long Learning as it attracted not only students but also academicians and staff alike. The e-learning system was used in publishing IW announcements, rules and regulations online, thus reducing the paperwork and helped to go green in line with the University's Eco-campus drive. The seminar was teleconferenced to students in district posting stationed 200 kilometers north of the campus to encourage distance learning. Using e-portal system in this activity is an example of blended learning system in FMHS. Nowadays, it is highly recommended to use blended learning in medical education, combining e-learning, learning by doing, traditional teaching and simulation training. (Cleland& Durning ,2015; Scheele,2012).

QUALITY TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING GRADUATES

To meet the growing and changing demands of the marketplace, the ministry of education blueprint aims to acquire programs to develop high quality of **Technical and Vocational Education and Training (TVET)** graduates (MEM, 2015). Developing the high-quality adult graduates requires appropriate facilities, committed trainers and willing trainees. Houle (1961) highlighted three types of adult learners: those who are learning oriented, the goal oriented and the activity oriented. The learning oriented adult is driven to learn simply by the pleasure derived from learning (Green, 2004). It is a challenge in medical education to design a curriculum in such a way that learning is pleasurable and supported by different styles of teaching and learning (Scheele ,2012).

To overcome this challenge, para-curriculum workshops were included in IW paradigm. During hands-on workshops, the students learned new skills by doing. Those workshops helped in flourishing cognitive spatial, kinesthetic, interpersonal and intrapersonal intelligences. 89.3% of participants agreed that the training

settings motivated their creativity. In this study, the learned technical skills in Medic-Art workshop were applied in 30% of projects submitted for Smart Models competition. That means such training was fruitful in developing the trainees' skills and enhancing their creativity. According to CLIP methodology, innovation in any organization can be encouraged when four factors are provided in a loop. These four factors were described as (a) having the facilities and venue to practice (*Creative workstation*), (b) learning new skills (*Learning*), (c) sharing and brain storming ideas with experts (*Ideas*) followed by building a product or finding a solution (*Prototyping*) (Sefein, Iftikhar, Ali & Mariappan, 2011;Kourdi,2015.p88).   Yet, preparing graduates with high technical qualities could be enhanced by increasing the opportunities of training all over the academic year to address different interests and types of intelligence among the students. Sustainability of IW paradigm improves the students' training in particular areas. In IW 2016, the top winners in seminar presentation and Smart Model competition were senior students from the fourth year. They admitted that the concept of the model was kept in their minds since 2014 but got the capability to contribute only in 2016 season.

FINANCIAL SUSTAINABILITY

MEBP addressed that Malaysia needs to move from a system that is highly dependent on government resources to one that all stakeholders contribute (MEM, 2015). This sort of **financial sustainability** was approached at a small scale in IW paradigm. During the exhibition of IW 2016, Davincians contributed with handmade creative products for income generation to fund part of innovation activities. Even though the generated income was relatively small, it enforced the concept of entrepreneurship among students. Continuity of IW in future, could motivate the medical students to find creative, effective and sustainable solutions to raise the fund for their own club.

LIMITATIONS

Constraints of time was the main obstacle faced in implementation of IW paradigm. This event clashed with conventional time table, exams and the semester holidays. This might have affected the students' involvement in IW events. However, close collaboration with the faculty management could solve this problem in future.

CONCLUSION

The above evidence indicates that IW paradigm addressed the substantial component of 10 shifts towards global education standards. Also, it invested different bits of intelligence among students and flourished it. The sustainability of the event over years increased the awareness about creativity and discovered hidden talents among staff and students. Accordingly, IW paradigm is considered a learning process not only an event in FMHS. Meanwhile, the faculty is creating newer and better approaches to achieve all (MEBP: 2015-2025) goals.

ACKNOWLEDGEMENT

To students who positively contributed to the IW events.All former deputy dean for (Research & Postgraduate) and (Academic) who supported and facilitated the events in last years. Our gratitude to collaborated academic colleagues in Pathobiology and diagnostic department (FMHS) , Faculty of Engineering and Faculty of Fine arts and Humanities.

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APPENDIX 1
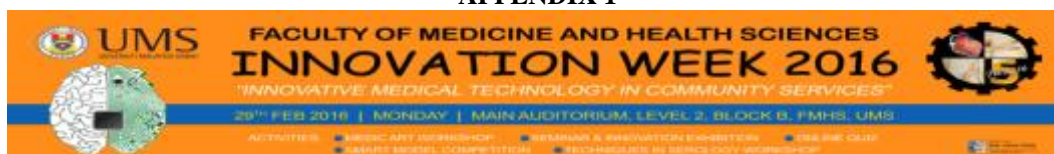
Application Form for Seminar Competition 2016

Theme of Seminar:
Innovative Medical Technologies in Community Service

Please complete the form below to provide category of your presentation

- **Title**

- **Team members**

- **Phone (Team Leader)**

- **E-mail (Team Leader)**
- **Abstracts (Not more than 100 words)**

- Deadline for submission application is 25th February 2016
- This application can be sent to e-mail, Justina (justinajosephkhj@yahoo.com)
- Form can be submitted by hand to Justina or Tan Yeang Jiann
- Please kindly refers to the rule and regulation.

APPENDIX 2

Feed Back on Smart Model Competition 2016

1- Data of the Participant and Project:

A.	Academic Year	1	2	3	4
B.	Program	Medical Program	Diploma Nursing		
C.	Participation as	Individual	Team		
D.	Did you Attend MedicArt workshop?	Yes	No		
E.	Material(s) used in project	Foam	plywood	Recycled materials	Paper clay
		Others(Specify):			
F	Venue of constructing the project	At home	At Da'Vinci Club	Other venue?	-------------
G	Duration of accomplishing project	Days	(---------)	Weeks	(---------)

Please circle the appropriate data and specify required info.

2- SMART MODEL competition:

Please rate the competition following this scale   : **4 Excellent , 3 Good , 2 Satisfactory , 1**

	Motivation and Facilities	*Score*				*Comments*
		4	3	2	1	
1.	Did the competition inspire you to innovate this project?					
2.	Are the rules and regulations of competition clear?					
3.	Are materials in DaVinci club useful?					
4.	Are tools in DaVinci club useful?					
5.	Did you get any technical support during working in Da'Vinci club?					
6.	Overall , did you gain new skills by contributing in the competition?					
7.	How did you know about Smart Model?	4	During Innovation week seminar.			2- From a friend
		3	From Learn Med			1- Other: specify

Poor

3- COMMENTS

➢ **What did you like most about this competition?**

➢ **What recommendations do you have to improve this SMART MODEL competition?**

ARE APPLICANTS FOR PROGRAMS IN ECONOMICS GOOD BOTH IN MATHEMATICS AND IN ENGLISH?

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ABSTRACT

The article analyzes the correlation between the points that obtained foreign students applying for the undergraduate program at the faculties of the University of Economics in Prague (UEP). We analyzed the faculties that require a mathematics and English entrance exam. We were interested in foreign applicants only. The data for our analysis came from UEP information systems. We formulated a correlation model that we analyzed using the SPSS application. We concluded that the number of foreign students at the UEP during the analyzed period was between 1,400 and 1,600. We also proved a slightly positive correlation between the number of points obtained for the English and the Mathematics entrance exam. However, this correlation goes slightly downhill over time.

INTRODUCTION

The requirements for the Czech Republic's integration into European structures resulted in joining the Bologna Declaration (Stastna & Walterova, 2014), changing the university education system (Sperkova & Nedomova, 2015; Nedomova, Doucek & Maryška, 2015, Sigmund, 2015, Musil & Fischer, 2015, Flegl & Vltavska, 2013) and opening and making available the study programs of Czech universities to foreign students (OECD, 2009; Kuncova & Mulac, 2015). Foreign students can apply for foreign-language study programs that are usually in English, German or Russian. In addition, foreign students can apply for Czech study programs, which, however, requires to be fluent in the Czech language (vysokeskoly, 2010). These are foreign students who either have some kind of relationship to the Czech Republic (e.g. one of their parents is Czech) or come from Slavic countries where the language is so similar that they can become fluent in Czech in one year – these are usually students from Ukraine, Russia, Byelorussia, etc. or from Russian-speaking enclaves in the Central Asian republics of the former Soviet Union). A major group of foreign students comes from the Slovak Republic. These students are included in Czech study programs together with Czech students. The advantage of these study programs is that they can be expanded for courses in other languages, in particular in English. This is how Czech study programs can directly compete with the study programs in other EU Member States. The university education systems of the Czech Republic in the context of ICT education and it's results are described e.g. in the studies (Nedomova, Maryska & Doucek, 2014; Hanclova, Rozehnal, Ministr & Tvrdikova, 2015; Hanclova, 2015; Reznicek, Smutny, Kalina & Galba, 2013; Pavlicek, 2013). This article shows the knowledge of foreign students upon their admission to the UEP during 2010 – 2015.

PROBLEM FORMULATION

The presented analysis is based on scientific research as well as on the analysis of data about applicants that the UEP has been collecting for a long time. The target group of this analysis are foreign students who applied for study programs taught in the Czech language. This analysis also focuses on undergraduate study applications only. We wanted to know if the students, who obtained a higher number of points for their English entrance exam, also obtained a higher number of points for their mathematics entrance exam.

In compliance with our research goal, we formulated the following research question:
- Did the students, who obtained a higher number of points for their English entrance exam, also obtain a higher number of points for their mathematics entrance exam?

We also analyzed the trend in the number of foreign students at the UPE during the analyzed time period.
This research is a part of more comprehensive research studies analyzing the study throughput at the UEP and identifying narrow spots of the economics-oriented study programs and academic disciplines at the UEP.

For specification of the evaluation of results we state, for the sake of completeness, that there are six faculties on University of Economics, Prague at this time - Faculty of Finance and Accounting (FFA), Faculty of International Relations (FIR), Faculty of Business Administration (FBA), Faculty of Informatics and Statistics (FIS), Faculty of Economics (FE), Faculty of Management (FM).

MATERIAL AND METHODS (DATA COLLECTION)
The UEP information system, which includes the complete data of applicants for all academic disciplines of all levels, was our basic source of data. This system includes both the basic identification data and the entrance exam results of the applicants. Our analysis focused only on foreign students applying for undergraduate study programs at the UPE during the analyzed time period. Foreign students are considered to be those who checked a citizenship other than the Czech citizenship in their applications. In view of the nature of the data collected about the applicants, we have no information about where they actually live.

We analyzed the data in compliance with Act No. 101/2000 of Coll., on the protection of personal data. Based on its provisions, we are obliged to anonymize the analyzed data and to process them in a way that makes it impossible to track down specific applicants or to obtain their personal data (date of birth, first name, last name, etc.). We analyzed individual years as well as the group of data as a whole.

GENERAL DATA CHARACTERISTICS
The UEP received 120.795 application forms since year 2010. 84.141 applicants were for undergraduate study, 36.651 were for graduate study and 1.490 for Doctoral studies. For the purpose of this paper we reject of doctoral studies and application forms from students with Czech nationality.

We obtained a total of 120,795 records of applications for the analyzed time period. Each record includes information about an application of one applicant. If an applicant applied for several study programs, he/she has several records. An applicant's basic attributes, which are anonymously analyzed, are as follows: gender, study program, academic discipline, faculty, type of study, entrance exam results and admission or non-admission.

The actual data analysis was performed in MS Excel and the model was formulated in the SPSS computer application. A total of 18,790 records of foreign students from all faculties and for the entire analyzed time period were analyzed to find out whether or not there was a correlation between mathematics entrance exam results and English entrance exam results.

RESULTS AND DISCUSSION

GENERAL OVERVIEW
The UEP received 120.795 application forms since year 2010. 84.141 applicants were for undergraduate study, 36.651 were for graduate study and 1.490 for Doctoral studies. For the purpose of this paper we reject of doctoral studies and application forms from students with Czech nationality.

We used a total of 18,790 records of mathematics and English entrance exam results. Of these, 1,002 records were invalid (e.g. an applicant took only one entrance exam or did not take any entrance exam). Therefore, we ended up having a total of 17,788 records, specifically 8,585 records of mathematics entrance exam results and 9,203 records of English entrance exam results, to analyze the correlation. The basic statistical characteristics of the entire group of analyzed data are provided in [Table 1].

Table 1: Basic statistical characteristics of the entire group of data

	N		Mean	Std. Deviation	Percentiles		
	Valid	**Missing**			**25**	**50**	**75**
MATH	8585	810	68.33	22.583	50.00	70.00	87.00
ENG	9203	192	72.72	15.730	63.00	75.00	85.00

The basic characteristics of data by year are provided in [Table 2].

Table 2: Basic statistical characteristics of the group of data by year

Year	N		Mean	Std. Deviation	Percentiles		
	Valid	**Missing**			**25**	**50**	**75**

Year		N		Mean	Std. Deviation	Percentiles		
		Valid	Missing			25	50	75
2010	MATH	1350	85	74.85	21.034	60.00	80.00	90.00
	ENG	1400	35	73.99	15.961	64.00	78.00	86.00
2011	MATH	1469	112	69.13	21.440	55.00	70.00	85.00
	ENG	1534	47	71.92	16.227	62.00	74.00	84.00
2012	MATH	1568	188	70.52	22.231	55.00	75.00	90.00
	ENG	1722	34	72.22	15.715	63.00	74.00	84.00
2013	MATH	1503	127	64.53	22.580	49.00	65.00	82.00
	ENG	1593	37	72.82	15.936	63.00	75.00	85.00
2014	MATH	1385	114	63.86	22.902	47.00	65.00	81.00
	ENG	1481	18	72.21	15.300	63.00	74.00	84.00
2015	MATH	1310	184	67.16	23.503	50.00	70.00	85.00
	ENG	1473	21	73.36	15.120	64.00	76.00	85.00

[Table 2] in particular shows that the number of points obtained for both entrance exams has a slightly downhill trend and that the standard deviation for English entrance exams is going slightly down while the standard deviation for mathematics entrance exams is going slightly up.

ACCEPTED FOREIGN STUDENTS
The number of applications is also reflected in the number of admitted foreign students. The trend in the number of admitted foreign students in 2009 – 2015 is shown in [Figure 1]. [Figure 1] includes both data for the entire UEP, which is the trend line for individual years – the right y-axis, and data by faculty – the left y-axis.
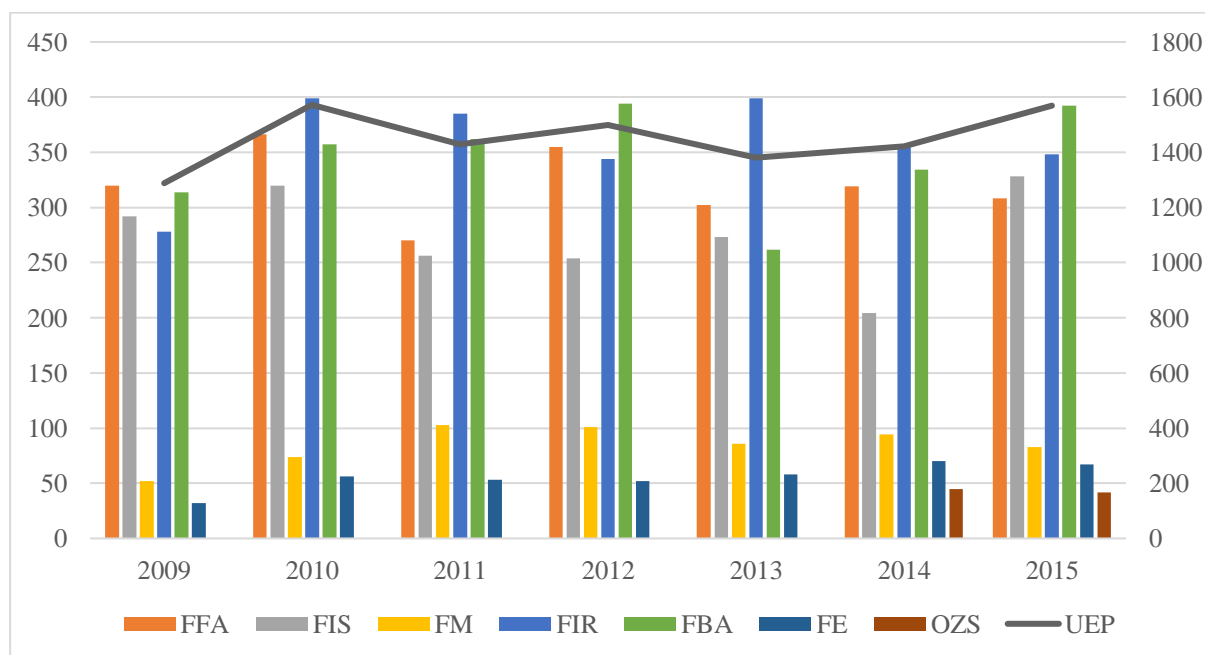
Figure 1: Trend in the number of admitted foreign students by faculty during the analyzed time period

Overall we can say that the number of foreign students admitted to the UPE during the analyzed time period is between 1,400 and 1,600 students a year and that, during the last two years, this number is getting closer to 1,600 students. Students have mostly been interested in studies at the FIR and the FBA that every year admit 300 to 400 applicants. These faculties are followed by the FFA and the FIS that show the biggest increase in foreign students during the analyzed time period. The FM and the FE, which admit less than 100 foreign students a year, show a marginal number of foreign students.

ANALYSIS OF FREQUENCY OF INSTANCIES AND QUARTIL ANALYSIS

We also analyzed the frequency of mathematics entrance exam results. We performed this analysis for each of the analyzed years but since the presentation space is limited, we only provide the frequency for the entire analyzed time period, i.e. mathematics entrance exam frequencies converted to the normal distribution [Figure 2].

Histogram

Dependent Variable: MATH

Mean = -2,69E-16
Std. Dev. = 1,000
N = 8 393
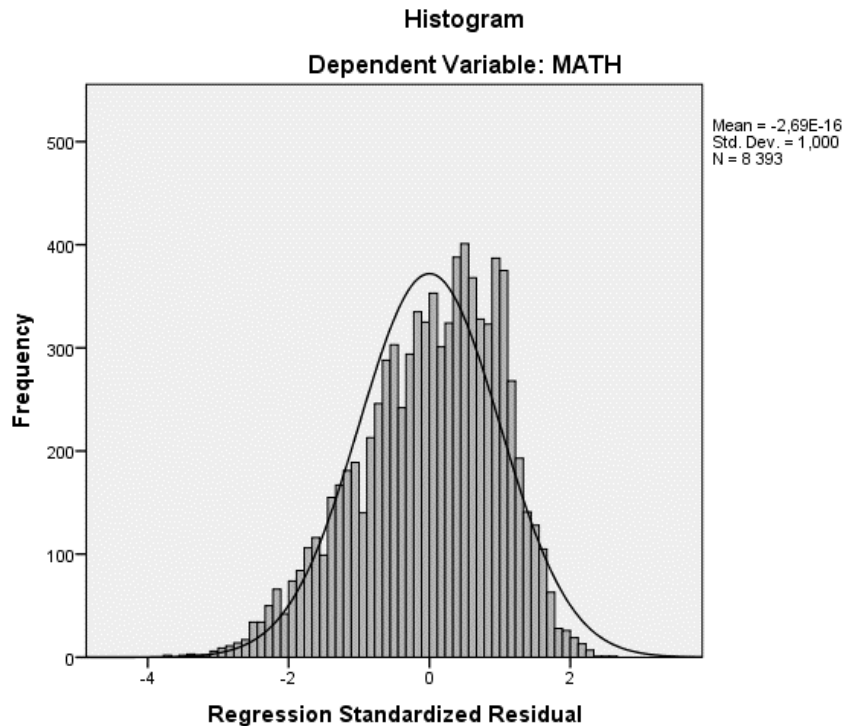
Figure 2: Mathematics entrance exam frequencies converted to the normal distribution

[Figure 2] shows that the final identified values have a slightly negatively skewed distribution and that the average value is practically zero ($-2.69*10^{-16}$). Two extremes with the value of 0.5 and 1 are not significant for the overall behavior of the data in the group. Therefore, the identified results rather well correspond to 0.1 of the normal distribution.

We used a similar approach to the quartile analysis of outliers for both entrance exam results for the entire analyzed time period. This analysis is based on the results provided in [Table 1]. The overall analysis results are shown in [Figure 3].
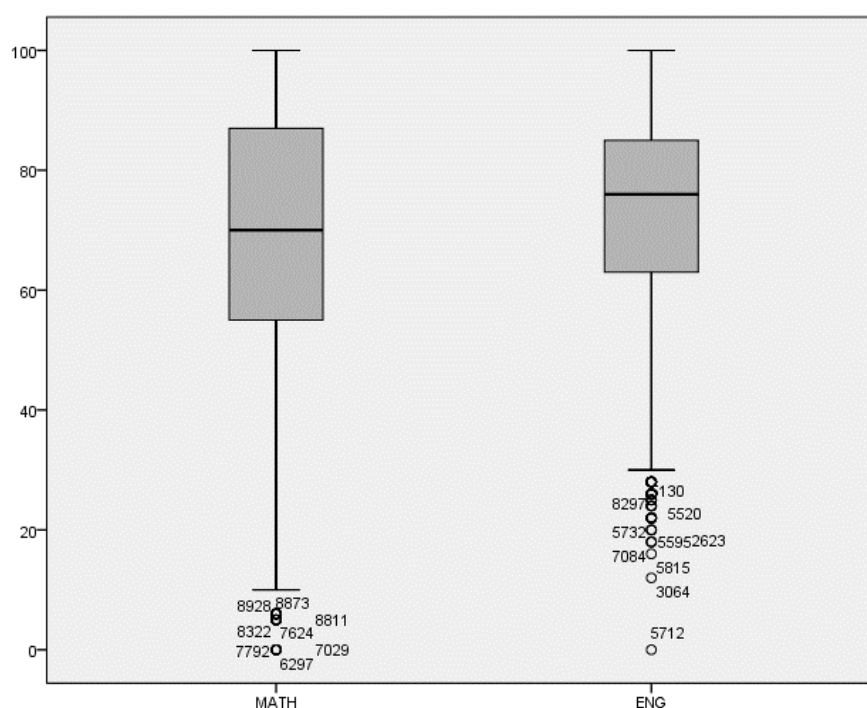
Figure 3: Quartile analysis and outlier analysis for the entire data sample

[Figure 3] shows that the entire sample of English entrance exams shows a higher median (75 points) with higher data consistency but a higher number of outliers. Obtained points are dispersed from 30 all the way to 100. Mathematics entrance exam results show much lower consistency with a much lower number of outliers. The median is 70 points. Obtained points are dispersed from 10 all the way up to maximum 100. Overall, we can say that English entrance exam results are more consistent than mathematics entrance exam results and that the median of English entrance exam results for the entire analyzed period is higher by five points that that of mathematics entrance exam results. Therefore, the 25% quartile and median is higher for English entrance exams than for mathematics entrance exams while the 75% quartile for mathematics entrance exams is higher by 2 points.

ANSWER ON RESEARCH QUESTION
The sample of the data sets contains 18.790 records and we applied the SPSS software for analyzing this set. First we formulated a model of dependency of mathematics entrance exam results on English entrance exam results.

MODEL FORMULATION
To explain the dependencies of the monitored variables we formulated the following model:

$$X_{MA} = \alpha + \beta \, X_{EN} + \varepsilon$$

Using the SPSS computer application, we estimated the coefficients of the designed model. The results both for individual years and for the entire analyzed time period are shown in [Table 3].

Table 3: Linear model characteristics estimates

Year	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
2010	1	0.494	0.244	0.243	18.302	1.934
2011	1	0.435	0.189	0.189	19.257	1.868
2012	1	0.438	0.192	0.191	19.939	1.837
2013	1	0.437	0.191	0.191	20.220	1.945
2014	1	0.415	0.172	0.171	20.807	1.882
2015	1	0.405	0.164	0.163	21.479	1.840
All years	1	0.436	0.190	0.190	20.288	1.833

Based on the results provided by the SPSS computer application, we can conclude the following:
- The percentage explaining (with a linear correlation) the behavior of the dependent variable of mathematics entrance exam results on English entrance exam results drops over time (the column "Adjusted R"). In 2010, it explained this behavior at 24.3 %, in 2015 only at 16.3%. The explanation percentage for the entire time period is 19 %. The downhill trend proves the growing variability of deviations from the linear regression line. The reason for this higher variability is the declining average number of points obtained for English and mathematics entrance exams.
- The correlation (the column "R") of the success rate in both entrance exams changes over time as well and has a downhill trend. In 2010 the correlation coefficient was 0.494 while in 2015 it was only 0.405. The correlation coefficient for the entire analyzed time period was 0.436. Overall, we can say that it is a moderate correlation.
- The Durbin-Watson coefficient (the column "Durbin-Watson"), which ranges around 2, documents that the residual component does not show auto-correlation of the first order.

The regression model was also estimated for the entire time period of 2010 – 2015, using interconnected regression, and the results are provided in [Table 4].

Since regression model coefficients change over time, we can conclude the following:
- The intercept α has very similar values during the time period of 2010 – 2012 (25.902 – 25.444). In the following years (2013 - 2015), this coefficient was between 20.272 and 19.479. Its average value during the entire analyzed time period was 22.445. This intercept represents the distance from the y-axis at the beginning of the regression line.
- The coefficient β shows the correlation between one extra point for an English entrance exam and the number of points obtained for a mathematics entrance exam (the second item in column "B" in [Table 4 and Table 5]). It was 0.66 point in 2010 and 0.650 point in 2015. The average value was 0.632.

Table 4: Estimated regression model coefficients by year

Year	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
2010	1	(Constant)	25.902	2.441		10.612	.000
		ENG	.660	.032	.494	20.564	.000
2011	1	(Constant)	26.827	2.396		11.198	.000
		ENG	.588	.032	.435	18.211	.000
2012	1	(Constant)	25.444	2.425		10.493	.000
		ENG	.622	.033	.438	19.072	.000
2013	1	(Constant)	20.272	2.447		8.284	.000
		ENG	.611	.033	.437	18.600	.000
2014	1	(Constant)	19.122	2.728		7.010	.000
		ENG	.626	.037	.415	16.844	.000
2015	1	(Constant)	19.479	3.065		6.354	.000
		ENG	.650	.041	.405	15.878	.000

Estimated regression model coefficients for the entire time period are shown in [Table 5].

Table 5: Estimated regression model coefficients for the entire time period

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.445	1.062		21.131	.000
	ENG	.632	.014	.436	44.331	.000

For our estimated regression line coefficients, the intercept was α=22.445 and the slope was β=0.632 (column B) for the entire time period. The slope coefficient shows that when an English entrance exam result goes up by one point, a mathematics entrance exam result goes up by 0.632 point on average. **This confirms a positive answer to our research question.**

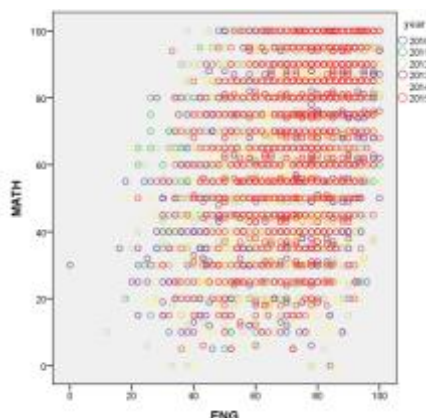The identified data show the correlation provided in [Figure 4].

Figure 4: Relationship between the points obtained for English and mathematics entrance exams for the entire data sample

[Figure 4] shows a certain correlation between the two analyzed variables. This correlation is not very strong (if the correlation were strong, the values would be on a diagonal), yet provable - 1:0.632 on average.

CONCLUSION

This paper is a result of a long term project realized at the University of Economics, Prague that helps UEP answer questions like:

- Does exists relations between results from entrance exams and results from exams in a standard study?
- Does exists relations between results from entrance exams and results from exams in a standard study based on the nationality, type of high school etc.?
- What is passableness in the study?

By analyzing the six-year time series, we discovered that 1,400 to 1,600 foreign students are admitted to the UPE and that their number kept growing during the past three years. Foreign students mostly apply to the FIR and the FBA.

The analysis of mathematics entrance test results identified a slightly negatively skewed normal distribution and a practically zero average value ($-2.69*10^{-16}$). The quantile analysis proved higher data consistency with respect to English entrance exam results and lower data consistency with respect to mathematics entrance exam results. The median of the points obtained for English entrance exams is 75 and the median of the points obtained for mathematics entrance exams is 70.

By analyzing the dependency of the points obtained for mathematics entrance exams on English entrance exam results, we discovered that the percentage explaining the independent variable with the dependent variable drops over time. The analysis of the correlation of the success rate in both entrance exams provided a similar conclusion.

Our formulated linear regression model proved a correlation between English entrance exam results and mathematics entrance exam results of the foreign students who took these entrance exams at the UEP. The regression model shows that when an English entrance exam result goes up by one point, a mathematics entrance exam result goes up by 0.632 point on average for the entire analyzed time period.

Thanks to this research and this paper we find out plenty of new knowledge about structure of applicants for study, their knowledge and differences based on the nationality, type of high school etc. Very important information is success rate based on the study subjects, years of study etc.

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ARE KAZAKHSTANI SCHOOLS READY FOR TRILINGUAL EDUCATION?

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ABSTRACT

It is known that the growing amount of international relations worldwide require mastery of two and often more languages of the in-service and future specialists. Kazakhstan as the country willing to enter the list of the top 50 developed countries of the world has to comply with these requirements and sustain the competition (Official site of the President of RK, 2006). In this respect, the status and functions of Kazakh language as the language of the state language, Russian as the language of international communication, and English as the language of global integration were defined by the government of the Republic of Kazakhstan (Law on the language, 2015). Furthermore, trilingual policy is introduced into the system of education (KazTAG, 2015). The pilot schools were chosen where the non-language courses would be taught in English. The present article dwells upon self-perceptions of the pupils of one of the pilot schools concerning their readiness for trilingual education and presents the results of their actual test achievements. The results of the study show mismatch of the pupils' opinions and their actual knowledge. The results of the study were aimed at providing an insight into debates concerning the possible benefits and potential challenges of the newly introduced trilingual system of education in Kazakhstan.

INTRODUCTION

In his Address to the people of Kazakhstan 'Kazakhstan's way – 2050' Nursultan Nazarbayev (2014) stated: 'a common goal, common interests, common future denote the need for active measures to study in three languages in schools. Our path to the future is connected to the creation of new opportunities for the potential disclosure of Kazakhstan ... School graduates should know Kazak, Russian and English'.

In accordance with the objectives set by the President in the State programs 'Education Development in the Republic of Kazakhstan for 2011-2020' (2011), 'Functioning and development of languages for 2011-2020' (2011), and the cultural program 'Trinity of languages' (2012) by 2020 all Kazakhstanis must master Kazak, 95% should know Russian, and 25% - English. Nursultan Nazarbayev (2012) also outlined the specific challenges of Kazakhstani education. It must become more competitive and high-quality, so that graduates of Kazakhstani schools become able to continue their studies in foreign universities.

THE STUDY

The issue of multilingual education program implementation is a step forward towards the development of education of the Republic of Kazakhstan. And the author of the paper takes the concepts of multilingualism and trilingualism as synonymous and these two are interchangeable in the context of the article. Learning three languages will be simultaneous and parallel, thus the issue is of special interest of the foreign language teachers, learners and their parents. The present paper aims at shedding certain light upon the arguments concerning the implementation of the trilingualism policy in Kazakhstani schools.

The breadth and level of multilingualism significantly affect the diversity of human life force, providing opportunities for professional and social self-determination, adaptation, enhancing creativity (Bulankina, 2002). Understanding this and a number of other issues connected to multilingual and multicultural specifics of the country, the government of Kazakhstan recently launched the Program of development of education and science of the Republic of Kazakhstan for 2016 – 2019. The program aims at the following:
- improve of competitiveness of education and science, development of human capital for sustainable economic growth;
- ensure equal access to quality pre-school education and training;
- ensure equal access to quality secondary education, the formation of an intellectually, physically, spiritually mature and successful citizen.
In order to achieve these aims the following objectives were set:
- improve teaching staff quality in preschool institutions and raising the prestige of the profession;
- update the content of pre-school education and training, focused on high-quality preparation of children for school;
- ensure infrastructural development of secondary education;

- update the content of secondary education;
- provide quality training of competitive specialists.

As it can be seen, the aims and objectives of the state program are global and ambitious. And schematic representation of the program implementation can be seen as the following:

Figure 1 – Trilingualism implementation scheme (Kuchma, 2016)
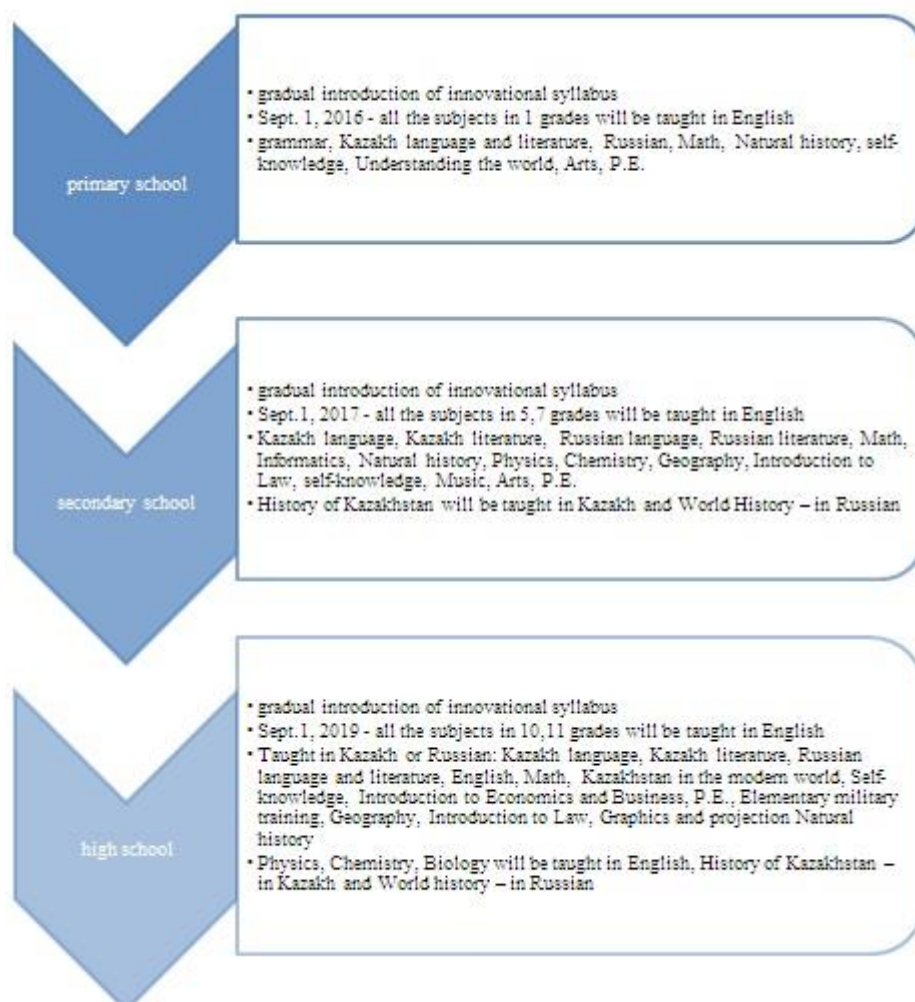
The main focus is on multilingual education that is viewed as an active way of preparing a young generation for the future of collaboration, network and mutual influence (Oskolkova, 2015). It is considered that multilingual language learners have experience in learning new languages and apply that prior knowledge to new language learning experiences. For example, they recognize that languages have structures and patterns that must be mastered, which may have similarities to languages already in their repertoire (Henn-Reinke, 2012). And trilingual education is understood as education that embraces the use of three languages as medium of instruction (Cenoz, Hufeisen & Jessner, 2001). The implementation of the program is planned to be gradual, and in all the three stages – in primary, secondary, and high schools there are extracurricular activities planned to be conducted in the three languages. And this is considered to be one of the key components for the development of all the three languages simultaneously (Sagadiyev, 2016). At the very beginning of the program implementation process the local society was divided into two camps – those who supported the idea of trilingualism and those who rejected that. The people whose opinions belonged to the first camp of trilingualism supporters claimed that in order to sustain competition globally the youth has to master the three languages. However, the people who rejected trilingualism object saying that as a result of this program the school graduates will master neither English nor the subject matter.

According to the opinion poll conducted by the information analytics center and "Obshchestvennoye Mneniye" Research Institute (Kuchma, 2016) where 1000 parents and 1055 pupils of 9 and 11 grades from all over the country took part, majority of the parents (66%) supported the idea of trilingualism in secondary schools, where

81% mentioned that they wanted their children to know English. 25% of the parents rejected the idea of implementing trilingual education to the school. The most frequently encountered argument against was the fact that not all the teachers were ready to teach their subjects in English – or, in other words, the lack of qualified and trained teaching staff. And Sagadiyev (2016) said that this problem will be solved with the help of summer courses for the first 80 teachers and the rest of the school teachers will be reached via internet. With this aim 2500 schools will be provided with high-speed internet connection.

While majority of the teachers supported the idea of trilingualism in general, majority of the pupils (68%) were not willing to study Informatics, Physics, Chemistry, and Biology in English. The main argument was that they would not be able to study neither English nor the subject, due to their insufficient knowledge of English (Kuchma, 2016). The issue of the mastery of English is closely connected to the usage of the language on the lesson. And the first stage of the study was aimed at finding out the pupils' opinions concerning the usage of the target language.

FINDINGS
The present article presents the results of one of the stages of a larger project. The author of the article in cooperation with her colleagues conducted a study with the two schools of Almaty where trilingualism was already piloted. Teachers, pupils and school administration took part in this study. The pupils took part in opinion surveys and participated in tests. The teachers and school administration were interviewed. The analysis of the interviews showed that the administration was fully ready for further development of trilingualism and was already practicing application of a foreign language in teaching science classes. However, the teachers mentioned the issue of staff preparation. They were convinced that elderly teachers were not ready for this reform. Furthermore, they mentioned the lack of adapted quality literature for the lessons.

Along with English language lessons, Biology was already taught in English in these schools. And the aim of the current stage of the project was to find out the opinions and actual readiness of the pupils for studying Math in English.

Prior to the survey, the teachers were interviewed concerning their teaching methods. The issue of mother tongue application was one of the mostly discussed and the survey for pupils was aimed at finding out the attitudes towards the mother tongue in the lessons. Majority of the students pointed out that the teachers do not use English when explaining grammar. 21% of the responded said that teachers did not use English when giving tasks. As the further findings show, majority of the pupils used their mother tongue along with English (73%), 18% responded that they used another language different from English and their mother tongue, and 9% used only English. On the issue of usage of English – 76% of the respondents answered that that the teacher encouraged the usage of English only on the lessons. Furthermore, the pupils were asked if the usage of their mother tongue assisted acquisition of another language, and 94% of the respondents agreed on the fact that clarifying of the new lexis in their mother tongue helped really much. 91% of the respondents mentioned that the teachers asked to repeat the phrases in English if they initially said it in their mother tongue. And finally, the pupils were asked to assess their mastery of English and they considered their level as higher than average. Also the results of the opinion surveys showed that all of the students (100%) were ready for studying an additional subject in English.

After the opinion surveys the pupils were given tests in English and Math tests. The obtained results are presented in the Figure 2.

Figure 2 – The results of the Math and English tests of the 8th-grade pupils of the 2 pilot schools.
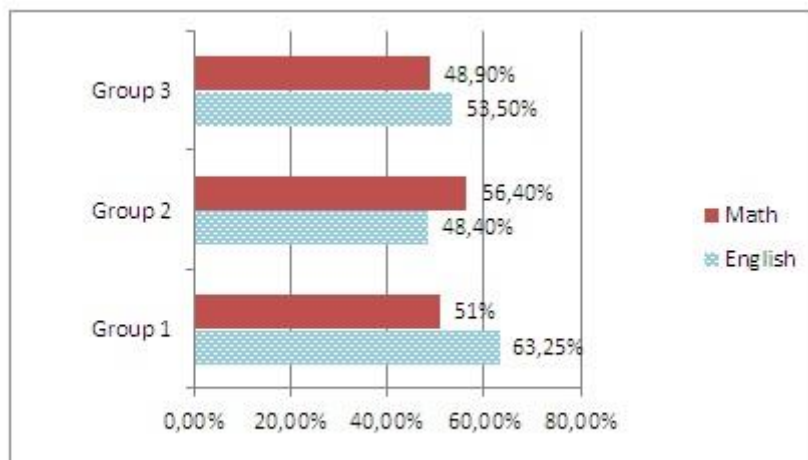
As it can be seen from the Figure 2, the results of the tests are slightly higher than the average which means that the pupils' self-perceptions were close to the actual situation.

CONCLUSION

The results of the first stages of the research presented in the current article show that pupils' opinions coincide their actual levels of achievement. Also the results revealed positive attitude of the teachers, administration and pupils to the introduction of trilingualism.

The usage of the mother tongue in the lessons by the school teachers is supported by Butzkamm and Caldwell (2009), Cook (2001), Cummins (2009), Henn-Reinke (2012), Herrlitz and Ongst (2007) and a number of other researchers who are convinced that the mother tongue is a good tool in the foreign language lessons assisting acquisition.

The government of the Republic of Kazakhstan is taking considerable steps in implementing trilingualism in the system of primary, secondary, and higher education and the short-term goal is that a number of subjects like Chemistry, Physics, Informatics, Biology in 10th and 11th grades will be taught in English in secondary schools from September 2016. There is also a program of professional development for the school teachers launched by the Ministry of education and science of the Republic of Kazakhstan. Furthermore, the amount of trilingual school is expected to reach 700 by 2020 (Iyldyz, 2015).

Summing up the issues connected to integration of the program of trilingualism, and the results of the initial stages of the study, it can be said that in general the system of secondary education of Kazakhstan is ready for application of a foreign language in teaching science but there is still a number of issues to be tackled and a long way to go.

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ASSESSING PRESENCE OF INSTITUTIONS OF VOCATIONAL EDUCATION AS FACTOR CONTRIBUTING TO ECONOMIC ACTIVITY IN SMALL MUNICIPALITIES

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ABSTRACT
The article addresses an issue on contribution of presence of institutions of vocational education to economic activity, using the example of small municipalities in Latvia. Timeliness of the research finds roots in ongoing reforms towards consolidation of number of educational institutions in municipalities with small population. Additionally, scientific contributions on effect from vocational education and training on economy are scarce. Authors pay attention to entrepreneurial activities and financial flows in municipalities divided according to data on presence of institutions of vocational education and number of students. Application of paired T-test technique allows authors to search for statistically significant difference between municipalities with institutions of vocational education and without them. The research results discover statistically significant difference between municipalities with and without institutions of vocational education and training in terms of entrepreneurial activities and financial flows. However, adding of number of students in the analysis has changed results and difference between analysed municipalities' groups remains statistically significant only for financial flows. Research findings allowed authors to conclude that presence of institutions of vocational education and training is important for economic activity in small municipalities. The research results can be used for development strategies of small municipalities.

INTRODUCTION
Recent research findings indicate on domination of place-based development and one would like brighter expressed role of people-based development in small municipalities in Latvia as well (e.g. see Šipilova, Aleksejeva, Ostrovska, (2015, 2016) for the case of Latgale region (Southeast of Latvia)). People-based development firstly requires accent on education. Strategic priorities put in the "Latvian growth model: the man in the first place" ("Latvijas izaugsmes modelis: cilvēks pirmajā vietā") highlight that education is resource for economic growth (Izglītības un zinātnes ministrija, 2013). Moreover, widely appreciated concept of smart development, puts knowledge and skills at the center of development processes. This raises necessity in people-based activities that would be expressed brighter. Additionally, one can find that regional inequality mostly depends on wage-inequality driven by skills and education (Pereira, Galego, 2015). Thus, regions could foster

prosperity by employing well-educated and creative people (Sleuwaegen, Boiardi, 2014). Vocational education could be the one of the most important tools in this context in small municipalities, where capabilities of tertiary education are limited.

OECD (2015) indicates that vocational education in Latvia "do not yet fully provide the skills students and employers need" (OECD, 2015, p.2) and improvements in accordance with the requirements of a catching up economy are needed (OECD, 2015). However, fundamental improvements towards meeting requirements of modern labour market are continuing and many of unclaimed professions have been excluded from vocational programs (OECD, 2016). Extension of work-based learning is the next step (OECD, 2015, 2016). However, the process of improvements is accompanied with several negative tendencies.

Given the data of Central Statistical Bureau of Latvia (CSB), ongoing trends in vocational education and training during the last 15 years in Latvia indicate on reductions in amount of institutions, students and graduates. For example, the comparison of years 2000/2001 and 2015/2016 discovers that amount of institutions of vocational education decreased more than in 2 times (from 120 to 54), total number of students decreased almost in 2 times (from 48625 to 27938), number of graduates at the end of the year decreased about 35% (from 12827 to 8201) (CSB, 2016b). Only the preferences of students in programs of vocational education and training remained stable during the last 15 years. Nowadays students still mostly prefer "Engineering, manufacturing and construction" and "Services" as 15 years ago (CSB, 2016a).

Small municipalities try to overcome negative consequences in vocational education and training and in education in general. Negative consequences that lead to reductions in amount of educational institutions and students mostly relate to demographic issues and changes at labour market. Nowadays, urgency to attract missing amount of students and to save institutions stimulates even some small rural general education schools to offer programs of professional education (Dienas ziņas, 2016). In times, when issues on financing education and training by governments continue to be linked with issues on productivity (Middleton, Ziderman, Van Adams, 1993) such activities can improve possibilities of small schools to continue functioning. Additional pressure to the small rural educational institutions worldwide practice adds. As research findings indicate, teaching activities in rural and urban areas differ by financial costs and benefits in favour to urban areas (e.g. Laurence, Coombs, Bell, Black, 2014).

Dynamic labour market is the next issue that challenges vocational education and training in general and, particularly, in small municipalities. Modern labour market requires being in line with topical changes in the economy. Recent evaluation of how students react on changes in economic structure and labour market structure discovers a little effect and no serious changes in educational preferences (Šipilova, 2013). In lesser or bigger extent, absence of adequate and timeliness reaction on ongoing changes in economy and labour market stimulates necessity to manage interaction between labour market and education. Thus, public sector can meet the challenge to manage this process through development policies. This recently takes place in Latvia, where Ministry of Education and Science offers the optimization of network of educational institutions and evaluation of developments in national and regional development context, what is one of the priorities, focused on the labor market requirements achievement (Izglītības un zinātnes ministrija, 2013).

As far as vocational education and training is a part of successful regional development (e.g. Cedefop, 2011), correct evaluation of contribution of vocational education and training to regional development is the most important issue for reaching positive and comprehensive effect from optimization policy. Authors' intuition and availability of statistical data for small municipalities allow to suppose that such variables as dynamic of entrepreneurial units, income taxes and investments in municipalities could be useful indicators that discovers, whether presence of institutions of vocational education and training is beneficial for small municipalities in an economic perspective, i.e. for stimulating activity of economy. Such a knowledge will provide additional information for discussions on contribution of vocational education and training to economy.

The paper is organized in four sections. The second section provides overview of scientific findings on regional experience about peculiarities that affect an effect from education on economy. The third section presents empirical research findings for understanding those characteristics of contribution of vocational education in small municipalities in Latvia, which are studied rarely. The fourth section offers conclusions.

THE STUDY
Regional development requires high entrepreneurial activity and creativity what inevitably meets with the necessity in human capital. Usually attention is paid to the tertiary education and necessity to be in line with

requirements of modern paradigm of smart regional development. For example, Sleuwaegen and Boiardi (2014), Sánchez-Domínguez and Ruiz-Martos (2014) got results that highlight the role of individuals with high education in regional performance. Moreover, case of small municipalities is developed rarely in scientific literature. Scientists usually pay attention to effective service delivery (Arcelus et al., 2015) and to high dependency on financial support in a form of income transfers (Partridge et al., 2015) in small municipalities. However, one can find that policy-making can seriously contribute to development of small municipalities (Olfert et al., 2011).

Such a policy should call for the increase of attractiveness of the territory for entrepreneurship and financial flows as well. Research findings in terms of education confirm, "entrepreneurship is a local event" (Koster, Verhorst, 2014, p.436). Thus, one can find that education could provide bigger effect on regional development in case, when the issue on optimization of educational institutions and regional economic activity are corresponded. In terms of education, it is important to understand factors, which mostly affect behaviour of students and graduates, and which seriously contribute to regional development. Authors of the article suppose that one of the most important factors of attractiveness in small municipalities is attributable to presence of institutions of vocational education and training. Scientific findings indicate that, although, the distance is not the single factor, but it seriously affects students, graduates and thus business activities as well.

For example, Koster and Venhorst (2014) indicate that individuals choose to have a business near the place of residence. Additionally, often graduates make a choice in favour to those regions, which correspond with their expectations regarding career opportunities and at the same time to "balance their commuting distances and distances to their previous place of study" (Carree, Kronenberg, 2014, p.420). Scientific findings hold supposition that the distance seriously affects students' choice and a case of tertiary education in Finland discovers this for the choice of the field of studies (Suhonen, 2014). However, despite of significance of the distance, a case of Italian regions shows that migration at the national level positively contributes to the graduates' possibilities to find job and to avoid over-education (Iammarino, Marinelli, 2015). Testing such variables as employment level, vacancies and average wage for the case of Latvia and high-tech manufacturing, Šipilova (2015) concluded that average wage has high importance for choosing the field of education both in tertiary and in vocational education.

Short overview of recent scientific findings allows authors to indicate the distance, career opportunities and average wage as significant factors that affect students' behaviour and graduates' behaviour. In case of vocational education in Latvia, one can find that presence of institutions of vocational education in about 40% of small municipalities contributes to solution of issue on distance, but the average wage usually is higher in urban areas, what reduces attractiveness of small municipalities for students and graduates. The issue that challenges educational system in general relates to the fact that employees understand education as a tool for achieving well-being in a short period, in turn, country in a long period (Šipilova, 2014). The educational perspective in a long period requires activities towards innovativeness and technological complexity in economic structure.

Usually, as mentioned previously, scientific literature provides evidence on bright role of tertiary education for regional catching-up. For example, Hussler and Ronde (2005), using the case of French regions, found that universities and their efficiency is significant contributor to the hosting of technologically complex industries. Manca (2012) found significant impact of tertiary education for the case of Spanish regions. However, Manca (2012) also indicate that regional convergence can benefit from complementarity between tertiary education and vocational training, taking into account the level of regional development. Mostly, regions are welcomed to develop educational policies for reaching innovative development in regions (e.g. Hussler, Ronde, 2005). Austria, Germany and Switzerland offer one of the possible solutions, when hybrid work-based academic education combine vocational training and tertiary education (Graf, 2016).

System of vocational education and training is a platform for ensuring effective transition from learning to labour market and collecting competences for life-long learning activities (e.g. International Labour Office, 2010). Additionally, vocational education and training could be useful to prevent school dropout in regions, using adequate transition policy (e.g. see Cabus, 2015 for the case of Netherlands). However, there are currently ongoing debates on how one can view on vocational education and training (e.g. McGrath, 2012). For example, as McGrath (2012) argues vocational education and training needs modern approach and changes of the focus in studies from institutions, systems and their effectiveness to individuals are more welcomed. Research findings that mostly offer contrasting approach to the vocational education and training combine issues on systemic effectiveness and individuals for reaching "cohesive societies" (e.g. see International Labour Office, 2010; OECD, 2016).

Positive effect from vocational education and training on economy is widely explained by the European Centre for the Development of Vocational Training (Cedefop) (2011). As research findings indicate (e.g. Cedefop, 2011), vocational education and training positively affect wages, stimulates reduction of unemployment, increases

involvement in labour market, and even contributes to economic growth. However, effect varies across countries and even across regions within countries (Cedefop, 2011) what requires special attention to case of each region.

This article provides focus on contribution to economic activities, given the efficiency of the existing systems and supposing that individuals in small municipalities can get positive effect from availability of vocational education and training.

Distance, tertiary education and policies chosen for the educational process are the main factors affecting implementation of regional development policies. As far as today's situation of small municipalities in Latvia can not fully enjoy positive effects and returns from tertiary education, in turn, vocational education and training can meet the challenge of optimization, the issue on evaluation of contribution of vocational education to economy become topical.

METHODOLOGY
Higher education is recognized as an important driver of regional development (e.g. see Hedin (2009) for the case of Nordic countries). In turn, vocational education and training is presented rarely in the researches on regional development. The European Centre for the Development of Vocational Training highlights that "the main problem lies in identifying the specific contribution of VET [vocational education and training] to growth, with most research linking economic growth to education in general or human capital" (Cedefop, 2011, p.19).

Authors partly try to fill this gap using the case of small municipalities in Latvia with and without institutions of vocational education, using variables, which characterize entrepreneurial activities and financial flows (see Appendix A for the list of variables). Entrepreneurial activities and financial flows characterize municipalities' economic activity.

Authors use the case study of 110 small municipalities in Latvia, using data from the Regional development indicators module of Spatial Development Planning Information System (RDIM). All municipalities are divided, first, into two groups depending on the fact of presence of vocational education institutions at their territory, second, municipalities with institutions of vocational education and training are divided into four groups depending on number of students.

Authors test the following hypothesis: There is a statistically significant difference between municipalities with and without institutions of vocational education in terms of entrepreneurial activities and financial flows. Paired T-test technique is applied in the article for testing the hypothesis. The results allow authors to answer the question, whether presence of institutions of vocational education could be considered as factor that contributes to economic activity.

FINDINGS
There were about 30 thousands students in institutions of vocational education and training in Latvia in 2014 year and more than 33% of them studied in small municipalities (authors' calculations according to data from RDIM, 2016). Ongoing reforms in education can cover part of the institutions of vocational education and training within the optimization policy for reaching aims of increasing effectiveness and complementarity with modern labour market requirements.

As one can understand from scientific literature and regional development strategies, presence of well-educated workforce in regions is prerequisite for development, in turn, individuals demonstrate tendency to make the choice about studies, work and entrepreneurship keeping in mind the issue on distance [see section "The Study"]. This perspective undoubtedly show high importance of presence of educational institutions in regions. However, it is logical to assume that effect from such presence on individuals and economic activities varies between different regions. The section pays attention to municipalities with and without institutions of vocational education and training and tries to characterize tendencies in terms of economic activity.

The first step of the analysis offers to compare two municipalities' groups (i.e., with and without institutions of vocational education and training) by level of smart development, see [Figure 1]. Such comparison could shed a light on peculiarities of overall development level of small municipalities before testing the hypothesis set in the article.

Figure 1: Level of smart development in municipalities with and without institutions of vocational education and

training in Latvia, in 2009-2014, N=110.
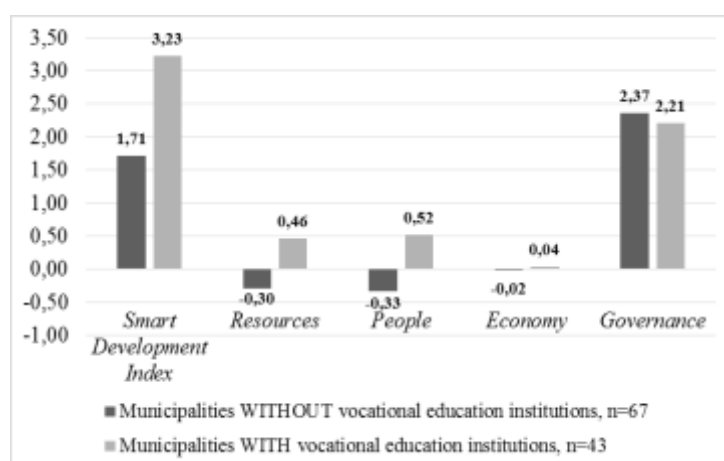
Source: elaborated by the authors using data of the ongoing National Research Program 5.2. "Economic Transformation, Smart Growth, Governance and Legal Framework for the State and Society for Sustainable Development – a New Approach to the Creation of a Sustainable Learning Community EKOSOC-LV".

Smart Development Index provides complex and comparable understanding of peculiarities of regional development in small municipalities. The Figure 1 presents data on Smart Development Index and its components in two municipalities' groups. The data indicates obvious better performance of municipalities with institutions of vocational education. The group of municipalities that have institutions of vocational education and training has almost 1.5 times higher value of Smart Development Index as we can see from the data presented on the Figure 1. Moreover, the group "municipalities with" significantly surpasses the group "municipalities without" in all dimensions ("Resources", "People", "Economy"), except dimension "Governance", where results mostly are similar.

The dimension "Economy" requires special attention. Despite domination of the group "municipalities with" over the group "municipalities without" in two times by dimension "Economy", both groups have weak performance. This mostly stimulated an interest to test the hypothesis on difference between two municipalities groups divided according to presence of institutions of vocational education and training in terms of economic activity. Authors test hypothesis using Paired T-test technique.

Table 1: Paired T-test results for two municipalities' groups for financial flows and entrepreneurial activities.

Paired Samples	Variables	N	Correlation	Sig.	95% Confidence Interval of the Difference	
					Lower	Upper
ln(Municipalities WITHOUT) – ln(Municipalities WITH)	Financial flows	9	.998	.000	6.0993	11.9207
	Entrepreneurial activities	6	.997	.000	1.4838	4.1282

Note: see Appendix A for description of tested variables "financial flows" and "entrepreneurial activities"; abbreviation "Municipalities without" means municipalities without institutions of vocational education and training, abbreviation "Municipalities with" means municipalities with institutions of vocational education and training.
Source: elaborated by the authors using data from RDIM, 2016.

Application of Paired T-test technique allowed authors to search for statistically significant difference in terms of economic activity between municipalities' groups with and without institutions of vocational education and training. Data presented in the Table 1 show that financial flows and entrepreneurial activities between two municipalities' groups differ, and that this difference is statistically significant.

Detailed visualization of the differences allows authors to highlight that the group of municipalities with institutions of vocational education and training demonstrates high amount of enterprises, corporate taxpayers and corporate tax revenues as well as foreign direct investments (FDI). In turn, farmers, fishermen and self-employed are especially active in the group of municipalities without institutions of vocational education and training. Additionally, this group of municipalities has attracted more EU funding. The data on tax revenues per inhabitant

in bigger or lesser extent are similar between two groups. In general, it can be difficult to explain the data obtained during the analysis. Detailed account on financial flows and entrepreneurial activities help to shed a light on paired T-test results, see [Figure 2].

Figure 2: Detailed account of entrepreneurial activities and financial flows in municipalities with and without institutions of vocational education and training, in 2013, 2014, %.

Note: see Appendix A for description of tested variables "financial flows" and "entrepreneurial activities"; abbreviation "Municipalities without" means municipalities without institutions of vocational education and training, abbreviation "Municipalities with" means municipalities with institutions of vocational education and training.
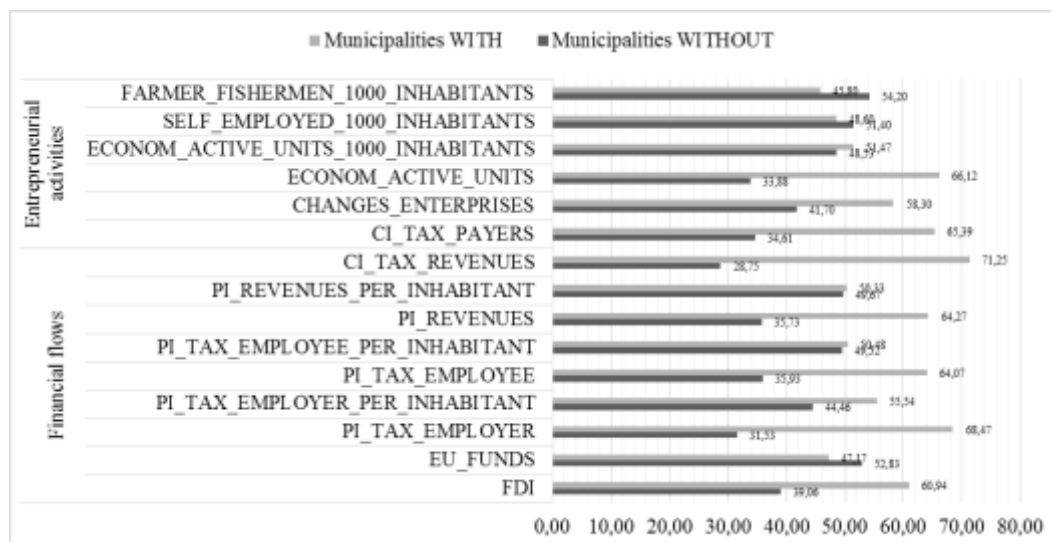Source: authors' calculations based on data from RDIM, 2016.

One of the suppositions can explain these peculiarities in terms of effect of presence of well-educated workforce at places. Entrepreneurs see potential of the places, where workforce can be educated and trained at workplace at the same time. One can find that possibilities of training places in firms are necessary for labour market and interest and abilities of entrepreneurs to provide such training are crucial nowadays (e.g. Koudahl, 2010). Continuing availability of educated and trained workforce could explain higher economic activity and higher FDI in municipalities' group with institutions of vocational education and training. Thus, municipalities without institutions of vocational education and training could receive less attention from entrepreneurs. In turn, these municipalities can compensate such lack of attention by using opportunities of EU funding. This to some extent could explain domination of farming, fishing, self-employing etc. in development of municipalities' group without institutions of vocational education and training.

General evaluation of two municipalities' groups provides evidence for the hypothesis offered in the article about statistically significant difference between municipalities with and without institutions of vocational education and training in terms of entrepreneurial activities and financial flows. However, situation changes, after adding variable "number of students" in the analysis. Number of students is significant factor for understanding the difference between two municipalities' groups. The following table, see [Table 2], displays results for Paired T-test for municipalities without institutions of vocational education and for municipalities with institutions of vocational education divided into four groups depending on number of students.

The data indicate that there is not statistically significant difference between the group of municipalities without institutions of vocational education and the four groups of municipalities with institutions of vocational education in terms of economic activities. This allows authors to suppose that not the "size" of the institutions of vocational education is decisive force for business choice. However, this article does not pay attention to the specialization of educational institutions what can be the next step in authors' further studies.

Another issue discovered during the analysis, which is difficult for explanation, relates to financial flows. There is statistically significant difference between the group of municipalities without institutions of vocational education and the four groups of municipalities with institutions of vocational education, except the case of the group with maximal amount of students (500-1055). Detailed visualization can help to understand peculiarities of results of Paired T-test analysis, see [Figure 3].

Table 2: Paired T-test results for financial flows and entrepreneurial activities in municipalities' groups taking into account number of students

Paired Samples		N	Correlation	Sig.	95% Confidence Interval of the Difference	
					Lower	Upper
ln(Municipalities WITHOUT – ln(Municipalities WITH *number of students 500-1055)* N=7	Financial flows	9	.994	.000	-.6903	.0992
	Entrepreneurial activities	6	.993	.001	-1.0355	.0675
ln(Municipalities WITHOUT – ln(Municipalities WITH *number of students 201-499)* N=10	Financial flows	9	.997	.000	-.6201	-.0110
	Entrepreneurial activities	6	.992	.001	-.7768	.2128
ln(Municipalities WITHOUT – ln(Municipalities WITH *number of students 40-200)* N=9	Financial flows	9	.994	.000	-.9988	-.1412
	Entrepreneurial activities	6	.989	.001	-.6792	.0432
ln(Municipalities WITHOUT – ln(Municipalities WITH *number of students 5-39)* N=17	Financial flows	9	.999	.000	-.4913	-.0532
	Entrepreneurial activities	6	.999	.000	-.6274	.0634

Note: see Appendix A for description of tested variables "financial flows" and "entrepreneurial activities"; abbreviation "Municipalities without" means municipalities without institutions of vocational education and training, abbreviation "Municipalities with" means municipalities with institutions of vocational education and training. Municipalities group with institutions of vocational education and training is divided into four groups depending on number of students.
Paired samples: municipalities without institutions of vocational education and training and municipalities with institutions of vocational education and training divided depending on number of students.
Source: elaborated by the authors using data from RDIM, 2016.

Figure 3: Detailed account of entrepreneurial activities and financial flows in municipalities with institutions of vocational education and training divided depending on number of students, in 2013, 2014, %.
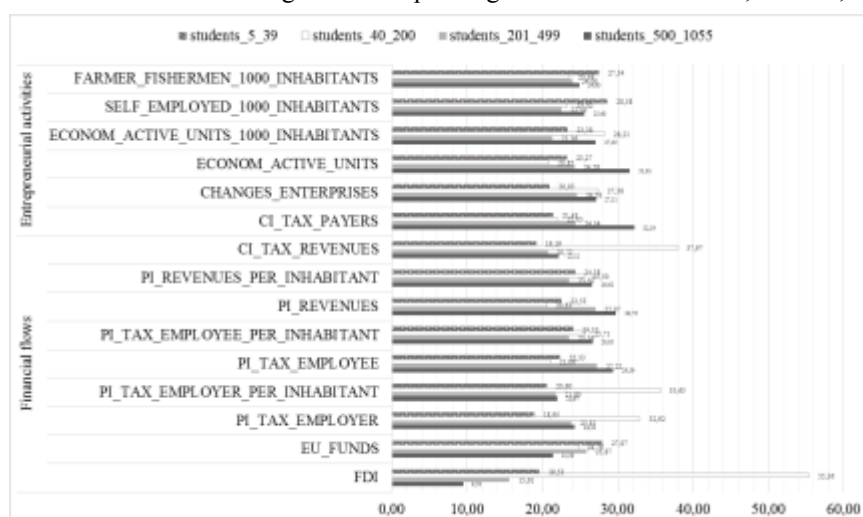
Note: see Appendix A for abbreviation of tested variables, Municipalities group with institutions of vocational education and training is divided into four groups depending on number of students.
Source: authors' calculations based on data from RDIM, 2016.

Data on Figure 3 demonstrate similarity between four municipalities' groups and the group "municipalities without institutions of vocational education and training" in most cases, especially for entrepreneurial activities.

However, data on financial flows differ and authors can find statistically significant difference between the group "municipalities without institutions of vocational education and training" and municipalities' groups divided depending on number of students. More often municipalities' group with number of students 40-200 differs. Mostly such positions as FDI, corporate income tax revenues and personal income tax per inhabitant provide the difference. This allows authors to suppose that these municipalities have attractive economic environment. Besides economic peculiarities of each municipality, authors would like to suppose that this municipalities' group could be attractive for business due to sufficient availability of educated-workforce and possibilities of parallel training at workplaces. Additionally, municipalities' group with number of students 40-200 includes nine small municipalities and they equally distributed across all Latvian regions, what increases probability of attractiveness of each small municipality for business. Thus, dominating variables and distribution of small municipalities mentioned above allows authors one more time to highlight possible positive contribution from presence of institutions of vocational education in small municipalities.

CONCLUSIONS

Scientific literature contains many of studies that discover positive effects on economy from well-educated workforce in regions. Moreover, these researches indicate that distance is one of the most important factors, which affects individuals' behaviour during studies and transition to labour market as employee or employer. Additionally, rare studies have specific focus on contribution of vocational education and training to economy. These findings provided an interest to consider presence of institutions of vocational education in small municipalities as precondition for economic activity. Ongoing processes on optimization of amount of educational institutions in small municipalities in Latvia have added significance to the issue under research.

The present article aimed to test the hypothesis about possible existence of statistically significant difference between municipalities with and without institutions of vocational education in an economic perspective, using as example economic activities and financial flows for discovering possible contribution to economic activity. Example of 110 small municipalities in Latvia divided in accordance with data on presence of institutions of vocational education and amount of students have provided basis for analysis. Research results allow authors to indicate significance of presence of institutions of vocational education for economic activities and financial flows.

First, descriptive analysis of data on smart development level discovers obvious domination of municipalities with institutions of vocational education over municipalities without institutions of vocational education. The group of municipalities with institutions of vocational education dominates by Smart Development Index and by all its dimensions ("Resources", "People", and "Economy"), except dimension "Governance", where results are mostly similar. This allowed authors to suppose that presence of institutions of vocational education could be significant precondition for regional development and for economic activity.

Second, application of paired T-test technique provided data for conclusion that two municipalities' groups (with and without institutions of vocational education) differ in terms of entrepreneurial activities and financial flows, and that this difference is statistically significant. However, adding of variable "number of students" indicates on similarity between municipalities in terms of entrepreneurial activities. Statistically significant difference between municipalities with and without institutions of vocational education in terms of financial flows remains unchangeable and statistically significant after adding variable "number of students" in analysis. Municipalities' group with number of students 40-200 demonstrates the brightest difference. Such positions as foreign direct investments, corporate income tax revenues and personal income tax per inhabitant mostly differentiate this municipalities' group from others. Other important note concerning this municipalities' group relates to spatial distribution of nine municipalities, which enter in this group. Nine municipalities with number of student 40-200 are distributed equally between all Latvian regions, what increases probability of attractiveness of each small municipality for business.

The research findings allow authors to conclude that mostly presence of institutions of vocational education in small municipalities is beneficial for them in an economic perspective. However, research results require detailed analysis that includes specialization of institutions of vocational education and training as well. Research findings could be useful during developing strategies for optimization of educational institutions.

community" (EKOSOC-LV) supported the research.

APPENDIX A: Tested variables

Variables' groups	Variables	Abbreviation used
Financial flows	Total sum of direct foreign investment (EUR, CR)	FDI
	Sum of the EU fund (EAGF, EAFRD, EFF) project public financing per 1000 residents (EUR, RDIM calc.)	EU_FUNDS
	Amount of personal income tax (after payment site) (EUR, SRS)	PI_TAX_EMPLOYER
	Amount of the withheld personal income tax (according to the legal address of the employer) per total number of population (EUR, SRS)	PI_TAX_EMPLOYER_ PER_INHABITANT
	Amount of personal income tax (by place of residence) (EUR, SRS)	PI_TAX_EMPLOYEE
	Amount of the withheld personal income tax according to the registered address of the employee (EUR, SRS)	PI_TAX_EMPLOYEE_ PER_INHABITANT
	Municipality personal income tax revenues (EUR, ST)	PI_REVENUES
	Municipality personal income tax revenues entered in the municipality budgets per one inhabitant (EUR, RDIM calculation)	PI_REVENUES_ PER_INHABITANT
	Amount of corporate income tax revenues (EUR, SRS)	CI_TAX_REVENUES
Economic activities	Number of corporate income tax payers (number, SRS)	CI_TAX_PAYERS
	Changes in the number of enterprises (number, RDIM calculation)	CHANGES_ENTERPRISE S
	Economically active statistical units of the market sector (number, CSB)	ECONOM_ACTIVE_UNIT S
	Economically active statistical units of the market sector per 1000 inhabitants (number, RDIM calculation)	ECONOM_ACTIVE_ UNITS_1000_INHABITAN TS
	Economically active statistical units of the market sector: self-employed persons per 1000 inhabitants (number, RDIM calculation)	SELF_EMPLOYED_ 1000_INHABITANTS

Source: elaborated by authors using data from RDIM, 2016.

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ASSIGNING CREATIVE TASKS AT INFORMATION SCIENCE LESSONS

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ABSTRACT
The main object that was set before school by society is to develop pupils' knowledge and skills to the level that meets the demands of the day. In our time, ICT, as in all areas, creates opportunities to improve the quality of education. It is impossible to describe our today's life without ICT. ICT has great role in informing the society, in developing the economy, in medicine, military, including education and so on. Generally speaking, it should be noted that the quality of education is also an important issue in developing ICT as well as in developing of all above mentioned areas. That is why, innovation in education should be an urgent issue for everybody and new methods should be found. Human brain, human thoughts, human mind, physical energy converts the given information into knowledge in order to solve the given task. Today, ICT – the product of human mind does this work. Therefore, teaching pupils the ability of converting the given information into knowledge and applying them properly in ICT should be the main object in the teaching process.

INTRODUCTION
Unfortunately, creative tasks are rarely used at information science lessons at schools. It creates difficulties for teachers to achieve their goal.
What should learners know according to the information science programs of the curriculum of the Republic of Azerbaijan? For example, there is such a statement: "Demonstrates the ability of working in applied programs". What's the problem here? The pupil learns, acquires the lesson and does the assignments given in the textbook[1]. Thus, the pupil converts the given information into knowledge, understands but does not apply it creatively. We may come to the conclusion that the textbook has only the structure of giving instuructions. It teaches step by step but does not give a wide variety of assignments to apply the acquired knowledge. Here emerges a necessity of assigning new tasks to make learners acquire applied, creative abilities. Alongside with being independent, such kind of tasks must cover the interests of learners. If the acquired knowledge helps learners to find solutions to the problems they encountered, the teacher achives the above mentioned goal.

THE STUDY
The advantage of independent assignments are that diverse models are formed around the subject. Let's pay attention to the task given in the textbook: "Calculate the figure of the last column by changing the figures in the table" [2]. This task may serve an example of external motivation and learners are required to demonstrate their knowledge and skills. If we change the structure of this task like, for example, "Calculate your own one day's expenses according to the table". The structure of the task [3]. will motivate the learner internally. The learner tries to create a new table by using his/her own imagination. One more task: "Create your own timetable by using a spreadsheet in the Excel program". This task also does not focus on developing learners' creative ability because it focuses on applying the knowledge. However, if we change the instruction like: "Create your own table by writing any information you want, for example, your future tasks to be accomplished, the plan of your future career". Such slight modifications to the tasks give the teacher both form and internal choice opportunity. If the task is

accomplished individually, it will reflect one student's individual view-point. If students work in a team, they will demonstrate the group members' view-point. We may come to the conclution that in individual work, a student chooses one of his own ideas but in team work, the team chooses one of the ideas from different ideas.   Both these approaches have advantages and disadvantages. If we want to check a student's individual ability, we assign an individual task. If we want different students to come to a common conclusion and make our students discuss this idea in a team, we have to assign a team task. When students work in a team, their interaction and communication skills are improved. We will have the same results if we apply this approach to the mathematics and chemistry. In this case, the external motivation transforms to the internal motivation and makes the students to solve the problems according to their own needs.

FINDINGS

For example, there is such a task in the 5th grade math [4]. textbook:
"Find the numerical average of the following numbers: 7.8; 8.2; 7.5; 8.1".
This task is assigned in order to check the given knowledge and its application. If we change the structure of task, it will be like that:
"Think any numerical majority and find its numerical average". This task reveals every student's mathematical ability. Some write 3 -4 numbers, some write 5-8 or more numbers.
"Find the numerical average of items you come across of different numbers". In this case students learn to allocate equally items of different numbers.   Students have different goals when they work individually or in a team.
These types of creative ks generates various ideas. Learners' interests are widening, discussions emerge because of internal motivation.
All learners enlarge their worldoutlook by concentrating on finding solutions to the problem and by mobiling their old knowledge. By finding solutions tothe problem, theyalso gain new knowledge. This moment is considered to be the most invigorating and exciting moment of the lesson. At the same time, every group demonstrates their own work in an interactive environment.

CONCLUSIONS

 We may conclude from that if we modify the structure of the lessons,tasks, learners' interest will grow to the learning process. The learning process is aimed at the development of creativity in the learning process. Learners gain vatal knowledge and skills and later they will apply these knowledge and skills in solving their daily problems or they may make use of them at other lessons.

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ATTITUDES OF CANDIDATE TEACHERS IN THE MODERN EDUCATION SYSTEM TOWARDS THE COMPUTER TECHNOLOGY LESSON

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ABSTRACT

The teachers, who will raise the manpower needed by the society, should be raised in accordance with the modern teacher standards. The change in the social needs depending o the science and technology have obliged the teachers to keep up with this change. The objective of modern education system is to raise individuals who search the ways to access the information, know where and how to used the knowledge and have critical thinking. This is possible with the qualified teachers that continuously improve themselves pursuant to the science and technology. This study is developed in order to measure the attitudes of candidate teachers in taking Computer Technology course. This study has a screening model and is performed with the total number of 298 candidate teachers. Quantitative research is used for this study and it is a descriptive study with "Relational Screening" model among the general screening models. Quantitative research methods were used for the study with 2-dimensional scale. First dimension is positive attitude and second is negative attitudes. The positive attitudes under the first dimension have two sub-categories. The sub-dimensions given under the positive attitude of first dimension cover the eagerness to learn and interest to the lesson. In accordance with the answers given by the candidate teachers to the scale, the attitudes of candidate teachers towards the Computer Technologies lesson within the two dimensions of scale were analysed in terms of gender, age, department and class and the outcome was found as there is no significant difference.

KEY WORDS: Candidate Teachers, Computer Technology, Learning and Attitude

INTRODUCTION

The 21st century that we live in has been developing in the field of technology and considered as the information era. A new technology development stands out every day. The technology use has become inevitable for people. Therefore, the fast developments of technology in the world have reflections on the education system and affect the learning and teaching activities.

The efficient use of information technologies like cell phone, internet, computer and phones by the individuals from every age group particularly by the adolescents and young people as a socialisation tool has been a findings of various studies. Especially in our country that has a dense young population, the use of internet is widely observed in the daily lives (Gerçel, 2016).

Technology, computers and new developments and improvements in the communication cause change in the teaching perceptions and brings the use of new techniques and methods. New concepts and technologies in the "Information Era" such as computers, multimedia, audio, video, animation and developing internet technologies have become a part of education and training (Bodie, 1998).

Today, with the existing problems in the education, the provision of quality education to wide masses is possible with the education technologies. Hence, the facilities of technology should be excessively used. The development and changes in technology affect the functions of education. The technological developments that can be considered as an outcome of education process changes the structure of education process and introduce a different perspective into education. Therefore, the place of technology within the education and training practices has become increasingly permanent and more significant.

The technological developments changing in every aspect of society have an impact on the every side of life, and with such change, the needs to fulfil the expectations finds its way in more systematic education approaches. The exchange of information within the society is also affected by the fast change in the technology as well as the educational institutions. The education and technology are two main elements that have a vital role in making the life of an individual more efficient. Both elements have been two main tools reached by the people in the efforts to e dominant in natural and social environment (Alkan, 1998). Technology is a field covering all social and economic activities and organisations foreseeing the realization of technical knowledge.

In order to make learning and teaching environments within the education more effective, the individuals should participate the lessons with technology. The use of computers in the all activities related with the learning teaching at schools can be defined as "computer technology assisted education" (Demirel et.al, 2001: 116). The society and individuals should gain knowledge, attitudes and habits that would answer their own and social needs in order to follow the developing technology as an individual and society. Thus, a systematic education appraising the in-class instruments that comprise individual power and references that are out-of the power among individuals, together with the teachers that are the main element of education during the learning and teaching process of education.

The computers have positively affected the education systems that have traditional structures. The computers have led social changes in the society, education and culture (İşman, 2001). The computer-assisted education has various aims. The aims consist of maximize the motivation of students to the lesson, improving the scientific thinking ability of students, contributing on self-learning of students, leading the students to generate hypotheses and facilitating the students to solve the problems in a logical way.

One of the principles taken as a basis in teaching is to reach as many senses of students in the transmission of knowledge, skill and behaviours such as attitudes. The rationale behind is that the more sense is introduced into the teaching environment, the more the teacher will be more permanent and effective. The teaching materials currently used in schools such as books, chalk, black board are old technology products. The teaching in the classrooms using these materials are teacher-oriented teaching, while the target is to have a student-oriented education. In order to accomplish this target, the teaching materials produced by the developing technology should be introduced into the student environment.

The computer technology in education means to systematically using the lesson related tools together with teacher, student, process and methods. The most important aspect in doing this is to remember that technology use in education is a part of "computer technology in education". This definition clearly shows the position of computer technologies lesson within the education.

METHOD

Quantitative research is used for this study and it is a descriptive study with "Relational Screening" model among the general screening models. The observation and recording aspect of science, identification of relation between events and generalization on the basis of controlled unchanged relations are included in the screening model; hence the descriptive function of science is in the forefront (Yıldırım, 1966). The research aims to identify the attitudes of "Candidate Teachers in Learning the Computer Technologies Lesson and Their Negative Attitudes and Interest To the Lesson" and find out the views of candidate teachers. The questionnaire was prepared and developed in order to perform case study towards the identification of attitudes of candidate teachers for the Computer Technology lesson.

Quantitative research model is used in the study for the questionnaire and the analysis was performed whether the attitudes of candidate teachers change depending on the questions comprising four socio-demographical questions as gender, age group, class and department. Therefore, this study can also be called as Comparative Case Study. The questionnaire used in study and performed on the candidate teachers is a 5-point likert scale while the study uses quantitative research methods and the scale has two dimensions. The first dimension of questionnaire has two sub-categories as eagerness to learn and interest to the lesson in order to identify the attitudes; and the second dimension includes statements developed to measure the negative attitude levels towards the Computer Technology lesson.

POPULATION – SAMPLE

The population of this research is comprised of the candidate teachers who are at the I, II and III. Year of the Department of Psychological Counselling and Guidance, Classroom Teaching and Preschool Teaching in the Near East University, Turkish Republic of Northern Cyprus.

The research was conducted through accidental sampling. The sample is the small set selected from a specific population in accordance with certain rules and considered as sufficient to represent the population. The researches are mainly performed on the sample sets and the results are generalized to the relevant populations

(Karasar, 2005). The sample is a part of a population and very significant in terms of research and statistics. The most important aspect of sample is that it is objective and representative (Kaptan, 1983).

298 students as candidate teachers are chosen for the sample of research among 500-people population via simple random sampling with 95% confidence level and 5% margin of error into the sample of research. ın the simple random sampling, each component of population has the equal chance to be a part of sample. Therefore, the weight to be given each component is same for the calculations (Arıkan, 2004).

DATA COLLECTION TOOL

The scale form developed by the researchers was used as the data collection tool for this research. The scale form is comprised of four demographical questions as gender, age group, class and department, and the literature screening was performed in order to identify the attitudes of Candidate Teachers towards the Computer Technology lesson through the review of statements including the attitudes and the attitude scale draft was prepared for the Computer Technology lesson (Öztürk, H., & Ballıoğlu, 2014; Özkal, Güngör & Çetingöz, 2004; Ozmenteş, 2006; Duatepe, & Çilesiz, 1999; Karaca, 2006; Orel, Zerey, & Töret, 2004; Temel, 2000; Şengören, & Kavcar, 2006; Demir, 2010).

Regarding the compliance of scale to its aim, clarity and statement appropriateness, a group of eight experts was consulted. Upon the recommendation that the candidate teachers would not answer the 13 items among 42 about the behaviours of candidate teachers, those were deleted and instead 3 articles were added. The scale was in the end developed with 32 items. Additionally, a pilot application was conducted on 40 people and the students were asked to state the items that they did not understand and as an outcome, the scale was considered as sufficient.

Table 1: Score Limits of Five Likert Scale

Weights	Limits	Perception-View
1	1.00-1.79	Strongly Disagree
2	1.80-2.59	Disagree
3	2.60- 3.39	Neither Agree Nor Disagree
4	3.40 -4.19	Agree
5	4.20- 5.00	Strongly Agree

As can be seen from the Table 1, the score averages of all students were calculated in the scale.

INTERNAL VALIDITY

For this research, the aim was to develop a credible and valid likert type attitude scale in order to identify the attitudes of candidate teachers towards the Computer Technology lesson. Therefore, upon the recommendation that the candidate teachers would not answer the 13 items among 42 about the behaviours of candidate teachers, those were deleted and instead 3 articles were added. The scale was in the end developed with 32 items. Additionally, a pilot application was conducted on 40 people and the students were asked to state the items that they did not understand and as an outcome, the scale was considered as sufficient. Afterwards, the preliminary trial form was applied to the working group following the preliminary practice. Then the structure validity activities were started. As a result of factor analysis conducted by main components analysis and varimax rotation, the statements of 1, 5, 9, 13, 15, 17, 18, 21 and 31 with the factor weights less than 0,4 were omitted so that the scale had 23 rather than 32 items. In accordance with the factor analysis results, there are 2 sub-dimensions in the scale of 23 items as positive attitude (eagerness to learn, interest to the lesson) and negative attitude. Moreover, the Cronbach Alpha internal validity coefficient of scale was found as 0,89. Hence, the scale can be considered as it has a good credibility coefficient.

The descriptive factor analysis is used for the structure validity of the Scale for the Attitudes of Candidate Teachers Towards the Computer Technology Lesson.

The Kaiser-Meyer-Olkin (KMO) sample measure value of scale was found as 0,86. Due to high KMO coefficient, the size of selected sample size is considered as appropriate for factor analysis. KMO test is a figure related with the compatibility of sample size. When KMO coefficient is close to 1, the data are considered as compatible for analysis and if the coefficient is 1, it means that there is a perfect match. This result can be acknowledged as sufficient on the basis of literature and expert views (Büyüköztürk, 2006). Moreover the result

of Barlett Sphericity test is found as significant (p=0,00<0,05). Following such findings, the scale is observed as compatible for factor analysis.

In Line With These Results, The Sub-Dimensions Of Scale Are As Follows.

Table 2: Items related with the Attitude Scale Sub-Dimensions

Sub-Dimensions	Questions
Eagerness to Learn (6 statements)	Q29, Q 30, Q 22, Q 24, Q 23, Q 32
Negative Attitude (9 statements)	Q 26, Q 25, Q S27, Q 28, Q 3, Q 19, Q 6, Q 20, Q 2
Interest to the Lesson (8 statements)	Q 7, Q 14, Q 8, Q 12, Q 10, Q 16, Q 11, Q 4

Table 3: Attitude Scale

Statements	Eagerness to Learn	Negative Attitude	Interest to the Lesson
29. I fulfil all tasks during the Computer Technology lesson.			
30. I regularly attend the Computer Technology lesson.			
22. I like to talk about the events and activities happened during the Computer Technology lesson.			
23. Computer Technology lesson motivates me to read the books about computer technologies.			
24. Computer Technologies lesson positively change my perception to the technology.			
32.I believe that Computer Technologies lesson will be beneficial in the future.			
26. Computer Technologies lesson is a waste of time.			
25. I would love the school if there were no Computer Technologies lesson.			
27. I feel bored during the Computer Technologies lesson.			
28. I wish not to have any Computer Technologies lesson in the curriculum.			
3. I prefer any other lesson to the Computer Technologies lesson.			
19. I feel tired when I need to study for the Computer Technologies lesson.			
6.I would not attend to Computer Technologies lesson if there were no compulsory attendance.			
20. I am never successful in Computer Technologies lesson.			
2.I think that the time allocated for the Computer Technologies lesson should be less.			
7.I wish that all lessons like Computer Technologies lesson			
14. I look forward to Computer Technologies lesson.			
8. I wish to have longer Computer Technologies lesson.			
12. Learning new topics in Computer Technologies lesson make me excited.			
10.Teachers should get Computer Technologies lesson in order to graduate.			
16. I find the references recommended during the Computer Technologies lesson and read the recommended books.			
11. I have an interest in the subjects of Computer Technologies lesson.			
4. I like Computer Technologies lesson.			

CREDIBILITY

The internal validity test was performed for the credibility of scale. In accordance with the internal validity results obtained after the credibility analysis, the Cronbach Alpha coefficient of the 23-item scale was identified as 0,89. The Cronbach Alpha values for the sub-dimension of scale are 0,86 for the eagerness to learn, 0,81 for the negative attitude and 0,81 for the interest to the lesson.

DATA COLLECTION PROCESS

During the data collection process, the candidate teachers in the Near East University located in Nicosia, Turkish Republic of Northern Cyprus were interviewed. After obtaining the required permits for the questionnaires, the questionnaires were performed during the designated lessons. Before answering the data collection tools, the candidate teachers were informed regarding the aim of scale and how to answer it, and the confidentiality that the answers would only be read by the researchers were shared with the candidate teachers. The data of study was collected during the fall semester of 2015-2016 academic year.

DATA ANALYSIS

The data obtained through the questionnaire were transferred to the computer and editing process was performed for the errors. During the editing process, the errors occurred during the transfer of questionnaires to the computer were identified, the related questionnaire was found and the error was eliminated by re-entering the answers. After the editing, there was no wrong or missing value in any data set.

For the statistical analysis of data, Statistical Package for the Social Sciences (SPSS) 20.0 for Windows Evaluation version was used.
The frequency tables were used in order to identify the distribution of candidate teachers that are under the scope of research in terms of their gender, age group, class and departments.

Kolmogrov-Smirnov (K-S) test as one of the normality tests was applied for the determination of hypothesis tests to be used in the statistical analysis whether the data set shows normal distribution.
Upon the result of Kolmogrov-Sminov test, the total scores of scale was found to show normal distribution and the parametric hypothesis tests were used in the analysis. In case the independent variables are two then the Student t-test, one of the parametric hypothesis tests, was used for the comparison of independent and dependent variables, and when they are more than two, then Variance Analysis (Anova) was used.

The quantitative research methods were used and the scale has two dimensions. The first dimension is positive attitudes while the second is negative attitudes. The positive attitude under the first dimension has two sub-categories as eagerness to learn and interest to the lesson.

FINDINGS AND INTERPRETATION

This part aims to present the data generated through the data collection tools, findings from the analysis and views of participants.

Table 4 below gives the distribution of *candidate teachers under the scope of this study in accordance with the descriptive socio-demographical characteristics as gender, age group, class and departments,* and the views of participants were evaluated.

Table 4: Distribution of Candidate Teachers Based on Their Socio-Demographic Characteristics

	Number	Percentage
Gender		
Female	148	49,66
Male	150	50,34
Age Group		
Between 17-22	107	35,91
Between 23-28	163	54,70
Between 29-34	28	9,40
Class		
I.	40	13,42
II.	142	47,65

	116	38,93
Department		
PCG	141	47,32
Classroom Teaching	86	28,86
Pre-School Teaching	71	22,15

The candidate teacher participants of research are 49,66% female and 50,34% male. 35,91% are between 17-22, 54,70% 23-28 and 9,40% 29-34. In terms of the class years of candidate teachers; 13,42% of them are at I. year, 47,65% II. year and 38,93% III.year.47,32% are from the Department of Psychological Counselling and Guidance, 28,86% Classroom Teaching and 22,15% Pre-School Teaching.

FINDINGS AND INTERPRETATION REGARDING THE FIRST SUB PROBLEM
The first sub-problem of the research was determined as "*what are the eagerness of candidate teachers to learn the computer technologies lesson and their views regarding the positive and negative attitudes towards the lesson?*" Table 5 assesses the views of students, who answered the questionnaire.

Table 5 is comprised of the average score out of the total score of candidate teachers from the general and sub-dimensions of attitude scale regarding the computer technologies lesson, standard deviation, statistics as minimum and maximum.

Table 5: Descriptive Statistics of Scores by the Candidate Teachers from the Attitude Scale Towards the Computer Technologies Lesson

Sub-Dimensions	N	$\overline{X}$	s	Min	Max
Eagerness to Learn (6 statements)	298	23,65	5,61	6	30
Negative Attitude (9 statements)	298	34,46	7,53	12	45
Interest to the Lesson (8 statements)	298	28,73	7,02	8	40
Scale Total (23 statements)	298	86,84	16,23	40	115

Pursuant to Table 5, the average of total scores from the sub-dimension of eagerness to learn under the scale for the attitudes of candidate teachers towards the computer technologies is 23,65±5,61'dir. The candidate teachers got minimum 6 points and maximum 30 points from this sub-dimension. The item average of candidate teachers for the sub-dimension of eagerness to learn is 3,94±0,93. The teachers were generally answers the statements given under this sub-dimension as agree, and gave positive view accordingly.

The average of total score for the candidate teachers from the sub-dimension of negative attitude is 34,46±7,53 and minimum 9 and maximum 45 points. The item average of negative attitude scale is 3,83±84. Generally the candidate teachers replied the statements under this sub-dimension as disagree. In other words, the candidate teachers do not agree with the negative statements given under this sub-dimension and in a way gave positive view related with the computer technologies lesson.

The average score of the sub-dimension of interest to the computer technologies lesson is 28,73±7,02. The candidate teachers got minimum and maximum 40 points from this sub-dimension. The item average of interest to the lesson sub-dimension is 3,59±0,88, and the candidate teachers gave positive view to the statements given under this sub-dimension.

The total score average out of the general scale for the attitudes of candidate teachers towards the computer technologies lesson is 86,84±16,23 and the minimum total score is 23 and maximum is 115. The item average to the 23 statements given under the scale is 3,78±0,70. In the general sense, the students answered the positive statements as agree and negative statements as disagree.

FINDINGS AND INTERPRETATION REGARDING SECOND SUB-PROBLEM
The second sub-problem of the research is identified as "*Is there any significant difference among the candidate teachers between the eagerness to learn the computer technologies lesson in terms of their gender and positive and negative attitudes towards the lesson?*" Table 6 below evaluates the views of students.

The comparison of total scores for the candidate teachers in terms of the sub-dimensions that their eagerness to learn, negative attitude and interest to the lesson under the scale of attitudes towards the computer technologies on the basis of gender is given below.

Table 6: Score Comparison of Candidate Teachers Obtained from the Attitude Scale Towards the Computer Technologies Lesson

Sub-Dimensions	Gender	n	$\overline{X}$	s	t	p
Eagerness to Learn	Female	148	23,65	5,98	0,00	1,00
	Male	150	23,64	5,23		
Negative Attitude	Female	148	34,14	7,80	-0,73	0,47
	Male	150	34,78	7,26		
Interest to the Lesson	Female	148	28,48	7,14	-0,61	0,54
	Male	150	28,98	6,91		
Scale Total	Female	148	86,27	16,36	-0,60	0,55
	Male	150	87,41	16,14		

Pursuant to the t-test results given in Table 6, the female candidate teachers under the scope of this research obtained an average of 23,65±5,98 points from the eagerness to learn sub-dimension whereas male candidate teachers obtained 23,64±5,23 points. There is no statistically significant difference between the total scores obtained by male and female candidate teachers from the eagerness to learn sub-dimension (p=1,00 >0,05). The gender factor has no influence on the statements given under the sub-dimension of eagerness to learn given under the scale of attitude towards the computer technologies lesson.

In accordance with the total scores obtained from the sub-dimension of negative attitudes of female and male candidate teachers, the average for the female teachers is 34,14±7,80 while male candidate teachers got an average of 34,78±7,26. There is no statistically significant difference between the total scores obtained by male and female candidate teachers from the negative attitudes sub-dimension (p=0,47 >0,05). The views of female and male candidate teachers regarding the statements under this sub-dimension are similar.

The female candidate teachers obtained and average of 28,48±7,14 points from the sub-dimension of interest to the computer technologies lesson, whereas male candidate teachers got 28,98±6,91 points. There is no statistically significant difference between the total scores obtained by male and female candidate teachers from the interest to the lesson sub-dimension (p=0,54>0,05).

The difference between the total scores obtained from the attitude scale in general towards the computer technologies lesson on the basis of gender is not statistically significant; and both female ($\bar{x} = 86,27$) and male ($\bar{x} = 87,41$) candidate teachers were found to have similar views regarding the scale in general.

FINDINGS AND INTERPRETATION REGARDING THIRD SUB-PROBLEM
The third sub-problem of the research was given, as "*is there ant significant difference between the positive and negative attitudes of candidate teachers towards their eagerness to learn the computer technologies lesson and their interest to the lesson on the basis of their age*". Table 7 below evaluates the views of students.

The ANOVA results concerning the comparison of total scores for the candidate teachers in terms of the sub-dimensions that their eagerness to learn, negative attitude and interest to the lesson under the scale of attitudes towards the computer technologies on the basis of age group, and the scale in general are given below.

Table 7: Score Comparison of Candidate Teachers Obtained from the Attitude Scale Towards the Computer Technologies Lesson On the Basis of Their Age Groups

Sub-Dimensions	Gender	n	$\overline{X}$	s	F	p
Eagerness to Learn	Between 17-22	107	24,13	5,06	1,28	0,28
	Between 23-28	163	23,57	5,86		
	Between 29-34	28	22,25	6,06		
Negative Attitude	Between 17-22	107	34,57	7,35	2,21	0,11
	Between 23-28	163	34,88	7,32		
	Between 29-34	28	31,61	8,96		
Interest to the Lesson	Between 17-22	107	28,90	6,78	0,14	0,87
	Between 23-28	163	28,72	6,97		
	Between 29-34	28	28,18	8,35		
Scale Total	Between 17-22	107	87,60	14,89	1,33	0,27
	Between 23-28	158	86,97	16,59		
	Between 29-34	28	82,04	19,63		

In accordance with the ANOVA results from the comparison of eagerness to learn sub-dimension among the candidate teachers on the basis of age group, there is no statistically significant difference between the total scores obtained by male and female candidate teachers accordingly (p=0,28>0,05). The average scores of candidate teachers for the eagerness to learn sub-dimension between the age group of 17-22 24,13±5,06 points, 23,7±5,86 between 23-28 and 22,25±6,06 between 29-34. Although the scores for the eagerness to learn scores of young candidate teachers are high, they are not statistically significant.

The candidate teachers under the scope of this research with the age group of 17-22 have obtained an average of 24,57±7,35 from the sub-dimension of negative attitude, the age group of 23-28 an average of 34,88±7,32 and the age group of 29-34, 31,61±8,96. The difference between the average scores taken from the sub-dimension of negative attitude on the basis of age group of the candidate teachers is not statistically significant (p=0,11>0,05). Although the total scores of candidate teachers from the age group of 29-34 are low compared with the candidate teachers from the other age groups, the difference is not statistically significant.

There is no statistically significant difference between the total scores of the candidate teachers of age groups 17-22 ($\overline{x} = 28,90$), 23-28 ($\overline{x} = 28,72$) and 29-34 ($\overline{x} = 28,18$) from the sub-dimension of eagerness to learn towards the computer technologies lesson (p=0,87>0,05).

In accordance with ANOVA results given in Table 7, there is not any statistically significant difference between the total scores of candidate teachers towards the computer technologies lesson obtained from the attitude scale on the basis of their age groups (p=0,27>0,05). Regardless the age groups, the students participated to the research got similar scores and answered to the positive statements as agree and disagree to the negative statements.

FINDINGS AND INTERPRETATION REGARDING FOURTH SUB-PROBLEM

The fourth sub-problem of the research was given, as "*is there ant significant difference between the positive and negative attitudes of candidate teachers towards their eagerness to learn the computer technologies lesson and their interest to the lesson on the basis of their class*". Table 8 below evaluates the views of students.

Table 8: Score Comparison of Candidate Teachers Obtained from the Attitude Scale Towards the Computer Technologies Lesson On the Basis of Their Class

Sub-Dimensions	Class	n	$\overline{X}$	s	F	p
Eagerness to Learn	I	40	24,68	4,26	1,99	0,14
	II	142	23,00	6,04		
	III	116	24,09	5,40		
Negative Attitude	I	40	34,43	7,57	0,54	0,59
	II	142	34,91	7,42		
	III	116	33,93	7,67		

Interest to the Lesson	I	40	29,30	7,10	0,15	0,86
	II	142	28,65	6,70		
	III	116	28,63	7,42		
Scale Total	I	40	88,40	14,46	0,21	0,81
	II	142	86,56	16,92		
	III	116	86,65	16,04		

The ANOVA results regarding the comparison of total scores of candidate teachers obtained from the attitude scale in general and its sub-dimensions towards the computer technologies sub-dimensions on the basis of their class are given in Table 8.

The candidate teachers, who are on I. class got 24,68±4,26 from the sub-dimension of eagerness to learn, II. class 23,00±6,04 and III. class 24,09±5,40. The difference between the average scores taken from the sub-dimension of eagerness to learn on the basis of classes of the candidate teachers is not statistically significant (p=0,14>0,05).

The difference between the average scores taken from the sub-dimension of negative attitude on the basis of classes of the candidate teachers is not statistically significant (p=0,59>0,05). The candidate teachers from I. class got an average of 34,43±7,57 from the sub-dimension of negative attitude, II. class an average of 34,91±7,42 and III. Class 33,93±7,67. Regardless the classes of candidate teachers, they have given similar answers to the sub-dimension of negative attitude. In other words, the candidate teachers in general answered the statements under this sub-dimension as "disagree".

The candidate teachers from I. class obtained an average of 29,30±7,10 from the sub-dimension of interest to the computer technologies lesson, II. Class 28,65±6,70 and III. Class 28,63±7,42. There is not any statistically significant difference between the total scores from the sub-dimension of interest to the lesson among the candidate teachers (p=0,86>0,05). The candidate teachers from first, second and third class answered the statements to the sub-dimension of interest to the computer technologies lesson as agree so there is a high interest towards the lesson.

There is not any statistically significant difference between the total scores obtained from the attitude scale based on the class years among the candidate teachers. Although the total score of I. year candidate teachers ($\bar{x} = 88,40$) is higher than II. ($\bar{x} = 86,56$) And III. Class candidate teachers ($\bar{x} = 86,65$), this difference is not significant.

FINDINGS AND INTERPRETATION REGARDING FIFTH SUB-PROBLEM

The fifth sub-problem of research was given as "*is there ant significant difference between the eagerness to learn the computer technologies lesson and positive and negative attitudes of candidate teachers towards the lesson on the basis of their departments?*" Table 9 below evaluates the views of students.

Table 9 shows the ANOVA results concerning the comparison of scores obtained by the candidate teachers in the departments of Psychological Counselling and Guidance, Classroom Teaching and Preschool Teaching from the sub-dimensions of attitude scale on computer technologies as the eagerness to learn, negative attitude and interest to the lesson, and the total scores throughout the scale.

Table 9: Score Comparison of Candidate Teachers Obtained from the Attitude Scale Towards the Computer Technologies Lesson On the Basis of Their Department

Sub-Dimension	Department	n	$\overline{X}$	S	F	p
Eagerness to Learn	PCG	141	23,82	5,35	0,84	0,43
	Classroom Teaching	86	23,94	5,05		
	Pre-School Teaching	71	22,85	6,91		
Negative Attitude	PCG	141	34,76	7,44	0,53	0,59
	Classroom Teaching	86	34,53	7,92		
	Pre-School Teaching	71	33,61	7,46		

Interest to the Lesson	PCG	141	28,91	6,51	1,13	0,32
	Classroom Teaching	86	29,12	6,40		
	Pre-School Teaching	71	27,53	8,60		
Scale Total	PCG	141	87,48	15,52	1,20	0,30
	Classroom Teaching	86	87,59	15,17		
	Pre-School Teaching	71	83,98	19,18		

In accordance with the ANOVA results on the comparison of learning sub-dimension scores on the basis of departments of candidate teachers as given in Table 9, there is no statistically significant difference between the total scores obtained by the candidate teachers from the sub-dimension of eagerness to learn under the attitude scale towards the computer technologies lesson on the basis of their departments (p=0,43>0,05). Although the score for the eagerness to learn among the candidate teachers studying in Pre-School Teaching is higher than the candidate teachers from the PCG and Classroom Teaching Departments, the difference is not statistically significant.

The candidate teachers from the Department of PCG obtained an average of 34,76±7,44 score from the sub-dimension of negative attitude, while the candidate teachers from the Department of Classroom Teaching obtained an average of 34,53±7,92 and the candidate teachers from the Department of Pre-School as an average of 33,61±7,46. The difference for the average scores obtained by the candidate teachers under the sub-dimension of negative attitude on the basis of their departments is not significant (p=0,59>0,05).

The difference for the total scores obtained by the candidate teachers from the sub-dimension of interest to the lesson under the attitude scale towards the computer technologies lesson on the basis of their departments is not statistically significant (p=0,32>0,05). For this sub-dimension, the candidate teachers from the Department of PCG obtained an average of 28,91±6,51, candidate teachers from the Department of Classroom Teaching as 29,12 and candidate teachers from the Department of Pre-School Teaching obtained 27,53±8,60. The candidate teachers from the Department of Classroom Teaching obtained higher scores than the candidate teachers from the other departments, however this difference is not statistically significant.

The difference for the total scores obtained by the candidate teachers from the attitude scale towards the computer technologies lesson in general on the basis of their departments is not statistically significant (p=0,30>0,05). Although the candidate teachers from the Department of Pre-School Teaching obtained lower scores ($\bar{x} = 83,98$) than the candidate teachers from the other departments, this difference is not statistically significant.

CONCLUSION AND RECOMMENDATIONS
This part indicates the findings generated during the research process and presents the interpreted conclusions and associated recommendations.

In consideration with the attitudes of candidate teachers, who are within the scope of this research, towards the eagerness to learn *computer technologies* lesson, their negative attitudes for the lesson and their interest to the lesson, the candidate teachers replied the statements under *the sub-dimension of their eagerness to learn* as agree in general and provided positive comments. In other words, the candidate teachers do not agree with the negative statements given under this sub-dimension and in a way gave positive view related with the computer technologies lesson. The candidate teachers gave positive comments for the statements under *the sub-dimension of interest to the lesson*. Overall, the candidate teachers replied the positive statements in the scale as agree and negative statements as disagree. Additionally, in accordance with the studies, a significant difference was noted in the favour of students taking the computer lesson than the students taking no computer lesson (Namlu 1998; Sexton et.al. 1999). This study indicates that there is not any significant difference on the attitudes whether the candidate teachers take any course about computer.

The difference between the total scores obtained from the attitude scale in general regarding the computer technologies lesson on the basis of gender is not statistically significant. The candidate teachers observed as having similar views concerning the scale in general, and the views of female and male candidate teachers for the statements under this sub-dimension are similar. Considering the body of literature, the study of Çakır and Şenler (2007) on the attitudes of students towards the science lesson showed no significant difference on the basis of gender. Another study conducted by Özkal, Güngör and Çetingöz on the attitudes towards the Social Studies lesson indicated that due to the success of female students on the basis of their gender is high, they

presented positive attitude. Our study conducted regarding the attitude towards the computer technologies lesson showed no significant difference among the gender of students.

There is no statistically significant difference between the total scores of candidate teachers obtained from the attitude scale towards the computer technologies lesson on the basis of their age groups. Regardless the age groups, the students participated to the research got similar scores and answered to the positive statements as agree and disagree to the negative statements.

It was concluded that the attitudes of candidate teachers towards the computer technologies lesson on the basis of their gender, age group, their classes and departments are similar. Moreover, this study indicates that the attitudes of candidate teachers towards the computer technologies lesson are similar on the basis of their class and department. Considering the gender, age, class, academic success, use of computer in family, type of graduated high-school, whether taking any computer courses, use of computers by teachers during the class, access to computer, frequency of using a computer, use of computer and experiences of candidate teachers, there is no significant difference in their attitudes. This causes to consider that the analysed variables have no impact on the attitude of candidate teachers towards the computer (Gerçek, 2006).

The difference of total scores obtained by the candidate teachers from the overall attitude scale towards the computer technologies lesson on the basis of their class years is not statistically significant.

The difference of total scores obtained by the candidate teachers from the sub-dimension of interest to the lesson under the attitude scale towards the computer technologies lesson on the basis of their departments is not statistically significant.the candidate teachers from the Departments of PCG, Classroom Teaching and Pre-School Teaching obtained higher scores than the other departments but this difference is not significant.

When analysed on the basis of a number of variables, the attitudes of candidate teachers towards the computer technologies lesson on the basis of gender, age group, class and departments are similar. Additionally, this study indicated that the attitudes of candidate teachers towards the computer technologies lesson are similar on the basis of their age groups, class and departments.

The introduction of computer lesson into the curricula of primary and secondary education in 1992 (Kuraler, & Güven, 2008) has started to establish the computer background of students until the university education. Since the teachers of all lessons in the primary and secondary education have improved in computer assisted teaching, the attitudes of students as candidate teachers towards the Computer Technologies have affected; and similarly for the primary and secondary education they have easy access to the researches that they look for their homework, studies and projects with the help of Computer Technologies as well as they obtain the skills to effectively present their works in writing through the Computer Technologies. Therefore, when they improve themselves with these opportunities, they would gain the qualifications, which will motivate their students as they become teachers themselves. This have a positive influence on their attitudes towards the Computer Technologies lesson. These views are also supported with the other researches. Today teachers, hence candidate teachers, must have knowledge about two more important domain in addition to subject area and pedagogical formation; one of which is the computer technologies as the inevitable result of technology teaching and the other one is information literacy. The information literacy skills is the corner stone of lifelong learning which arised by force of 21st century. The skill to use computer technologies is not only an elements supporting the teaching but also a preliminary condition of information literacy skills (Kurbanoğlu and Akkoyunlu, 2002a; 2002b).

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ATTITUDES OF PRESERVICE INSTRUCTIONAL DESIGNERS TOWARDS ONLINE COLLABORATIVE LEARNING

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ABSTRACT

Flexibility and usability in efficient instruction design model depend on the usage of information and communication technologies which will provide sufficient performance to students in the process. In instruction design process, necessity of individual study and collaborative group events occurred, drifting apart from traditional instruction (Morrison, Ross, Kalman and Kelp, 2011). For this reason, defining attitudes of preservice teachers towards online collaborative learning (OCL) has importance.

Attitudes of preservice instruction designers towards OCL are tried to be defined with this study. Population of study prepared according to descriptive survey model is formed of preservice teachers who are instructional designers and study in Computer and Instructional Technologies departments. Sample of the study is formed of students who study in Computer and Instructional Technologies departments of a university.
Online collaborative instruction attitude scale of Korkmaz (2012) was used to define attitudes that are positive or negative interaction levels of students (Edwards, 1983) towards online collaborative instruction environment in the study. In this way, attitudes are assessed with inferences made out of reactions towards their real feelings behaviors and psychological reaction to a series of sentences or a list of adjectives of individuals (Anderson, 1991).

That the students are affected in a positive way in online collaborative instruction environment is defined. The students within the scope of study stated that their interest in lesson has increased and the lessons that they find difficult are more interesting and will be learnt better. It is supported that online collaborative instruction environments have positive effects on individuals as a result of many studies (Daradoumis, Martínez-Monés ve Xhafa, 2006; Brindley, Walti and Blaschke, 2009; Janssen, Erkens, Kirschner and Kanselaar, 2009; Blake and Scanlon, 2013). It is ensured that the lessons should be prepared in conformity with online collaborative environments. Besides, application of instruction in various stages should be supported. Especially in education stages that train teachers, this kind of education methods and their privileges should be introduced to students and students should be trained in quality to apply these in their working life by including them in the programs.

Keywords: Online Collaborative Learning, Preservice Instructional Designers, Attitudes

INTRODUCTION

Together with the rapid increase in the usage of internet technologies and computers, computers, technology, web-assisted and online learning settings have been started to be used in education. The awareness of the importance of human interaction throughout the learning process also increased (Graham and Misanchuk, 2004). Learning styles, in which interaction is carried out through more than one type of media, have been introduced. The internet and multimedia technologies created new learning options (Lane, 2000). The quality of learning changed after the groups started to conduct collaborative works in these settings.

Whether face-to-face or online, learning in active learning settings are student oriented. Knowledge is created with students in active learning. Instead of listening to the courses and watching the videos, students take part cooperatively in projects by questioning and creating simulations. Technologies which support the objectives of collaborative learning are determined and used (DePaul, 2014). Courses are carried out project-based according to an online program with groups of three or four people (Graham and Misanchuk, 2004).

Collaborative learning is supported by information and communication technologies so as to focus on developing and changing student skills and to enable their learning in the rapidly changing world (Treleaven, 2004). The internet is a tool which promoted the best interaction. Because internet devices enable sending-receiving e-mails, creating discussion groups, making video conferences etc., they promote collaboration (Aktaş, 2014). The nature of formal education has changed permanently by enabling students to access internet and online resources. Using computers and the internet in the field of education has brought benefits for collaborative learning techniques: Such as the increase in student-student interaction and working asynchronously with the students in groups (Roberts, 2004).

Providing flexibility and applicability in the effective instructional design model is based on using information and communication technologies that will offer sufficient performance to students during the process. In the instructional design process, there is a need for allowing for individual work and collaborative group activities rather than the traditional education (Morrison, Ross, Kalman and Kemp, 2011). Implementations, promoting the use of collaborative technologies, should be made. Preservice teachers, in the faculty of education department of Computer and Instructional Technologies Education (CITE), being competent in the technology assisted collaborative working culture will be able to create such settings in their professional life and also direct these settings (Korucu and Çakır, 2014). For this reason, it is crucial to determine the attitudes of preservice teachers towards OCL.

Purpose of The Study
The purpose of this study was to determine the attitudes of preservice instructional designers towards OCL.

METHOD
The study was designed through the screening model by aiming at determining the attitudes of students. In this model, the variables of the event, item, individual, group, institution and subject are identified separately (Karasar, 2003: 79). Because student opinions were aimed at being determined in this study, the document review method was conducted to by describing the qualitative data. For this reason, the written materials related to the event or facts being studied are analyzed (Yıldırım and Şimşek, 2011: 187).

Population and Sample
The population of the study consists of preservice instructional designers studying in the department of Computer and Instructional Design Education (CITE). The study sample consists of 326 students studying in the department in a university in Turkey. Year I. and II. students didn't receive OCL practices but year III. and IV. students were subject to this practice. It was also conducted on students who were subject to online collaborative practices and who graduated.

Table 1: *The personal details of students within the study group*

Gender	f	%
Male	171	52,5
Female	155	47,5
Class		
I. Class	25	7,7
II. Class	28	8,6
III. Class	97	29,8
IV. Class	76	23,3
Graduate students	100	30,7
Total	**326**	**100,0**

52,5% of the students who participated in the study were male and 47,5% were female. Because evening education was not offered to year II. CITE students, the number of students in the classes was different. For this reason, the number of year I. (7,7%) and year II. (8,6%) students were less than the number of year III. (29,8%), year IV. (23,3%) and graduate (30,7%) students.

Data Collection Instruments
In order to identify student attitudes, which are the negative or positive ways they are affected (Edwards, 1983),

towards OCL settings, the Online Collaborative Learning Attitudes Scale, developed by Korkmaz (2012), was used in the study. This way, attitudes are assessed by making inferences from the reactions, behaviors and physiological responses that individuals give to a set of sentences or a list of adjectives (Anderson, 1991). Because the individuals' attitudes affect their behaviors (Sharma and Sharma, 1997: 184; Arul, 2014), it is crucial to identify the changes that occur during the implementation.

Each item of the five point Likert type scale was titled as "Never (1), Rarely (2), Sometimes (3), Frequently (4) and Always (5)". The scale consists of 17 items and two factors, "positive attitude" and "negative attitude". It was observed that the KMO value is 0,936, the Barttlet test value is 4161,700 (p<0,001) and the Cronbach's Alpha reliability coefficient is 0,904.

The students were asked to express their opinions on OCL separately. Thus, the opinions of 19 students receiving OCL were gathered.

Data Collection and Analysis
The reliable and valid scale was conducted on the preservice teachers. The students were asked to state their opinions apart from the scale items. Percentage, frequency, arithmetic mean, standard deviation, independent groups t-test, one way variance analysis and Scheffe tests were used in data analysis and Kruskal Wallis H (KWH) and Mann Whitney U (MWU) tests were conducted when there was no normal distributions. This significance level was identified as 0,05 (Korkmaz, 2012).

The method suggested and conducted by Korkmaz (2013) was used in standardizing the raw scores of the scale. The raw scores were converted to scores between minimum 20 and maximum 100. The following formula was used to do this (Korkmaz, 2012):

X Standartrate=(Xrawsscore/The number of scale items)*20
The points corresponding to the obtained attitude levels were evaluated as follows:
20-35: Very low attitudes level
36-51: Low attitudes level
52-67: Average attitude level
68-83: High attitude level
84-100: Very high attitude level

The scale consists of two factors which include positive and negative questions. Negative questions were coded reversely and were subject to analysis processes. Thus, increase in the negative attitudes factor indicates a decrease in negative attitudes and an increase in the positive attitudes factor indicates that the attitude is more positive.
Qualitative data were also gathered from the students in the study and student opinions on online learning were detected by conducting the document review method on the data.

FINDINGS AND INTERPRETATION
The findings and interpretations on the study data are given in this section. Student attitudes were determined according to the analysis results and these are presented on Table 2.

Table 2. *Students' Attitudes towards OCL*

Attitude	n	$\overline{\text{X}}$	sd
Positive Attitude		73,73	15,76
Negative Attitude	326	75,09	17,84
Genel--- Overall Scale		74,21	14,85

According to Table 2, which displays students' attitudes towards OCL, there is a high level of attitude towards the overall scale and its sub-dimensions. It is evident that all the students have a highly positive attitude towards OCL.

Analyses were conducted to determine student attitudes towards OCL with regards to the gender variable and these results are given on Table 3.

Table 3. *t-test results of Students Attitudes towards OCL with Regards to Gender variable*

Sub-dimension	Gender	n	$\overline{X}$	sd	Levene's Test		t	p
					F	p		
Positive	Male	171	75,43	15,77	0,001	0,979	2,059*	0,040
	Female	155	71,85	15,57				
Negative	Male	171	77,15	17,61	0,704	0,402	2,205*	0,028
	Female	155	72,82	17,87				
Overall--Genel	Male	171	76,04	14,87	0,115	0,735	2,352*	0,019
	Female	155	72,19	14,61				

*p<0,05

It is evident on Table 3 that student attitudes towards OCL differ significantly for the overall scale and its sub-dimensions with regards to the gender variable. It was observed that male students display higher level of positive attitudes than female students. This finding indicates that male students are more active in OCL practices and that they have more positive opinions on these practices.

Results of the analysis, conducted to determine how the students' attitudes towards OCL differ with regards to the class they study in, are given on Table 4.

Table 4. *Variance Analysis Results of students Attitudes towards OCL with Regard to the Class*

Sub-dimension	Sınıf	n	$\overline{X}$	ss	Source of Variance	Sum of Squares	df	Mean Square	F	p	Scheffe
Positive Attitude	1. Class-1	25	81,53	13,74	Between Groups	8964,430	4	2241,108	10,033*	0,000	1-5 4-3,5
	2. Class-2	28	72,21	16,61	Within Groups	71705,701	321	223,382			
	3. Class-3	97	72,80	15,11	Total	80670,131	325				
	4. Class-4	76	80,74	13,41							
	5. Grad.	100	67,76	15,68							
	Levene: 1,133		p= 0,341								
Overall	1. Class-1	25	82,35	11,69	Between Groups	7763,374	4	1940,844	9,749*	0,000	1-5 4-2,3,5
	2. Class-2	28	70,42	16,00	Within Groups	63903,176	321	199,075			
	3. Class-3	97	72,94	13,71	Total	71666,551	325				
	4. Class-4	76	80,79	12,10							
	5. Grad.	100	69,46	15,80							
	Levene: 2,362		p= 0,053								

*p<0,05

A significant difference was detected in the positive attitude sub-scale and the overall scale with regards to the classes of the students. It was observed that with regards to the positive attitudes factor, there is a significant difference between year one students and graduate students and between year four students and year three and graduate students. Also, it was observed that with regards to the overall scale, there is a significant difference between year one students and graduate students and between year four students and year two, three and graduate students. The fact that year one students, who haven't received OCL practices, display more positive attitudes than graduate students, who have participated in the practice many times, can be due to their high level of readiness. The fact that year four students display more positive attitudes that year three students, who are introduced with OCL practices for the first time, and with graduate students, who have participated in these practices many times, can be due to their concern for academic achievement and to sustaining their readiness. The students' readiness is a crucial element for the success and development of online learning practices (Hukle, 2009). In addition, it can be said that year four students display higher level positive attitudes because they are aware of the advantage and disadvantages of the practice.

Because the distribution in the analysis conducted for the negative attitudes factor in OCL practices was not homogeneous, the KWH test was conducted and the results are given on Table 5.

Table 5: *KWH test results of students the negative attitudes factor with regards to the class*

Sub-dimension	Class	Mean Rank	df	KWH	p	MWU
Negative Attitude	1. Class-1	212,32	4	22,848*	0,000	1-2,3,5 4-2,3,5
	2. Class-2	125,41				
	3. Class-3	148,07				
	4. Class-4	193,78				
	5. Grad.	153,92				
		Levene: 3,791	p= 0,005			

*p<0,05

It is evident on Table 5 that there is a significant difference in the negative attitudes factor with regards to the classes. It was observed that the significant difference occurred between year one and year four students and between students studying in year two, three and graduate students. This result indicates that students studying in year one and year four have more positive attitudes.

Analyses were carried out to determine how attitudes towards OCL differ in students who were subject to OCL practices and who were not and the results are given on Table 6.

Table 6. *t-test results of Students Attitudes towards OCL with Regards to Participated OCL Practices variable*

Sub-dimension	Uygulama Alma Durumu- - Participated in OCL Practices	n	$\overline{X}$	sd	Levene's Test		t	p
					F	p		
Positive	No Participated	53	76,60	15,89	0,104	0,747	1,456	0,146
	Participated	273	73,17	15,70				
Negative	No Participated	53	75,03	19,14	1,048	0,307	-0,027	0,978
	Participated	273	75,10	17,61				
Overall	No Participated	53	76,05	15,24	0,799	0,372	0,986	0,325
	Participated	273	73,85	14,78				

p>0,05

There were no significant differences in student attitudes towards OCL with regards to having participated in OCL practices. It is evident in this result that having participated in OCL practices has no effect on student attitudes.

There are various factors which affect students' attitudes towards OCL. Opinions of various students were resorted to so as to determine these. The students were observed to express positive and negative opinions. The students stated one of these factors as individual differences. It was observed that taking individual differences into consideration during OCL practices will make the courses more effective. Various student opinions which support this opinion are given below:

    S2: "OCL practices will be more effective when individual differences are considered."
    S10: "Because every student's knowledge level is different in OCL, some members will put more effort while some member put less effort..."

S12: "When I work in OCL practices many different ideas are generated. We can express different opinions and come to an agreement. In addition, when we work with group members, problems like disagreements can emerge..."

Student opinions also state that individual differences enable courses on an OCL setting to be more effective and effects individual relationships within a group.

Group interaction and socialization were also stated in student opinions. OCL attitudes can be said to change based on these. There were also positive and negative opinions. These opinions are:

S16: "Working collaboratively in an online setting with my group friends enables me to learn new things with my friends, to benefit from their ideas, have an idea about the path we follow, enables me to socialize with my group friends and know them better and all these help us to detect out deficiencies. This is important for us."
S17: "Exchanging opinions collaboratively with my group friends in online settings supports our knowledge and helps us communicate better with people we don't know."
S6: "Group work improves social interaction and the sense of sharing with the people in the environment."
S7: "The work carried out in OCL is better when group success and the desire to do projects is high. Work done in groups are better rather than working individually."
S11: "It is crucial to work together with the group. People can improve their social skills..."
S8: "Group members must accept each other. It is important not to have conflicts."
S4: "I think we would more productively if we can choose our group members on our own."
S5: "I want that state that in the applied courses, unfairness is at its peak. Because when there are conflicts among group members, some people don't want to be included in the process..."
S15: "Work would be done better when the work is done with the groups that the instructor selects."
S12: "...I can't say that working in OCL practices has much positive effects on my social skills and on the increase in my work success."

It is evident in student opinions that while OCL settings improve the communication, interaction, sharing, socialization and development within the groups, it also causes reverse states due to the problems that groups encounter. Thus, there are students who display both negative and positive attitudes in OCL settings. However, the number of students expressing positive opinions are higher. Students also underlined knowing their group friends, exchanging opinions, socializing, the benefits of working in groups, the selection of group members and the disagreements among group members.

There were student opinions expressing that one reason which affected the attitudes towards OCL was that the setting being online. Student opinions emphasizing how the online setting affects their attitudes are given below:

S14: "Carrying out these practices collaboratively on the web with our mentors enables us to get experiences."
S9: "Working online may offer advantages but speaking face-to-face enables better ideas to be generated."
S10: "...I believe that face-to-face practices will be more effective."

The online setting can be said to positively affect student attitudes. However, the majority of the students can be said to display negative attitudes because they believed that face-to-face settings are more beneficial.

There were opinions expressing that OCL practices are effective on the students' academic achievements and

their learning. The following student opinions indicate that these affect student attitudes towards OCL:

> *S11: "It promoted permanent learning for the individual and the group. Learning also becomes entertaining and distant from being boring. It furnished the individual with a sense of responsibility."*
> *S19: "I get exhausted of dwelling with something as a group and have difficulty in learning the subject."*
> *S5: "...I don't find it right only to control the reports during the assessment of the works. I didn't find it right giving a low grade just because all that work was not stated in the report".*
> *S3: "I believe that more attention should be attached to OCL in the field of education."*
> *S13: "OCL is very useful in understanding some subjects."*
> *S18: "I think having groups in the C# course is not good."*
> *S1: "...I am aware that I will get one of the lowest grades although I am running two projects on education independent from the university and although that people who have achieved great titles on education are the mentors of the projects and I am the mentee; and this case prevents me from making more comments."*

While the majority of the students expressed that OCL practices have positive effects on learning, the number of students stating that it has negative effects on their academic achievement is higher. It can be said that students who think that this practice has positive effects on learning also believe that it doesn't have a positive effect on their academic achievement due to the problems they encounter. Permanent learning, individual responsibility, group work, creating a report, the increase in these practices, the convenience of the courses and expectations were emphasized in student opinions.

CONCLUSION AND DISCUSSION

In this study, it was observed that students have positive opinions towards the OCL setting. Korkmaz (2013) stated that attitudes towards OCL were positive and at high levels. Similarly, in their study, Lee and Bos (2011) stated that with respect to the activities carried out in OCL settings, the attitudes of the students changed positively following the program. Many study results support the fact that online (Daradoumis, Martínez-Monés and Xhafa, 2006; Brindley, Walti and Blaschke, 2009; Janssen, Erkens, Kirschner and Kanselaar, 2009; Blake and Scanlon, 2013), web-assisted (Lukosch, 2007), technology-assisted (Özdamlı and Uzunboylu, 2008) collaborative learning settings have positive effects on individuals. However, the study on OCL practices conducted by Erten (2015) emphasizes that there are no significant differences in the attitudes towards the OCL settings.

It was observed that OCL attitudes differed according to gender and that male students displayed more positive and higher level of attitudes. No significant differences were detected between students who receive OCL practices and students who don't. Korkmaz (2013) stated that gender has no effect on attitudes towards OCL and that OCL experiences positively affect the attitudes.

In the study, it was observed that year one and year four students display higher level and more positive attitudes than the other students. The students underlined that individual differences are crucial in OCL settings and that these affected the productivity of the course and also the relationships among the group and individuals.

Group interaction and socialization was also stated as the factors affecting OCL setting attitudes by the students. The students underlined issues such as group communication, sharing, development, becoming familiar with friends, socialization, exchanging opinions, group work, selection of group members and problems among the group members. Although there are negative and positive opinions, the majority of the students were observed to state that these factors enabled them to generate positive attitudes. According to Keskin, Çıralı, Akın and Erdem (2015), there is a high level positive relationship between the individual and interpersonal collaborative contributions made by the students and that they establish a well cooperation. Sarsar (2008) stated that students gain new positive behaviors due to becoming familiar with the new characteristics of their peers. In addition, increase in interaction and sharing also has positive contributions. According to the study, group communication, interaction and sharing enabled socialization and development. The support made among groups generate new view points and supports academic achievement (Şimşek, Aydoğdu and Doymuş, 2012). However, it was

observed that reverse states also occur. Demirdağ and Kartal (2011) stated that some group members can be passive and can display negative attitudes due to this.

Because it is an online setting, it can affect the attitudes generated towards OCL. The majority of the students emphasized that face-to-face practices should be implemented. In a study on this topic, conducted by Sarsar (2008) it was stated that in these settings, students prefer to see each other face-to-face and that problems occurred when the students didn't see each other.

Academic achievement and learning has a major role on the attitudes towards OCL. OCL practices have positive effects on learning and especially on permanent learning. Permanent learning increases when students work in groups and the ability to enter in relationships is also attained (Şimşek, Aydoğdu and Doymuş, 2012). In addition, it was emphasized that it enables the sense of individual responsibility and that such practices should be carried out more frequently. However, the students were observed to display negative attitudes due to various problems (group work, creating reports, convenience of the courses and expectations) they encounter.

Students were observed to be positively affected by OCL settings. It was observed that OCL settings support collaborative work of individuals in groups, enable them to socially interact, increase their sharing and positively affect their learning experiences. It was emphasized that face-to-face practices should be increased because the settings are online. It was observed that sharing, communication, individual development, responsibility and creativity increases in such settings. According to this study, students display negative attitudes as a result of group work, convenience of the courses and the problems encountered in creating reports. These drawbacks affect course achievement as well as the students' learning.

SUGGESTIONS

Settings that integrate with each other should be designed by benefiting from face-to-face opportunities on virtual and online systems. Practices and activities that can prevent the lack of interaction, communication and socialization in online settings should be carried out. Courses should be prepared according to online learning settings. Students' level of readiness for online learning settings should be increased. It should be supported in being applied in various levels of education. These educational methods should be introduced to students, their benefits should be explained and they should be trained so as to conduct them in their future professional life by including the methods in the curriculums of educational dimensions which train teachers.

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ATTITUDES TOWARDS MATHEMATICS AND MUSIC OF FOURTH GRADE STUDENTS

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ABSTRACT
This study is based on a survey of fourth grade students' attitudes towards mathematics and music, as well as the relationship between mathematics and music. The participants for this descriptive study included 160 students at fourth grade enrolled two different public primary schools in the spring semester of 2015-2016. The mathematics attitudes scale developed by Baykul (1990) and the music attitudes scale developed by Öztürk and Kalyoncu (2014) were used to determine attitudes. Cronbach's Alpha coefficients of these two instruments were calculated with SPSS 15.00 as .94 for mathematics and .95 for music in the current study. Students have positive attitude towards mathematics and music.

Key Words: attitude, mathematics, music, fourth grade student

INTRODUCTION
Attitude refers to one's liking or disliking to an event generally (Hannula, 2002). In another way, it is defined as individual's positive or negative response to an object (Turgut and Baykul, 2010). Once someone develops negative attitude towards this object, he/she stays uninterested in this subject, doesn't like and doesn't appreciate. Although positive attitudes make learning easier, negative attitudes block the learning as an obstacle (Turgut and Baykul, 2010). Attitude can be considered as a key to success (Goodykoontz, 2008). Attitude affects to success, which in turn affects the attitude (Aiken, 1970). Most of students develop negative attitudes toward mathematics as they think math is difficult. Also, they think that they are not smart enough to learn mathematics, which cause losing their interest (Baykul, 2006). Students' attitude toward mathematics is related with quality of teaching and classroom's social-psychological atmosphere (Hannula, 2002).

There are several factors affecting student's attitude towards mathematics. There are some studies illustrating that music has an effect on the attitudes of students towards mathematics. According to those studies, using music in teaching mathematics has positive impact on students mathematics attitudes (An, Kulm nd Ma, 2008), their motivation (Yağışan, Köksal and Karaca, 2014) and mathematical abilities (Yılmaz, Bolat and Dikici Sığırtmaç, 2006; An, Capraro & Tillman, 2013). It was also illustrated that there is significant positive correlation between the success of music course with the others (Arapgirlioğlu and Gürpınar, 2011). Although music is a special discipline, it is not completely different from the other disciplines as generally thought. Because of this fact, teachers may design interdisciplinary activities to teach music, science, and mathematics (Rogers, 2004). Gençel Ataman (2014) claims that music may eliminate mathematics being a troublesome due to calming, improving attention ability, and developing memory characteristics. Although there are some studies investigating the attitudes of students towards mathematics (Köğce, Yıldız, Aydın and Altındağ, 2009; Tezer and Karasel, 2010; Yücel and Koç, 2011) and music (Babacan, Babacan and Pirgon, 2011; Koca, 2013; Uluocak and Tufan, 2011; Nacakcı, 2006) separately, there is a gap in the literature on the relationship between student's attitudes towards mathematics and music.

An attitude change is easier in lower grades. Fourth grade is the last stage of the primary education and critical level to pass elementary stage, at which they express themselves and their ideas better. The aim of this study is to investigate the relationships between the attitudes of fourth grade primary school students towards mathematics and music. In this context, the answers of following questions were examined.

- What are the fourth grade students' attitudes towards mathematics/music according to gender?
- Is there any relationship between attitudes towards music and mathematics?
- Do music attitudes have an important effect on mathematics attitudes?

THE STUDY

In this study, a quantitative approach was used to investigate primary school students' attitudes towards mathematics and music. 160 fourth grade students (86 girls and 74 boys) enrolled in two different public primary school from Kadıköy, Istanbul in the spring semester of 2015-2016 instructional year. Data were collected in one lesson hour by researchers with two attitude scales. In order to determine fourth grade students' attitude toward mathematics, mathematics attitude scale was used. The scale developed by Baykul (1990) consists of single factor with 5 points Likert type scale and it has 15 positive, 15 negative totally 30 items. The minimum and maximum scores were 30 and 150, respectively. For the current study, Cronbach alpha reliability coefficient was calculated as .94. In order to determine fourth grade students' attitude toward music, a music scale developed by Öztürk and Kalyoncu (2014) was used. The scale consists of single factor with 5 points Likert Scale and it has 14 positive, 11 negative totally 25 items. The minimum and maximum scores were 25 and 125, respectively. Cronbach alpha reliability coefficient for the current study was calculated as .95. A high point refers to high and positive attitude. Data analyses were performed using the Statistical Package for the Social Sciences (SPSS) software 15.00 version. Independent t-test, Pearson correlation and regression analysis were used.

FINDINGS

Fourth grade students' mathematics and music attitude scores were compared with independent t-test according to gender (Table 1).

Table 1. Attitude scores according to gender

Scale	Gender	N	Mean (X)	SD	df	t	p
Math Attitude	Male	74	120.97	25.16	158	2.083	.039
	Female	86	**128.02**	17.42			
Music Attitude	Male	74	97.79	22.03	158	5.578	.000
	Female	86	**113.69**	13.55			

Table 1 showed that there was a significant difference between male (X=120.97) and female (X=128.02) students' mathematics attitude scores ($t_{(158)}$ = 2.083, p< .05), which means that girls have higher positive attitudes toward mathematics than boys. However, considering the highest score (150) that can be taken from the scale, boys have positive attitudes, i.e. their score was 120.97. According to Table 1, there was a significant difference between male (X=97.79) and female (X=113.69) students' music attitude ($t_{(158)}$ = 5.578, p< .05). It shows that girls have higher positive attitudes toward music than boys. However, it can be said that boys' music attitude scores is positive considering highest score (125) that can be taken from the scale. Therefore, it can be concluded that all the students have positive attitude toward mathematics and music, which is in agreement with the other studies (Tezer and Karayel, 2010; Tezer and Kıvanç, 2012; Babacan, Babacan and Pirgon, 2011; Koca, 2013; Yücel and Koç, 2011). In our study, the girls have higher attitudes than boys and our findings were supported by Uluocak and Tufan (2011), Nacakcı (2006). Although Koca (2013), Köğce, Yıldız, Aydın and Altındağ, 2009 and Yücel and Koç (2011) did not find any difference among the genders, Babacan, Babacan and Pirgon (2011) observed higher scores for boys.

To determine relationship between fourth grade students' mathematics and music attitude scores, Pearson correlation was calculated and the results were given in Table 2.

Table 2. Fourth Grade students' attitude scores and Pearson correlation

Scale	N	Mean (X)	SD	r	p
Mathematics Attitude	160	124.76	21.57	0.32	.000*
Music Attitude	160	106.34	19.60		

*Correlation is significant at the 0.01 level (2-tailed)

According to Table 2, there was a meaningful, medium and positive relationships between the attitude scores of students toward mathematics and music (r=0.32, p< .01). A correlation from r= ± .30 to r= ± .49 indicates a medium correlation (Cohen, 1988). Considering the mean of students' scores of attitude toward mathematics and music, it can be said that they were above the average and have significant positive attitude towards both disciplines. In another study, Tezer and Kıvanç (2012), found that a weak positive relationship between the attitudes of the prospective teachers towards mathematics and music.

The third sub problem was "Do attitudes towards music have an important effect on mathematics attitudes?". Simple regression analysis was used to investigate the effect of music attitude on mathematics attitude and the result was given at Table 3.

Table 3. Regression analysis predicting score of music attitudes on mathematics attitudes

	B	Std. error	β	t	p
Constant	87.521	8.971	.318	9.756	.000
Music Attitude	.350	.083		4.221	.000

Table 3 shows that students' music attitudes was a significant predictor of students' mathematics attitudes (R=0.318, R^2=.10, $F_{(1,158)}$=17.814, p<.01). It can be expressed that 10% of total variance related to mathematics attitude was explained by music attitude, which is in agreement with the study of Tezer and Kıvanç (2012).

CONCLUSIONS
In this study, results revealed that fourth grade students have positive attitude toward mathematics and music. Girls have higher positive attitudes toward mathematics and music than boys. However all students' attitude were above the average. It was found that there was a significant, medium and positive relationship between the attitude scores of students toward mathematics and music. Students' music attitudes were a significant predictor of students' mathematics attitudes. 10% of total variance related to mathematics attitude was explained by music attitude. Determining student's attitude is critical because they affect their success, skills and their future career. If their teacher aware of the importance of their attitude, he/she may alter their negative attitude and it is much easier in early age. The effects of music and mathematics on the other subjects may also need to be determined. Expressing the scientific relationship between mathematics and music during the courses may positively alter the attitudes of students towards mathematics

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BATI ANADOLUDAN BİR DÜNYA DEVLETİ OLAN ROMA KENTİNE

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ÖZET

Roma kelimesinin anlamı "Nehrin Şehri" ya da "Ruma'nın Şehri"dir. Ruma; Etrüsk ailesine ait demektir. Herodot'a göre, **Etrüskler Batı Anadoluda Lidya'dan İtalya'ya göç etmişlerdir**, pek çok tarihçi Etrüskler ile doğu uygarlıklarının adetleri arasında bağ kurmaktadır."ANADOLU'NUN LİDYA bölgesinde kral Atyos zamanında şiddetli bir açlık baş gösterdi. Kral halkını ikiye ayırdı… TYRRHENOS adlı oğluna bir grubu alıp kendine yeni bir vatan aramasını söyledi. "TYRRHENOS yanındakilerle birlikte **İzmir**'e geldi, Adriyatik yolu ile İtalya'nın doğusundaki Umbriya sahillerine ulaştı ve oraya yerleşti. LİDYALILAR İtalya'ya varınca liderlerinin adını aldılar: THYRRHEN "İtalya'nın batısındaki, deniz TİRHEN DENİZİ olarak bilinir. Eski çağların önemli yazarı Plutarkhos da "Romülüs'ün Hayatı" adlı eserinde, "ETRÜSKLER'in İtalya'ya gelmeden önce LİDYA'DA yaşamış olduklarını yazar.

Anahtar Kelimeler: Batı Anadolu, Etrüskler, Lidya, Veii kenti

STATE OF THE WORLD FROM WESTERN ANATOLİA TO ROME CITY

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SUMMARY

Roman word meaning "River City" or "City of Ruma" is. Ruma; Etruscan family of means. According to Herodotus, the Etruscans emigrated to Italy from Lydia in western Anatolia is to establish a link between the number of many historians Etruscan civilization to the east. "Atyos time king of Lydia in Anatolia showed a severe head hunger. King divided the people ... its a new home he calls his son to take a group called TYRRHENOS. "With next TYRRHENOS he arrived in Izmir, to the east of Italy by the Adriatic coast road that reached the Umbria and settled there. LYDIANS took the name of their leader when they're in Italy: THYRRH that "Italy to the west, known as the sea TİRH SEA. Plutarchia important writers of the ancient times, "Romulus LIFE" in his book, "Etruscan author LİDYA they lived in before coming to Italy.

Keywords: Western Anatolia, Etruscans, Lydia, the city of Veii

GİRİŞ

İtalya'nın Etrüsklerle başlayan tarihi, Roma Cumhuriyeti ve Roma İmparatorluğu Döneminde bütün Akdeniz bölgesine egemen olmuş, Rönesans döneminde Avrupa sanatı, kültürü ve felsefesine damgasını vurmuştur.

M.Ö.474 de Etrüsklerin Veii kenti ile Roma arasında imzalanan barışa rağmen Roma saldırılarını sürdürdü. Roma Sentinum savaşını kazanarak güçlenmiştir.[1] M.Ö 396 yılında Etrüsklerin en büyük kenti olan Veii kentinin Romalılar tarafından istilası ile sona eren bu uygarlık Roma kültürüne damgasını vurmuş, Roma kültürünün, mimarisi ve sanatına çok büyük bir etki yapmıştır. Antik Roma döneminde ilk altın çağını yaşamıştır.

Etrüsk ülkesi olarak tanımlanabilecek ana bölgenin sınırlarını kuzeyde Arno ve doğuda Tiber dereleri, batıda Tiran denizi ve güneyde Roma şehri oluşturuyordu. Etkin oldukları bölgeler ise, batıda Elba ve Korsika adaları, kuzeyde Piacenza, Parma ve Bologna şehirleri, kuzeydoğuda Ancona, Ravenna ve Adria şehirleri ile güneyde Napoli ile Pompei sayılabilir.[2]

 M.Ö 8000 Lombardiya'daki Val Camonica vadisinde kayalara oyulmuş resimler İtalya adı İtalya yarımadasının orta kısmındaki Abruzzo bölgesine yerleşmiş olan İtalik kavimlerden gelmektedir.

MÖ 9. yüzyıla kadar uzanan bu kavimler arasında Sabinler, Samnitler ve Umbriler bulunmaktadır. Roma İmparatoru Caesar Augustus'un zamanında bütün bu kavimler İtalya adı altında birleştirilerek Roma İmparatorluğunun çekirdeğini oluşturmuştur. İtalya'nın Magna Grecia (Büyük Yunan kültürü) ve Etrüsklerle başlayan tarihi, Roma Cumhuriyeti ve Roma İmparatorluğu döneminde bütün Akdeniz bölgesine egemen olmuş, Rönesans döneminde Avrupa sanatı, kültürü ve felsefesine damgasını vurmuştur.

TARİH ÖNCESİ (PREHİSTORİK) DÖNEMİ

Uygarlık ilk olarak Yakındoğu da büyük hilalin dağlık yamaçlarında ve hilalin kuzeyindeki düzlüklerde bulundu. (Prof.Breasted'in "bereketli hilal"i Nil, Dicle ve Fırat ırmaklarının aşağıdaki verimli alüvyonlu vadilerini kapsar. Hilal'in kapsama içinde olan bizim dağlık yamaçlarımız, Mısır'dan başlayıp, Filistin ve Suriye'nin içinden geçerek Güney Türkiye boyunca Kuzey Irak'a uzanır ve İran'ın güneybatı sınırını izler.[3]
Ege Dendrokronoloji Projesi Cornell Üniversitesinden Peter I.Kuniholm'un 1973 den beri yaptığı araştırma Kars'tan İtalya'da Calabria'ya kadar olan Neolitik Dönem'e kadar ilerletmiştir.[4] İtalyada Eski-taş (Paleolithicum) toplayıcılık zamanını yaşadıklarını göstermiştir. Fakat bu devir pek zayıftır. İlk tabaka (Chelleen ve Acheuleen) çok azdır. Eski taş devrinin sonlarına (Aurignacien ve Magdalenien) İtalya'da Grimaldi kültürü denen intikal devri göze çarpar Korsika ve Sardinya adalarında ise Eski taş devrinden hemen hiçbir şey bulunamamıştır.

İtalya yarımadasındaki insan varlığının izleri İtalik kavimlerin yarımadaya ulaşmalarından çok öncelerine, Yeni Taş Çağı'na kadar dayanır.

Lombardiya'daki Val Camonica vadisinde MÖ. 8000 yılında kayalara oyulmuş resimler bulunmuştur. M.Ö.1500-1100 yılları civarında kuzey İtalya'da izlerine rastlanan Terramare kültürü ise, Tunç Çağına ait balta, kılıç ve hançer günümüze kadar ulaşmıştır.

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[1] Demircioğlu, 1987: 16-22.
[2] The Eternal Etruscans, Rick Gore, National Geographic, Haziran 1988.;According to Félix Gaffiot's Dictionnaire Illustré Latin Français, Tusci was used by the major authors of the Roman Republic: Livy, Cicero, Horace, etc. A number of cognate words developed: Tuscia, Tusculanensis, etc. This was clearly the major word used for things Etruscan. Etrusci and Etrūria were used less often, mainly by Cicero and Horace, and without cognates. According to the Online Etymological Dictionary, the English use of Etruscan dates from 1706.

[3] Robert, J.Braidwood., Tarih Öncesi İnsan, Arkeoloji ve Sanat Yayınları (çev.Bilgi Altınok). Arkeoloji ve Sanat Yayınları, İstanbul l990. S.201.
[4] Sevin, V. Eski Anadolu ve Trakya, Başlangıcından Pers Egemenliğine kadar, İletişim Yayınları, İstanbul 2003. S.77.

Demir Çağının örnekleri M.Ö 11.-7. yüzyıllar arasında Bologna civarında yerleşmiş Villanova kültürüne aittir. İtaliklerin ölülerini yakanlar (Latino-Falisk grubu) ve "Umbro-Osk" ölülerini gömmektedirler.[5] İtalya'da demir çağı Etrüskler ile Villonova bölgesinde M.Ö. 1200'lerde başlamıştır. Latinler kendi medeniyetlerini Etrüsk mirası üzerine kurmuşlardır.[6]

Demir, tarihte ilk defa olarak Hititler tarafından bu topraklarda işlenmiş ve dünya medeniyetinde, bilhassa savaş alanında büyük inkılâplardan biri demirin bulunup işlenmesiyle bu topraklarda gerçekleşmiştir.[7]

M.Ö. 3. binin sonlarına doğru Anadolu'da görünen Etrüskler, Hititler 'in ortaya çıkması sonucunda Samsun dolaylarına çekildiler. Amazonların Amasya civarını mesken edinmeleri bu yüzdendir. Bundan sonra da batıya göç ederek, Ege sahillerine geldiler. Amazonların (Oiopata'lar)[8] M.Ö. 2. bin yılın başlarında Kafkasya'dan gelip Anadolu'nun batısını ele geçirdikleri söylenir. Amazon etkisinin M.Ö.3000-2000 arasında Samsundan Kafkasya' ya uzandığını, sonra batıya kaydığını gösterir.

Eski Romalılar, Truva (Troya) savaşından kurtulan Truvalıların İtalya'ya göç ettiklerini ve Latinlerin atası olduklarına inanırlardı. Bulgar bilim adamı Viladimir Georgiyev de Truvalılar ile Etrüskleri aynı soydan sayar. "Kralları Enea ile Troyalılar İtalya'nın batısına yerleşip Yeni Troya'yı kurdular. Ayrıca Herodot, Strabon, Servius, Seneka, Solinus, Tacitus, Plütark, Festus, onların BATI ANADOLU menşeli olduklarını bildirmiştir." Troia'nın Düşüşü (Hititlerin çözülüşü gibi) İ.Ö.1200'lere tarihleniyordu.[9]

İTALYA'NIN ETRÜSK'LERLE BAŞLAYAN TARİHİ

İtalya'da Etrüsk çağı, TRUVA savaşından sonra, M.Ö. 13.Asırda başlamış, Romalıların son Etrüsk şehri olan Volsini'yi yıktıkları M.Ö. 265 yılına kadar devam etmiştir. Etrüskler, o zaman köy kültürü içinde bulunan İtalya'ya Anadolu'dan kent kültürünü getirmişlerdi. Kendileri İtaliklerden oldukça üstündüler. M.Ö.10.yy. ve M.Ö.8.yy. olmak üzere iki göç dalgası halinde geldikleri anlaşılmaktadır. Onların, Anadolu'dan Frig'lerin baskısı sonucu geldikleridir.

MÖ 9.yüzyılda İtalya Yarımadası'nda kurulan Roma şehir devletinden doğan bu uygarlık zamanla tüm Akdeniz'i çevreleyen muazzam bir imparatorluk haline gelmiştir.

 M.Ö. 8. Yüzyılda Palatino tepesinde ilk yerleşmelerle başlar. Buranın yerli halkı dillerini Latinlerden almış, Jupiter, Mars ve Quirinus gibi Latin tanrıları için şehir merkezine tapınaklar inşa etmişlerdir. Roma Cumhuriyeti ve Roma İmparatorluğu Döneminde bütün Akdeniz bölgesine egemen olmuş, Rönesans döneminde Avrupa sanatı, kültürü ve felsefesine damgasını vurmuştur.

M.Ö. 540'de Etrüskler, Phokaia/lıları, Kartaca ile birleşip yenerek Alalia'da büyük bir zafer kazanarak Elbe adasını, Sardunya ve Korsika'yı ele geçirdiler.

M.Ö. VI. yy.da İtalya'da güçlü bir Etrüsk ve bütün İtalya Etrüsk kontrolünde idi.[10] Avrupa'da o dönemin iki süper devletinden biri Etrüskler, diğeri de Greklerdi. Bu bakımdan bu savaşın önemi kolayca anlaşılır.

M.Ö.6.yüzyılın sonlarına doğru Romalılar Etrüsk krallarını Roma'dan kovdular. Bu durum güneydeki Etrüsk egemenliğini de sarsmıştı. Campania bölgesiyle ilişiği kesilen Etrüskler M.Ö.447 de Helenlere yenilmekle deniz egemenliğini kaybettiler.[11] Etrüskler, Latium ve Roma'yı yitirmiş olmayı bir türlü içlerine sindirememişlerdi. Bu mücadele, V. Yüzyıl boyunca yüz yıla yakın bir zaman sürer. Bu savaşlar olurken, kuzey doğudan Sabin'lerin de saldırılarını göğüsledi.[12] Roma ile süregelen uzun mücadeleleri sonucu en ünlü ve zengin kenti olan Veii kenti de Roma eline geçti.   M.Ö.396. Diğer yandan Keltler/Galler'in saldırısıyla kentleri yakılıp yıkıldı ve tüm siyasal etkinliklerini yitirdiler. M.Ö.321 Roma'ya karşı başlatılan ayaklanma ise yenilgiyle sonuçlandı. M.Ö. 295

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[5] Parmaksızoğlu, İ.- Çağlayan, Y., Genel Tarih I. Eski Çağlar ve Türk Tarihinin İlk Dönemleri, Funda Yayınları Ankara 1976. S.222.; Demircioğlu, H., Roma Tarihi I.C. Cumhuriyet, I.Kısım Menşelerden Akdeniz Havzasında Hakimiyet Kurulmasına Kadar. Ankara l993.s.l2.

[6] Bahar, H., Eskiçağ Uygarlıkları, Kömen Yay. Konya, Ekim.2010.s384-385.

[7] Öztuna, Y. Türk Tarihinden Yapraklar, Ötüken Yayınları, İstanbul, 2005. S.54.

[8] Herodot Tarihi (çev. Müntekim, Ökmen- Azra Erhat, İstanbul 1973. IV. 110,115, 117, 262).

[9] Lloyd, Seton., Türkiye'nin Tarihi Bir Gezginin Gözüyle Anadolu Uygarlıkları, TÜBİTAK Popüler Bilim Kitapları (Çev.Ender Varihlioğlu, 1997, Ankara. s.54,

[10] Parmaksızoğlu, İ.- Çağlayan, Y., s.223.

[11] Parmaksızoğlu, İ.- Çağlayan ,Y., s.223

[12] Tanilli S., s.428

Etrüskler, son bir çaba ile "Müttefikler Savaşı"nı açtılar. Ancak Roma'nın kazandığı "Sentinum Zaferiyle" sonuçlandı. Etrüsk kentleri İtalya'nın siyasal ortamından iyice silindi.

M.Ö. 4.yy'da Roma bütün Lazio bölgesini ve İtalya'nın birçok bölgesini kontrol altına almıştı. Bunların arasında birçok İtalik toplum ve Etrüsk medeniyeti de bulunmakta idi. Aynı zamanda Galler ve Yunanlılar da silahlarını Romalılara teslim etmişlerdi. Roma kenti, Etrüsklerin hâkimiyet bölgesinde kurulmuş olup Romalıların Veii kentini talan etmelerine kadar Etrüsklerin yönetimindeydi.[13]

M.Ö 396 yılında Etrüsklerin en büyük kenti olan Veii kentinin Romalılar tarafından istilası ile sona eren bu uygarlık Roma kültürüne damgasını vurmuş, Roma kültürü, mimarisi ve sanatına çok büyük bir etki yapmıştır. Antik Roma döneminde ilk altın çağını yaşamıştır. İtalya'ya uygarlığı ilk kez Batı Anadolu halkı getirmiştir. Romalılar ise onların kültür ve Uygarlıklarını özümsemişlerdir. Roma devlet geleneğine yerleşen siyasal kurumlar, zafer alayları gibi askeri uygulamalar, savaş arabaları, kubbeli bina yapma, kentleşme gibi sanat ve teknik uygulamaları İtalya'ya Etrüskler taşımışlardır. Etrüsk mirası Roma'nın gelişmesinde önemli bir yer tutar. Diğer yandan sosyal kurumlarının, özellikle din ve tanrı anlayışının Roma'daki izleri çok sonra bile yaşamış ve unutulmamıştır.[14]

M.Ö.270'de artık Roma bütün İtalya'yı kontrol altında tutuyordu. M. Ö. 201'de Roma Cumhuriyeti Kartaca savaşları ile bütün Akdeniz'i ele geçirmişti. Roma'nın sınırları böylece doğuda Büyük İskender'in krallığına kadar uzanıyordu. Batıda ise Galler ve İspanyol toplumlarını kendine bağlıyordu.

Sezar-Döneminde Roma Cumhuriyetten İmparatorluğa geçiş dönemine girer. İmparatorluk ilk önceleri Senato'dan gönüllü halk tarafından kontrol edilen yargı organları tarafından yönetiliyordu. Ancak bu yönetim bir süre sonra yerini dikta ve askeri rejime bırakmıştır. Sınırları çok genişlemiş olan Roma gücünü kaybetmektedir. Şehir, politik merkez olmaktan çıkmış, Senato artık Roma'da yaşamamaktadır. Barbarların işgallerinden sonra düşüş, doruk noktasına ulaşmıştı. Ancak şehir manevi gücünü asla kaybetmemiştir.

Sonuç olarak; Bu bilinç onu dünyanın merkezi yapmıştı. Hıristiyanlık merkezi olmasıyla Dünya'nın merkezi olduğu gerçeği pekişmekteydi.

ETRÜSKLER 'in KÖKENİ

İtalya'nın Tiber ile Arno nehirleri arasında yer alan Etruria ya da Toscana bölgesinde yaşamış olan ve M.Ö. 6. yüzyıla dek varlığını sürdürmüş bir halkın adıdır. Roma kentinin kendisi Etrüsk topraklarına dâhildi. Etrüskler, Grekler tarafından Tyrrhenoi, Tyrsenoi; Tyrhennes isimleriyle tanımlanırken, kendileri ise, liderlerinden birinin adına bağlantılı olarak, Rasna, Rasenna, Rasegni isimlerini vermişlerdir.[15]   Romalılar tarafından Etrusci, Tursci, Tusci adlarıyla tanımlanmışlardır. Tursha ismi Mısır yazıtlarında Tursch şeklinde geçmektedir ki, bu sözcük Toorshah olarak telaffuz edilmektedir.[16]

Herodotos, Historia isimli eserinde, Lydia kralı Atys'ın oğlu Tyrrhenus önderliğindeki bir topluluğun, beliren kıtlık nedeniyle, deniz yoluyla İtalya'ya göç ettiğini ve onun adına izafeten de Tyrrhenler ismini aldıklarını yazmaktadır.[17]

Etrüskler İtalya'daki diğer kavimlerden çok daha ileri bir uygarlık düzeyindeydiler.

Etrüskler kent devletleri halinde yaşamış olmakla birlikte, Apeninler Yarımadasında "İLK BÜYÜK SİYASAL GÜCÜ" oluşturmayı başarmışlardır.

Etrüskler 'in en önemli yanı "KÜLTÜR TAŞIYICISI" rolünü üstlenmiş olmalarıdır. Özellikle Hellen kültürünün taşıyıcısı olarak öncelikle Roma ve Orta Avrupa üzerinde büyük etki yapmışlardır.[18]

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[13] B.İplikçioğlu, Hellen ve Roma Tarihinin Ana hatları, s.65.
[14] Parmaksızoğlu, İ.- Çağlayan, Y., s.224.
15 Hall, J.F.Etruscan Influences on the Civilations of İtaly Antiquity to the Modern Era, Etruscan Leque PPR l6,M1.; Bahar, H.S.385.; Halicarnassus Dionysius I.30; Otto-Wilhelm Von Vacano, The Etruscans in the Ancient World, New York 1960, p. 1.
16Massimo Pallottino,The Etruscans, Harmondsworth, Middlesex 1955, p. 143; Michel Villey, Roma Hukuku Güncelliği (çev. Bülent Tahiroğlu), İstanbul 2000, s. 16.) a.g.e. p. 55. ; Tanilli S.Yüzyılların Gerçeği ve Mirası, İnsanlık Tarihine Giriş I.İlkçağ. Strasbourg, l983.s.4l5.
17 Herodotus.I.94.; Parmaksızoğlu, İ.- Çağlayan, Y., s.223
18 B.İplikçioğlu, Hellen ve Roma Tarihinin Ana hatları, s.65.

Roma uygarlığının, mitolojisindeki ilahlardan, hukukundan yol yapım tekniklerine kadar, kökünü hemen hemen tümüyle Etrüsk uygarlığından almış olduğu günümüzde saptanmış durumdadır.

İmperium kavramı, Roma'ya Etrüskler'den geçmiş olup, Roma, bu kavramı sadece felsefi anlamda değil, şekil bazında da Etrüskler'den almıştır. Imperium'u sembolize etmekte olan gerek consul'lerin kişisel donanımı, gerekse önlerinde giden askerler ve onların donanımı, Etrüsk orijinli geleneğin bir devamıdır.[19]Roma ordusu üzerindeki patricius'ların (aristokrat sınıf) tekelini kırarak plebs'lerinde (avam sınıf) orduya alınmasını temin eden, sınıflara ayırmak suretiyle, onun sistemli bir ordu olmasını sağlayan ve de ona phalanx düzeninde savaşmayı kazandıran Etrüskler olmuştur.[20]

Roma portre sanatındaki dış görünüşün tam olarak yansıtılmak isteniş ve gerçekçiliğe yöneliş üslubu, Etrüsklerin Roma sanatına bir mirasıdır.[21]

Roma'nın en çok bilinmesi yanı sıra, en önemli mitosu olarak kabul gören Remus ve Romulus efsanesindeki kurt motifi Asya bozkırları menşeli olup, Etrüskler aracılığıyla Batı Dünyası'na intikal etmiştir ki, bu efsanenin ürünü, Roma'nın sembolü vasfına haiz Remus ve Romulus'u emziren dişi kurt heykeli de bir Etrüsk eseridir.[22]

Roma mimarisi, yol yapımı ve su-taşıma teknikleri ile Tuscania düzeni ve atrium tarzını Etrüsklerden almışlardır.[23] Roma kentindeki Eski Çağın en eski ve en büyük circus'u olan Circus Maximus ile Cloaca Maxima ismini taşıyan kanalizasyon şebekesi Etrüskler tarafından inşa edilmiştir.[24] Roma kentinde kurulmuş ilk tapınak olan Capitolium'daki Iuppiter Tapınağı; Iuppiter, Iuno ve Minerva'dan oluşan üçlü tanrı ideali; tanrıların antropomorfik karakteri, Etrüskler'in Roma din ve inanç sisteminden taşınmıştır.[25] Roma denilince ilk akla gelen imgeler arasında ön sırada yer alan Roma amphitheatrum'larındaki gladyatör dövüşleri Etrüsk orijinlidir.[26]   Roma circus'larındaki Troia oyunları, Etrüsklerin Roma'ya hediyesidir.[27] Tiyatro sanatının temel öncüleri olan satura ve fescennini versus, Etrüskler'in Roma'ya bir kalıtıdır.[28]

Roma toga'sı, Etrüsk erkeği tarafından kullanılmış tebenna isimli pelerin çıkışlı bir giyim tarzıdır.[29] Roma diş hekimliğinde uygulanmış köprü yöntemi, Etrüskler tarafından tatbik edilmiş usulün tekrarı mahiyetindedir.[30] Roma, Latin alfabesini Etrüsklerden almış olup, Etrüskçe'den Latinceye belirli sayıda sözcük transferi gerçekleşmiştir. Örneğin, Latincedeki; histrio (aktör), subulo (flütçü), atrium (açık merkezi oda, sofa, salon), persona (maske, rol, karakter) vb. sözcükler Etrüsk'çe kökenlidir.[31]

Etrusca Disciplina'nın Etrüskler'in kendilerine ait yazılı bir örneği günümüze intikal etmemiş olup, Latin ve Grek yazarların eserlerinde küçük parçalar şeklinde bahsi geçmektedir.[32] Etrusca Disciplina, Etrüskler'in Romalılar'a naklettikleri birçok kültürel miras arasında yer almakta olup, Roma din ve inanç sisteminde mühim bir yer işgal etmektedir. Roma aristokrasisi Siyasi, sosyal ve askeri olayların istikametini tayin etmekte etkin bir

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[19] Jacques Heurgon, Daily Life of the Etruscans, New York 1964, p. 44.

[20] H.H. Scullard, a.g.e., pp. 222-225.

[21] Gina Pischel, "Roma Sanatı", Sanat Tarihi Ansiklopedisi-Görsel Güzel Sanatlar Ansiklopedisi I, İstanbul 1981, s. 129.

[22] Otto J. Brendel, Etruscan Art, Harmondsworth, Middlesex 1978, p. 253; İbrahim Kafesoğlu, Türk Bozkır Kültürü, Ankara 1987, s. 120.

[23] Axel Boëthius, Etruscan and Early Roman Architecture, Harmondsworth, Middlesex 1987, pp. 90, 102; Mortimer Wheeler, Roma Sanatı ve Mimarlığı çev. Zeynep Koçel Erdem, İstanbul 2004, s. 142, 143.

[24] Hugh Last, "The Kings of Rome", The Cambridge Ancient History VII, Cambridge 1964, pp. 370-406; Secda Saltuk, Antik Çağda Hipodromlar, Circuslar, İstanbul 2001, s. 21.

[25] Sabahat Atlan, Roma Tarihinin Ana Hatları-Kısım I Cumhuriyet Devri, İstanbul 1970, s. 19; Donald R. Dudley, Roman Society, Harmondsworth, Middlesex 1991, p. 22; Martin Thorpe, Roma Mimarlığı çev. Rıfat Akbulut, İstanbul 2002, s. 47; Çiğdem Dürüşken, Roma Dini, İstanbul 2003, s. 21.

[26]   Michael   Grant,   The   World   of   Rome,   New   York   1960,   p.   142.

27 Jacques Heurgon, a.g.e., p. 201.

28 Sema Sandalcı, Roma Edebiyatında Satura Türü-Kelimenin Kökeni ve Edebi Gelişimi, İstanbul 2001, s. 15.

29 Jacques Heurgon, a.g.e., p. 176.

30 Ralph Jackson, Roma İmparatorluğu'nda Doktorlar ve Hastalıklar (çev. Şenol Mumcu), İstanbul 1999, s. 116.

31 Raymond Bloch, The Origins of Rome, New York 1960, pp. 115, 116.

32 Alain Hus, a.g.e., pp. 89, 94. ; Murat Orhun Pamukkale Üniversitesi, Fen-Edebiyat Fakültesi, Tarih Anabilim Dalı, Eski Çağ Tarihi Bilim Dalı Akademik Bakış Cilt 3, Sayı 5 Kış 2009.

şekilde kullanmıştır.[33] Roma'nın kurucusu ve ilk kralı olan Romulus'un (MÖ 753-715), Roma kentini Etrusca Disciplina uyarınca nasıl kurduğunu ayrıntılı olarak yazmaktadır. Bu bağlamda, Herodotus'un aktarımındaki göç eden topluluğun, MÖ 8. yy.da İtalya'da tesis edilen hâkimiyet ve kültürün yaratıcısı Etrüsklerin ataları olan Turshalar'ın küçük bir grubu olması imkân dâhilinde olup, bu olayı MÖ 13. yy.ın sonlarına yerleştirmek icap etmektedir.[34]

ETRÜSKLERİN İTALYAYA GÖÇ ETMESİ

Romalıların Etrusci veya Tursci diye adlandırdıkları bu halkın İtalya yarımadasına ne zaman ve nasıl geldikleri üzerinde üç görüş vardır. Birinci görüş tarihçi Herodot tarafından ortaya atılmıştır. Etrüsk alfabesindeki bazı harflerin bir batı Anadolu kültürü olan Lidya alfabesindeki harflere benzemesi ve son dönem Etrüsk sanatında İyon sanatına benzer motiflerin görülmesi birinci görüşün kabul edilmesidir.[35]

Bu görüşlerin en çok bilineni ve büyük ölçüde kabul göreni ise, Tarihçi Herodot tarafından ortaya atılmıştır[36]. Herodot'a göre, (Herodotos (MÖ 484-420) Etrüskler, Batı Anadolu'dan göç etmişlerdir. Etrüskler 'in ana vatanı Anadolu'daki Lydia'dır.[37] Etrüsklerin deniz yoluyla Anadolu yarımadasından gelmiş olduklarını bildirir. Bu görüşe bilim adamları da katılmışlardır. Etrüskler Anadolu orijinlidir.[38] Ayrıca Lydia'lıların İtalya'ya göçmüş Etrüsk halkıyla hısımlığı konusunda Bilge Umar'ın İlkçağda Türkiye Halkı kitabında (s.l73-l74) bildirilmektedir.[39]

Eski çağların önemli yazarı Plütark da "Romülüs'ün Hayatı" adlı eserinde, "Etrüsklerin İtalya'ya gelmeden önce Batı Anadolu'da Lidya'da yaşamış olduklarını yazar. Lidya diye bilinen İzmir-Manisa bölgesinin esas adı Ludya'dır. Bu adı kral Lydus'tan almıştır. Daha önceki adı Meonya' dır. İyonlar'ın, Kimmerler'in istilasına uğramış bir bölgedir.[40]

İkinci görüşe destek olarak, İsviçre'nin Chur şehrinde ('Kur'), kuzey İtalya'nın Val Camonica ile Piacenza bölgelerinde erken dönem Etrüsk sanat eserlerine ve yazı tarzına rastlanmış olması gösterilir. Chur müzesinde bulunan yazılı taşlar (steller) üzerinde Etrüsk harfleri ile hemen hemen aynı olan şekiller bulunmakta, anlamları halen çözümlenmemiştir.

Üçüncü, fakat tartışmaya en açık olan olasılık Etrüsklerin yerli halk oldukları ve hiçbir yerden gelmedikleridir. Etrüskler, İtalya'daki yerli ve yabancı tüm etnik unsurların, uzun bir tarihi ve kültürel süreç içerisinde, çeşitli etkilerle de yoğrularak, birbirlerini özümlemesi sonucu yepyeni bir kimlik kazanmasıyla meydana gelmiş, İtalya'nın yerlisi olan bir Kavimdir.[41] Halikarnasos Dionysius (M.Ö 60-M.S. 7) ise, Etrüskleri, İtalya'da çok eski zamanlardan beri var olan yerli bir kavim olarak kabul etmektedir.[42]

Etrüskler, İtalya'ya Alp Dağları üzerinden gelmiş olan Hint-Avrupa kökenli bir kavimdir.[43] (Kuzeyden –İsviçre Alpleri üzerinden kuzeydoğu Karadeniz bölgelerinden başlayarak Trakya'ya ve İtalya'ya yayılmış olduklarıdır.

Guido Barbujani başkanlığında on üç bilim adamı tarafından İtalya'da 2004 yılında yapılan ve Etrüsklerin genetik olgunlukları modern toplumların seviyesine sahip ve biyolojik olarak da homojen bir kavim olduğudur.

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33 G. Herbig, "Etruscan Religion", Encyclopaedia of. Religion and Ethics V (ed. J. Hastings), New York 1912, pp.   532,   537,   538.

34 G. A. Wainwright, a.g.m., p. 203; Mario Torelli, "History: Land and People", Etruscan-Life and Alterlife (ed. Larissa Bonfante), Detroit, Michigan 1986, p. 49.)
[35] Umar, B., İlkçağda Türkiye Halkı, İnkilap Kitapevi, İstanbul, l999, s.42-97.
[36]Dictionnaire Illustré Latin Français, Félix Gaffiot, Librairie Hachette.
[37]Dictionnaire Illustré Latin Français, Félix Gaffiot, Librairie Hachette).
[38]Henry Harrel-Courtés, Etruscan Italy, New York 1964, p. 10.

[39] Umar, Bilge, Lydia Bir Tarihsel Coğrafya Araştırması ve Gezi Rehberi.,İnkılap Yayınevi. İstanbul 2001.s.7.
40Bean, George E.   (İngilizce). Aegean Turkey: An archaeological guide ISBN 978-0-510-03200-5, 1967. Ernest Benn, Londra.
[41] Alain Hus, The Etruscans, New York 1961, pp. 79, 80).
[42] Halicarnassus Dionysius I.26, 30.
[43] H. H. Scullard, The Etruscan Cities and Rome, Ithaca, New York 1979, p. 43.

Genetik açıdan da, günümüzde İtalya'da yaşayan İtalyanlarla değil, Doğu Akdeniz ve Kuzey Afrika bölgesinde yaşayan insanlarla akraba olduklarını kanıtlayan antropolojik araştırmalar, kökenine ve de Doğulu görüşüne yepyeni bir ivme kazandırmıştır.[44]

Herodotos, Historia isimli eserinde, İsmini tanrı Manes'in oğlu Atys'dan alan Atyad sülalesi, Hitit kralı IV. Tuthaliya (MÖ 1250- 1220) ile çağdaştır.[45] Lydia kralı Atys'ın oğlu Tyrrhenos önderliğindeki bir topluluğun, beliren kıtlık nedeniyle, deniz yoluyla İtalya'ya göç ettiğini ve onun adına izafeten de Greklerin Tyrhenler/Tyrsenler olarak adlandırıldıkları Romalılar ise Tuscalar veya Etrüskler olarak adlandırmışlardır.[46]

Anadolu'nun batı bölgesinde Lidya kralı Atyos zamanında şiddetli bir açlık baş gösterdi. Kral halkını ikiye ayırdı. Tyrrhenos adlı oğluna bir grubu alıp kendine yeni bir vatan aramasını istedi. "Tyrrhenos yanındakilerle birlikte İzmir'e geldi, gemiler yaptırarak denize açıldı. Adriyatik yolu ile İtalya'nın doğusundaki Umbriya sahillerine ulaştı ve oraya yerleşti. Lidyalılar İtalya'ya varınca liderlerinin adını aldılar. THYRRHEN!" İtalya'nın batısındaki deniz şimdi bile TİRHEN DENİZİ olarak bilinir.[47]

Anadolu'da MÖ II. bin yılda Herodotos'un bahsettiği gibi şiddetli kuraklıklar sebebiyle sık sık açlık baş göstermiştir.[48] Bu durum, Hititlere ait metinlerden takip edilebilmektedir. M.Ö 1211 de Mısır firavunu Merneptah'ın (MÖ 1219-1210), Hititlere gemiler dolusu tahıl göndererek yardımda bulunmuş olması, olayın bir göstergesidir.[49]

 Dendrokronolojik araştırmalar da, bu dönemde normalin çok altında yağış kaydedildiğini, yani kuraklık hüküm sürdüğünü desteklemektedir. Örneğin, Gordion'da ele geçen ve M.Ö.1200 'lere tarihlenen bir tahta parçası üzerindeki ince ağaç halkaları bunun bir delilidir.[50] Çünkü ağaçlar her yıl gövdelerinde yeni bir halka oluştururlar. Bu halka, bol yağışlı yıllarda kalın, az yağışlı yıllarda ise, ince olur. Bu yoldan, ağaçların ne zaman dikildikleri ve geçmiş yıllarda iklimin nasıl geçtiği belirlenmektedir.[51]

  Etrüsk kenti olan Populonia'daki mezarlarda bulunan kılıçlar, Hititlerin Kadeş Savaşı'nda (M.Ö.1285) kullanmış oldukları kılıçlarla; kamalar, Kıbrıs Adası'ndaki Enkomi'de ele geçen ve M.Ö. XIII. yy.ın sonları ile M.Ö. XII. yy.ın başlarına tarihlenen kamalarla; bazı silahlar ise, Kafkaslar ve Hazar arasındaki Taliş bölgesinde bulunan silahlarla benzerlik göstermektedir. Pozzuoli, Civita Vecchia, Roma başta olmak üzere, İtalya'nın batı kıyı şeridinde ele geçen ağır el baltaları, Orta Anadolu'nun değişik yerlerine yayılmış durumda bulunan ağır el baltalarına benzemektedir. Bir kısmı, Troia'nın M.Ö. 1240-1100 tarihlenen Troia VIIb katındaki örnekleriyle tıpa tıp aynıdır. [52]. Troia VIIb katı ise: 1-VIIb1 (M.Ö. 1240-1190), 2-VIIb2 (M.Ö. 1190-1100) olmak üzere, iki alt kata sahiptir.

 Troia sözcüğü ise, Anadolu dilleri, ya da Grekçe ile izah edilemez. Halbuki, Etrüskçe'deki truia, labirent (dolambaç) anlamına gelmektedir ki, Troia'nın tarihi kimliğine yaraşan bir mana taşımaktadır.[53]

 Ege Göçleri 'ne katılan ve Mısır firavunu III. Ramses'le (M.Ö. 1198-1167) savaşan kavimlerin VIIb2 katı yerleşmesinde ikamet ettikleri tespit edilmektedir.[54] Mısır'daki Memphis Nekropolü'nün yabancılara tahsis edilmiş bir kısmına Rasetau ismi verilmesi de, Rasenna ile Tursha isimleri arasında bağlantı kurulması açısından dikkate değerdir.[55]

[44] Cristiano Vernesi vd. "The Etruscans: A Population-Genetic Study", American Journal of Human Genetics, LXXIV/4, 2004, pp. 694-704).

[45] Veli Sevin, "Lydialılar", Anadolu Uygarlıkları-Görsel Anadolu Tarihi Ansiklopedisi II, İstanbul 1982, s. 278.

[46] Herodotus I.94. ; Bahar, H.s.385.

[47] Parmaksızoğlu, İ.- Çağlayan, Y. S.223

[48] Elif Tül Tulunay, ile söyleşi, "Antik Çağda İtalya'da Yaşamış Doğu Kökenli Bir Halk Etrüskler", Bilim ve Ütopya, CXXXVIII, 2005, s. 11.

[49] Ali Muzaffer Dinçol, a.g.m. s. 51.

[50] Elif Tül Tulunay, a.g. söyleşi, s.11.

[51] Clare Goff, Arkeoloji (çev. Nejat Ebcioğlu), İstanbul 1979, s. 21.

[52] G. A. Wainwright, a.g.m. pp. 203, 204.

[53] Wilhelm Brandenstein, "Etrüsk Meselesinin Şimdiki Durumu",II. Türk Tarih Kongresi, IX/2, İstanbul 1943, s. 214.

[54] Ekrem Akurgal, Anadolu Uygarlıkları, İstanbul 1995, s. 247.

[55] Elif Tül Tulunay, a.g. söyleşi, s. 15.

Herodotos'un aktarımındaki göç eden topluluğun, M.Ö 8. Yüzyıl da İtalya'da tesis edilen hâkimiyet ve kültürün yaratıcısı Etrüsklerin ataları olan Turshalar'ın küçük bir grubu olması imkân dâhilinde olup, bu olayı M.Ö 13. yy.ın sonlarına yerleştirmek icap etmektedir.[56]

ETRÜSKLERİN DİNİ

Etrüsklerin dininde, başyeri, Tinia (Jüpiter), Uni (junon) ve Mnerfa (Minerva) dan oluşan bir yüce tanrılar üçlüsü alıyordu. Bu büyük göksel tanrılarla, ikinci derecedeki tanrılar kültünün yanı sıra, iyi ve kötü sayısız ruhlara inanış da vardı. Etrüsk dininde, Tanrıların yardımını kazanmak amacıyla, rahipler büyüye başvururlardı. Tanrılar ve ruhların yatıştırmak için, insan da kurban ediliyordu. Ayrıca büyülerin yanı sıra, kuşların uçuşuna, hayvanların bağırsaklarına, şimşeğe ve gök gürültüsüne bakıp kehanette bulunmak, rahiplerin gizli sanatıydı. Halktan bir kişi, tanrıların desteğini ya da kötü ruhlara karşı korunmayı, ancak bağlı olduğu askeri ve dinsel soyluların aracılığıyla elde edebilirdi.[57]

Çiçero'nun değindiği gibi, vahyedilmiş bir dindi ve 12'li sistemi temel alan bir ini siyatik örgütlenmeleri vardı..

İtalyan üniversitelerinden gelen bir grup genetik bilimci tarafından araştırma çerçevesinde M.Ö.7-3 yüzyıllar arasında yaşamış Etrüsklere ait 80 iskeletten alınan DNA örnekleri çok titiz bir çalışma ile günümüzde yaşayan çeşitli milletlere ait DNA'lar ile karşılaştırılmıştır.

SONUÇ

 Etrüsklerin genetiğinin diğer milletlere göre en çok bugünkü Anadolu Türkleri ile yakınlık gösterdiği ortaya çıkmıştır.[58]

Yunan efsanelerinde de sıkça anlatıldığı gibi bu durum antik çağda Anadolu'dan İtalyan yarımadasına yapılan göçlerle açıklanmıştır. M.Ö.14-12. Asırda görülen Ege kavimleri göçleri hakkında yazılı vesikaların verdiği bu bilgiler arkeolojik belgelerle tamamlanmaktadır. "Deniz Kavimleri" birbirlerinden kıyafetlerinin özellikleriyle ayrılmaktadır. Etrüskler ayrı bir kıyafettedirler. Başlarına bir Kızılderili başlığını andıran tüylerle dolu bir band bağladıklarıdır.[59]

Etrüskler' de devlet Kuzey-Orta-Güney olarak üçe ayrılmış, bunların her biri de 12 boya bölünmüştü. Bu bölünme, TÜRKLER 'in Sağ-Merkez-Sol sistemiyle aynı olduğu gibi, her kolun da 12 boya ayrılması aynıdır. Etrüskler, 12 sayısını kutsal görürlerdi

ETRÜSK DİLİ VE ALFABESİ

Kendilerine ait özgün bir dile sahiptiler. Konuştukları dilin bir Hint-Avrupa dili olmadığı bilinmektedir. Eklemlemeli (agglutinant) bir dil olması nedeniyle Batılı dilbilimcilerce kolayca anlaşılamamış olmasıdır. (Diğer eklemlemeli dillerden bazıları, Türkçe, Moğolca, Fince, Macarca, birçok Kafkas (Abaza'ca vs.) ve Ural dilleri, Hatti dili, Pelasg dili, Lidya dili, Maya dili, Kızılderili dilleri, Sümerce, Bask dili, Eskimo Dili'dir.) Etrüsk dili 22 sesten oluşmaktadır. (Türk Bağı Prof.Dr. Firudin Ağası oğlu, Çev. Hüseyin Adı güzel Hüseyin,)

Etrüsk yazısı günümüzde halen okunabilmiş değildir. Nedeni ise şekillerin Yunan ve Latin harflerine benzemelerinden dolayı onları harf olarak görmeleri ve o şekilde seslendirmeleridir. Etrüsk yazısı bir harf yazısı değildir. Bir hece yazısıdır. Yani her işaret bir hece olduğu gibi, üstelik her bir hece anlam içeren bir kök sözcüktür. Yazıdaki erken şekiller birer anlamlı 'damga' iken, zamanla anlam kaybına uğrayarak harflere dönüşmüşlerdir. İtalyan tarihçiler "Romalıların siyasi ve idari kuruluş şekillerini, ordu teşkilatını, altın işleme sanatını Etrüskler 'den öğrendiklerini" yazarlar. Etrüskleri Latinlerden farklı bulurlar. Latinler Etrüsklere TUSKİ (Tusci) derlerdi. Bu kelime Sonradan TOSKA olmuş, TOSKANA adı da Etrüskler 'in yaşadığı yer için kullanılmıştır.

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[56] G. A. Wainwright, a.g.m., p. 203; Mario Torelli, "History: Land and People", Etruscan-Life and Alterlife (ed. Larissa Bonfante), Detroit, Michigan 1986, p. 49). ; Orhun,M., Pamukkale Üniversitesi, Fen-Edebiyat Fakültesi, Tarih Anabilim Dalı, Eski Çağ Tarihi Bilim Dalı Akademik Bakış Cilt 3, Sayı 5 Kış 2009.

[57] Parmaksızoğlu, İ.- Çağlayan, Y., s.223

[58]Ver nesi et al. 2004.
[59] Kınal., F.Eski Anadolu Tarihi, Türk Tarih Kurumu Basımevi, Ankara l998. S.230.

Aynı durum 38 heceli Orhun kitabelerindeki yazı için de söz konusudur. Ne Yunancaya ne de Latinceye benzediği, Ural-Altay dil grubuna ait pek çok özelliğe sahip olduğu saptanmış durumdadır. Hem dilleri hem de gelenekleri bakımından Etrüsklerin Asya kökenli bir halk olduğudur. Türkoloji araştırmacıları Etrüsklerin yazılarında rastlanan harflerin Ön-Türklere ait runik yazıdaki (tamga-damga yazısı) işaretler olduğunu ileri sürmüşlerdir.

Etrüsklerden günümüze bir kaç anıt ve Latin yazarları tarafından yapılan alıntılar dışında fazla yazılı eser kalmamıştır. Çift dilli yazıtlara yeterince rastlanamamış olması. Etrüsk dilinde yazılı eserlerin bir kısmı grafitti halindedir; bir kısmı da, yalnızca ana baba, koca adını, çocuk sayısını bildiren mezar taşlarından ibarettir. En uzun Etrüsk el yazması İtalya'da değil, Mısır'da, 19.yy'da İskenderiye'de bulunan bir Mısır mumyasının üzerindeki sargılarda bulunmuştur.

Etrüsk toplumu ezoterik (gizlem-gizemli) değerlere önem veren ini-siyatik aktarım sözlü olarak yapılmaktaydı. Yazılar yalnızca yazıcı rahipler tarafından yazılır ve saklanırdı. Her ezoterik (gizliliğe) ve bilgilerini gizlemeye önem vermişlerdi. Rene Guenon'un değindiği gibi, mevcudiyeti bilindiği halde Etrüsklerin ilhama dayalı gerçek din kitapları da bu yüzden halen keşfedilememiştir.

Etrüsk alfabesi de, her herhangi bir sesi göstermeye yaramayan yabancı harfler hariç tutulursa, aslında 22 harfli bir alfabedir. Kimi Etrüsk yazıtları soldan sağa, kimi Etrüsk yazıtları ise sağdan sola doğru yazılmıştır. Amerikalı ve Avrupalı dilbilimcilerce sürdürülen çalışmalar bu dildeki sözcüklerin çok büyük bir kısmının Fin-Ugor, Macar, Sümer ve Türk dillerinde de bulunduğunu ortaya koymuştur. Türk tarih araştırmacısı, Kazım Mirşan Etrüsklerden kalan en önemli anıt olan Cippus kitabesini tüm olarak deşifre ettiğini ve bu dilin bir Proto-Türk lehçesi olduğunu açıklamıştır. (Kazım Mirşan, Etrüskler, Tarihleri, Yazıları ve Dilleri, MMB yayınları, Bodrum, 1998).

SONUÇ OLARAK:

 Etrüsk halkı hakkında bilinen, İtalya'nın şimdiki Toskana bölgesinde yaklaşık M.Ö. 1000 ile M.Ö. 100 yılları arasında yaşamış oldukları ve birçok kültür eseri bıraktıktan sonra tarih sahnesinden silinip Romalılara karışmış olduklarıdır (Haluk Berkmen).

Soyunu Kurt'a dayandıran halklar yalnızca Türkler, Moğollar ve Etrüsklerdir. Etrüsk dilindeki ve Türkçedeki sözcük benzerlikleri. Batı Anadolu halkının ölülerini gömmesi buna karşılık Latinlerin yakma teknikleridir.

Etrüsk iskeletleri üzerinde ve Anadolu'da yapılan DNA testlerinin sonuçları. Örneklerine yalnızca Anadolu'da rastlanan kulplu kazan gibi metalürji örneklerinin Etrüsklerde de görülmesidir. Etrüskçe'nin Türkçe gibi eklemeli (agglutinant) bir dil olması. Etrüsk yazısında kullanılan birçok yazı karakterinin Orta-Asya'da ve Doğu Anadolu'da rastlanan Ön -Türklere ait runik yazıdaki karakterlere eş olmasıdır.

Etrüsk alfabesindeki bazı harflerin bir batı Anadolu kültürü olan Lidya alfabesindeki harflere benzemesi ve son dönem Etrüsk sanatında İyon sanatına benzer motiflerin görülmesi.

 İkinci görüşe destek olarak, İsviçre'nin Chur şehrinde (okunuşu 'Kur'), kuzey İtalya'nın Val Camonica ile Piacenza bölgelerinde erken dönem Etrüsk sanat eserlerine ve yazı tarzına rastlanmış olması gösterilebilir. Chur müzesinde bulunan yazılı taşlar (steleler) üzerinde Etrüsk harfleri ile hemen hemen aynı olan şekiller bulunmakta, anlamları halen çözüm beklemektedir.

Son bulgulara da bakılırsa Etrüsklerin Türk kökenli oldukları ve Türkistan'dan geldikleri görülür. Kamunlar Vadisi ve İsviçre'ye yerleşen Türklerden bir kısmı olan Etrüskler Roma İmparatorluğu'nun da kökenidir. Roma İmparatorluğu'nun kurucularıdır. Etrüsk halkı ve kültürü zamanla Roma İmparatorluğu içinde erimiştir

Ancak unutulmamalıdır ki, Roma küçük bir şehir devletinden Batı Anadolu halkı olan Etrüskler sayesinde büyük bir imparatorluğa dönüşmüştür. İtalya'ya uygarlığı ilk kez Batı Anadolu halkı olan Etrüskler getirmiştir. Romalılar ise onların kültür ve Uygarlıklarını özümsemişlerdir. Roma devlet geleneğine yerleşen siyasal kurumlar, zafer alayları gibi askeri uygulamalar, savaş arabaları, kubbeli bina yapma, kentleşme gibi sanat ve teknik uygulamaları İtalya'ya Etrüskler taşımışlardır. Etrüsk mirası Roma'nın gelişmesinde önemli bir yer tutar. Diğer yandan sosyal kurumlarının, özellikle din ve tanrı anlayışının Roma'daki izleri çok sonra bile yaşamış ve unutulmamıştır.

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BEDEN EĞİTİMİ ÖĞRETMEN ADAYLARININ AKADEMİK MOTİVASTONLARI VE AKADEMİK BAŞARILARI ARASINDAKİ İLİŞKİNİN İNCELENMESİ

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Giriş

Öğretmen adaylarının akademik motivasyonlarının tespit edilmesi onların gerek öğrenim yaşantılarında ve özellikle de meslek yaşantılarındaki başarılarının yordaması açısından önemli görülmektedir. Öğretmen adaylarının akademik motivasyonlarını konu edinen farklı araştırmalara (Gürşimşek, 2002; Arıoğul, 2009; Eymur-Geban, 2011; Eğmir, Ödemiş, Bayar, Bayar & Kayır, 2013; Gömleksiz & Serhatlıoğlu, 2013) rastlanmasına karşın beden eğitimi öğretmen adaylarının akademik motivasyonlarını (Alemdağ, Öncü ve Yılmaz, 2014) bunun yanında öğretmen adaylarının akademik motivasyonları ve akademik başarıları arasındaki ilişkiyi inceleyen (Eymür ve Geban, 2011) sınırlı sayıda araştırmaya rastlanmıştır.

Beden eğitimi öğretmen adaylarının; kişisel ve mesleki alanda kendilerini geliştiren, yenilikleri takip eden, bilinçli, bilgiyi arayan ve yeni bilgiler üreten öğretmenler olmasında akademik motivasyonları ve akademik başarıları önemli görülmektedir. Buradan hareketle bu çalışmada beden eğitimi öğretmen adaylarının akademik motivasyonları ve akademik başarıları arasındaki ilişki incelenmiştir.

Yöntem

Araştırma genel tarama modelinde tasarlanmıştır. Araştırmanın katılımcıları yaş 147 (% 61.8)'si erkek ve 91 (%38,2)'i kadın olmak üzere toplam 230 kişiden oluşmuştur (yaş=21,37±2.206; not ort.= 260± .430) oluşmuştur. Araştırmada veri toplama aracı olarak Vallerand ve arkadaşları (1992) tarafından geliştirilen ve Türkçe adaptasyonu Ünal-Karagüven (2012) tarafından gerçekleştirilen "Akademik motivasyon ölçeği" kullanılmıştır. Araştırma verilerin analizinde ise tanımlayıcı istatistiklerden ve pearson korelasyon kat sayısı tekniğinden yaralanılmıştır.

Bulgular ve Yorumlar

Araştırmada beden eğitimi öğretmen adaylarının akademik motivasyon ölçeğinin genelinden $M= 4.71\pm.940$'lik bir ortalama elde ettiği görülmüştür. Bunun yanında bede eğitimi öğretmen adaylarının en yüksek ortalamayı 'bilmeye yönelik içsel motivasyon $M= 4.96$' ve 'belirlenmiş dışsal motivasyon $M= 4.96$' boyutlarından elde ettikleri görülmüştür. En düşük ortalamayı ise 'dışsal motivasyon - dış düzenleme $M= 4.65$' ve 'motivasyonsuzluk $M= 4.65$' boyutlarından aldığı görülmüştür. Araştırmada beden eğitimi öğretmen adaylarının akademik motivasyonları ve akademik başarıları arasın ise arasında pozitif yönde anlamlı düşük düzeyde bir ilişki görülmüştür ($p< 0.05$).

Sonuç ve Öneriler

Beden eğitimi öğretmen adaylarının akademik motivasyonları ve akademik başarıları arasındaki ilişkinin incelendiği çalışmada beden eğitimi öğretmen adaylarının akademik motivasyon düzeylerinin yüksek olduğu görülmüştür. Gömleksiz ve Serhatlıoğlu (2013)'da öğretmen adayları üzerinde yapmış oldukları çalışmalarında öğretmen adaylarının akademik motivasyon düzeyinin yüksek olduğu görülmüştür. Bu sonucun araştırma ile paralellik gösterdiği söylenebilir. Araştırmadan elde edilen bir başka sonuçta ise beden eğitimi öğretmen adaylarının akademik motivasyon düzeyleri ve akademik başarıları pozitif yönlü düşük düzeyde anlamlı ilişkiye rastlanmıştır. Eymur ve Geban (2011) yapmış oldukları çalışmalarında akademik motivasyon ölçeğinin bilgi ve uyarım yaşama alt boyutları ile akademik başarı arasında anlamlı bir ilişkiden söz etmiştir.

Araştırmalardan elde edilen bu sonuçtan hareketle akademik motivasyonun akademik başarıyı arttırmada önemli olacağı söylenebilir. Ayrıca öğretmen adaylarının akademik başarı düzeylerini etkileyen değişkenler tespit

edilerek yapılacak derinlemesine incelemelerle beden eğitimi öğretmen adaylarının akademik başarılarının arttırılmasına katkı sağlanabilir.

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BEDEN EĞİTİMİ ÖĞRETMENLERİNİN EĞİTİM TEKNOLOJİSİ STANDARTLARI İLE İLGİLİ ÖZYETERLİKLERİNİN İNCELENMESİ (SAKARYA İL ÖRNEĞİ)

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ÖZET

Bu çalışmanın amacı, beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterliklerini incelemektir. Araştırma tarama modelinde yürütülmüş, araştırmanın çalışma grubunu 2015-2016 eğitim öğretim yılında Sakarya ilinde ortaokul ve lise düzeyinde görev yapan 68 erkek ve 17 bayan beden eğitimi öğretmen olmak üzere toplam 85 gönüllü beden eğitimi öğretmeni oluşturmaktadır. ile yürütülmüştür. Çalışmada veri toplama aracı olarak Çoklar (2008) tarafından geliştirilen "Öğretmen Adaylarının Eğitim Teknolojisi Standartları İle İlgili Özyeterliklerini Belirleme Ölçeği" kullanılmıştır. Araştırma bulgularına göre beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterliklerinin genel olarak iyi düzeyde olduğu, ancak eğitim teknolojisi kullanımına ilişkin yasal mevzuat konusunda yeterli olmadıkları, cinsiyet ve eğitim durumu değişkenine göre özyeterlilik düzeylerinin anlamlı bir şekilde farklılaştığı görülmüştür.

GİRİŞ

Günümüzde eğitimde teknolojinin kullanımı artık olanaklardan ziyade bir gereklilik ve zorunluluk halini almıştır. İnsan hayatına yöne veren hemen hemen her sistem artık teknoloji ile entegre olduğundan, bireylerin donanımlı olarak yetiştirilmesinde, teknolojik yenilik ve gelişmelere adaptasyonun sağlanmasında eğitim kurumlarına önemli görevler düşmektedir. Eğitim süreci ile bireylerin bilgiye ulaşma, bilgiyi düzenleme, bilgiyi değerlendirme, bilgiyi sunma ve iletişim kurma becerileri ile donatılması hedeflenir (Akkoyunlu, 1995). Çünkü bilgi ve teknolojinin hızla gelişmesi bilgi toplumlarının ortaya çıkmasını sağlayarak, toplumların teknolojik gelişmeleri izlemeleri ve kendilerine uyarlamalarını zorunlu hale getirmiştir (Karataş ve ark., 2015). Dünyada ve ülkemizde de konunun önemine binaen çalışmalar yürütülmekte stratejiler belirlenmektedir. Avrupa Birliği "Eğitim ve Öğretim 2020 Raporu"nda bilimsel ve teknolojik ilerlemeler ve bilgi iletişim teknolojilerinde yaşanan devrim niteliğindeki dönüşümlerle bilgi çağı olarak tanımlanan 21. yüzyılda eğitim ve insan kaynaklarının geliştirilmesine yatırım yapılmasının ekonomik ve sosyal kalkınma için taşıdığı önemin arttığı ifade edilmektedir (Kavak vd., 2016). Ülkemizde Vizyon 2023 Projesi ile Cumhuriyetimizin 100. yılında, Atatürk'ün işaret ettiği muasır medeniyet seviyesine ulaşma hedefi doğrultusunda bilim ve teknolojiye hâkim, teknolojiyi bilinçli kullanan ve yeni teknolojiler üretebilen, teknolojik gelişmeleri toplumsal ve ekonomik faydaya dönüştürme yeteneği kazanmış bir "refah toplumu" yaratmak hedef olarak belirlenmiştir (TÜBİTAK, 2015).

Bu değişimlerin gerçekleşebilmesi için eğitim sistemindeki öğretmen, öğrenci, yönetici gibi sürecin aktif olarak içinde yer alan paydaşların eğitim teknolojilerine yönelik belirli yeterliliklere sahip olması gerekliliği öne çıkmaktadır (Orhan vd. ,2014). Öğrenme ortamında teknolojinin istenilen düzeyde kullanılmasında en önemli görev öğretmenlere düşmektedir. Bireylerin teknolojik olanaklarla donatılmış bir öğrenme çevresinde teknolojik ortamının gerektirdiği niteliklerle yetişebilmesi için teknolojiyi eğitim sürecine dâhil eden, gelişimini ve yeniliklerini takip eden öğretmenlere gereksinim olduğu şüphesizdir (Deniz ve Algan, 2007). Teknolojinin eğitim ve öğretime entegrasyonunda özellikle öğretmenlerin rolü çok önemlidir (Çakır ve Oktay, 2013). Eğitim

teknolojilerini öğretim ve öğrenme ortamlarını daha verimli, etkin ve nitelikli bir hale getirmek üzere kullanılmasının son yıllarda tüm gelişmiş ve gelişmekte olan ülkelerde gittikçe artan bir olgudur. Öğretmenler mesleğini etkili ve verimli biçimde yerine getirebilmeleri için bir takım genel bilgi, beceri ve tutumlara sahip olmaları gerekmektedir (Cabı ve Ergün, 2016). Bilgi ve iletişim teknolojilerinin öğrenme-öğretme sürecine entegrasyonunu sürecinde etkili olan değişkenler farklı ve çok boyutlu olsa da öğretmenlerin ayrı bir öneme sahip olduğu ileri sürülebilir (Ilgaz ve Usluel, 2011).

Eğitim teknolojisi; Association for Educational Communications and Technology [AECT] (2004) tarafından, performansı artırma ve öğrenmeyi kolaylaştırma için uygun teknolojik kaynakların ve sürecin yaratılması, kullanılması ve yönetilmesi ile yapılan etik uygulamalar ve çalışmalar olarak tanımlanmıştır. İlk kez 1993 yılında eğitim teknolojileri alanında kullanıcıların sahip olması gereken yeterlikleri tanımlayan standartlar oluşturan The International Society for Technology in Education [ISTE] en son 2008 yılında belirlediği uluslararası eğitim teknolojisi standartlarına göre öğretmenleri; dijital vatandaşlığı teşvikte model olan ve sorumluluk alan, teknoloji ile ilgili deneyimlerini kullanarak öğrencilerin öğrenmelerini kolaylaştırarak en üst düzeye çıkarmak, bilgi, beceri ve tutumlarını geliştirerek yaratıcı düşünmelerini teşvik eden, dijital araç ve kaynakların etkin kullanımında okul liderliği ve mesleki gelişim konusunda kendilerini profesyonel olarak sürekli geliştiren, küresel ve dijital çağın çalışma anlayışını temsil eden bireyler olarak tanımlamıştır. 2015 yılında yapılan bir değişiklikle bu standartların adı [ISTE Standards-T] "Öğretmenler için ISTE Standartları" olarak değiştirilmiştir (ISTE, 2015). ISTE'nin bu standartları geliştirilerek National Educational Technology Standards for Teachers [NETS-T] Öğretmenler için Ulusal Eğitim Teknolojileri Standartları belirlenerek uluslararası olarak eğitim teknolojilerinin kullanılmasında ilke standartlar olarak yaptığı etki ile dünyadaki pek çok ülkede kabul görerek ulusal standartların oluşturulmasında temel alınmıştır (Çoklar, 2008). NETS-T bütün öğretmenlerin sahip olması gereken yeterlik alanı ve performans göstergelerini sıralamaktayken güncellendiği dönemler göz önüne alındığında, dijital çağın gereksinimlerini karşılayabilecek öğretmenlerin temel alındığı görülmektedir (Orhan vd., 2014).

Ülkemizde ulusal düzeyde Milli Eğitim Bakanlığı [MEB] tarafından yayımlanan öğretmenlik mesleği genel yeterlikleri arasında bilgi ve iletişim teknolojileri [BİT]' ne yönelik olarak şu beceriler sayılmıştır (MEB, 2006). *Bilgi ve iletişim teknolojileri ile ilgili yasal ve ahlâki sorumlulukları bilir ve bunları öğrencilere kazandırır, teknoloji okur-yazarıdır (teknoloji ile ilgili kavram ve uygulamaların bilgi ve becerisine sahiptir), bilgi ve iletişim teknolojilerindeki gelişmeleri izler, meslekî gelişimini desteklemek ve verimliliğini artırmak için bilgi ve iletişim teknolojilerinden yararlanır, bilgi ve iletişim teknolojilerinden (on-line dergi, paket yazılımlar, e-posta, v.b) bilgiyi paylaşma amacıyla yararlanır, bilgi ve iletişim teknolojilerini de kullanarak, farklı deneyimlere, özelliklere ve yeteneklere sahip öğrencilere uygun öğrenme ortamları hazırlar, ders plânında bilgi ve iletişim teknolojilerinin nasıl kullanılacağına yer verir, materyal hazırlamada bilgisayar ve diğer teknolojik araçlardan yararlanır, teknolojik ortamlardaki (veri tabanları, çevrimiçi kaynaklar vb.) öğretme – öğrenme ile ilgili kaynaklara ulaşır, bunları doğruluk ve uygunlukları açısından değerlendirir, teknoloji kaynaklarının etkili kullanımına model olur ve bunları öğretir, öğrencilerin farklı ihtiyaçlarını dikkate alarak öğrenci merkezli stratejileri destekleyen teknolojiler kullanır, bilgi ve iletişim teknolojilerini kullanarak verileri analiz eder, bilgi ve iletişim teknolojilerini de kullanarak değerlendirme sonuçlarını veliler, okul yönetimi ve diğer eğitimcilerle paylaşır.*

Ülkemizde *"e-Dönüşüm Türkiye"* kapsamında üretilen ve ülkemizin bilgi toplumu olma sürecindeki eylemleri tanımlayan Bilgi Toplumu Stratejisi Belgesi, Kalkınma Planları, MEB Stratejik Planı ve BT Politika Raporunda yer alan hedefler doğrultusunda Fırsatları Artırma ve Teknolojiyi İyileştirme Hareketi [FATİH] projesi hayata geçirilmiştir. 2010 yılında başlatılan proje MEB ile Ulaştırma Denizcilik ve Haberleşme Bakanlığı'nın işbirliği içerisinde yürütülmektedir. FATİH projesiyle her "okula bilgisayar döneminden her sınıfa bilgisayar" dönemine geçiş amaçlanmıştır. Üç yıl içinde tamamlanması planlanan proje kapsamında sınıflara internete bağlı bilgisayar, akıllı tahta ve projeksiyon cihazının konulacağı belirtilmektedir (Kayaduman vd., 2011). Proje beş temel bileşeni içermekte, bu temel bileşenler; "Donanım ve Yazılım Altyapısının Sağlanması", "Eğitsel e-İçeriğin Sağlanması ve Yönetilmesi", "Öğretim Programlarında Etkin Bilişim Teknolojileri Kullanımı", "Öğretmenlerin Hizmetiçi Eğitimi", "Bilinçli, Güvenli, Yönetilebilir ve Ölçülebilir Bilişim Teknolojilerinin Kullanımı"dır (Yüksel ve ark., 2016).

Eğitim teknolojileri standartlarının sağlanması bilgi çağında sahip olunması beklenen temel becerilerin kazandırılmasında etkili görünmektedir (Demirarslan ve Usluel, 2005). Bu açıdan teknolojinin ve yeni öğretim tekniklerinin kullanılarak öğrenme etkinlikleri düzenleme becerilerinin de öğretmenlere kazandırılması gerekmektedir (Percival ve Ellington, 1988). Okullarda eğitimde teknoloji kullanımının daha çok fen bilimleri ve sosyal bilimler alanında akademik derslere yoğunlaştığı gözlemlenmektedir. Oysa bilişsel, duyuşsal ve psikomotor becerilerin kazandırılmasını bir arada barındıran beden eğitimi ve spor derslerinde de eğitim

teknolojilerinin kullanımı önemlidir. Spor eğitiminde teknolojik araç gereçlerin kullanım alanları şöyle özetlenmektedir; Fitnes ve spor etkinliklerinde teknoloji ürünlerinin kullanımı, motor beceri performansını geliştirme ve yükseltmede teknoloji ürünlerinin kullanımı, kişisel sağlığı takipte ve yükseltmede teknolojik ürünlerin kullanımı, geçici sağlık bilgileri elde etmeyi desteklemede teknoloji ürünlerinin kullanılması, insanların, bireysel ve toplumsal sağlıklarına ilişkin davranışlar kazanmada teknoloji ürünlerinin kullanılması, disiplinler arası çalışmaların desteklenmesinde teknoloji ürünlerinin kullanılması (biyoloji, sağlık, spor, vb.), spor eğitimi derslerinde derslerin verimli islenmesi ve ders dışında öğrencilerin verimli öğrenmeleri için teknoloji ürünlerinden yararlanma (Roblyer'den aktaran Yılmaz vd., 2010).

Beden eğitimi ve spor öğretim programında teknolojinin kullanımı sunulan materyaller ile öğrenmeye motivasyonu arttırdığı saptanmıştır (Thornburg ve Hill, 2004). Aynı zamanda beden eğitimi dersinde mental hazırlık, süreç ve değerlendirme işleyişinde aktarılan ve öğrenilen bilginin daha kalıcı ve tam öğrenilmiş olması için teknolojiyi kullanarak öğrencilerin dikkatlerini çekip bu bilgininin içselleştirilmesi sağlanmaktadır (Tanrıverdi, 2014). Araştırma sonuçları, beden eğitiminde teknolojinin bir ögretim aracı olarak kullanılması hem öğrenciler hem de öğretmen açısından yararlı olabileceğini gösterdiğinden, artık beden eğitimi öğretmenlerinin yaşam boyu spor, herkes için spor demelerinin yan sıra yaşam boyu teknoloji ve her yaşta teknoloji demeleri ve bunu yaşam tarzlarına yansıtmaları uygun olacaktır (Yaman, 2007). Bu noktadan hareketle bu araştırma ile beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterliliklerinin belirlenmesi amaçlanmıştır. Bu amaç doğrultusunda şu sorulara yanıt aranmıştır;
1-Beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterlilikleri ne düzeydedir?
2-Beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterlilikleri cinsiyet, okul türü, hizmet yılı ve eğitim durumu değişkenine göre değişmekte midir?

YÖNTEM
Bu çalışma; beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterliklerini incelemeye yönelik tarama modelindedir. Çalışmanın grubunu 2015-2016 öğretim yılında Sakarya ilinde ortaokul ve liselerde görev yapan 68 erkek, 17 kadın olmak üzere toplam 85 gönüllü beden eğitimi öğretmeni oluşturmaktadır. Çalışmada veri toplama aracı olarak Çoklar (2008) tarafından geliştirilen "Öğretmen Adaylarının Eğitim Teknolojisi Standartları İle İlgili Öz Yeterliklerini Belirleme Ölçeği" beden eğitimi öğretmenlerine uyarlanmış ve beden eğitimi öğretmenlerinin cevaplayacağı şekilde geliştirilmiştir. Ölçek iki bölümden oluşup birinci bölümde araştırma grubunun cinsiyet, görev yaptığı okul türü, hizmet yılı ve eğitim durumunu belirlemeye 5 soru, ikinci bölümde ise beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili yeterliklerini belirleyeme yönelik 28 madde bulunmaktadır. Ölçek maddeleri 5'li likert tipinde derecelendirilmiş, maddelerin her biri "Kesinlikle katılıyorum=5", "Katılıyorum=4", "Kararsızım=3", "Katılmıyorum=2" ve "Kesinlikle katılmıyorum=1" seklinde puanlandırılmıştır. Tek boyutlu olan ölçeğin iç tutarlık katsayısı analizinde Cronbach Alpha değeri 0,96 olarak bulunmuş, ölçeğin yüksek güvenilirlik kategorisinde olduğu görülmüştür. Verilerin analizinde öncelikle normallik testi uygulanmış, test sonucunda verilerin normal dağılımdan farklı olduğu görülmüştür (Tablo 1). Bu sonuca göre verilerin karşılaştırılmasında non parametrik testler tercih edilmiştir. Verilerin analizlerde betimsel istatistik tekniklerinin yanı sıra verilerin karşılaştırılmasında Mann Whitney U ve Kruskall Wallis H testlerinden yararlanılmıştır. İlişki ve fark analizlerinde p<.05 anlamlılık düzeyi yeterli görülmüştür.

Tablo 1. Eğitim teknolojisi standartları ile ilgili özyeterlilik ölçeğinden elde edilen puanların normal dağılım gösterip göstermediğini belirlemek amacıyla yapılan tek örneklem Kolmogorov-Smirnov testi sonuçları

Değerler		Ölçek Toplam Puanı
N		85
Parametreler	*M*	108,87
	ss	18,08
Kolmogorov-Smirnov Z		,173
p		.00*

BULGULAR

Tablo 2. Beden eğitimi öğretmenlerinin demografik özelliklerinin dağılımları

Cinsiyet	*f*	*%*
Erkek	68	80,0
Kadın	17	20,0

Okul Türü	f	%
Ortaokul	54	63,5
Lise	31	36,5
Hizmet Yılı	**f**	**%**
1-5 Yıl	23	27,1
6-10 Yıl	22	25,9
11-15 Yıl	20	23,5
16-20 Yıl	9	10,6
21-Yıl Üstü	11	12,9
Eğitim Durumu	**f**	**%**
Önlisans	4	4,7
Lisans	65	76,5
Yükseklisans	15	17,6
Doktora	1	1,2
Toplam	**85**	**100,0**

Tablo 2' ye göre beden eğitimi öğretmenlerinin % 80,0' i (68 kişi) erkek, % 20' si (17 kişi) kadındır. Okul türü olarak öğretmenlerin % 63,5' i (54 kişi) ortaokul, % 36,5' i (31 kişi) lisede görev yapmaktadır. Hizmet yılına göre öğretmenlerin % 27,1' i 1-5 yıl, % 25,9'u 6-10 yıl, % 23,5' i 11-15 yıl, % 10,6'sı 16-20 yıl arası, % 12,9' u ise 21 yıl ve üstü hizmete sahip oldukları görülmüştür. Öğretmenlerin büyük çoğunluğu (% 76,5) lisans, % 17,6'sı yükseklisans, % 4,7'si önlisans, % 1,2'si (1 kişi) doktora mezunudur.

Tablo 3. Beden eğitimi öğretmenlerinin eğitim teknolojileri standartlarına ilişkin özyeterliklerinin betimsel istatistik sonuçları

Maddeler	M	Sd
1.Bilgisayar teknolojisi ile ilgili genel kavramları açıklayabilir, temel işlemleri yapabilirim.	4,07	1,06
2.Eğitim teknolojilerinde kullanılan araçların nasıl çalıştığını açıklayabilirim.	3,96	0,73
3.Eğitim teknolojilerini etkili bir şekilde kullanabilirim.	3,96	0,87
4.Okulumuzda bulunan eğitim teknolojileri ile ilgili araçları tanımlayabilirim.	3,89	0,91
5.Beden eğitimi ve spor öğretim programının uygulanması sırasında öğrenmeyi desteklemek için internet (WEB) tabanından yararlanabilirim.	4,09	0,95
6.Öğretim süreci ile ilgili her türlü değerlendirme sonucunu öğrenci ve velilere ulaştırabilmek için teknolojik araçlardan yararlanabilirim.	4,18	0,90
7.Daha etkili bir öğretmen olabilmek için yeni eğitim teknolojileri konusunda sürekli olarak kendimi geliştiririm.	3,75	1,12
8.Daha etkili bir öğretmen olabilmek için eğitim teknolojilerine yönelik gelişimim konusunda kendimi değerlendirebilirim.	3,81	0,97
9.Öğretmenlik becerilerimi geliştirmek için çevrimiçi ortamda uzmanlar ve meslektaşlarımla fikir paylaşımında bulunabilirim.	3,89	0,94
10.Yaşam boyu öğrenmeyi sürdürebilmek için eğitim teknolojilerinden nasıl yararlanabileceğimi açıklayabilirim.	3,87	0,86
11.Öğretim uygulamalarının kalitesini artıracak programlardan (Microsoft Word, Excel, Powerpoint gibi) yararlanabilirim.	3,86	0,99
12.Eğitim teknolojilerinin nasıl kullanıldığını gözlemleyerek kendi öğretim sürecimde kullanabilirim.	3,93	0,95
13.Öğrencilerim, velilerim ve meslektaşlarım arasında işbirliği yapmak için whatsapp, e-posta, forum gibi iletişim araçlarından yararlanabilirim.	4,16	1,02
14.Eğitim teknolojilerinin kullanımının beden eğitimi ve spor dersi üzerindeki etkilerini açıklayabilirim	4,01	0,97
15.Eğitim ortamlarının planlanması için teknoloji kullanımı konusunda yapılan araştırma sonuçlarından yararlanabilirim.	3,98	0,96
16.Öğretim sürecini, ortaya çıkan yeni eğitim teknolojilerine göre şekillendirebilirim.	4,01	0,73
17.Öğretim sürecinde farklı teknolojik araçlar kullanmanın sağlayacağı yararlar konusunda öğrencilere bilgi verebilirim.	4,06	0,76
18.Öğrenme etkinliklerini planlamak için kullanılacak elektronik kaynakların uygun olup olmadığını açıklayabilirim.	3,94	0,81
19.Teknoloji kaynaklarının öğrencilerin kullanımı için uygun olup olmadığını değerlendirebilirim.	4,06	0,70
20.Teknoloji kullanımı konusunda ki yasal sorumlulukları açıklayabilirim.	3,67	0,93
21.Herhangi bir teknolojik sistemin kullanımı konusunda telif hakkıyla ilgili dikkat edilmesi gereken konuları açıklayabilirim.	3,54	1,08

22.Okulda güvenli bir teknoloji kullanımı için dikkat edilmesi gereken güvenlik önlemlerini açıklayabilirim.	3,62	1,05
23.Öğrencilerin yaratıcı ürünler oluşturabilmeleri için teknoloji kullanımına dayalı öğrenme etkinliklerinin uygunluğunu değerlendirebilirim.	3,79	0,89
24.Öğrencilerin öğrenmelerini ölçebilmek için teknoloji tabanlı farklı ölçme ve değerlendirme stratejileri kullanabilirim.	3,79	0,80
25.Teknolojik araçları öğretim süreci ile ilgili her türlü verileri işlemek ve raporlaştırmak için kullanabilirim.	3,95	0,79
26.Teknolojinin farklı öğrenci gereksinimlerini karşılayacak şekilde kullanılacağı ders planlarını tasarlayabilirim.	3,73	0,89
27.Tüm öğrencilerin teknolojik kaynaklardan yararlanabilmelerini sağlayacak şekilde bir planlama yapabilirim.	3,71	0,80
28.Teknolojilerden yararlanarak özel eğitim gereksinimleri bulunan öğrencilerin eğitimine yönelik özel öğrenme yaşantıları tasarlayabilirim.	3,56	0,96
Toplam	*3,89*	*0,91*

Tablo 3' e göre beden öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterliklerine ilişkin görüşlerinin genel ortalamasının olumlu olduğu (3,89±0,91), öğretmenlerin eğitim teknolojisi standartlarında kendilerini yeterli gördükleri görülmüştür. Öğretmenlerin eğitim teknolojisi standartlarına ilişkin özyeterliliklerini tespit etmeye yönelik her bir standart yeterliliğe vermiş oldukları cevaplar incelendiğinde; en yüksek ortalama ile öğretim süreci ile ilgili her türlü değerlendirme sonucunu öğrenci ve velilere ulaştırabilmek için teknolojik araçlardan yararlanabilirim (4,18±0,9), öğrencilerim, velilerim ve meslektaşlarım arasında işbirliği yapmak için whatsapp, e-posta, forum gibi iletişim araçlarından yararlanabilirim (4,16±1,02), beden eğitimi ve spor öğretim programının uygulanması sırasında öğrenmeyi desteklemek için internet (WEB) tabanından yararlanabilirim (4,09±0,95), bilgisayar teknolojisi ile ilgili genel kavramları açıklayabilir, temel işlemleri yapabilirim (4,07±1,06), öğretim sürecinde farklı teknolojik araçlar kullanmanın sağlayacağı yararlar konusunda öğrencilere bilgi verebilirim (4,06±0,76), teknoloji kaynaklarının öğrencilerin kullanımı için uygun olup olmadığını değerlendirebilirim (4,06±0,70) standartlarına ilişkin özyeterlilik düzeylerinin önde geldiği görülmüştür.

Yine tablo 3 incelendiğinde beden eğitimi öğretmenlerinin; teknoloji kullanımı konusunda ki yasal sorumlulukları açıklayabilirim (3,67±0,93), okulda güvenli bir teknoloji kullanımı için dikkat edilmesi gereken güvenlik önlemlerini açıklayabilirim (3,62±1,05), teknolojilerden yararlanarak özel eğitim gereksinimleri bulunan öğrencilerin eğitimine yönelik özel öğrenme yaşantıları tasarlayabilirim (3,56±0,96), herhangi bir teknolojik sistemin kullanımı konusunda telif hakkıyla ilgili dikkat edilmesi gereken konuları açıklayabilirim (3,54±1,08) standartlarına ilişkin özyeterliliklerinde karasız kaldıkları, karasız kalınan özyeterliliklerinin ise daha çok eğitim teknolojilerine ilişkin yasal mevzuat olduğu görülmüştür.

Tablo 4. Beden eğitimi öğretmenlerinin eğitim teknolojileri standartlarına ilişkin özyeterliklerinin cinsiyete göre göre farklılaşıp farklılaşmadığını belirlemek üzere yapılan Mann Whitney-U testi sonuçları

Cinsiyet	N	S.O.	S.T.	U	z	p
Erkek	68	46,18	3140,50	361,500	-2,382	.01*
Kadın	17	30,26	514,50			
Toplam	85					

Tablodan da anlaşılacağı üzere, beden eğitimi öğretmenlerinin eğitim teknolojisi standartlarına ilişkin özyeterliklerinin, cinsiyet değişkenine göre anlamlı bir şekilde farklılaşıp farklılaşmadığını belirlemek üzere yapılan non-parametrik Mann Whitney-U testi sonucunda, erkek öğretmenlerin lehine istatistiksel açıdan anlamlı bir farklılık saptanmıştır (p<.05). Bu sonuca göre erkek öğretmenlerin eğitim teknolojisi standartlarında özyeterliklerinin kadın öğretmenlere göre daha olumlu gördükleri söylenebilir.

Tablo 5. Beden Eğitimi Öğretmenlerinin Eğitim Teknolojileri Standartlarına İlişkin Özyeterliklerinin Görev Yaptıkları Okul Türüne Göre Göre Farklılaşıp Farklılaşmadığını Belirlemek Üzere Yapılan Mann Whitney-U Testi Sonuçları

Cinsiyet	N	S.O.	S.T.	U	z	p
Ortaokul	54	45,11	2436,00	723,000	-1,042	.29
Lise	31	39,32	1219,00			
Toplam	85					

Tablo 5' e görev, beden eğitimi öğretmenlerinin eğitim teknolojisi standartlarına ilişkin özyeterliklerinin görev yaptıkları okul türüne göre anlamlı bir şekilde farklılaşmadığı saptanmıştır (p>.05).

Tablo 6. Beden eğitimi öğretmenlerinin eğitim teknolojileri standartlarına ilişkin özyeterliklerinin hizmet yılına göre farklılaşıp farklılaşmadığını belirlemek üzere yapılan Kruskall Wallis-H testi sonuçları

Hizmet Yılı	N	S.O.	df	Ki-Kare	p
1-5 Yıl	23	38,93			
6-10 Yıl	22	43,80			
11-15 Yıl	20	40,25	4	3,177	.52
16-20 Yıl	9	55,22			
21-Yıl Üstü	11	44,91			
Toplam	85				

Tablo 6' ya göre, beden eğitimi öğretmenlerinin eğitim teknolojisi standartlarına ilişkin özyeterlikleri hizmet yıllarına göre anlamlı bir şekilde farklılaşmadığı saptanmıştır (p>.05).

Tablo 7. Beden eğitimi öğretmenlerinin eğitim teknolojileri standartlarına ilişkin özyeterliklerinin eğitim durumlarına göre farklılaşıp farklılaşmadığını belirlemek üzere yapılan Kruskall Wallis-H testi sonuçları

Hizmet Yılı	N	S.O.	df	Ki-Kare	p
Önlisans	4	14,50			
Lisans	65	46,52			
Yükseklisans	15	33,13	3	10,873	.01
Doktora	1	76,00			
Toplam	85				

Tablo 7' ye göre, beden eğitimi öğretmenlerinin eğitim teknolojisi standartlarına ilişkin özyeterliklerinin eğitim durumlarına göre anlamlı bir şekilde farklılaştığı görülmüştür (p<.05). Kruskal Wallis-H sonrası belirlenen anlamlı farklılığın hangi gruplardan kaynaklandığını belirlemek üzere tamamlayıcı karşılaştırma tekniklerine geçilmiştir. Bu amaçla kullanılan özel bir test tekniği bulunmadığından ikili karşılaştırmalarda tercih edilen Mann Whitney-U testi uygulanmıştır. Analizler sonucunda farklılığın önlisans mezunu öğretmenler ile lisans mezunu öğretmenler arasında lisans mezunu öğretmenler lehine (U=32,000; z=-2,519; p=.00; p<0,05), lisans mezunu öğretmenler ile yükseklisans mezunu öğretmenler arasında lisans mezunu öğretmenler lehine (U=332,000; z=-1,920; p=.05; p<0,05), gerçekleştiği belirlenmiştir.

SONUÇ
Beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterliklerini incelemeye yönelik yapılan bu araştırma sonucunda; beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterliklerinin genelde olumlu olduğu sonucuna varılmıştır. Öğretmenlerin bilgisayar teknolojisi ile ilgili genel kavramları açıklayabildikleri, temel işlemleri yapabildikleri, öğretim süreci ile ilgili her türlü değerlendirme sonucunu öğrenci ve velilere ulaştırabilmek için teknolojik araçları kullandıkları, öğrenciler, veliler ve meslektaşları ile işbirliği yapmak için iletişim teknolojilerinden yararlandıkları görülmüştür. Yine araştırma sonucunda beden eğitimi ve spor öğretim programının uygulanmasında öğrenmeyi desteklemek için internet veri tabanından yararlanan öğretmenlerin, öğretim sürecinde farklı teknolojik araçlar kullanmanın sağlayacağı yararlar konusunda öğrencilere bilgi verebildikleri, teknoloji kaynaklarının öğrencilerin kullanımı için uygun olup olmadığını değerlendirebildikleri görülmüştür. Ancak bu yeterliliklerin yanı sıra beden eğitimi öğretmenlerinin; teknoloji kullanımı konusunda ki yasal sorumluluklar, okulda güvenli bir teknoloji kullanımı için dikkat edilmesi gereken güvenlik önlemleri ile herhangi bir teknolojik sistemin kullanımı konusunda telif hakkıyla ilgili dikkat edilmesi gereken konular konusunda yeterli düzeyde bilgi sahibi olmadıkları sonucuna varılmıştır. Bu sonuca göre öğretmenlerin daha çok eğitim teknolojilerine ilişkin yasal mevzuat konusunda güncel bilgiler ile donatılmaları gerektirmektedir. Nitekim Milli Eğitim Bakanlığı (2006) tarafından yayınlanan "Öğretmenlik Mesleği Genel Yeterliklerinde" bilgi ve iletişim teknolojileri [BİT] ile ilgili yasal ve ahlaki sorumlulukları bilme ve bunları öğrencilere kazandırabilme öğretmenlerde bulunması gereken beceriler arasında saymıştır. Araştırmanın bir diğer sonucuna göre öğretmenlerin eğitim teknolojilerden yararlanarak özel eğitim gereksinimi bulunan öğrencilerin eğitimine yönelik özel öğrenme yaşantıları tasarlamada yetersiz kaldıkları görülmüştür.

Beden eğitimi öğretmenlerinin eğitim teknolojisi standartları ile ilgili özyeterliklerinin cinsiyet ve eğitim durumu değişkenine göre farklılaştığı, sahip oldukları hizmet yılı ile görev yaptıkları okul türünün özyeterliklerini etkilemediği sonucuna ulaşılmıştır. Cinsiyet değişkenine göre erkek öğretmenlerin eğitim teknolojisi standartlarına ilişkin özyeterlikleri kadın öğretmenlere göre daha olumlu çıkmıştır. Yine eğitim değişkenine göre lisans mezunu öğretmenlerin önlisans ve yükseklisans mezunu öğretmenlere göre daha fazla özyeterliklere sahip olduğu tespit edilmiştir. Alan yazın incelenmesinde görevde olan beden eğitimi öğretmenlerinin eğitim

teknolojisi standartlarına ilişkin özyeterliklerini belirlemeye dönük çalışmanın olmadığı, çalışmaların daha çok aday beden eğitimi öğretmenleri örnekleminde yoğunlaştığı görülmüştür. Ulucan ve Karabulut (2012) "Beden Eğitimi Öğretmen Adaylarının Eğitim Teknolojisi Standartları ile İlgili Özyeterliklerinin İncelenmesi" konulu çalışmalarında; genel olarak beden eğitimi öğretmen adaylarının eğitim teknolojileri standartları ile ilgili öz yeterliklerinin yüksek olduğu, cinsiyet değişkeninin öğretmen adaylarının özyeterliklerini etkilemediği tespit edilmiştir. Bu sonuca göre gerek aday beden eğitimi öğretmenlerinin gerekse görevde olan beden eğitimi öğretmenleri ile yürütülen bu araştırmanın sonucunun örtüştüğü görülmektedir. Göktaş (2011)' ın "Beden Eğitimi ve Spor Öğrencilerinin Bilgi ve İletişim Teknolojilerine Yönelik Özgüven Algılarını" belirlemeye yönelik araştırmasında, Beden Eğitimi ve Spor Yüksekokulu öğrencilerinin BİT kullanımına yönelik öz güvenlerinin olduğunu ancak cinsiyet değişkenine göre kız öğrencilerin erkek öğrencilere göre bilgisayar ve iletişim teknolojilerini kullanmada özgüven düzeylerinin daha yüksek olduğu sonucuna varmıştır.

Şirin ve Duman (2013) "Bazı Değişkenler Açısından Beden Eğitimi Öğretmen Adaylarının Eğitim Teknolojisi Standartları Açısından İncelenmesi" konulu araştırmalarında, öğretmen adaylarının eğitim teknolojisi standartları ile ilgili öz yeterliliklerinin yüksek düzeyde olduğunu, öğretmen adaylarının cinsiyetleri ile eğitim teknolojisi standartları özyeterlik düzeylerinin farklı olmadığını tespit etmişlerdir. Gümüşdağ ve ark. (2013) "Beden Eğitimi Öğretmenlerinin Bilgisayar Kullanım Yeterlikleri ve Tutumlarını" belirlemeye çalıştıkları araştırmalarında, öğretmenlerin bilgisayar kullanımına yönelik tutumlarının orta düzeyde olduğunu, Erkek öğretmenlerin kadın öğretmenlere göre bilgisayara daha fazla ilgi duyduğunu görmüşlerdir. Yücel ve Devecioğlu (2012) "Spor Eğitiminde Bilgi ve İletişim Teknolojilerinin Kullanımı" konulu araştırmalarında Türkiye'de özellikle örgün eğitim kurumlarında, spor eğitiminde bilgi ve iletişim teknolojilerinin kullanımının yeterli düzeyde olmadığı ve bazı araçların ise spor eğitimine fazla katkı sağlamadığını tespit etmişlerdir. Yılmaz ve ark. (2010) beden eğitimi öğretmenliği programında öğrenim gören öğrencilerin eğitimde teknoloji kullanımına ilişkin tutum ve düşüncelerini belirlemeye çalıştıkları araştırmalarında, teknolojik araçların eğitimde kullanılması durumu, teknolojinin eğitim yaşamına etkileri, teknolojik araçların kullanımının öğretilmesi konularında öğrencilerin olumlu tutumlara sahip olduklarını belirlemişlerdir.

Çalışmada elde edilen sonuçlar ile diğer araştırma sonuçlarına dayanarak şu önerilerde bulunulmuştur;
1-Araştırmanın yapıldığı çalışma grubunun il örneklemi ile sınırlı olduğundan farklı illeri de kapsayacak şekilde daha geniş bir örneklem grubu ile yapılması araştırmaya farklı boyutlar kazandırabilir.
2-Özellikle eğitim teknolojisinin kullanımında uygulacak uluslararası ve ulusal mevzuat konusunda öğretmenlerin donanımlı hale getirilmesi için gerekli çalışmalar yapılmalıdır.
3-Akademik derslerin yanı sıra beden eğitimi ve sporda teknolojinin etkin ve verimli kullanılması için öğretmen yetiştirme sürecinde eğitim ve öğretim teknolojileri derslerine işlerlik kazandırılmalıdır.

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BEING A GOOD PARENT - VIEWS OF CZECH PARENTS OF HOME PREPARATION OF PUPILS AT THE BEGINNING OF SCHOOL ATTENDANCE

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ABSTRACT

Being a good parent: Attitudes of Czech parents to assisting with children's homework at the beginning of compulsory education. The topic of this paper is the issue of parent involvement in home preparation at the beginning of compulsory education. The paper is the result of qualitative research conducted by interview with parents of pupils in their first and second years of primary school in the Czech Republic. The main aim was to describe and explain how Czech parents perceive and interpret their role in their child's home preparation as well how this role is reflected in their understanding of parenthood. The results show that parents realise their significant role in home preparation. Parents experience the obligations connected with home preparation for school   as a pressure related to providing good-quality support for their child's school career.

INTRODUCTION

Not only teachers but also parents strongly reflect everything related to their child's home preparation for school, especially at the beginning of compulsory education. In line with Desforges, Abouchaar (2003), home preparation for school is considered as one of the most effective forms of parental involvement in education of their child and socialization events in the school the child attends.

Although the requirement for home preparation or homework is not explicitly formulated in the Czech educational legislation, this phenomenon of child support in scholastic career has its own tradition. The most intensive supervision of parents in fulfilling domestic responsibilities regarding school is expected especially at the onset of compulsory education, the most in the 1st and 2nd year of primary school. It has its logical justification. A new role of a child - a role of a schoolchild enters in family life requiring mastery of habits associated with homework, which both, a child and parents, have not been necessary to pay attention to so far.

In the introduction, we consider it important to clarify and operationalize the concepts with which we have worked on the text. It is essential to emphasize that we distinguish concepts- home preparation for school and homework that have their tradition in the Czech environment. Průcha, Walterová, Mareš (2009) define homework   as an organisational form of teaching according to the characteristics of the learning environment, which includes mainly homework, tasks for independent work outside the classroom etc. Čapek (2015) describes homework as a particular job, which is well-defined by a teacher during classes. Homework is performed by specific exercises, calculations, worksheets, solving difficult assignments, processing of texts, literature or the realization of long-term projects. Homework is filled within the deadline in written or oral form. Homework fulfilling is a part of a wider framework - domestic preparation. Domestic preparation integrates continuous preparing of aids, textbooks, notebooks, pens and keeping adequate clothing, hygiene, and sleep. Cooper (1989) describes factors

influencing the effectiveness of homework in connection with conditions of home environment, including, for example, place, light, peace and materials, including parents and siblings. Part of the dictionary, dealing with the issue of domestic work of a pupil on his or her school matters, is the concept of home learning. In our environment, the concept of home learning began to be used in connection with the verification of a model of six types of parent involvement in school affairs written by Epsteinová (2002). Home learning, in a way how it is explained by Epstienová (2002), in fact it copies the concept of home preparation, so we do not find substantial differences between the two concepts.

We have many reasons to believe that it is impossible for parents not to enter the process of home preparation. The question is, to what extent and in what dimensions of preparation, parents of a child should be involved in primary education. It is recommended to use proactive synergies between the three key players affected by this process, i.e., the interaction between teachers, parents and a pupil himself (Šulová, 2016). Therefore parents play an important role in home preparation, in which they open up the way for further study of their child and overall personal and professional development of the child (Štech 2009).

THE STUDY

At a certain stage of life cycle, an important part of parenting is the support of a child in the role of a pupil or student, also the cooperation of parents with their child's school. Parenthood is perceived as the relation of a parent (caregiver) and a child emerging on the biological and psychosocial basis. Parenting is a condition (parenthood), in which a man and woman get by the process of conception and birth of a child, while it is a set of activities (parenting) providing his care and upbringing. Parental attitudes, parental style and parental identity and autonomy are reflected in it.

Nowadays parenting is a free choice. No one does not have to be a parent, although it is automatically assumed that parenting is unconditional and natural part of his life career. We choose and voluntarily fulfil the role of mother or father. Most of those who may have children and want them, they also elect this social role voluntarily. It is obvious that it is the value of a child, that finally even in today's relatively individualized society prevails, and people decide for the child. These are psychological and emotional benefits that a parent after   a   decision   to   have a child obtains after its birth. By parenthood, mother and father become part of a new social network, as children significantly contribute to the formation of other social bonds of the family. They are often created through relationships in which a child enters school.

Nowadays, when men and women have children, most of them raise a difficult target. The first is the success of their children in school and in life, and later in employment. The other is the personal development of the child, self-realization, construction of its own identity, so that it could grow in the authentic, independent and autonomous individual who will live in harmony with oneself and with the world and will be able to make good use of its hidden resources (Dudová, Vohlídalová, 2005). Fulfilling both of these goals requires a certain synergy with the school and value symbiosis with education, provided by the school. Pomerantz et al. (2007) point to the involvement of parents in home preparation in several qualitative dimensions, including the importance of support, prioritization process before personal dedication and a positive belief in the potential of a child. Parents who care about their child's school success, highly appreciate the importance of education for their child. We know that they are often those who have attained higher levels of education. Their involvement in home preparation and their interest in supporting their own child is higher, more efficient and of higher quality. In conditions of Czech schools, it is proved by Katrňák (2004) in his findings that parents of the upper classes are more active in home preparation, care more about knowledge and skill development of the child than the parents of the lower classes.

We wondered, therefore, how Czech parents cope with this situation. We chose five parents of children at the beginning of schooling and through semistructured interview we realized the research.

Its aim was to:

• describe how parents perceive and interpret their position in the home preparation of their children at the beginning of compulsory school attendance

• reveal how this position is reflected in their conception of good parenting in the home preparation.

From the perspective of social stratification they were parents - representatives of the middle class. It is known that most middle-class families understand "language" of the school and well cooperate with it. Children of the middle class are more successful in school, have better results and their parents create a closer relationship with school (Šeďová, 2009). In this regard, the data represent the mainstream, none of the families have a negative opinion of the school, access to education or uncooperative attitudes toward teachers. Pupils of selected parents did not belong to the failing children in school.

Each parent interview took approximately 30 minutes and in all cases was held at a neutral location. Although our intention was to select at least two fathers, ultimately it was four mothers and one father. View of fathers, whose representation in the home preparation is not so frequent, appeared to be not only interesting, but also well illustrated the 'masculine' look and approach to the issue in question. After transcripts of recordings, data was free coded and grouped into categories. Gradually the data emerged quite clear contours, which enabled us to framework position of parents in home preparation for school. Seeking their concepts of good parenting with an emphasis on home preparation was more difficult. We will try to describe what character the help of parents has in home preparation as a part of the intricate architecture of their active parenting.

We consider it important to indicate with which outfit we as researchers entered into this research. We both are mothers of children who are pupils of the primary school. So we have actual personal experience from a position of parent and child in home preparation. This situation fits perfectly into one of the messages which entails a qualitative research, namely that "the main instrument is the researcher himself" (Hendl, 2005, p. 52). Our expertise and experience of similar situations allowed us to clearly understand the hidden communicated meanings that were communicated by researched parents.

FINDINGS

The contemporary family relations are based on the value of a child and also on interest in a child. During the child's school attendance this interest is strongly focused on their school success. As we mentioned, middle-class parents can realize that to succeed at school with their child can be achieved primarily through the support and assistance at home, in our case especially in home preparation of a pupil at the beginning of school attendance. The association between socio-economic status of the family, involvement in home preparation and success of pupils at school is evidenced by Desforges, Abouchaar (2003). As well as evaluating the strong desire not to fail in front of school and school teachers, we identify ambition to be a good parent in the eyes of the school. How is it possible to put together a picture of parents in home preparation from the data?

Direct support of one parent

Help with home preparation in each of the surveyed families is in the main responsibility of one of the parents, especially mothers it copies the recognized thesis of dominant mothers in cooperation with schools and initiatives in home preparation of the child (Pomerantz, 2007). Generally, matters relating to communication with school, own care and bringing up a child in a family is still mainly in the hands of mothers. The share of fathers is smaller and thematically focused more on scientific and technical disciplines, which seems to be adequate to the natural interest in the male population. In this research study, the participation of mothers was not just a matter of division of parental roles in ensuring the functioning of the family. There were also factors, such as family constellation, when one of fathers - the partners, worked all week outside the home. In the case of the father - research participant, it was a type of person who needed to have everything under control, which manifested itself in a preparation of his son for school He considered mother in the agenda of school of their children as less competent, therefore he assumed a responsibility in this area. The university-educated father, on the contrary, possessed perceived competence (Štech, 2004), which clearly determined his efforts to interpret the child's needs and problems. Štech (2004) speaks of parents - experts who are engaged in home preparation by active involvement and from their own personal skills they can effectively help a child with home learning.

The centre of home preparation

The main focus of home preparation for school is focused on homework fulfilling. A partial part is home learning as a set of specific activities associated with keeping acquired knowledge. Time for homework becomes a mean for the establishment and receiving a system and order by the child which is under the control of a parent. The key idea is that during homework the whole family adapts this scheme. A parent attaches importance to the fact that the child develops the ability for self-organization and self-discipline because the school is too far-reaching
in developing these skills. It is represented by the statement of one of the parents:

"I led him to the fact that whenever he came home from school, so to have a regime that, as he comes home from school he will have a snack, something to relieve his energy, then the school and when it is done, he still can have space for himself. Like, so we tried to keep it that I taught him to prepare things to be in order to know what is and what is not done."

Homework as a burden

There is a consensus among parents that although activities of parents and evaluation of parent participation in home preparation do not have a strong negative connotation, finally it is generally a burden for them. Accepting the position of parents - teachers in home preparation is well expressed in the statement of one of them: "... *well like I feel it to be a burden, probably everyone that ... it's in 44 years I am learning it for the tenth time ... now that person gets on my nerves ... but I see I'm doing it for the kid and that's it ".* Parents seem to accept the school as an institution that has the potential to facilitate education and ensure success and application in the future, not primarily as a mean of immediate fulfilment of children's wishes and desires (Lipovetsky, 2004).

In primary education, the situation with the solution of homework, home learning and preparation for school appear that it is mainly a load of time. The survey results show that parents still quite understand the content of education, they are able to supervise all activities of the child and try to fulfil the requirements of education that the school puts on the family. They need time for it, which is not always enough. This is in line with what was confirmed
in the research by Rabušicová and Pol (1996), and it means that the parents of primary school pupils understand the knowledge that a child receives at school, and they can help him with that. Home preparation is generally perceived as inevitable, none of the parents does not protest and tasks are evaluated as practising the curriculum of schools. Objections arise only in connection with its frequency ("*... why every day? ... Children should not have tasks over the weekend"),* which enhance this burden. *Parents assess also possible problems caused by the school when the teacher, in the words of parents," doesn't manage ... then the parent must work with a child like crazy ".* A burden of parents in home preparation is seen in a way how under the pressure emotions are released. Affects, misbehaving, responding to obstacles in task solving are accepted by parents. Not always parents can control and suppress anger and loud speech when they do not agree with the child during cooperation and may even be a source of disruption of the relationship between parent and child (Kohn, 2007).

Another program of the family depends on homework, in parents' words, it is „a priority of an afternoon "that is kept in parent's mind. What parents certainly do is to show children the benefits of good time management. However, it seems that on the other hand, parents are completely abstract in the effort to turn the homework into an attractive activity for a child, enhance motivation towards completing tasks and awareness of the benefits gained by meeting the homework (Madjar et al., 2015). *"Well, probably a common parent does not wonder how the tasks could be done differently to entertain and motivate the child."*

It is a duty that must be fulfilled - "... *we just do this and it's over."*

Good parents in home preparation

Parents take increasing personal responsibility for the upbringing together with an increased pressures on involvement in the school education of their children, which is bound to "the image of good parents" (Štech 2009).

The concept of good parents in the interpretation of the surveyed parents is also focused directly on the child. Expression, which was most often used with regard to good parenting in home preparation, was clear - " success of a child." So a good parent is one who helps the child to succeed - in life, thus simultaneously at school. There were only different strategies of parents how to reach success.

We have identified three basic:

- Success as a result of clear guidance and control systems - based on avoiding the "mediocrity";

- Success as a result of complete satisfaction of a child, which requires fairly sophisticated even psychological practices in child support. This corresponds to a model called mindful parenting, in which parents ensure the education and keep an eye on parental attitudes towards the child (Duncan, 2009);

- Success as a result leading to independence and help, support - anytime and without conditions. The approach is based on the own experience of parents when they did not have similar support, even perceived as missing.

CONCLUSIONS

In summary, we can say that by the child's entry into compulsory education, families and parents find themselves in a new situation. Under it, they feel under pressure, especially in terms of the time required for operation of a family and parents' time management. On the other hand, this pressure is accepted as an integral part of their parenting, as inevitable and fulfilment that shows care for the harmonious development of a child.

Psychologization of relationships in a family is accompanied by their relationships with children. These relationships also influence the attitude of parents towards their child's school and are in relation to the issue of the role of parents in home preparation. Values such as individuality, self-fulfilment, creativity and autonomy become programmatic objectives pursued by the majority of parents (Štech 2004). Supporting the child in school is a part of these efforts, middle-class parents really have no choice due to their ambitions. These parents are aware of the added value that the child acquires its own attitude toward homework, the perception of personal competence and self-regulatory skills (Hoover-Dempsey, 2001). At the same time, the fact that homework must be supervised and coached is their investment in the education of their children. Researched parents fulfil a complementary approach to involvement in home preparation (Šeďová, 2009) within which they complement and reinforce the action of schools and teachers. They are convinced that the fulfilment of school requirements will help to ensure that their child will have more chances to be successful in school. Success is regarded as one of the important segments of a good parenting fulfilment.

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BENEFITS OF SUPPORTING STUDENTS IN MATHEMATICS AND STATISTICS: EVIDENCE FROM THE CZECH REPUBLIC

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ABSTRACT
Mathematics and Statistics Support Centre at Masaryk University in Brno started in the February 2016. It provides assistance in various topics of mathematics and statistics, primarily to the students of Faculty of Economics and Administration. In the paper we present reasons and pedagogical ideas for opening such centre, together with a brief report of the activities during the spring term 2016 and students' feedback. Furthermore, experience and challenges from the first period of running and organizing MSSC are discussed. The evaluation of the impact of the innovation on study outcomes shows an increase of the success rate in relevant courses.

KEYWORDS: Masaryk University, Mathematics, Statistics, Support Centre, Success Rate.

INTRODUCTION

Quantitative methods are becoming increasingly essential in various disciplines (economics, engineering, biology, etc.), so mathematics underpins many university subjects. On the other hand, mathematics and statistics courses are often perceived as too difficult and their success rate is low. This poses a barrier to successful study particularly for first year students that are not well-prepared from the secondary schools and not confident enough in mathematics. The social discussion on the topic is long-lasting in the Czech Republic, the introduction of obligatory school-leaving exam on mathematics is incessantly postponed, more in the study (Matulová, Širůčková, 2016). It seems to be a serious issue not only in the Czech Republic, but also in other countries. Thus lots of higher educational institutions all over the world have established some kind of Mathematics Support Centre (MSC) in order to ease the above mentioned difficulties. In most of the institutions the support is represented mainly by the existence of drop-in centre. Such a centre has been opened recently at Masaryk University in Brno and our early experienceis presented in this contribution.

The rest of the paper is organized as follows: First section contains some facts and numbers ilustrating the „Mathematics problem" and its extent at our faculty. In the next section is provided survey of the MSC literature with emphasis on the definition, purpose and functioning of MSCs. The main section is concerning the Brno support centre, the description of its everyday operation and evaluation of first term running (centre statistics, students' feedback and improvement of study results). Concluding section contains some final remarks and prospectives for the future.

MOTIVATION

Mathematics Problem

Recently many developed countries report that their school system is suffering from some sort of „Mathematics Problem". In the UK during the period 1990 – 2010 educational institutions publicly acknowledged that they had recruited many students onto mathematically demanding courses for which the students were not well-prepared. Advisory Committee on Mathematics Education in UK states: „Garants of many university courses are placed in an impossible position. They cannot require an appropriate level of mathematics of their applicants and hope to fill their places, and in many cases they are unable to design courses with the level of quantitative demand that would be appropriate for their disciplines" (ACME, 2011). According to (O'Donoghue, 2004), "Irish students display lack of fluency in basic arithmetic and algebraic skills, gaps (or in some cases absence of) in basic prerequisite knowledge in important areas of the school syllabus (e.g. trigonometry, complex numbers, differential calculus) and inability to use or apply mathematics except in the simplest or most practised way". Also US reports suggest that math requirements may be the primary obstacle to graduation for many students, namely "a larger percentage of students enroll in remedial math courses than in remedial English course" (CCA Report 2012).

Mathematics Problem in the Czech Republic

Similar issues are present at Czech universities. Let us demonstrate it on the case of Faculty of Economics and Administration, Masaryk University. Table 1 comprises data showing the decreasing level of mathematics performance of students entering FEA MU for years 2009-2015 (the entrance test has been introduced in the year 2009). The entrance test consists of 10 tasks (i.e. solving algebraic equations, drawing graphs of elementary functions, etc.), the same database of the tasks has been used for all seven years.

Year	Number of students	Mean score	Median	Lower quartile	Upper quartile	STD
2009	515	4.87	5	2	7.5	2.95
2010	491	5.48	5.5	3	8	2.91
2011	399	4.28	4	2	7	2.75
2012	401	4.59	4.5	2	7	2.92
2013	348	3.84	3.25	1	7	3.12
2014	544	4.43	4.5	2	7	2.83
2015	367	3.46	3	0	6	2.9

Table 1: Scores of the entrance test (maximum 10 points)

As can be seen in the Figure 1, the results are worsening rapidly. Growing proportion of very weak students is even more alarming than the decrease in the mean of scores (more than 25% of students gained no points at all last year, see lower quartiles in Table 1).
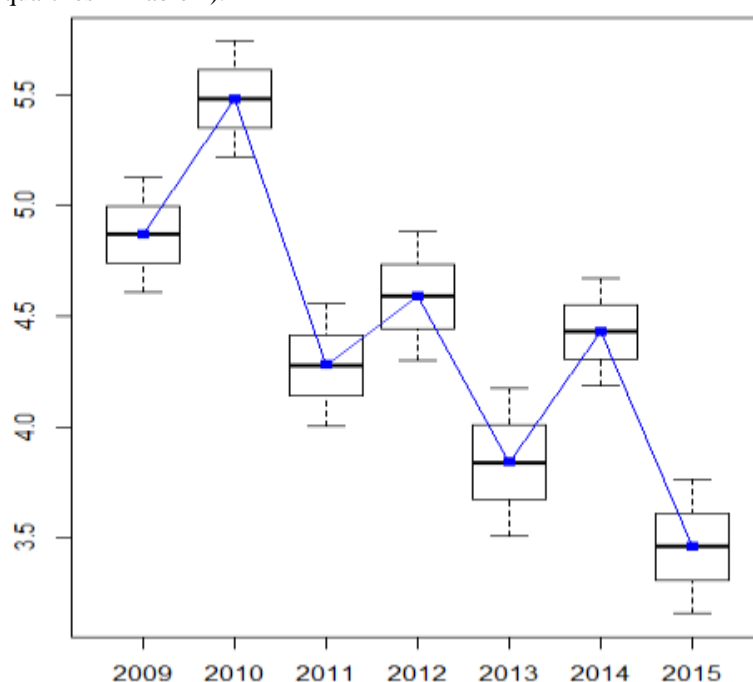
Figure 1: Boxplots (means and standard errors) of entrance test scores 2009-2016

THE STUDY
State of the Art in Providing Mathematics Support
As mentioned earlier, establishing a Mathematics Support Centre is becoming a widely used way how to mitigate the discrepancy between the current state of students' understanding mathematical concepts and techniques on one side and growing requirements in many courses on the other side. Lawson et al. (2003) define MSC as a facility offered to students (not necessarily of mathematics) in addition to their regular programme of teaching through lectures, tutorials, seminars, problems classes, personal tutorials, etc. Other definitions that can be found in (Matthews et al. 2013), but they are very similar to Lawson's formulation. As stated in (Taylor, 1999), "The specific aims of mathematics learning support differ between universities but the essence is the same." We may cite more statements formulating the purpose of MSC:

- Provision and fostering of an environment of partnership and openness in mathematical learning – within and between all student cohorts and staff (Cuthbert & MacGillivray, 2007)
- To provide non-judgmental support for students outside their teaching departments
- To ease the transition of all students to HE courses with a significant numerate component
- To provide a GP surgery for any type of difficulty in mathematics or statistics
- To provide one to one support for any member of the university with mathematics difficulties no matter how small.
- To offer extra help (i.e. outside formal classes) for any student taking any maths module.' (Lawson et al,

2003)

Perking et al. (2013) show that the number of universities in United Kingdom offering this additional support grows rapidly (46 in 2001, 66 in 2004 and 88 in 2012). Mathematics support is on the rise in Australia too. A review of accessible university websites conducted by Taylor (1999) showed that 46% of Australian universities offered math drop-in, whereas 9 years later MacGillivray (2008) identified that this number almost doubled to 85% (33 out of 39 universities). Matthews et al. (2013) provide review of scientific papers demonstrating MSC usage and activity or showing the impact of MSCs on students, staff and the institution. Mac an Bhaird et al. (2009) report that MSC has a positive effect on the grades of the students who attend the centre. Pell and Croft (2008) also give evidence that giving support has improved the pass rate of their students.

Support Centre at Masaryk University

Math and Stats Support Centre in Brno (MSSC) was launched 22.2.2016 as the first institution of this kind in the Czech Republic. The start of the centre was facilitated by cooperation with MATRIC (The Centre for Research, Innovation and Coordination of Mathematics Teaching, University of Agder) and was supported by Norway grants. Another source of inspiration was provided by Mathematics Education Centre, Loughborough University, http://www.lboro.ac.uk/departments/mec/ and UK Centre of Excellence in Teaching and Learning, http://www.sigma-network.ac.uk/. MSSC in Brno is open every working day and is operated by experienced staff tutors and volunteering senior students. Location of the room is strategic: it is located next to the school canteen at Faculty of Economics and Administration. Opening hours and contact information are published on the website mathstat.econ.muni.cz. The website is continuously supplied with complementary online study materials (short texts, demonstrations, videos, etc.). In addition to the daily drop-in operation of MSSC there are held various events such as launching celebration, quizzes, popularizing talks and similar events contributing to community building. MSSC offers assistance also to students of other universities. We hope that the open access will help to spread the idea of its benefits.

RESULTS OF MSSC EVALUATION
Usage Statistics

Most MSCs are interested in knowing who uses their facilities and how often. Quantitative usage data collected over a period of time will show trends and indicate a measure of demand. For the sake of collecting and recording data we have purchased automatic system incorporating scanning technology. Nearly 300 visits were registered during the spring term (the number of individual visitors is smaller, because some students attended repeatedly), most of the questions were concerning obligatory courses currently running at FEA - Mathematics and Statistics 2, see Table 2. Considerable number of students has been interested in consulting data analyses needed for their final theses (mostly master theses).

Faculties of MU		Topics	
Faculty of Economics	255	Course Statistics1	5
Faculty of Arts	8	Course Statistics2	143
Faculty of Science	3	Course Mathematics	70
Faculty of Education	1	Doctoral thesis	10
Faculty of Social Studies	20	Master thesis	37
Faculty of Informatics	1	Bachelor thesis	22
Faculty of Sports	5	Other	11
Faculty of Medicine	5	**Total**	**298**

Table 2: MSSC statistics: number of visits according to topics and MU faculties, spring term 2016

Impact on Study Results

As can be seen in the Table 2, most MSSC visits in the spring term 2016 were concerning the course Statistics 2. We can compare the study results in this course before and after introducing the MSSC. The syllabus, teachers, study requirements and the exam remained unchanged, the only one difference between 2015 and 2016 is that this year students were assigned two more homework exercises. In case of having difficulties to solve the tasks, students were offered assistance by tutors of MSSC. Students worked harder throughout the school year and they were better prepared for the lessons and instructions. Let us explore the improvement in more detail. We performed two sample t-test on the final test scores in order to show whether the results are significantly better this year. (Normality of the samples was checked by Kolmogorov-Smirnov test and the equality of dispersions by F-test). From the statistics in the Table 3 we can conclude, that the scores of the final test increased substantially in comparison to 2015. Maximum gain of the test was 100 points and it was divided into theoretical (40 points) and practical part (60 points). The average score grew by 3 points in the theoretical part and by 7 points in the practical part. Greater improvement in the practical part may indicate that this year students are

better in applying the methods and perhaps their level of understanding is higher.

		2015			2016			t-test
	N	**Mean**	STD	N	**Mean**	STD	t	p – value
Theory (max. 40 points)	281	**21.46**	6.60	259	**24.33**	6.75	-4.99	0.000001
Practice (max. 60 points)	281	**23.60**	14.40	259	**30.62**	14.80	-5.58	0.000000
Overall (max. 100 points)	281	**45.07**	19.20	259	**54.95**	19.63	-5.91	0.000000

Table 3: Final test scores comparison before and after the introduction of MSSC (resit not included)

The scores in the Table 3 were taken before the end of examination period, but we can see significant progress in the final grades too, see Figure 2. Overall success rate increased from 79.4% to 91.4%, only 24 students out of 278 haven't pass this year.
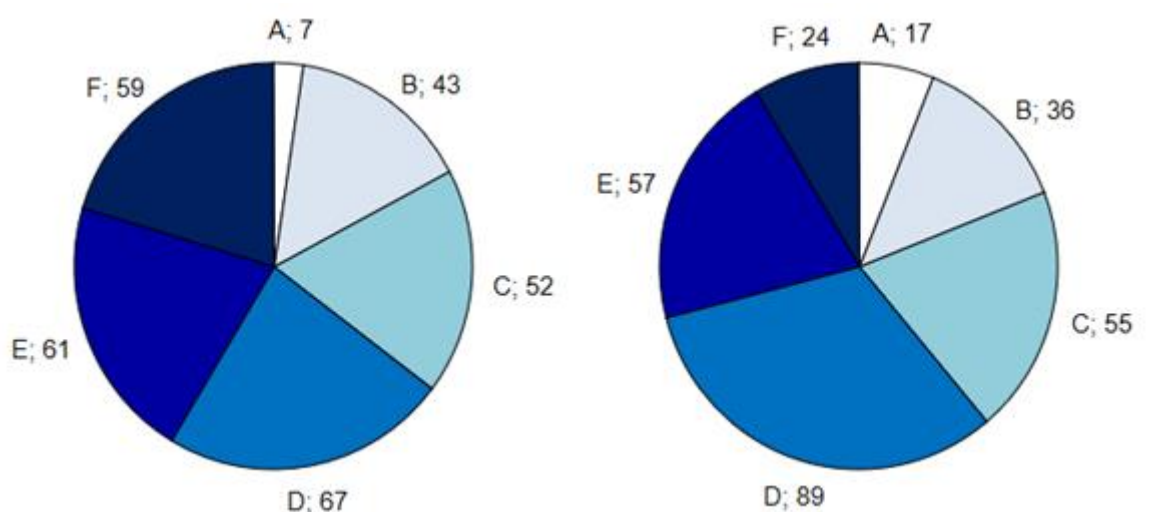
Figure 2: Frequencies of final grades in the course Statistics 2 before and after introducing the MSSC (2015 results on the left, 2016 results on the right)

Students' Feedback

After the spring term ended, students were asked to fill in a satisfaction questionnaire on the MSSC website. The collection of responses is not finished yet (107 respondents filled the form), but even now we can conclude that clients of the centre were in general satisfied with the level of service they'd received. For illustration we present some individual comments:

- "MSSC is of great importance for students and it needs to be further promoted, not restricted or even abolished."

- "I am very glad that you have created this centre, though you certainly needed a lot of effort for it. Anyway, I think it really helps those pupils who have problems with mathematics and struggle to overcome them."

- "Although I have not used its services yet, I recommended it to some friends, who were mostly students of other faculties and needed help with statistics in some of their academic work. Those who have used the centre's services praised it much. I plan to use the center's services myself if I'll need help with something in the future."

- "Support Centre is a great project , I am very glad that you managed to open it! Thanks to doctor Kralova and all tutors!"

For the overall summary of satisfaction level see Figure 3.

Figure 3: Distribution of responses to the question "How would you grade the MSSC?" (1=excellent …
5=unsatisfactory)

More than 72% of students declared that there is nothing they would suggest to improve in the centre. They appreciated mostly the approach of the tutors, other options are given in the Table 4.

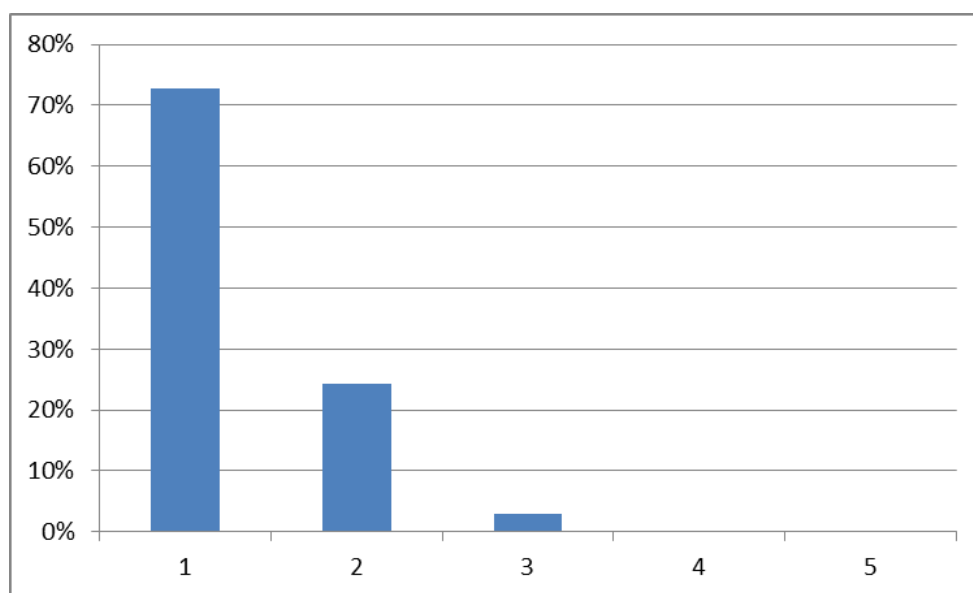| Option	Number of students marking the option
I received answers to all my questions	24
A simple way of explaining complex things	22
Helpful and sympathetic tutors	34
Interesting talks going beyond the scope of the courses	3
Pleasant environment	4
Provision of study materials, additional resources and links on the web	6

Table 4: Options for the multiple choice question "What did you like about MSSC in particular?" and the
number of students choosing the option

In addition, data are collected also from non-users of centre to gain further insights into student's mathematical difficulties and reasons for non-use.

CONCLUSIONS
The results of MSSC evaluation confirm that establishing the facility was very benefitial for students of Masaryk University. It is hard to capture all the benefits (i.e. to measure the quality of data analysis in the final theses, etc.), but significant improvement of success rate in obligatory courses is convincing enough. More arguments on usefulness of the centre are given by students' responses from university opinion poll and MSSC questionnaire. Hopefully the leaders of the university will appreciate the activities of the MSSC, because additional financial resources will be needed for its running in the future. It is desirable to spread the idea to other higher educational and governmental institutions in the Czech Republic. Hopefully the number of math support centres will grow and it will be easier to gain funds for their running. Good news is that two new support centres are starting in September 2016 at Technical University of Ostrava and Tomas Bata University in Zlin.

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BEYOND THE HORIZON: LEARNING ARISING FROM THE USE OF TWITTER BY SCHOOLS IN NEW ZEALAND

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ABSTRACT

Identifying learning to arise from use of the Twitter platform, this paper provides detail relating to an examination of the use of that platform by 1000 schools located in New Zealand. Physically located almost 12,000 miles from the researcher's United Kingdom work base, the examination serves to both emphasise the contribution which social media makes to the removal of geographical boundaries and to highlight the associated risks and impact arising.

Two points of learning are outlined; that relating to the generation and maintenance of the school's e-profile and the impact of that institution having a Twitter use strategy. Specifically, the study identifies that despite there being many schools based in New Zealand which have engaged with the Twitter platform, that platform has not been the subject of consistent focus and schools are at risk of a negative online profile being generated. Numerous factors are seen to have influenced the presence of a Twitter platform use strategy and significant amongst these is enforced engagement as a consequence of the efforts the Twitter community has chosen to make with regard to school Twitter platform-related inaction. An overarching factor is the acknowledgement that perceptions of appropriate use and behaviour are heavily influenced by what is deemed acceptable in contemporary operational practice and, with that judgement being time specific, an ongoing challenge is presented which can prove to be a distraction from other elements of the school leadership and management role.

INTRODUCTION

The use of social media, internet applications which 'allow the creation and exchange of user generated content' (Kaplan and Haenlein, 2010), has become commonplace. This use has resulted in an increasing pool of the population being constantly connected (Stevenson and Peck, 2011; Evans, 2014). Twitter is one example of a social media platform. Launched in 2006, by 2012 it had become the 9th most visited website in the world (Wilkinson and Thelwall, 2012), on its 7th birthday was reported to be hosting 400 million tweets per day (Tsukayama, 2013) and in 2014 was cited to have 15 million users (Power, 2014).

The pace at which different sectors have availed themselves of the advantages of the Twitter platform has varied. The approach taken is generally regarded to be linked to sector attitudes, expectations of the role being undertaken and personal preferences. This is as reflective of the schools sector as any other.

Fairly recent education-related literature (e.g. Manchir, 2012; Stuchbery, 2013) has identified use of Twitter within the classroom to be innovative. Beyond the classroom the platform is gaining a reputation for having a significant practical impact. It is seen, for example, as having the potential to respond to a CPD need (Lu, 2011; Foote, 2014). Here the platform provides an opportunity to culture both the learning environment and a personal learning network, of this being supported by the impact of a levelling effect, and of postings being underpinned by subject matter passion (Beadle, 2014). In part this is the consequence of the platform having the potential, whether users consciously recognise this or not, to bridge the gap between the professional role and other aspects of the Tweeter's daily life (Messner, 2009; Lowe and Laffey, 2011; Alfonzo, 2014). This bridging effect can also be seen in the connection which the Twitter platform facilitates between the postings made by the account holding school and those who choose to engage with the material tweeted, termed 'followers'. No longer is the influence of school communications geographically bounded.

This paper identifies learning arising from an examination of the use of Twitter platform by 1000 randomly selected schools located in New Zealand. These schools are physically located almost 12,000 miles from the researcher's United Kingdom work base, serving to emphasise the removal of the geographical boundary and that, as Fang et al (2014, p.802) highlight, the 'audience participating in online interactions is not defined by the physical setting in which the conversation originates'.

THEORETICAL UNDERPINNING

The theoretical context of this paper is considered under three headings: the online profile and the determination of authenticity; the impact of the blurring of professional and private lives; and the influence of the technological pace of change.

Online profile and the determination of authenticity

In recent years significant attention has been paid to the creation of the online profile. There are many sources which outline how to create a profile which creates a positive professional image (e.g. Devlin, 2009; Peregrin, 2012). Contributing to that profile are numerous elements, with the use of pictures a factor which has received popular attention (Kapidzic and Martins, 2015). A focus on self-presentation, in the context of this paper how the school portrays itself, is not a new concept (Cress et al, 2014). The intention is that that self-presentation will 'please the audience' (Baumeister, 1982), in that the audience will like what they see and wish to align themselves with that source. In the context of the Twitter platform, this is likely to result in the audience becoming a 'follower' of the postings made.

Contributing to the cultured perception is the ability to generate an image that supports the onlooker to bridge the gap between the online and physical life. This is potentially a less demanding task where a link has already been established in physical life as seen, for example, between schools and the parents of attending students. Nevertheless the bridging task, which includes an assessment of authenticity, requires co-presence, psychological involvement and behavioural engagement. Despite positive intentions, a compromising of the online image either as a result of ill thought through actions, or for malicious means, can occur (Brandt, 2004). The result is that more than half of social network users engage with mechanisms to conceal their profile attributes from other users of those networks (Chen et al, 2014).

Blurring of professional and private lives

Social media is acknowledged play a key role in blurring the distinction between the professional and the private life and, over a number of disciplines, there is a wealth of commentary which questions the desirability of this effect (e.g. Scott, 2013; Fang et al, 2014; Rogstad, 2014). Abril et al (2012, p.64) explain professionalism to be the 'language of the workplace', a language which embraces conduct, appropriate judgement, stature and competency. The emphasis on the creation of a positive impression is clear. Challenge arises from a shortfall in understanding how social media has the potential to contribute to the creation of an impression. This is, in part, the result of social media having the capacity to facilitate lives to become 'simultaneously embodied and informational' (Goodings and Tucker, 2014, p.38).

Also noted is the significance of duration. Whilst action, professional or otherwise, might historically have been perceived against the backdrop of previous activities, use of social media is not dependent upon that backdrop being established. It is possible, for example, to read a Tweet without knowing anything about the author or authoring body and, in scenarios such as this, the reader risks being drawn into filling any gap in understanding. A lack of clarity has led to social media being both insufficiently exploited (Power, 2014) and the site of a considered performance (Mazali, 2011). Whilst veering away from active engagement with an inadequately understood tool might generally be regarded to be an appropriately cautious action, in the domain of social media use, the presence of this gap in activity can be misinterpreted. Mazali (2011, p.290) highlights that 'people [are] made aware through and by the technologies they use'. Non-use and partial use of social media, for example, both contribute to the impression which is generated.

The technological pace of change

The difficulties associated with keeping pace with the potential of technology and the rate at which that technology changes is regularly noted within the literature (Whalen, 2012; Niederhauser and Wessling, 2011; Baker, 2012). At worst the effect is acknowledged as having the potential to have a paralysing effect (Fry and Rigler, 2014), what Sutton and Desantis (2016) discuss using the 'change blindness' terminology. Argument is presented that it is the first steps to adopting technology which present the greatest difficulties, with subsequent use tending to be the consequence of a 'technological one-way route' (Beadle, 2015c). At the least, emerging technologies serve to provide a distraction. Some reluctance to engage with technologies is the consequence of change fatigue; a factor reasoned to be as apparent within the education sector as elsewhere (Sutton and Desantis, 2016).

Perceptions of appropriate use and behaviour are determined by what has been deemed acceptable in operational practice, the effect of a popularist approach and an inevitable merger of perspectives. As Baker (2012, p.267) acknowledges, 'both determinism and utopianism are commonly found in technology writing'. Furthermore the effect, as Kennedy (2012) notes, echoing a sentiment expressed by Pirie (2012) at a similar time of writing, is

that the unrelenting advancement of technology in the education sector has put the 'power in the hands of individuals'. This focus on a contained determination of what is deemed acceptable is also considered in relation to legislation where Drechsler and Kostakis (2014, p.128) note, for instance, that even the 'law measures technology against what is desirable now'.

One influence on the popularist technological approach is the presence of supportive resources (Niederhauser and Wessling, 2011; Sutton and Desantis, 2016); if the educational institution lacks interest or expertise in the use, for example, of social media platforms, then it is inevitable that this will become apparent. A perceived return on the investment, that investment in the case of social media often amounting to time, is argued to be a necessary prerequisite for action to be taken (Sutton and Desantis, 2016).

METHOD
Using a random number generator, 1000 schools were selected from a list of schools provided on the New Zealand government website. 305 of the schools were identified to have a Twitter account, with 1 in 10 of those schools having more than one account. All of the identified accounts associated with each of the randomly selected schools were included in the study.

The school names were replaced by numbers in order to protect their anonymity. They were also given the precursor NZ and, where there were multiple accounts for a single school, the first account was assigned the differentiator 'a' at the end, the second 'b' etc, e.g. NZ10a.

The data gathered was included on an Excel spreadsheet which included the sample number, Twitter handle, date the account was created and, as at the date on which the detail was gathered, the number of accounts being followed, following, and the number of Tweets posted. Additionally, qualitative notes were assembled about the nature and composition of the postings made. Accounts were deemed to be active if there had been one or more postings made from that account within the 12 months preceding the date of examination, with all accounts being examined over an eight month period ending September 2015. The analysis benefited from the use of a mixed methods approach.

FINDINGS AND ANALYSIS
Engagement with the Twitter platform
Engagement with the Twitter platform by schools in New Zealand is erratic. There are many schools which do not appear to have a Twitter account, although few of those institutions (less than 0.01% of the sample) were identified to have entirely avoided being mentioned on the Twitter platform. A large proportion of the accessed Twitter accounts were created and first used over the 5 year period commencing 2009. However some schools were not identified to have ever used the platform and others were identified to have commenced using the platform and then to have discontinued their use; some on more than one occasion.

The least number of messages posted from an account regarded as being disused (on the basis of no postings having been made for the 12 month period commencing the date of examination) was one. Here NZ2 made a single posting announcing that they 'were now online'. Similarly NZ67, in a Twitter life that lasted 2 days, posted two tweets. The first announced that they were now 'in the twittersphere', and the second, posted the next day, announced that 'the twittersphere is rather quiet'. What they had expected to occur over that short time period was not made clear although the absence of further postings suggests that they had been deterred from further engagement.

The making of a limited number of postings does not mean that the accounts were not engaged with. Several schools were identified to have established Twitter accounts and then used them largely for the purpose of following the postings made by others. Here they were identified to be gaining access to those postings through a single location, for example for the purpose of professional updating. The 33 accounts followed by NZ39 and the 19 accounts followed by NZ163 included, for example, a significant number of school principals and educators, academics and politicians.

Amongst the grouping of schools which were identified to have discontinued their use, there is some evidence of an effort to re-establish a Twitter presence. Furthermore, some schools were identified to have both created, commenced using and terminated engagement with the Twitter platform on more than two occasions, with all of these accounts remaining visible. In other instances this re-engagement occurred with a single account. Instances of where the phraseology used might indicate a previous account existed, such as NZ89's use of 'Just set up our brand new Twitter account', were not always seen to result in the identification of any previous account. Instead, there was indication that the phraseology used in Twitter postings may have colloquial undertones.

A significant volume of the accounts examined exhibited intermittent use. NZ1, for example, posted on average once per month when considered over the 12 month period preceding the date of examination. This can be compared to NZ29 which, during term time, made postings several times each day. That running a twitter account requires stamina was identified, although this need did not consistently explain accounts demonstrating intermittent engagement. Intermittent use was identified to often serve as a precursor for use of the platform being terminated, particularly where the frequency of postings was also identified to have decreased.

Where a current Twitter presence was identified, the accounts were seen to have a tendency to incorporate the school name into the Twitter handle; usually in the format main name followed by, for example, 'high', 'college' or 'girls'. However there were instances (e.g. NZ43, NZ85 and NZ153) where the name comprised the school initials, what appeared to be a 'nickname' for the school title, and on occasion the school names reversed. In the latter instance this would appear to have been the result of there being other schools with the same name using the Twitter platform. Including the initials 'NZ' at the end of the Twitter handle was not unusual, particularly amongst accounts where the school name was also abbreviated to initials (e.g. NZ73 and NZ80).

Where schools have actively engaged with the Twitter platform they were often seen to have more than one account. NZ57 was seen, for example, to have established three twitter accounts over a period of 5 years and, based on postings which were made within the 12 months preceding the date of examination, each account remained active. Here use of multiple accounts provided a filtering mechanism with one account used for school to staff communication, the second account providing urgent messages to parents (such as those regarding weather based school closures) and the third containing generic publicity detail. Generally subsidiary accounts focused on short term events such as school residential trips, or emanated from individual departments of the school. Indeed, where multiple accounts were present, there were some examples of a hierarchical framework being present in which there was a central account which made reference to subsidiary accounts both in the postings made and Twitter handles adopted. The subsidiary account for NZ25b, for example, simply had the word 'technology' appended to the end of the main account (i.e. NZ25a) name.

A significant number of teaching staff, including those working at schools which were not seen to have used the Twitter platform, or which had terminated their use of that platform, were identified to have purposefully established a Twitter presence. Indeed, it was these individuals who were, in part, responsible for very few of the 1000 schools having entirely avoided being mentioned on the Twitter platform. It was not unusual to see teachers introducing themselves as being a 'Teacher of [X] at School [Y]'. Indeed, the majority of the teaching staff profiles accessed included specific mention of their school being based in New Zealand e.g. "I am an English teacher at [X], NZ', 'Deputy Principal at [X], NZ' and ' teacher and first XI coach at [X], NZ...'.

These personal accounts were not a subject of the examination beyond the role which they played in providing a presence on the Twitter platform for the respective schools. However it was noted that in some instances the postings made from those accounts could be perceived as failing to positively contribute towards a positive professional image. This is not specific to teachers in the New Zealand context, having been identified by the researcher in other studies (e.g. Beadle, 2015a, 2015b), but where specific links to those accounts were made from school based Twitter accounts, there was a risk of negativity being attributed to the school.

Not all the accounts which were seen to have initially been created and maintained by an individual educator contained questionable content. Indeed, there were four accounts, each at first sight appearing to be attributed to one individual, and which fulfilled for the purpose of this research the criteria deemed reflective of a school account. In each instance the account holder was the principal of the school and no other school Twitter account was in operation. Furthermore, in each instance those accounts provided in their Twitter profile the school name, location and details of the school website. In addition, in each instance the school name formed at least part of the Twitter handle.

Creating an impression

Some school accounts specifically set out how they intended to use the capabilities of the Twitter platform. For example NZ88 identified their intention to provide 'updates and announcements' and NZ266 highlighted that their postings were a repository of messages posted on large screens around the school. In each instance these details were presented within the account header. Also seen were examples of the school's intended approach being communicated as their first posting. NZ189, for example, highlighted they intended to post 'news of events at school, parenting tips, educational websites'.

Less frequently identified was a desire to attract 'followers'; other users of the Twitter platform. This is a focus which is often identified in use made by commercial organisations and celebrities. Two examples of this

approach were identified, for example NZ241's "Please follow us and we will do the same to you". Not surprisingly, compared to accounts held by commercial organisations and celebrities, the number of Tweet followers which were attracted by the New Zealand schools was limited. The average number of followers per account was 48, however there was significant variation. Those accounts which tweeted more frequently tended to have more followers and those schools with more than one account tended not to have an equal number of followers across all their accounts. This latter point suggests that the school's followers were either selective in their approach or were unaware of the presence of additional accounts. There would, for example, be little reason to follow a subsidiary account established for a school residential trip if there was no connection to that activity.

Pseudo accounts were identified. Some of the example accounts highlighted were identified to be hosting questionable postings, for example relating to the competence of named members of the school teaching staff. Generally it was the nature of the postings made and the detail arising from the profiles of the accounts which were followed or were following that account which permitted a judgement to be made about the account's authenticity. Appearing to demonstrate an awareness of there being a risk of a digital presence being assumed, a small number of schools were identified to have created accounts but failed to use them. In a number of these examples the respective account simply reveals a platform notification that '[X] hasn't tweeted yet'. Furthermore, there were two examples (NZ91a-b and NZ263a-b) where the schools were identified to have taken a particularly robust approach in using more than one derivative of their school name.

Contributing to the appearance of legitimacy was the use of pictorial images. Specifically, inclusion of the school crest was identified to be a popular feature contributing to the creation of an impression that account postings emanated from that school. The risk of this assumed approach appeared to explain why some schools chose to identify that they were, as exampled by the header provided by NZ152, "The official Twitter account for ..."   The contribution by a legitimate school account of a poor pictorial image, was also seen to result in a negative effect. NZ84 and NZ116, for example, were deemed to be legitimate accounts based on having provided links to material on the school website and inclusion of material publicising school events. However those accounts included exceptionally poor quality profile pictures suggesting that little thought had been given to the contribution that that image makes to the impression being cultured. This identified that pictorial representation, similarly to the words posted, is worthy of attention. Whether it is this risk which accounts for some of the studied schools having chosen not to personalise their Twitter home page, simply using the Twitter-provided 'logo', can be questioned.

Offering a similar capability to other social media platforms, Twitter permits account holders to prevent unauthorised readers from accessing their postings. This was a capability used by a little over 0.01% of the sample group. In each instance, and as part of the research exercise, the researcher made a request for access. Although in each instance that request was made from the researcher's Twitter account, an account which highlights in the profile detail that she is a researcher into e-technologies, none of her requests were granted. It was not possible to identify whether the requests were ignored or refused, since no contact was received from any of these schools.

Language used in Tweets was generally cautious, and in some cases repetitive. Whether this was the result of a lack of capability or understanding could not be determined. In some cases the caution identified resulted in compromises being made. NZ34, for example, provided regular encouragement to their followers using the word 'please', even though this meant compromising other phraseology. Twitter postings are limited to 140 characters. That limitation was also reflected in some use of 'text speak' within postings. NZ112, for example, regularly substituted '2mrw' for the word tomorrow, 'u' for you and 'b' for be, even when there was capacity amongst the 140 character limitation for each word to be spelled out in full. Some tweets were seen to alternate between being posted in the first person and taking a more corporate stance. Accounts written entirely in the first person, and particularly those using informal phraseology such as NZ50's tendency towards starting each tweet with the words 'hey guys', suggest the school accounts had the potential to be regarded to be little more than an extension of a personal account.

A tendency to use repetitive phraseology, such as NZ14's use of the 'I posted a new photo to...' at the start of each of 30 consecutive postings was noted. Likewise, repeated use of hyperlinks was not unusual. NZ13 hyperlinked every tweet and was clearly attempting to entice engagement with those resources by avoiding providing full detail within the remainder of the tweet, for example "Year 8 & 9 option choices for 2016: Current Year 8 and 9 students have been given thei ...read more at [hyperlink]" (sic). NZ86 was seen, over the three month period preceding the date of examination, to have changed from attaching web links to text, to posting web links without any accompanying explanation. Some accounts merged these two approaches. For example NZ62, with the exception of their first tweet announcing their arrival on Twitter, posted the same tweet

on 43 occasions - '[X] News & Events Update' - followed by a hyperlink to a web page. Here Twitter was seen to be little more than a means of notifying an update to a web page, despite that web page already offering its own 'subscription' facility.

Whilst the language used was generally cautious, humour was not entirely excluded. NZ145 started several postings with a humorous 'note to self' reminder whilst another of their postings raised the question 'Who needs a crystal ball when...?'. Likewise, NZ77 followed up their 'First tweet' posting with another which simply read 'Second tweet'. However, more significant exceptions to the general perspective of caution (potentially reflecting a point of crisis in the employment relationship for the individual making the posting) were identified. Two accounts posted expletives in relation to their frustrations with the teaching role. In both instances use of those accounts was identified to immediately terminate, suggesting that the individuals making the postings had sole responsibility for the accounts and thus that the schools were either ignorant of, or were unable to subsequently delete or refine, the nature of the posting made.

DISCUSSION
This discussion is organised under two headings, reflective of this paper's learning focus. Generation and maintenance of the education institution's online profile is followed by consideration of the impact of the education institution having a Twitter use strategy.
The generation and maintenance of the education institution's online profile

Twitter is a free-to-access platform and this, together with user-friendly nature of the software, appears to support engagement. The exponential growth of the platform (Wilkinson and Thelwall, 2012) provides testament that the approach provided has generally been perceived to be attractive. However, there are also indications that the ramifications of establishing accounts and making postings, and in particular how use of the Twitter platform creates an impression, the online profile, has not always been the subject of consistent focus by the studied schools.

Social media is identified from the literature as providing a forum for performance (Mazali, 2011). Absence of participation does not exempt a school from that performance but, as identified from the study, results in shortfalls being filled and online personas being assumed. Each school's social media profile was identified to be influenced by numerous factors, and that this included pictures/illustrations, as well as words. The literature highlighted that self-presentation is not a new concept (Cress et al, 2014). The intention is that that self-presentation will 'please the audience' (Baumeister, 1982), in that the audience will like what they see and wish to align themselves with that source. But what if they do not like what they see? The effort which the typical reader will engage in the task of determining the authenticity of the account, particularly when factors are deployed to give the appearance of legitimacy, can be questioned. As a result of the number of individuals with which a school is broadly associated, the potential ramifications of those relationships, and the willingness of staff members to associate themselves (and the material they post) with the school, the likelihood of the school being on the receiving end of malicious intent or the prankster's focus appears to be significant. Any failure to recognise and respond to this risk is, therefore, of significant concern. Furthermore, any failure to respond to the wealth of advice which is identified to be available with regard to the use of social media platforms appears to indicate a lack of awareness surrounding the online profile broadly.

Some schools demonstrate caution in their postings by 'protecting' their Tweets. However, the extent to which those schools are aware of the limitations of their approach remains unknown and is certainly questioned in the light of the identified shortfalls in the understanding of platform capabilities. What is established is that there are some unrealistic expectations associated with Twitter use, as exampled by the desire to rapidly establish a Twitter following and illustrated by the disappointment expressed when this does not occur as rapidly as anticipated. Furthermore, that schools cannot expect others to perceive them to be distanced from the accounts with which they are connected. Despite the perceptions surrounding the growth in use of the Twitter platform, maintenance of a Twitter presence requires sustained effort and turnover of staff will inevitably have an impact.

The impact of the education institution having a Twitter use strategy

Where Twitter platform use was focused, this indicated the presence of a strategy. Indeed that focus was identified to influence practice both within and outside the school. In some instances the identified strategy appeared to be a simple desire to extract value from the platform, without any effort being made to offer significant contribution. This was seen, for example, where school accounts largely used the 'follow' facility. However, with regard to the more significant body of schools identified to make two-way use of the Twitter platform, the termination of accounts such as those associated with a school residential once that activity was completed, also serves to emphasise a purposeful, and potentially strategic, focus. A third factor contributing to

identification of the presence of a strategic approach is the hierarchical organisation of accounts, albeit that that approach might have been established simply as a consequence of the success of using a single account.

A significant body of school accounts were established within eight years of the Twitter platform being created. For accounts established in the earliest years, the influence of novelty cannot be discounted. As was identified from the literature, perceptions of appropriate use and behaviour are heavily influenced by what is deemed acceptable in operational practice and it is inevitable that such a judgement is time specific. When Twitter was first established it is unlikely that schools, or indeed many of Twitter's current users, would have been able to determine how significant use of the platform would become. This is, in part, the consequence of the developmental nature of technology.

The lack of direction exhibited by some accounts, including accounts which at the point of examination had been established for some years, was evident within the study. The ability to adjust the strategic approach, indeed to adopt a strategy when previously there had been a lack of purposeful direction, was indicated to be problematic. Here the influence of account 'followers' was apparent. Even when use of the platform appeared to have been terminated, many of the accounts retained at least some of their following. This ready audience might well explain why some schools chose to reignite their use of those accounts as opposed to establishing a new one. The literature (e.g. Kennedy, 2012; Pirie, 2012) identifies technology as having put power into the hands of individuals, and this study provides clear indication that those individuals include account followers. What appears to be a simple process, the reigniting of an account, was identified to make it difficult to establish a Twitter use strategy, especially where such a strategy has not been previously used.

CONCLUSION

This study has identified that there are many schools based in New Zealand which have engaged with the Twitter platform. However, like other technological tools, competence in use varies and some engagement appears to be little more than the consequence of efforts to emulate practice identified elsewhere. As the period of time during which the Twitter platform has been used increases, a legacy of use and, in particular, the fall out of ill thought through approaches, appear to be becoming an additional feature of school management. Efforts made to engage with the platform are not always effectively embedded into school operating processes; as might be exampled through the presence of an institutional strategy for Twitter use. Whilst this absence of focus might well be for commendable reasons, such as a desire to focus resources on other elements of the school's life, the examined schools were being seen as being forced into engagement with the Twitter platform. This occurred both through action, and through the efforts the Twitter community has chosen to make with regard to school Twitter platform-related inaction.

Whilst the Twitter platform offers a number of advantages, the presence of the platform and the way it is engaged with, presents a significant risk. Generally the negative effect is revealed through a compromised online school profile. As an intangible factor, and in the presence of the competing demands with which a school is faced, there is a danger that the need to manage this online profile can be overlooked. Certainly management of the Twitter profile can detract attention from other elements of school life, with the platform serving as a potential outlet for arising frustrations. The effect is that the Twitter platform can be berated for providing an unwelcomed distraction. Some of the identified risks emanate from outside the school establishment, but there is much that arises from the actions of those with employment-related links to the organisation. This employment-related link adds an additional level of complexity and is flagged up as offering further research potential.

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BIOMUSIC.
BODY, SOUND AND LEARNING.

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ABSTRACT
The object of this research is the fundamental relationship between music learning and movement. According to some scholars (Gordon, 1990; Corradini, 2008), between music and movement there is a single protagonist at the center, which is the body of child that learns.
The Biomusic (Corradini, 2008), a new branch of Musictherapy, uses the knowledge of the influence of sound on people through breathing techniques, movement, relaxation and emission of sounds. It acts on the physical, emotional and energetic balance improving the quality of life of the individual. Besides Biomusic, then, there is the Music Learning Theory (Gordon, 1990), which has as its main objective the development of musical aptitude of each child according to his potential, methods and timing. This musical path is based on the concept of "audiation" (Gordon, 2002), ie the synergy between psychological and bodily elements. According to Gordon, in fact, it is impossible to fully live the world of music if there is no movement of the body.
All this assumptions are even based on the new neuroscientific researches about embodied cognition: cognition is embodied and it mainly depends by sensory elements, bodily characteristics and motor experiences (Caruana, Borghi, Gomez Paloma, 2013).
In conclusion, learning is generally determined by an active body that is fully absorbed in a stimulating environment (Paloma Gomez, 2013) and in the case of music, it is itself that becomes movement through the space (Gordon, 2002).

INTRODUCTION

The object of this research is the fundamental relationship between music learning and movement. According to some scholars (Gordon, 1990; Corradini, 2008), between music and movement there is a single protagonist at the center, which is the body of child that learns.

The concept of Musictherapy was developed in the eighteenth century thanks to Richard Brockiesby, a doctor and a London musician; it is considered an activity that is based on the care of human health and employs, as a primary tool, the relationship among patient, therapist and musical expression. This therapy is an activity that uses music and sound as a communication tool, mostly nonverbal, to intervene in educational, rehabilitative or therapeutic level, in a variety of pathological conditions and not, in order to create a contact for squeeze out the emotions.

In 1996, the World Federation of Musictherapy gave the following definition: "Musictherapy is the use of music and/or musical elements (sound, rhythm, melody and harmony) by a qualified person, to a person or a group of person, in a process that facilitates and promotes communication, relationship, learning, motor skills, expression, organization and other relevant therapeutic objectives in order to satisfy physical, emotional, mental, social and cognitive needs. It aims to develop the potential and/or residual functions of the individual so that he can better achieve intra and interpersonal integration and consequentially he can improve the quality of life thanks to a rehabilitative or therapeutic process." Rolando Omar Benenzon (Argentine music therapy teacher) defined, however, the Musictherapy from a scientific and therapeutic point of view: "From a scientific point of view, Musictherapy is a branch of science that deal with the study and research of the relationship between sound and individual to discover diagnostic elements and therapeutic methods". In 1997, Benezon defined the Musictherapy as a "psychotherapy which uses sound, music and bodily tools to develop, process and analyze the relationship between music therapist and patient with the intended to improve his quality of life and rehabilitate and recover him for his social inclusion".

According to these definitions, Musictherapy could be considered an efficacious methodology for a psychological intervention, because it allows the individual to communicate with the therapist's help, through a non-verbal code and starting from a Sonic Identity principle. The Sonic Identity is the integration of all sound

experiences that the individual encompasses from birth onwards. Certain sounds could have a significant impact on the mental and physical welfare of an individual, that is why every individual embodies a musical history and an unrepeatable musical experience. The received sound messages meet the personal ability to receive and translate them becoming part of us and only then they will be relayed outside. From this exchange of sound information, new sound vibrations and new tones of each person are born. Musictherapy aims to act precisely on these harmonic forms and provide a safe and protective environment which helps the person to relieve thoughts and possible disturbances.

A decade ago (2008), Corradini designed the Biomusica as a new branch of Musictherapy that uses the knowledge of the influence of sound on people through breathing techniques, movement, relaxation and emission of sounds. It acts on the physical, emotional and energetic balance improving the quality of life of the individual. The sound is used as the achievement of therapeutic aims in preventive, educational and rehabilitation processes and in personal development. The focus of its intervention is to define the individual as a human being in a dynamic development. For this reason, the developmental character is not subordinated to the therapeutic one because an effective therapy must promote, at the same time, a developmental and a therapeutic process.

Besides Biomusic, there is the Music Learning Theory (Gordon, 1990), which has as its main objective the development of musical aptitude of each child according to his potential, methods and timing. It describes the various ways in which the child learns the music, from the neonatal age, with similar processes to those used to learn the language. Edwin E. Gordon argued that all children, at school, can learn about music in the same way that they learn other subjects or the mother tongue. In the first few years of life, in fact, the child communicates with a "language" and a series of behaviours close to the musical field. Just observe the child when he beats rhythmically toys each other, when he issues rhythmic and expressive sounds, when he runs, jumps and plays making sounds that make up little melodies.

THE STUDY

The Musictherapy sessions are organized according to the needs of the patient, but usually with weekly meetings. This therapy can be applied to a single person or a whole group of people with disabilities or without disabilities.

The intervention could be:

- Psychoanalytic: with the aim to develop social and interpersonal aspects;
- Psychosomatic: especially with children or elderly people with disabilities, in order to implement a therapeutic and rehabilitative treatment;
- Somatic: with a single patient, for a therapeutic treatment through a very detailed work between patient and therapist.

For the educational value of this discipline, three specific areas of application are developed:

- preventive;
- rehabilitation;
- therapeutic.

The preventive area concerns the use of Musictherapy in order to help the person to prevent various types of hardship. The rehabilitation area is addressed to patients suffering from various diseases, in order to maintain or improve the physical and mental health. In this case the rehabilitation of very young children is called habilitation, because they develop skills rather than recover them. Musictherapy for therapeutic purposes has as central point the relationship, with the aim of reaching internal changes related to the communications, the relationship and affection aspects.

Regarding Biomusic, the exercises are based on the ability of the sound of his own voice to be distributed within the body and not outside as people tend to think. The sound of voice travels within us through to the bones, fluids and tissues and helps the localization of blood and oxygen in specific areas, especially if we use the right phonemes as vowels and the right frequency addressed by the music we listen to.

The Biomusic exercises involve a fusion between the body and the music that you listen. The body is considered the central element of this activity and the musical instrument to "tune". Music has the effect to activate mental associations and to open the way to the emotions or even physical sensations that extend the knowledge of ourselves, in order to better integrate our emotionality. Some of the exercises are also based on rhythm, a fundamental element of music, in fact rhythm comes from the body, just think of the heart rate, respiratory rate or commonly to the walk.

Specifically, Biomusic, organized following precise rules, allows to:

- balance the biological system;
- balance the energy system;
- strengthen the immune system;
- improving self-esteem;

- improve the state of mind;
- enhance creativity;
- enhance the imagination;
- promote self-observation;
- develop the ability to resolve emotional conflicts;
- improve awareness of the inner world;
- stimulate the body and emotional expressiveness;
- improve verbal communication, non-verbal and social integration;
- reduce physical tiredness;
- reduce stress accumulated over time.

In this technique, there are some objective factors that occur in actual practice of each performed exercise, ie:

- the multicultural character: Biomusic can be implemented in every cultural context and in different ethnic groups, without creating internal disorders because the cultural values of each country are respected;
- the social nature, because Biomusic exercises create interpersonal relationships, both internal and external; in addition, the greatest benefits are collected when these activities take place in groups, when people interact with each other.
- the evolving nature is the ability to train people who practice this activity in their inner life.

From these three characteristics is possible to extrapolate the foundation for the "movement of Biomusic" (Corradini, 2008).

The educational material drawn up by the Gordon Theory consists of songs and rhythmic motifs, strictly without texts, based on three fundamental characteristics: variety, complexity and repetition. The musical path does not require the use of musical instruments, but only the use of voice and movement of the body and it is based on the concept of "audiation" (Gordon, 2002), ie the synergy between psychological and bodily elements. It is the set of cognitive processes that involve the mind and the body and allow the real understanding of the music and the possible acquisition of new musical skills; then, it is the ability to internally feel the music and understand sounds even if they are not materially and instantaneously present, for exampleduring the improvisation, listening, reading, writing or even when we recall a familiar music.

According to Gordon, there are eight types of audiation:

1) listening to familiar music or unfamiliar;
2) read familiar music or unfamiliar;
3) write familiar music or unfamiliar dictation;
4) recall and perform familiar music from memory;
5) recall and write familiar music from memory;
6) creating and improvising unfamiliar music;
7) creating and improvising unfamiliar music while reading (Music);
8) creating and improvising unfamiliar music while writing (Music).

The protagonist of this complex process is the body. The sensory experience of listening and movement are the basic ingredients for the initialization of the path of knowledge and keep it active in the body, where the music lives. According to Gordon, in fact, it is impossible to fully live the world of music if there is no movement of the body.

FINDINGS

All this assumptions are even based on the new neuroscientific researches about embodied cognition: cognition is embodied and it mainly depends by sensory elements, bodily characteristics and motor experiences (Caruana, Borghi, Gomez Paloma, 2013). Until a few years ago, the prevailing position in cognitive science was to consider the human body a brain accessory (Borghi & Iachini, 2004). During the last ten years this position was, however, overturned by a multitude of experiments and publications that have highlighted the importance played by the physical body in cognitive processes: it is claimed, in fact, that cognition is embodied (Embodied Cognition, Caruana & Borghi, 2013) and that it depends also by features of corporeal type. In fact today, gradually, it has come to the conviction that the mind is influenced by the brain, and especially by the body; at the same time, it has been creating a strong relationship between three fundamental processes that previously were constantly split off from each other, ie the perception, the action and the cognition. The student, using his body as the main tool for apprehension and communication, acquired knowledge and skills that, otherwise, would remain inaccessible; it allowed him to participate actively with the world around him, giving him the opportunity to learn through experience, exploration, the relationship with the others, using his body to express, interpret and to know: that's how it is really possible to realize the circular process of the body-action-cognition (Gomez Paloma, 2009). Consequently, in Biomusic, musical learning is determined by a full body immersed in a stimulating musical environment because music becomes movement through space. A correct coordination between the movement, breathing and muscle contraction allows to internally understand time and rhythm, not simply as a regular series of pulses, but as a time stream divided into well-organized time groupings. To be

musical is necessary "to put the time in to space" (Gordon, 1990). To do this it must be able of embracing a relaxed movement in continuous flow. "Body knows before brain" (Gordon, L.E.E., 1990).

CONCLUSIONS

Playing music necessarily implies accurate and aware control of the movement. The child should realize as soon as possible the way used from those who play music employing the movements of the body: so parents, teachers, other adults or children should play for him songs accompanying rhythmic movement.

If a child does not learn well to move, he cannot do it with another person: "To coordinate its execution with that of the other, children will be able to recognize their possible lack of coordination" (Gordon, E.E., 1990).

In conclusion, learning is generally determined by an active body that is fully absorbed in a stimulating environment (Paloma Gomez, 2013) and in the case of music, it is itself that becomes movement through the space (Gordon, 2002).

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BİLGİSAYAR DESTEKLİ GRAFİK TASARIMININ U.Ü TBMYO GRAFİK ÖĞRENCİLERİNİN TASARIMLARINA ETKİLERİNİN DEĞERLENDİRİLMESİ

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ÖZET

Grafik tasarımı, yaratıcılığın sanat, kültür ve iletişim ortamından beslendiği bir meslek olarak varlığını sürdürmektedir. Gerek iş hayatında gerekse eğitim ortamına bakıldığında, donanım ve yazılım teknolojisi açısından günceli yakalayarak çözümler sunan dinamik bir yapıya ihtiyaç duyduğu görülmektedir. Bu bakımdan grafik tasarım, disiplinlerarası bir yaklaşımın sonucu olarak karşımıza çıkmaktadır. Eğitim sürecinin içerisinde bilgisayar programı bilgisinin yanı sıra desen ve tasarım uygulamalarının da koordineli şekilde öğrencilerin yaratıcı dünyasına dahil edilmesi zorunludur.

Yüksek Öğrenim Kurumu'nun son 3 senedir meslek liselerinin farklı programlarından öğrencileri Grafik Tasarım programları bünyesine dahil etmesi nedeni ile elle çizim yapma gücü ve bunu multimedya ortamlarına aktarma kapasitelerinde ciddi bir düşüş gözlenmektedir. Bununla birlikte tasarım yetisi ve hayal gücünün farklı uygulamalar ile desteklenmeye çalışılmasına rağmen bu girişimin yetersiz kaldığı düşünülmektedir.

Yukarıda bahsi geçen sürecin araştırılması için Uludağ Üniversitesi Teknik Bilimler Meslek Yüksekokulu Grafik Programı bünyesindeki 1. ve 2. Sınıf, örgün ve ikinci öğretim öğrencilerine anketler uygulanmıştır. Amaç; çizim ve tasarım gücü seviyesine karşılık sadece bilgisayar destekli programlar kullanarak öğrencilerin kendilerini ne kadar yeterli hissettikleri ne tür alanlarda ve şartlarda zorlandıklarının araştırılmasıdır.

Anahtar Kelimeler: Grafik tasarım, bilgisayarda tasarım, desen eğitimi, multimedya kullanımı, hayal gücü ve yaratıcılık, disiplinlerarasılık

EVALUATİON OF COMPUTER AİDED GRAPHİC PROGRAMS 'EFFECT ON U.Ü TBMYO STUDENTS' DESİGN CAPABİLİTİES

ABSTRACT

Graphic design profession based on creativity, art, culture and communication. In terms of both training requirements in business, in terms of hardware and software technology it seems to need a dynamic structure that offers solutions by capturing date. In this respect, graphic design, it emerges as the result of an interdisciplinary approach. The coordination of computer, practicing patterns and design information is needed for improving the students' creative world.

Higher Education Authority allowed students from different programs to educate in Graphic Design programs 3 years ago. hand-drawing power is observed a significant decrease. Also that is observed in transmission capacity on the multimedia environment. However, in spite of design skills and imagination is tried to support different applications and it is thought that this initiative is inadequate.

The above mentioned process for the investigation of the Uludag University Vocational School of Technical Sciences in the graphics program within the 1st and 2nd class, questionnaires were applied to formal and secondary education students. Goal of this research; drafting and design power level only in response to computer-aided programs using the students. Also investigate how they feel enough is to ascertain in designing and what kind of difficulties they face.

Key words: Graphic design, design with computer, drawing education, using multimedia, imagination and creativity, interdisciplinary

GİRİŞ

Bilgisayarlar, hızla ilerleyen bilişim dünyası içinde hayatımızın her alanında büyük bir ihtiyacı karşılamaktadır. İçinde bulunduğumuz "Bilgi Çağı" olarak adlandırılan yüzyılda tasarım olgusu da ilerleyen bilgisayar teknolojisiyle birlikte kendisini çok geniş bir yelpazede ifade etme imkanı bulmuştur. Mimariden grafiğe, web tasarımından arttırılmış gerçekliğe kadar beynimizin düşündüğü, bireyin ihtiyaç duyduğu, yaşam standartlarını kolaylaştırıp daha estetik hale getirecek pek çok alanda bilgisayarlı tasarımın kullanıldığı görülmektedir.

90'lı hatta 2000'li yıllara kadar yani bilgisayar teknolojisinin, tasarım alanında henüz yaygın olmadığı dönemlerde çalışmalar el ile çizilip, boyanmaktaydı. Bu durum yeteneği, el ve göz koordinasyonu ile birleştirmeyi gerektirdiği gibi zaman konusunda da ciddi kayıpları beraberinde getiriyordu. Elbette bu dönemlerde grafik tasarımı kullanan şirket/şahıslar çok yaygın değildi. Bu kadar emek ve zaman gerektiren bu iş aynı zamanda oldukça pahalı olmaktaydı. Güzel sanatlar alanında eğitim almış veya usta-çırak ilişkisi ile kendisini geliştirmiş tasarımcıların çalışmaları bu dönemlere rastlamaktadır.

Günümüzde grafik tasarımın gelişimine baktığımızda özellikle tasarım programlarını üreten şirketlerin birbirleriyle ciddi bir rekabet içerisine oldukları görülmektedir. Bu programlar sayesinde çıtayı yükselten tasarımcılar, sanal gerçeklik ve arttırılmış gerçeklik gibi farklı alanlarda da faaliyet göstermeye başlamışladır. Teknolojik olarak yüksek bir seviyeye gelmiş olan tasarım dünyasında artık el ile çizim yapma yeni nesil tasarımcılar tarafından sorgulanır hale gelmiştir. Özellikle ciddi bir Desen ve Temel Tasarım eğitimi sürecinden geçerek sektörde çalışmaya başlayan tasarımcılar, eskisi kadar kağıt – kalem çizimi gibi klasik tekniklere ilgi göstermemektedir. Bu çalışmada klasik çizim teknikleri ile modern teknikler üzerinde bir araştırma yapılmıştır. Özellikle Uludağ Üniversitesi Teknik Bilimler Meslek Yüksekokul Tasarım Bölümü Grafik Tasarım Programı'nın mezun öğrencileri arasında yapılan anketten elde edilen sonuçlar değerlendirilecektir.

Daha önce bu araştırmaya benzer bir çalışma yüksek lisans tezi olarak Suzan Duygu Yılmaz tarafından "Grafik Tasarım Sürecinde Bilgisayar Destekli Bir Ortamın Tasarımcının Yaratıcılığına Yansımaları" başlığı ile yapılmıştır. Bildirinin sonuç bölümü hazırlanırken bu tezden atıflar yapılmıştır.

GRAFİK TASARIM EĞİTİMİ BİLEŞENLERİ

Tasarım nedir?

TDK sözlüğündeki anlamları ile tasarım; "Zihinde canlandırılan biçim, tasavvur.", "Bir sanat eserinin, yapının veya teknik ürünün ilk taslağı, tasarı çizim, dizayn", "Bir araştırma sürecinin çeşitli dönemlerinde izlenecek yol ve işlemleri tasarlayan çerçeve, tasar çizim, dizayn" ve "Daha önce algılanmış olan bir nesne veya olayın bilinçte sonradan ortaya çıkan kopyası" (Türkçe Güncel Sözlük, 2016) şeklinde tanımlanmıştır.

İnsanlığın başlamasıyla birlikte başlayan tasarım olgusu zamanla, ihtiyaçlara ve estetik algılara göre farklılıklar göstermiştir. Sanatın tarihi içerisinde yer alan prehistorik buluntulara baktığımızda, tasarımın sanatla paralel olarak ortaya çıktığı görülür. Bu şekilde bakıldığında "Grafik ve tasarımın tarihi, MÖ 14000'lerde yapılmış mağara resimlerine ve İÖ 4.yy'da yazının başlamasına dayandırılabilir." (Köse ve Kansu, 2008, s. 1-2)

Tasarım kelimesi, yaşamın pek çok noktasında kullanıldığı için kişiler tarafından farklı anlamlar yüklenmiştir. "Tasarım; kimi zaman bir model, kalıp ya da süsleme yapmak gibi algılansa da bir tasarım kendi içinde bir yapıya ve yapı arkasında bir planlamaya sahip olmalıdır. Bütün sanatların temelinde tasarım olgusu bulunmaktadır. Tasarlama eylemi, oluşturulacak yapının organizasyonu ile ilgili her türlü faaliyeti içine almaktadır." (Becer, 2006, s. 32). "En genel tanımı ile tasarım; insanın kullandığı nesneler ile yaşadığı çevreyi, fiziksel ve ruhsal gereksinimleri doğrultusunda çağın estetik ve teknik değeri ile yeniden üretmesi yada düzenlemesidir." (Ergür, 1997, s.387)

Tasarım olgusu problem çözme üzerine kurulmuş bir sistemdir. Problem çözmek de innovatif bir eylem olup daima kendini yenilemek ve güncellemek zorundadır. Burada yaratıcılık devreye girmektedir çünkü kendini tekrar eden bir durumda tasarımdan söz etmek mümkün değildir. Amaca doğru olarak hizmet etmeyen tasarımın yeniden gözden geçirilmesi, eksik kısımlarının tamamlanması, işlemeyen kısımlarına alternatifler üretilmesi, hedef kitlenin ihtiyacına doğru hizmet edecek bir yapıya bürünüp tekrar sunulması gerekmektedir. Aslında bu süreç var olan ürünün güncellenerek yeniden yorumlanmasıdır. Bu sayede tasarımın aslı değişmemekte sadece hizmet verdiği hedef kitleye göre kendisini yenilemektedir.

Desen Dersi

İyi bir tasarımın en önemli elemanı desendir. Kağıt ve kalem koordinasyonunu iyi sağlayan bir tasarımcı dijital ortamda da başarılı çalışmalar ortaya çıkarmaktadır. Desen eğitimi ile tasarımcı iki boyutlu yüzeye, gördüğü herhangi bir biçimi üç boyutlu olarak aktarıp; ışık, gölge ve doku elemanları ile biçime hacim verebilmektedir. Özellikle perspektif algısı geliştiği için grafik tasarımın pek çok alanında başarılı ürünler ortaya koyabilir. Desen eğitimi sayesinde, çizim tabletleri ve benzer ortamlarda zorlanmadan çalışmalarını gerçekleştirebilmektedir. Özellikle illüstrasyon alanına yönelmiş olan tasarımcıların alt yapılarında iyi bir Desen eğitiminin olması şarttır.

Desen eğitimi farklı malzemeleri bir arada kullanmayı da gerektirdiği için tasarımcının yaratıcı yönünü geliştirdiği görülür. Farklı efektleri farklı dokularla birleştirerek, daha bilgisayar ortamına geçmeden katman mantığını anlayıp, kullanması mümkün olmaktadır.

Temel Tasarım Dersi

Desen dersinin tamamlayıcı öğelerinden birisi de Temel Tasarım eğitimidir. Bu eğitim sayesinde tasarımcı algıladığı nesneleri nasıl tasarım öğesi haline dönüştüreceğini öğrenmektedir. Desen dersinde üç boyutlu olarak betimlemeyi öğrendiği nesneyi, Temel Tasarım dersinde detaylarından arındırmayı, farklı bir form ile sentezlemeyi, objeyi daha yaratıcı bir bakış açısı ile yorumlamayı, algıladığı objeden yola çıkarak bambaşka bir tasarım oluşturmayı öğrenmektedir.

Grafik Tasarım'ın en temel bileşenleri arasında yer alan Desen ve Temel Tasarım dersleri sayesinde bilgisayar destekli tasarımların alt yapısı oluşturulmaktadır.

Bilgisayar Destekli Grafik Tasarım

Grafik tasarımın tarihinin asıl başlangıç noktası ise insanların sanayileşme ve modern yaşama geçiş ile özellikle de fotoğrafın keşfidir. Fotoğrafın keşfi ile resim sanatı tasarım alanına doğru yönelmeye başlamıştır. "Baskı tekniklerinin ilerlemesi, fotoğrafın geliştirilmesi ve tipografinin önem kazanması ile özellikle afiş tasarımı ve dolayısıyla grafik sanatlar resimden ayrı, tasarımın birer dalı olarak ortaya çıkmıştır." (Wikipedi, 2016).

Grafik tasarım; bir mesajı iletmek, bir görseli geliştirmek veya bir düşünceyi görselleştirmek için metnin ve görsellerin algılanabilir ve görülebilir bir düzlemde, iki boyutlu veya üç boyutlu olarak organize edilmesini içeren yaratıcı bir süreçtir. Anlam ve simgeyi betimlemenin ve görsel iletişimin ürünüdür. Basılmak ve çoğaltılmak üzere hazırlanan; ister doğrudan doğruya sanatsal amaca yönelik olsun, ister reklam, ya da tanıtma işlevlerini için hazırlanmış olsun, "grafik" tanımı içine giren yapıtların özünde geniş kitle ile bağ kurma isteğinin önemli payı vardır (Kara, 2009, s. 6)

"…, kendi yaratısını kendi potansiyeli ve çevresel faktörlerin etkisi ile oluşturan tasarımcının, tasarımını ortaya koyması gerektiği anda yani tasarımın teknik boyutunda ortaya çıkar, tasarımın kalitesini en kolay biçimde sunma konusunda tasarımcıya sayısız olanaklar sağlar. Bu nedenle bilgisayar teknolojisinin grafik tasarım ve tasarımcı yaratıcılığına yansımaları, tasarımın oluşturulmasındaki düşün boyutunda görülmez, sunum boyutuna getirdiği kolaylıklar ve olanaklarda görülür ve gözlemlenir." (Yılmaz, 2000, s.86-87)

GEREÇ / YÖNTEM

Uludağ Üniversitesi TBMYO Grafik Tasarım Programı öğrencilerine bilgisayar bilgisi ile bilgisayar destekli tasarım seviyesini ölçmek için anket düzenlenmiştir. Ankete 109 öğrenci katılmıştır. Bu sayı toplam okuyan öğrencimizin %60'ına tekabül etmektedir. Anket sonuçları betimsel istatistik yöntemi ile yorumlanmıştır. Programda bulunan bayan öğrenci sayısının fazlalığı nedeniyle ankette bayan katılımcı oranı yüksektir. Anketteki sorulara verilen cevaplar öğrencilerin kendi ifadeleridir. Bu çalışma sonucunda öğrencinin bilgisayar bilgi seviyesi ile bilgisayar destekli tasarım becerisi arasındaki ilişki ölçülmüştür. Diğer bir ifadeyle bu ilişki, öğrencinin beklentilerini göstermektedir.

BULGULAR

Uludağ Üniversitesi TBMYO Grafik Tasarım Programı öğrencilerinin ifadelerine göre;
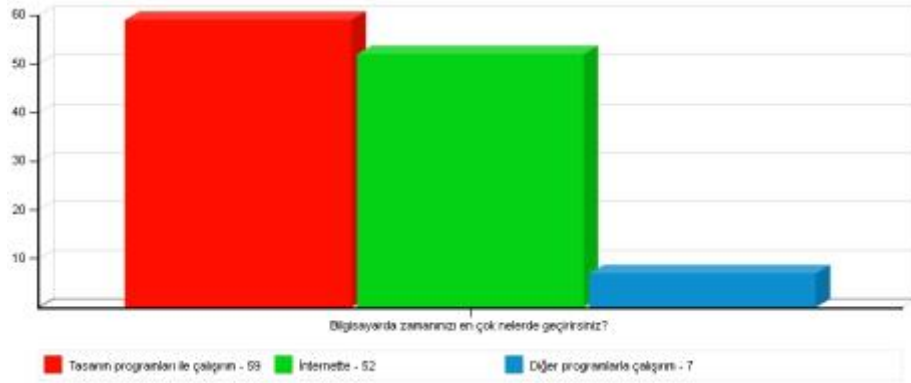
Öğrenci bilgisayarda zamanının büyük bir bölümünü tasarım yapmak için geçirmektedir. Ankette "Bilgisayarda günde ortalama olarak aşağıdaki aktivitelere kaç saat ayırırsınız?" sorusuna verilen cevaplara göre de en çok vakti yine tasarım yapmak için kullandıkları ortaya çıkmıştır.
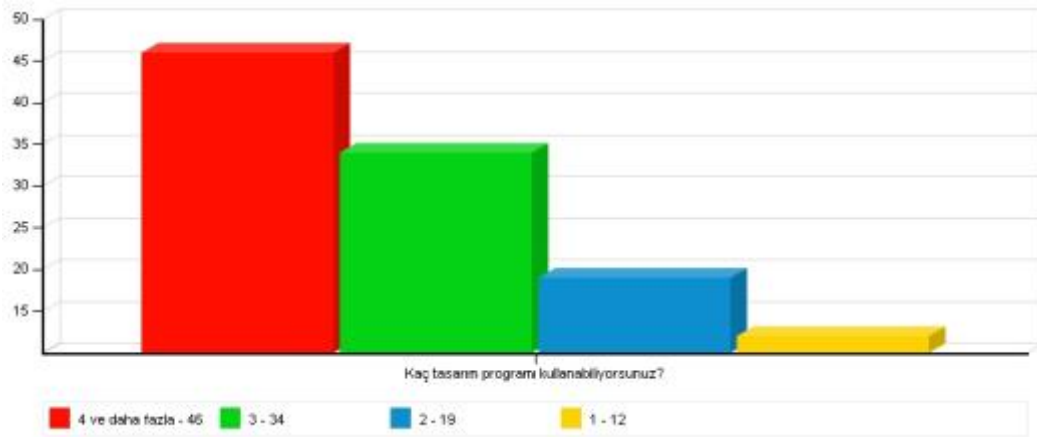
Okulda temel olarak 5 farklı tasarım programı öğretilmektedir. Buna rağmen öğrenciler %65 daha az sayıda program bildiklerini söylemişlerdir. Bu durum öğrencilerin bazı programlara daha çok odaklandığını göstermektedir. Bunun neticesinde beklentisine uygun biliş seviyesinde daha az program kullandığını söylemiş olmaları muhtemeldir.
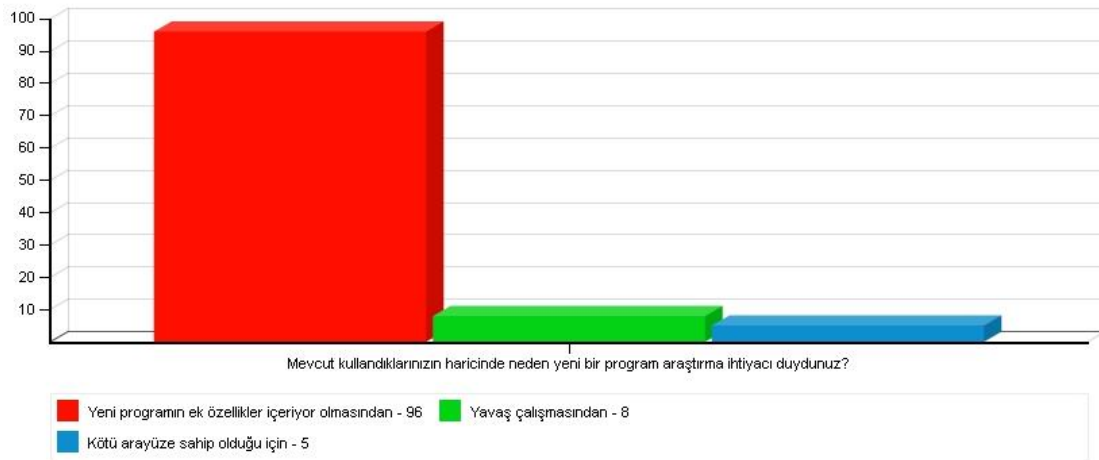
Tasarım dinamik bir olgu olduğu için, yeni istek ve trendler yeni özelliklere ihtiyaç duyulmaktadır. Bu noktada öğrencilerin yeni program araştırmalarının en büyük nedenlerinden biri olarak da yeni programın ek özelliklerini söylemiş olmaları önemli bir bulgudur.

Kağıt üzerinde çizim yapmak yerine sadece tasarım programlarının çok iyi kullanılmasıyla başarılı olunacağını düşünüyor musunuz?

		Evet olunur	Hayır olunamaz
Bilgisayarda grafik tasarım çalışmalarında sizi zorlayan aşama düşünce süreci mi yoksa uygulama mı?	Düşünce %	57,89	59,62
	Uygulama %	42,11	40,38

Bilgisayar kullanma becerinizi nasıl tanımlarsınız?

		Çok iyi	İyi	Normal	Kötü	Çok kötü
Bilgisayarda grafik tasarım çalışmalarında sizi zorlayan aşama düşünce süreci mi yoksa uygulama mı?	Düşünce %	81,82	60,71	41,38	0,00	0,00
	Uygulama %	18,18	39,29	58,62	100,00	0,00

Yukarıdaki tablolarda görüldüğü gibi; öğrencinin bilgisayar kullanımı iyileştikçe tasarımda düşüncenin daha önemli olduğu söylenmiştir. Aynı zamanda, öğrencinin bilgisayar kullanım yetisi iyileştikçe düşüncenin de iyileşmeye başladığı; bilgisayar kullanımı kötüleştikçe de düşüncenin daha önemli hale geldiği görülmüştür.
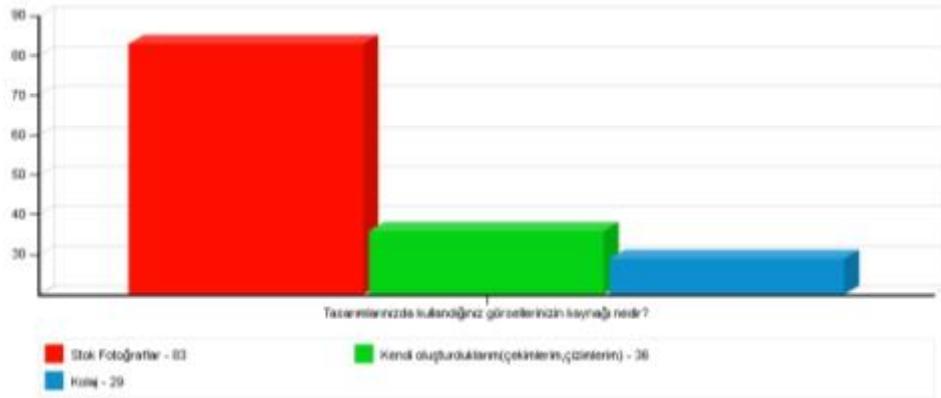
Grafik tasarım programı öğrencilerinin eğitiminde yaratıcılık olgusuna önem verilmekte ve buna uygun çalışmalar yapılmaktadır. Ancak öğrencilere yöneltilen "Tasarımlarınızda kullandığınız görsellerin kaynağı nedir?" sorusuna verilen cevabın %56 oranında Stok fotoğraflar (hazır görseller) olması düşündürücüdür. Bir başka ironik durum da hemen arkasından gelen soruya verilen cevabın oranıdır. "Tasarımda sizin için en önemli parametre nedir?" sorusunda "Yenilik, orjinallik, değişiklik, kolaj, yaratıcılık" gibi seçeneklere verilen onay oranında "Yaratıcılık" %69 oranında olup, hazır görsel kullanmanın yaratıcılıkla ilintisini kuramadıklarını ya da zaman kazanmak için böyle bir seçimi yaptıklarını göstermektedir.

Aynı zamanda, "Bilgisayarda grafik tasarım çalışmalarında sizi zorlayan aşama düşünce süreci mi yoksa uygulama mı?" sorusuna verdikleri "düşünce süreci" cevabının %59 gibi bir oran oluşu neden hazır görsellere daha çok ağırlık verdiklerini açıklamaktadır. Aslında öğrenciler kendilerinde var olan yaratıcılık potansiyelini etkin olarak kullanamamaktadırlar.

Aklınıza gelen fikri önce kağıda mı aktarırsınız yoksa tasarım programları kullanarak mı çizersiniz?

Öğrencilerin yapacakları tasarımları kompoze ederken, aldıkları Desen ve Temel Tasarım dersleri sayesinde klasik yöntemleri (Kağıt-kalem) kullanmaları önemlidir. Bununla ilgili olarak sorduğumuz sorularda akıllarına gelen fikri öncelikle kağıda aktarmayı tercih ettiklerini ve bu tasarımları daha sonra dijital ortama aktarabildiklerini öğreniyoruz ki, bu da gerçekleştirmeleri hedeflenen bir beceridir. Beyinde başlayan tasarımın yaratıcılığında devreye sokulması ile öncelikle 2 boyutlu ortama daha sonra da sayısal platforma aktarılması önemlidir. Bu sayede öğrenci çoklu düşünme yapısını tasarım dünyasına yerleştirmiş olmaktadır.

Hayır: 30,28%
Evet: 69,72%

Kağıt üzerine çizerek yaptığınız tasarımlarınızı kullandığınız programlar ile yapabiliyor musunuz?

Kötü: 5,5%
Çok iyi: 11,93%
İyi: 43,12%
Orta: 39,45%
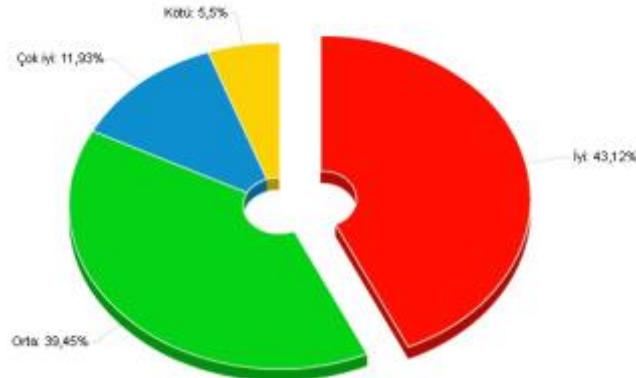
Grafik tasarım programlarını kullanma becerinizi nasıl tanımlarsınız?

Hayır: 18,35%
Evet: 81,65%
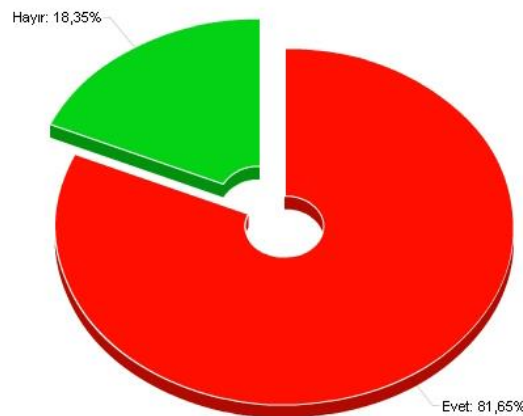
Grafik tasarım çalışmalarınızda bilgisayar ile çalışmanız sizce, yaratıcılığınızı olumlu etkiliyor mu?

Tasarım sürecinde öğrencinin bilgisayarı ve programları etkin şekilde kullanabilmesi çok önemlidir. Bu durum öğrenciye hız kazandırmakla birlikte tasarladığını daha yetkin şekilde aktarmasına yardımcı olmaktadır. Verilen cevaplara göre de öğrenciler kendilerini tasarım programı kullanmak konusunda %94,5 oranında yetkin hissettiklerini belirtmişlerdir. Bu sayede bilgisayarın grafik tasarım çalışmalarını hızlandırdığını düşünmektedirler. Aynı zamanda tasarım programı kullanma becerileri yüksek olduğu için kendilerini daha yaratıcı hissettiklerini de çıkan oranlara göre söylemek mümkündür. Elbette burada sorgulanması gereken "yaratıcılık" kelimesinden tam olarak ne anladıklarıdır. Yaratıcılığı düşündüklerini aktarabilme yetisi olarak mı yoksa özgünlük olarak mı gördükleri konusu bir başka araştırmanın başlığı olabilir.

Kağıt üzerinde çizim yapmak yerine sadece tasarım programlarının çok iyi kullanılmasıyla başarılı olunacağını düşünüyor musunuz?

Son olarak "Kağıt üzerinde çizim yapmak yerine sadece tasarım programlarının çok iyi kullanılmasıyla başarılı olunacağını düşünüyor musunuz?" sorusuna öğrencilerin verdikleri cevaplar arasında çok belirgin bir fark gözlemlenmemiştir. Yani, kağıt üzerine çizim yapmak yerine bilgisayarla tasarım yaparak başarılı olacaklarını düşünenlerin oranı diğerlerine göre çok az farklılık göstermektedir.

SONUÇ

Bu çalışma ile, tasarımı gerçekleştirirken uygulamada zorlananların bilgisayarı bilme ile tasarım iyi olacaklarına inançları arasındaki ilişki ölçülmüştür. Öğrenci, tasarım programı kullanma yetisinin iyi olmasıyla daha güzel tasarımlar yapabileceğini düşünmektedir. Aynı zamanda kağıt üzerinde yapılan tasarımların yeterli olduğunu düşünenler bilgisayar destekli ortama aktarılması konusunda sorun yaşamadıkları ancak tasarımın özellikle düşünce kısmına daha çok zaman harcadıkları görülmektedir. Bununla birlikte sadece bilgisayar destekli tasarıma bağlı kalmanın öğrencilerin yaratıcılıklarını körelttiği ve hazır vektörlere yönelerek tasarımda kolaya kaçtıkları tespit edilmiştir.

Bilgisayar kullanımı iyileştikçe tasarımda düşüncenin daha önemli olduğunu söylemişlerdir. Yukarıdaki tabloda öğrencinin bilgisayar kullanım yetisi iyileştikçe düşüncenin de iyileşmeye başladığı; bilgisayar kullanımı kötüleştikçe de düşüncenin daha önemli hale geldiği görülmüştür.

Buna benzer yapılacak çalışmalarda araştırmacıların bilgisayar bilgisini ölçme için farklı testler uygulamasının daha doğru ölçümler yapmaya imkan sağlayacaktır. Yine benzer şekilde öğrencilerin bilgisayar başında geçirdikleri süreler ve kullandıkları içeriklerin daha iyi ölçülmesi yeni araştırmaların daha objektif sonuçlar üretmesini sağlayacaktır.

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BİLGİSAYAR PROGRAMCILIĞI ÖĞRENCİLERİNİN BİLGİSAYARLARINDAKİ VERİLERE YÖNELİK DAVRANIŞLARININ İNCELENMESİ

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ÖZET

Bu araştırmada, meslek yüksekokulu bilgisayar programcılığı bölümde öğrenim gören öğrencilerin bilgisayarlarındaki verilerine yönelik davranışlarının incelenmesi amaçlanmaktadır. Araştırma verilerini toplamak için tarama modeli kullanılmıştır. Araştırmanın katılımcılarını 2014-2015 eğitim öğretim yılında Sakarya Üniversitesi Kaynarca Seyfettin Selim, Hendek ve Sakarya Meslek Yüksekokullarında öğrenim gören öğrenciler oluşturmaktadır. Araştırmada Tuncer (2012) tarafından geliştirilen "Bilgisayar Kullanıcılarına Yönelik Veri Atığı Ölçeği" kullanılmıştır. Ölçek, "İhmal", "Unutkanlık", "Veri Kaybı Endişesi" ve "Karmaşa" olmak üzere dört alt faktörden oluşmaktadır. Araştırma sonuçları incelendiğinde öğrencilerin bilgisayarlarının veri atığına dönüştükleri konusunda kararsız kaldıkları görülmüştür. Fakat ölçeğin alt boyutları incelendiğinde ise; ihmal boyutunda öğrencilerin bilgisayardaki verilerini ihmal ettiklerini düşünmemektedirler, unutkanlık boyutunda ise öğrencilerin bilgisayarlarındaki verilerini unutmadıklarını ifade etmişlerdir. Veri kaybı endişesi boyutunda ise öğrencilerin bilgisayarlarındaki verilerin kaybolabileceği endişesini duyduklarını belirtmişlerdir. Karmaşa boyutunda ise öğrenciler bilgisayarlarına yükledikleri yeni bilgilerde herhangi bir karmaşaya düşmediklerini ifade etmişlerdir. Öğrencilerin cinsiyetleri ve öğrenim gördükleri sınıf açısından bilgisayarlarındaki verilere yönelik davranışları ve bilgisayarlarının veri atığı haline dönüşmesi konusunda aralarında bir fark görülmemiştir. Bu sonuçlar doğrultusunda, araştırma sonunda bazı önerilere yer verilmiştir.

Anahtar Kelimeler: Veri atığı, bilgisayar programcılığı, meslek yüksekokulu

EXAMİNİNG OF BEHAVİORS TOWARDS DATA İN COMPUTERS STUDENTS OF COMPUTER PROGRAMMİNG

ABSTRACT

The aim of this study is to exaime of behavior intented for data on the computer students of computer programming at Vocational Schools. Survey method was used in this study. Participants of study consist of students studying Sakarya University Kaynarca Seyfettin Selim, Hendek and Sakarya Vocational School. "Data Waste Scale" developed by Tuncer (2012) was used. This scale "Neglect", "Forgetfulness", "Data Loss Concerns" and "Chaos", including consist of four sub-factors. The results demonstrate that students have unstable about data waste of their computers. But the sub-factors of scale exaimed; students don't think to neglect data of their computers about factor of neglect , students don't forget to data of their computers about factor of forgetfulness. Students think that to be lost data of their computers about factor of data loss concerns. Students said that not to fall into chaos stored of the new information on their computer about factor of chaos. The findings also show that here is no difference in behaviour intented for data of their computers and about turn into data waste of their computers in terms of gender and grade levels. From this results, some suggestions are given at conclusion part.

Keywords: Data waste, computer programming, vocational school

GİRİŞ

Günümüzde eğitim ortamlarının ve eğitimde kullanılan teknolojilerin sürekli olarak gelişmekte olduğunu görmekteyiz. İlerleyen teknolojilerin de bunlar üzerinde etkisi büyüktür. Bu gelişen teknolojilerinin başında da şüphesiz bilgisayarlar gelmektedir. Hızlı ve güvenilir bir şekilde veri işleyen ve depolayan bilgisayarlar, yalnızca

insanın hesaplama yeteneğinin bir uzantısı değil aynı zamanda insanın bilgiyi toplama, gereğinde ortaya çıkarma ve karar verme yeteneklerini de genişletmektedir. Böylece bilgisayarlar insanın etkin bir şekilde yapamadığı, düşünme ve yenilikler ortaya koymak için gerekli olan veri ve bilgi işleme faaliyetlerini daha etkin bir biçimde yaparak insan gücünü büyütebilirler (Davis, 1973). Aynı zamanda bilgisayarlar çok miktarda bilgiyi ve veriyi kısa sürede işleyen teknolojik araçlardır (Stephens ve Treays, 1999). Bizlere bu kadar fayda sağlayan bilgisayarlar hem eğitimciler hem de her kademedeki öğrenciler tarafından sıklıkla kullanılmaktadır.

Bilgisayarın hızlı gelişmesi bilgisayar kullanıcılarını her yönden etkilemektedir ve bilgisayarların gerçekleştirebildikleri beceriler ve tecrübeler insanların başarılarını da olumlu olarak etkilemektedirler (Teo, 2008). Bilgisayar teknolojisinin gelişmesi hem eğitimciler hem de öğrenciler için iyi bir destek ortamı olarak görülmektedir (Kolburan Geçer ve Dağ, 2010). Burada bilgisayar teknolojisinin gelişmesi önemli olmakla birlikte dikkat edilmesi gereken bir husus ta bilgisayarın dikkatli ve düzenli kullanılmasıdır. Hemen hemen her yaştan bireyin kullanmakta olduğu bilgisayarlar özellikle de kişisel bilgisayarlar artık veri çöplüğüne dönüşmektedir. Bilgisayarların veri çöplüğüne dönüşmemesi için kullanıcılar bilgilerini bilgisayarlarında koruma altına almalılar ve düzenlemelidirler.

Bilgilerin korunması demek sadece bilgilerin saklandığı ortamın koruma altına alınması demek değil aynı zamanda kayıt altına alınan bilgileri düzenlemektir (Tonta, 1996). Özellikle de bilgisayarlardaki bilgilerin korunması, saklanması ve düzenlenmesi eğitim kademesindeki tüm öğrenciler için önem arz etmektedir. Bireyler artık gerek internetten gerek diğer ortamlardan (Usb, DVD gibi) bilgileri bilgisayarlarına yüklemekte ve daha sonra bu bilgilere ulaşmakta zorlanmakta oldukları görülmektedir. Bireylerin bu gibi durumlarla niye karşı karşıya kaldıklarının bilinmesi önemlidir. Yapılması düşünülen bu çalışmada öğrencilerin bilgisayarlarının neden veri atığı haline dönüştüğü araştırılmak istenmiştir. Böylelikle öğrencilerin bu problemlerini ortadan kaldırılması konusunda da ilerleyen çalışmalara yardımcı olunacağı düşünülmektedir.

Araştırmanın Amacı

Bu araştırmanın amacı, meslek yüksekokulu bilgisayar programcılığı programında öğrenim gören öğrencilerinin bilgisayarlarının kendi davranışlarından kaynaklanan veri atığı haline dönüşmesine yönelik davranışlarını incelemektir. Bu amaçla aşağıdaki sorulara yanıtlar aranmıştır.

1. Bilgisayar programcılığı öğrencilerinin bilgisayarlarının kendi davranışlarından kaynaklanan veri atığına dönüşmesinin nedenlerine yönelik davranışları nelerdir?

2. Bilgisayar programcılığı öğrencilerinin bilgisayarlarındaki verilerin atık haline dönüşmesinin nedenlerine yönelik davranışları

    a. Cinsiyetlerine,
    b. Öğrenim gördükleri sınıf düzeylerine,
    c. Bilgisayar kullanım yıllarına
    göre farklılaşmakta mıdır?

3. Bilgisayar programcılığı öğrencilerinin kullandıkları bilgisayarlardaki bilgileri kontrol edip düzenleme sıklıkları nasıldır?

YÖNTEM

Bu çalışma meslek yüksekokulu bilgisayar programcılığı programında öğrenim gören öğrencilerinin bilgisayarlarındaki verilerine yönelik davranışlarını incelemeyi amaçlamaktadır. Araştırma verilerini toplamak için tarama modeli kullanılmıştır. Tarama modelleri, geçmişte yada halen var olan bir durumu var olduğu biçimiyle betimlemeyi amaçlayan araştırma yaklaşımlarıdır. Araştırmaya konu olan birey ya da nesne kendi koşulları içinde olduğu gibi tanımlamaya çalışılır (Karasar, 2005). Ayrıca alt amaçlar doğrultusunda tekil ve ilişkisel tarama modellerinin her ikisinden de yararlanılmıştır.

Katılımcılar

Araştırmanın katılımcılarını 2014-2015 eğitim öğretim yılında Sakarya Üniversitesi Kaynarca Seyfettin Selim, Hendek ve Sakarya Meslek Yüksekokullarında öğrenim gören öğrenciler oluşturmaktadır. Tablo 1' de ulaşılan ve ölçeği geçerli sayılan öğrencilerin öğrenim gördükleri programlar ile ilgili sayısal dağılımlar verilmektedir.

Tablo 1. Çalışma Grubu Özellikleri

Değişkenler		f	%
Cinsiyet	Bay	119	62,3
	Bayan	72	37,7
Sınıf	1. Sınıf	120	62,8
	2. Sınıf	71	37,2
Bilgisayar Kullanım Yılı	4-7 yıl	80	41,88
	8-10 yıl	79	41,36
	10 yıl üzeri	32	16,76
Toplam		**191**	**100**

Araştırma kapsamında örneklem alınmamış, toplam 191öğrenciye ulaşılmıştır. Araştırmaya katılanların 119'u (%62,3) bay, 72'si (%37,7) ise bayandır. Araştırmaya katılan öğrencilerin 120' si (%62,8) 1. sınıf, 71' i (%37,2) ise 2. sınıf öğrencisidir. Ayrıca öğrencilerin 80' i (%41,88) 4-7 yıl arası bilgisayar kullanırken 32 (%16,76) öğrenci 10 yıldan daha fazla bilgisayar kullanmaktadırlar.

Veri Toplama Aracı

Araştırmada veri toplamak amacı Tuncer (2012) tarafından geliştirilen "Bilgisayar Kullanıcılarına Yönelik Veri Atığı Ölçeği" kullanılmıştır. Bu ölçek bilgisayar kullanıcılarının davranışlarından kaynaklanan veri atıklarının nedenlerinin sorgulanması amacıyla geliştirilmiştir. Ölçek toplam 13 madde ve dört faktörden oluşmaktadır. Bu faktörler; "İhmal" 4 madde, "Unutkanlık" 3 madde, "Veri Kaybı Endişesi" 3 madde ve "Karmaşa" 3 maddeden oluşmaktadır. Ölçekteki seçenekler ve seçeneklere ilişkin sınırlar; "Kesinlikle Katılıyorum" için 5, "Katılıyorum" için 4, "Kararsızım" için 3, "Katılmıyorum" için 2 ve "Kesinlikle Katılmıyorum" için 1 biçiminde sıralanmış ve puanlanmıştır. Ölçeğin genel Cronbach Alpha iç güvenirlik katsayısı .824 olarak bulunmuştur. Ölçeğin alt boyutlarına ilişkin Cronbach Alpha güvenirlik katsayısı "İhmal" alt boyutu için .802, "Unutkanlık" alt boyutu için .728, "Veri Kaybı Endişesi" alt boyutu için .684 ve "Karmaşa" alt boyutu için .601 olarak hesaplanmıştır. Bu çalışmada bilgisayar programcılığı öğrencilerine uygulanan ölçeğin uygulama sonrası iç tutarlılık katsayısı .769 olarak hesaplanmıştır.

Verilerin Analiz Edilmesi

Yeterli sayıda çoğaltılan veri toplama aracı, araştırmacı tarafından öğrencilere uygulanmıştır. Uygulanan ölçekte her bir madde için alınabilecek en yüksek puan 5, en düşük puan ise 1' dir. Bilgisayar programcılığı öğrencilerinin bilgisayarlarındaki verilerine yönelik davranışlarını değerlendirebilmek ve yorumlayabilmek için ortalama değer üzerinden beş değerlendirme aralığı ve kriteri belirlenmiştir (Tablo 2).

Tablo 2. Bilgi Okuryazarlığına Yönelik Görüşleri Değerlendirme Ölçütleri

Değerlendirme Kriteri	Verilen Puanlar	Değerlendirme Aralığı
Kesinlikle Katılmıyorum	1	1,00 – 1,80
Katılmıyorum	2	1,81 – 2,60
Kararsızım	3	2,61 – 3,40
Katılıyorum	4	3,41 – 4,20
Kesinlikle Katılıyorum	5	4,21 – 5,00

Verilerin analizinde betimsel istatistiklerden aritmetik ortalama, yüzde ve frekanstan yararlanılmıştır. Diğer yandan öğrencilerin cinsiyetlerine ve öğrenim gördükleri sınıf düzeyleri ile bilgisayar kullanım yıllarına göre bilgisayarlarındaki verilerine yönelik davranışları arasında farklılık olup olmadığını belirlemek için bağımsız örneklem t test ve varyans analizi kullanılmıştır. Verilerin analizlerde anlamlılık düzeyi .05 olarak alınmıştır. Ayrıca istatistiksel çözümlemelerde SPSS 16.0 (Statistical Package for the Social Sciences) paket programından yararlanılmıştır.

BULGULAR VE YORUMLAR

Araştırma kapsamında meslek yüksekokulunda öğrenim gören bilgisayar programcılığı öğrencilerinin kendi davranışlarından kaynaklanan veri atıklarının nedenlerine yönelik davranışları ve bu davranışların farklı değişkenler açısından değerlendirilmesi aşağıdaki başlıklar şeklinde verilmiştir.

Bilgisayar Programcılığı Öğrencilerinin Davranışlarından Kaynaklanan Veri Atıklarının Nedenleri

Bilgisayar programcılığı öğrencilerinin davranışlarından kaynaklanan veri atıklarının nedenlerine yönelik; ihmal, unutkanlık, veri kaybı endişesi ve karmaşa olarak dört farklı boyutta ele alınmıştır (Tablo 3).

Tablo 3. Alt Boyutları Açısından Öğrencilerinin Davranışlarından Kaynaklanan Veri Atıklarının Nedenleri

	Alt Boyutlar	$\overline{X}$	ss
1	İhmal	2.47	.96
2	Unutkanlık	2.58	1.05
3	Veri Kaybı Endişesi	3.46	.84
4	Karmaşa	2.59	.94

Bilgisayar programı öğrencilerinin veri kaybı ölçeğinin Veri Kaybı Endişesi alt boyutuna ($\overline{X}$ =3.46) ortalama ile katıldıklarını ifade etmişlerdir. Diğer bir deyişle öğrenciler bilgisayarlarında atık halde bulunan bilgilerini verilerini kaybedecekleri endişesi ile korudukları söylenebilir. Öğrenciler ($\overline{X}$ =2.47) ortalama ile ihmal, ($\overline{X}$ =2.58) ortalama ile unutkanlık ve ($\overline{X}$ =2.59) ortalama ile karmaşıklıktan dolayı bilgilerini korumadıklarına katılmadıklarını ifade etmişlerdir.

Bilgisayar Programcılığı Öğrencilerinin Davranışlarından Kaynaklanan Veri Atıklarının Nedenlerinin Cinsiyetlerine Göre İncelenmesi

Araştırma kapsamında bilgisayar programcılığı öğrencilerinin davranışlarından kaynaklanan veri atıklarının nedenlerinin cinsiyetlerine göre farklılaşıp farklılaşmadığı da incelenmiş, elde edilen bulgular Tablo 4' de verilmiştir.

Tablo 4. Öğrencilerin Cinsiyetlerine Göre Davranışlarından Kaynaklanan Veri Atıklarının Nedenleri

Alt Boyutlar	Gruplar	n	$\overline{X}$	Sd	df	t	p
İhmal	Bay	119	2.47	.99	189	.035	.972
	Bayan	72	2.48	.93			
Unutkanlık	Bay	119	2.52	1.06	189	.941	.348
	Bayan	72	2.67	1.04			
Veri Kaybı Endişesi	Bay	119	3.52	.86	189	1.143	.254
	Bayan	72	3.38	.81			
Karmaşa	Bay	119	2.63	.94	189	.547	.585
	Bayan	72	2.55	.93			

Bilgisayar programcılığı öğrencilerinin veri atığı ölçeğinin ihmal [$t_{(189)}$=.035, p>.05], unutkanlık [$t_{(189)}$=.941, p>.05], veri kaybı endişesi [$t_{(189)}$=1.143, p>.05] ve karmaşa [$t_{(189)}$=.547, p>.05] alt boyutlarında cinsiyet değişkeni yönünden anlamlı düzeyde fark bulunamamıştır. Bu bulguya göre araştırmaya katılan bilgisayar programcılığı öğrencilerinin cinsiyetlerine göre kendi davranışlarından kaynaklanan veri atıklarının nedenlerinin birbirlerine yakın olduğu yorumu yapılabilir.

Bilgisayar Programcılığı Öğrencilerinin Davranışlarından Kaynaklanan Veri Atıklarının Nedenlerinin Öğrencilerin Öğrenim Gördükleri Sınıf Düzeyine Göre İncelenmesi

Araştırma kapsamında bilgisayar programcılığı öğrencilerinin davranışlarından kaynaklanan veri atıklarının nedenlerinin öğrencilerin öğrenim gördükleri sınıf düzeylerine göre farklılaşıp farklılaşmadığı da incelenmiş, elde edilen bulgular Tablo 5' de verilmiştir.

Tablo 5. Öğrencilerin Öğrenim Gördükleri Sınıf Düzeylerine Göre Davranışlarından Kaynaklanan Veri Atıklarının Nedenleri

Alt Boyutlar	Gruplar	n	$\overline{X}$	Sd	df	t	p
İhmal	1. Sınıf	120	2.38	.99	189	1.749	.082
	2. Sınıf	71	2.63	.91			
Unutkanlık	1. Sınıf	120	2.54	1.04	189	.598	.551
	2. Sınıf	71	2.64	1.07			
Veri Kaybı Endişesi	1. Sınıf	120	3.42	.77	189	.898	.370
	2. Sınıf	71	3.54	.95			
Karmaşa	1. Sınıf	120	2.51	.93	189	1.688	.093
	2. Sınıf	71	2.75	.94			

Bilgisayar programcılığı öğrencilerinin veri atığı ölçeğinin ihmal [$t_{(189)}$=1.749, p>.05], unutkanlık [$t_{(189)}$=.598 p>.05], veri kaybı endişesi [$t_{(189)}$=.898, p>.05] ve karmaşa [$t_{(189)}$=1.688, p>.05] alt boyutlarında öğrencilerin

öğrenim gördükleri sınıf düzeyi değişkeni yönünden anlamlı düzeyde fark bulunamamıştır. Bu bulguya göre araştırmaya katılan bilgisayar programcılığı öğrencilerinin öğrenim gördükleri sınıf düzeylerine göre kendi davranışlarından kaynaklanan veri atıklarının nedenlerinin birbirlerine yakın olduğu yorumu yapılabilir.

Bilgisayar Programcılığı Öğrencilerinin Davranışlarından Kaynaklanan Veri Atıklarının Nedenlerinin Bilgisayar Kullanım Yıllarına Göre İncelenmesi

Araştırma kapsamında bilgisayar programcılığı öğrencilerinin davranışlarından kaynaklanan veri atıklarının nedenlerinin öğrencilerin bilgisayar kullanım yıllarına göre farklılaşıp farklılaşmadığı da incelenmiş, elde edilen bulgular Tablo 6' de verilmiştir.

Tablo 6. Öğrencilerin Bilgisayar Kullanım Yıllarına Göre Davranışlarından Kaynaklanan Veri Atıklarının Nedenleri

Alt Boyutlar	Varyansın Kaynağı	K. T	sd	K. O	F	p	Anlamlı Fark
İhmal	Gruplararası	.361	2	.181	.193	.825	Yok
	Gruplariçi	176.182	188	.937			
	Toplam	176.543	190				
Unutkanlık	Gruplararası	.311	2	.155	.140	.870	Yok
	Gruplariçi	208.901	188	1.111			
	Toplam	209.212	190				
Veri Kaybı Endişesi	Gruplararası	.055	2	.027	.038	.962	Yok
	Gruplariçi	133.895	188	.712			
	Toplam	133.950	190				
Karmaşa	Gruplararası	.315	2	.158	.179	.837	Yok
	Gruplariçi	166.022	188	.883			
	Toplam	166.337	190				

Bilgisayar programcılığı öğrencilerinin veri atığı ölçeğinin ihmal [$F_{(2-188)}$=.193, p>.05], unutkanlık [$F_{(2-188)}$=.140, p>.05], veri kaybı endişesi [$F_{(2-188)}$=.038, p>.05] ve karmaşa [$F_{(2-188)}$=.179, p>.05] alt boyutlarında öğrencilerin bilgisayar kullanım yılları değişkeni yönünden anlamlı bir fark bulunamamıştır. Bu bulguya göre araştırmaya katılan bilgisayar programcılığı öğrencilerinin bilgisayar kullanım yıllarına göre kendi davranışlarından kaynaklanan veri atıklarının nedenlerinin birbirlerine yakın olduğu yorumu yapılabilir.

Bilgisayar Programcılığı Öğrencilerinin Bilgisayarlarındaki Bilgileri Kontrol Edip Düzenleme Sıklığının İncelenmesi

Bilgisayar programcılığı öğrencilerinin kullandıkları bilgisayarlardaki bilgileri kontrol edip düzenleme sıklıkları ile ilgili bulguları ise şöyledir:

Tablo 7: Öğrencilerin Bilgisayarlarındaki Bilgileri Kontrol Edip Düzenleme Sıklığı

	f	%
Her gün	22	11,5
Haftada Bir	35	18,3
Ayda Bir	51	26,7
Üç Ayda Bir	26	13,6
Altı Ayda Bir	8	4,19
Yılda Bir	15	7,85
Rastgele	34	17,8
Toplam	**107**	**100**

Tabloya göre öğrencilerin bilgisayarlarındaki bilgileri 51' i (%26,7) ayda bir, 35' i (%18,3) haftada bir gün 34'ü (%17,8) rastgele kontrol edip düzenlediklerini ifade etmişlerdir. Aynı zamanda 8 (%4,16) öğrenci ise altı ayda bir kontrol edip düzenlediklerini ifade etmişlerdir. Bu bulguya göre öğrencilerin bilgisayardaki bilgilerini çok daha düzenli bir şekilde kontrol edip düzenlemedikleri görülmüştür.

SONUÇ VE ÖNERİLER

Meslek yüksekokulunda öğrenim gören bilgisayar programcılığı öğrencilerinin kendi davranışlarından kaynaklanan veri atıklarının nedenlerine yönelik davranışların incelendiği bu çalışmada öğrencilerin veri kaybı endişesi taşıdıkları için bilgisayarlarındaki verilerin atık halde bulunduğu sonucuna ulaşılmıştır. Bilgisayardaki verilerin ihmal, unutkanlık ya da bilgi karmaşasından dolayı veri atığına dönüştüğü fikrine katılmadıkları görülmüştür.

Araştırmada veri atığı ölçeğinin tüm alt boyutlarına ilişkin sonuçlar bilgisayar programcılığı öğrencilerinin kendi davranışlarından kaynaklanan veri atıklarının nedenleri cinsiyetlerine göre farklılaşmadığı sonucuna ulaşılmıştır. Bir diğer sonuç ise öğrencilerin kendi davranışlarından kaynaklanan veri atıklarının nedenleri öğrencilerin öğrenim gördükleri sınıf düzeylerine göre farklılık göstermemektedir. Öğrencilerin bilgisayar kullanım yıllarına göre ise bilgisayarlarının kendi davranışlarından kaynaklanan veri atığı haline dönüşme nedenleri arasında da her hangi bir farklılık ortaya çıkmamıştır.

Araştırmaya katılan öğrencilerin bir kısmı ayda bir, bir kısmı ise haftada bir bilgisayarlarındaki bilgilerini kontrol edip düzenlediği görülmüştür. Aynı zamanda öğrencilerin çok az bir kısmı ise altı ayda bir bilgisayarlarındaki bilgileri kontrol edip düzenlediği görülmüştür.

Araştırmadan elde edilen sonuçlara göre öğrencilerin bilgisayarlarının daha düzenli kullanmalarının kendilerine sağlayacak faydaları ve özellikle de bilgilerini daha dikkatli ve itinalı bir şekilde düzenlemeleri, bilgisayarlarındaki bilgileri düzenli aralıklarla kontrol edip verilerini atıl konuma düşmemesi için gerekli eğitimlerin verilmesi önerilebilir.

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BİLGİSAYAR SİMÜLASYONLARIYLA DESTEKLENEN FİZİK ÖĞRETİMİNİN ÖĞRETMEN ADAYLARININ GÜDÜLENME DÜZEYİ VE ÖĞRETİM STRATEJİLERİNE ETKİSİ

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ÖZET
Bu çalışma, bilgisayar simülasyonlarıyla desteklenen fizik öğretiminin öğretmen adaylarının güdülenme düzeyine ve öğrenme stratejilerine etkisini belirlemek amacıyla gerçekleştirilmiştir. Araştırmanın örneklemini Siirt Üniversitesi Eğitim Fakültesi İlköğretim Matematik Öğretmenliği programında öğrenim gören ve 2015-2016 eğitim ve öğretim yılında Genel Fizik I dersini alan toplam 19 öğretmen adayı oluşturmaktadır. Araştırmada, tek grup ön test son test zayıf deneysel desen modeli kullanılmıştır. Bu araştırma kapsamında öğretmen adaylarının güdülenme ve öğrenme stratejilerini belirlemek için Pintrich ve ark. (1991) tarafından geliştirilen ve Büyüköztürk ve ark. (2004) tarafından geçerlilik ve güvenirlilik çalışmaları yapılarak Türkçeye uyarlanana *"güdülenme ve öğrenme stratejileri"* anketi kullanılmıştır. Verilerin analizinde parametrik olmayan testlerden Wilcoxon işaretli sıralar testi kullanılmıştır. Verilerin çözümlenmesinde SPSS 22.0 istatistiksel paket programı kullanılmıştır. Yapılan çalışmada, öğretmen adaylarının güdülenme alt boyutlarından biri olan görev değeri boyutunda anlamlı bir farklılık olduğu buna karşın içsel hedef, dışsal hedef, öğrenmeye yönelik kontrol inancı, öğrenme ve performansla ilgili öz yeterlilik, sınav kaygısı boyutuyla ilgili güdülenme düzeyleri arasında anlamlı bir farklılık olmadığı belirlenmiştir. Bununla birlikte öğretmen adaylarının öğrenme stratejileri ölçeği alt boyutu Wilcoxon testi sonuçları incelendiğinde, yineleme, düzenleme, açımlama, eleştirel düşünme, yardım arama, akran iş birliği, meta-bilişsel, emek yönetimi, zaman ve çalışma ortamı puan ortalamaları arasında anlamlı bir farklılık olmadığı belirlenmiştir.
Anahtar kelimeler: Fizik öğretimi, bilgisayar simülasyonları, motivasyon, öğretim stratejileri

GİRİŞ
Fizik, atomun etrafında dönen elektronlardan, galaksilere, elektrik akımından, suyun kaldırma kuvvetine, elektromanyetik dalgalardan, yerçekimine kadar günlük yaşamın neredeyse hemen her alanında karşılaşılan olay ve olguların içinde yer alan bir bilim dalıdır. Doğadaki olayların nedenini araştıran ve bu olayların ne gibi kural veya yasalara bağlı olduğunu inceleyen bilim dalıdır (İnan, 1998). Fizik öğretiminin temel amacı, öğrencilerde bilimsel okuryazarlığın geliştirilmesidir. Bu amaca ulaşabilmek için öğrencilerde hem zihinsel anlamda gelişim göstermesi hem de duyuşsal ve psikomotor alanlarında da ilerleme göstermeleri hedeflenmiştir (MEB, 2013) Bu çerçevede fizik dersi öğretim programının amaçları;

- Öğrencilerde fizik bilimine yönelik ilgi uyandırmak ve onları keşfetmeye teşvik etmek.
- Bilimsel sorgulamanın doğasını anlamak, bilimsel süreç becerilerini kullanarak bilimsel bilgi üretmek ve problem çözmek.
- Tarihi ve kültürel süreçlerin fizik bilime katkısını anlamak.
- Bilimsel bilgi ve yöntemleri bir olayı açıklamak ve yeni durumlara uygulamak için kullanmak
- Bilimin doğası üzerine farkındalık kazanmak.
- Delillere ve ispata dayanarak iddiaları gerekçelendirmek, değerlendirmek ve bilimsel bilgiyi paylaşmak.
- Etik ve sosyal etkilerini düşünerek fiziğin uygulamaları ile ilgili bilimsel dayanakları olan kararlar vermek şeklinde belirtilmiştir (MEB, 2013).

Buna karşın yapılan çalışmalarda öğretmenlerin fizik öğretiminde zorlandıkları, öğrencilerin fizik konularını kavrayamadıkları, fizik konularıyla ilgili matematiksel işlemleri yapamadıklarını ve birçok kavram yanılgılarına sahip oldukları belirtilmişlerdir (Aydoğan, Güneş ve Gülçiçek, 2003; Bayrak ve Bezen, 2013; Demirci ve Efe, 2007; Karakuyu, 2008; Tunç, Akçam ve Dökme, 2012). Ayrıca öğrencilerin lise giriş ve üniversite giriş sınavlarında fizik derslerindeki başarı oranlarının oldukça düşük olduğu belirtilmiştir (Marulcu ve Doğan, 2010). Bununla birlikte son zamanlarda öğrencilerin akademik başarılarının artırılmasında, karmaşık bilgilerin öğretiminde, kavratılmasında, kavram yanılgılarının giderilmesinde, alıştırma ve tekrarlarda bilgisayar destekli simülasyonlardan yararlanılmaktadır. Türk Dil Kurumu (TDK) sözlüğüne göre ise simülasyon *"benzetim"* anlamına gelmektedir (http://www.tdk.gov.tr). Gerçeğine benzeyen modellerin tasarlanması veya taklit edilmesidir. Simülasyonlar, bir sistemin çalışma mekanizmasını veya nasıl çalıştığını göstermek için hazırlanan yazılımlardır (Kuzu, 2007). Gerçek hayattaki olayların kontrollü bir şekilde temsil edilmesi olarak

tanımlanmaktadır (Demirel, 2005). Eğitimsel simülasyonlar ise gerçek hayatta riskli, tehlikeli veya zaman bağlamında gösterilmesi mümkün olmayan olguların gösterilmesini sağlayan, ekonomik, tekrarlanabilir özellikleri ile bireysel farklılıkların dikkate alınmasını sağlayan, ilginç ve motive edici yönleriyle kullanımı her geçen gün artan bilgisayar destekli eğitim türü olduğunu belirtmişlerdir (Özdener ve Erdoğan, 2001).

Araştırmanın Amacı

Bu araştırma, bilgisayar simülasyonlarıyla desteklenen fizik dersi öğretiminin öğretmen adaylarının güdülenme ve öğrenme stratejilerini kullanma düzeylerine etkisini belirlemek amacıyla gerçekleştirilmiştir. Bu amaç çerçevesinde aşağıdaki sorulara cevap aranmıştır.

1- Bilgisayar simülasyonlarıyla desteklenen fizik dersi öğretiminin öğretmen adaylarının güdülenme düzeylerine etkisi nasıldır?
2- Bilgisayar simülasyonlarıyla desteklenen fizik dersi öğretimin öğretmen adaylarının öğrenme stratejilerini kullanma düzeylerine etkisi nasıldır?

YÖNTEM
Araştırma Modeli
Araştırmada tek grup ön test son test zayıf deneysel desen modeli kullanılmıştır.

Çalışma Grubu
Araştırmanın çalışma grubunu Siirt Üniversitesi Eğitim Fakültesi İlköğretim Matematik öğretmenliği programı 2. sınıfta öğrenim gören toplam 19 öğretmen adayı oluşturmaktadır. Öğretmen adaylarının 10'u kız ve 9'u erkektir.

Veri Toplama Aracı
Bu çalışma kapsamında öğretmen adaylarının güdülenme ve öğrenme stratejilerini belirlemek için Pintrich ve ark. (1991) tarafından geliştirilen ve Büyüköztürk ve ark. (2004) tarafından geçerlilik ve güvenirlilik çalışmaları yapılarak Türkçeye uyarlanana *güdülenme ve öğrenme stratejileri"* ölçeği kullanılmıştır.

Uygulama Süreci ve Veri Analizi
Araştırmanın uygulama süreci ocak 2015'de başlamıştır. Bu süreçte literatür taraması, yöntem kurgusu, ölçek belirleme ve uygulamalarda kullanılacak simülasyonların belirlemesi şeklinde yürütülen teorik hazırlığın tamamlanmasından sonra uygulamaya geçilmiştir. Uygulamada sürecinde deneysel süreç başlamadan önce dersin yürütücüsü öğrencilere dersin nasıl işleneceği ve bilgisayar destekli simülasyonların kullanımı ile ilgili gerekli açıklamalarda bulunmuştur. Bilgisayar destekli simülasyon uygulamasına başlamadan önce öğretmen adaylarına güdülenme ve öğrenme stratejileri ölçeği ön test olarak uygulanmıştır. Uygulama sürecinde deney grubu öğretmen adaylarına Genel Fizik I dersi kapsamında "*İş Güç ve Enerji*" konularını kapsayacak şekilde dersin öğretim elemanı rehberliğinde yürütülmüştür. Çalışmada, simülasyonlar Colorado üniversitesi tarafından geliştirilen ve erişime açık olan simülasyonlar kullanılmıştır (http://phet.colorado.edu). Simülasyonların uygulaması akıllı tahta aracılığıyla gerçekleştirilmiş olup uygulama toplam dört hafta sürmüştür. Deneysel süreç tamamlandıktan sonra aynı veri toplama aracı aynı gruba son test olarak uygulanmıştır. Verilerin analizinde, tek örneklem ön test son test araştırma deseninde bilgisayar destekli simülasyonların fizik öğretiminde öğretmen adaylarının güdülenme düzeyi ve kullandıkları öğrenme stratejilerine olan etkisini belirlemek amacıyla gerçekleştirildiği için normal dağılım göstermemesi ve deney grubundaki katılımcıların sayısının 19 öğretmen adayından oluşması ve bu örneklem sayısının parametrik testlerin örneklem sayısı ile ilgili varsayımı karşılamaması nedeniyle parametrik olmayan testlerden olan Wilcoxon işaretli sıralar testi kullanılmıştır. Verilerin çözümlenmesinde SPSS 22.0 istatistiksel paket programı kullanılmıştır.

BULGULAR
Çalışmadan elde edilen bulgular araştırmanın alt problemlerine göre aşağıda sunulmuştur. Deney grubuna ait ön test son test ortalama güdülenme alt boyutu puanlarının grup içi karşılaştırmalarına ilişkin Wilcoxon testi sonuçları Tablo- 1'de verilmiştir.

Tablo-1. Deney grubunun güdülenme ölçeği alt boyutu öntest/sontest ortalama puanlarının Wilcoxon testi sonuçları

		N	Sıra ortalaması	Sıra toplamı	Z	Sig (p)
İçsel hedef son test-ön test	Negatif sıra Pozitif sıra Ties	6 8 5	7,33 7,63	44,00 61,00	-,536	,562*
Dışsal hedef son test-ön test	Negatif sıra Pozitif sıra Ties	9 6 4	8,17 7,75	73,50 46,50	-,768	,442*
Görev değeri son test-ön test	Negatif sıra Pozitif sıra Ties	12 3 4	8,42 6,33	101,00 19,00	-2,343	,019**
Öğrenmeye ilişkin kontrol inancı son test-ön test	Negatif sıra Pozitif sıra Ties	11 7 1	9,77 9,07	107,50 63,50	-964	,335*
Öğrenme ve performansla ilgili öz yeterlilik son test-ön test	Negatif sıra Pozitif sıra Ties	9 7 3	9,11 7,71	82,00 54,00	-,725	,468*
Sınav kaygısı son test-ön test	Negatif sıra Pozitif sıra Ties	7 10 2	11,86 7,00	83,00 70,00	-,308	,758*

* p >.05; **p<.05

Tablo 1'de görüldüğü gibi deney grubu öğrencilerinin güdülenme ölçeği alt boyutu ile ilgili olarak Wilcoxon testi sonuçları incelendiğinde, görev değeri boyutunda (Z=-2,343; p<0.5) anlamlı bir farklılık olduğu buna karşın içsel hedef (Z=-,536; p>.05), dışsal hedef (Z=-,768; p>0.5), öğrenmeye ilişkin kontrol inancı (Z=-,964; p>0.5), öğrenme ve performansla ilgili öz yeterlilik (Z=-,725; p>0.5), sınav kaygısı (Z=-,308; p>0.5) öntest sontest puan ortalamaları arasında anlamlı bir farklılık olmadığı belirlenmiştir. Deney grubunun öğrenme stratejileri ölçeği alt boyutu puanlarının ön test son test ortalamalarına ilişkin Wilcoxon testi sonuçları Tablo-2'de verilmiştir.

Tablo-2 Deney grubunun öğrenme stratejileri ölçeği alt boyutu puanlarının ön test son test ortalamalarına ilişkin Wilcoxon testi sonuçları

		N	Sıra ortalaması	Sıra toplamı	Z	Sig (p)
Yineleme	Negatif sıra	8	9,19	73,50		
	Pozitif sıra	8	7,81	62,50	-,285	,775*
	Ties	3				
Düzenleme	Negatif sıra	10	8,90	89,00		
	Pozitif sıra	7	9,14	64,00	-,593	,553*
	Ties	2				
Açımlama	Negatif sıra	12	10,38	124,50		
	Pozitif sıra	6	7,75	46,50	-1,708	,088*
	Ties	1				
Eleştirel Düşünme	Negatif sıra	8	9,00	72,00		
	Pozitif sıra	7	6,86	48,00	-,683	,495*
	Ties	4				
Yardım Arama	Negatif sıra	6	10,50	63,00		
	Pozitif sıra	11	8,18	90,00	-,642	,521*
	Ties	2				
Akran İş Birliği	Negatif sıra	8	8,75	70,00		
	Pozitif sıra	10	10,10	101,00	-,682	,495*
	Ties	1				
Meta-bilişsel	Negatif sıra	12	9,75	117,00		
	Pozitif sıra	6	9,00	54,00	-1,374	,169*
	Ties	1				
Emek Yönetimi	Negatif sıra	11	9,73	107,00		
	Pozitif sıra	6	7,67	46,00	-1,450	,147*
	Ties	2				
Zaman ve Çalışma Ortamı	Negatif sıra	14	10,18	142,50		
	Pozitif sıra	5	9,50	47,50	-1,917	,055*
	Ties	0				

* p >.05; **p<.05

Tablo 2'de görüldüğü gibi deney grubu öğretmen adaylarının öğrenme stratejileri ölçeği alt boyutu Wilcoxon testi sonuçları incelendiğinde, yineleme (Z=-,285; p>.05), düzenleme (Z=-,593; p>0.5), açımlama (Z=-1,708; p>0.5), eleştirel düşünme (Z=-,683; p>0.5), yardım arama (Z=-,642; p>0.5), akran iş birliği (Z=-,682; p>0.5), meta-bilişsel (Z=-1,374; p>0.5), emek yönetimi (Z=-1,450; p>0.5), zaman ve çalışma ortamı (Z=-1,917; p>0.5) öntest sontest puan ortalamaları arasında anlamlı bir farklılık olmadığı belirlenmiştir.

TARIŞMA VE SONUÇ
Bu araştırmada, çalışmaya katılan öğretmen adaylarının güdülenme alt boyutlarından olan görev değeri boyutunda anlamlı bir farklılık olduğu buna karşın içsel hedef, dışsal hedef, öğrenmeye yönelik kontrol inancı, öğrenme ve performansla ilgili öz yeterlilik, sınav kaygısı boyutuyla ilgili güdülenme düzeyleri arasında anlamlı bir farklılık olmadığı belirlenmiştir. Buna göre Genel Fizik I dersi kapsamında yer alan iş güç ve enerji konusunda yürütülen bilgisayar destekli simülasyon tekniğinin öğretmen adaylarının görev değeri güdülenme düzeyini boyutunu artırdığı ve etkilediği buna karşın içsel hedef, dışsal hedef, öğrenmeye yönelik kontrol inancı, öğrenme ve performansla ilgili öz yeterlilik, zaman ve çalışma ortamı boyutunu etkilemediği söylenebilir. Bununla birlikte öğretmen adaylarının bilgisayar destekli simülasyon tekniğinin öğretmen adaylarının kullandıkları öğrenme stratejilerine etkisi incelendiğinde ise öğrenme stratejileri alt boyutlarından olan yineleme, düzenleme, açımlama, eleştirel düşünme, yardım arama, akran iş birliği, meta-bilişsel, emek yönetimi, zaman ve çalışma ortamı boyutları arasında anlamlı bir farklılığın olmadığı belirlenmiştir. Buna göre bilgisayar simülasyonlarıyla desteklenen fizik öğretimin deney grubu öğrencilerinin öğrenme stratejileri alt boyutları olan yineleme, düzenleme, açımlama, eleştirel düşünme, yardım arama, akran iş birliği, meta-bilişsel, emek yönetimi, zaman ve çalışma ortamına her hangi bir etkisinin olmadığı söylenebilir. Sonuç olarak fizik öğretiminde bilgisayar destekli simülasyon tekniği üzerine daha fazla araştırma yapılmalıdır. Özellikle farklı fizik konularında, farklı örneklem düzeylerinde (ilköğretim, ortaöğretim, yükseköğretim) çalışmaların yapılması bilgisayar destekli simülasyon tekniğinin fizik eğitimindeki uygulanabilirliğini daha net ortaya koyabilir.

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BİLGİSAYAR VE ÖĞRETİM TEKNOLOJİLERİ EĞİTİMİ BÖLÜMÜ ÖĞRETMEN ADAYLARININ ZİHİNLERİNDE OLUŞTURDUKLARI ÖĞRETİM MODELERİNE İLİŞKİN GÖRÜŞLERİ

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ÖZET

Bu araştırmanın amacı, Bilgisayar ve Öğretim Teknolojileri Eğitimi (BÖTE) bölümü öğretmen adaylarının dersin hazırlık, öğrenme/öğretme ve değerlendirme süreci aşamalarında öğretmen ve öğrenci sorumluluğu ile bu aşamalarda kullanılabilecek yöntem ve tekniklere ilişkin zihinlerinde oluşturdukları öğretim modellerini ortaya koymaktır. Araştırmada, çalışmanın esnekliği, bütüncüllüğü, tümevarımcı bir analizi içermesi ve örneklemin derinlemesine incelenip betimlenmesi için nitel araştırma yöntemi kullanılmıştır. Araştırmanın çalışma grubunu ise 2015-2016 eğitim-öğretim yılında Siirt Üniversitesi Eğitim Fakültesi Bilgisayar ve Öğretim Teknolojileri Eğitimi Öğretmenliği bölümünde öğrenim gören toplam 30 öğretmen adayı oluşturmaktadır. Örneklem amaçlı örnekleme yöntemlerinden ölçüt örnekleme yoluyla belirlenmiştir. Çalışmada veri toplama aracı olarak, dersin hazırlık aşaması, öğrenme/öğretme aşaması ve değerlendirme aşamasında öğretmen sorumluğu, öğrenci sorumluluğu ve bu aşamalarda kullanılabilecek yöntem ve tekniklere ilişkin görüşlerini almak için açık uçlu sorulardan oluşan bir anket formdan yararlanılmıştır. Verilerin analizinde nitel veri analiz tekniklerinden betimsel içerik analizi tekniği kullanılmıştır. Çalışma sonucunda elde edilen bulgular dersin hazırlık aşaması, öğrenme-öğretme faaliyetleri aşaması ve değerlendirme aşaması şeklinde sıralanmış ve her bir aşamada, öğretmen sorumluluğu, öğrenci sorumluluğu ve bu aşamalarda kullanılabilecek yöntem ve tekniklere ilişkin görüşler sunulmuştur.

Anahtar Kelimeler: Öğretim, öğretim modeli, öğretmen adayı

GİRİŞ

Çağdaş eğitim anlayışında eğitimin merkezinde öğrenciler yer almaktadır. Öğretim, öğrencilerin yaşantısı üzerine odaklanmıştır. Öğrenciyi merkeze alan bu yaklaşım, onu duygu, düşünce ve değerleri ile bir bütün olarak görmekte ve tüm bu yönleri ile gelişim göstermesini amaçlamaktadır (Özabacı ve Acat, 2005). Buna rağmen öğrenci başarısını etkileyen en önemli faktörlerden biri öğretmenlerdir. Öğretmenler, eğitim ve öğretimin temel unsurlarındandır. Kavcar (1987)'a göre eğitim sisteminin başarısı, temelde sistemi işletip uygulayacak olan öğretmenlerin niteliklerine bağlıdır. Hiçbir eğitim modeli, o modeli işletecek personelin niteliğinin üzerinde hizmet veremez. Bundan dolayı, bir okul, ancak içindeki öğretmenler kadar iyi olabileceğini belirtmiştir. Can (2004)'a göre ise etkili öğretmen, öğrencilerine karşı sorumlulukları olan ve öğrencilerinin duygu ve gereksinimleriyle ilgilenen bir eğitim çalışanıdır. Öğretmenlerin öğrencileri hayata hazırlama, onların topluma ve kendine karşı olan görev ve sorumlulukların farkına varmasını sağlama, sorgulayan, araştıran ve öz güveni yüksek bireyler olarak yetişmelerini sağlama gibi görev ve sorumlulukları olduğu düşünüldüğünde bunu gerçekleştirmek içinde zihinlerinde oluşturdukları öğretim modellerinin önceden belirlenmesi oldukça önemlidir. Aydın, Şahin ve Topal (2008)'a göre davranış değiştirme mühendisi olarak tanımlanan öğretmenlere günümüzde yeni sorumluluklar yüklendiği belirtilmektedir. Thomas, Pederson ve Finson (2001) ise yaptığı çalışmada, öğretmen adaylarının öğretime yönelik inançları ile davranışlarını yansıtan zihinsel modeller arasında yüksek düzeyde bir ilişkinin olduğunu belirtmişlerdir. Senemoğlu (2012) insanların çevreleri ile etkileşimi sonucunda olayları, olguları veya varlıkları algıladığını ve bu algıladıklarını zihinlerinde yapılandırdıklarını ve zihinlerinde yapılandırdıkları bilgileri gerektiğinde davranışlara dönüştürdüklerini belirtmiştir. Bu durumda öğretmen adayları da mezun olduklarında eğitim verecekleri kurumlara öğretmenlik eğitimi sürecinde kazandıkları öğrenme yaşantıları ve zihinlerinde oluşturdukları öğretim modelleri ile mesleğe başlarlar. Dolayısıyla bu durum öğrencilerin başarısında, sınıf yönetiminde ve öğretim ortamında kullanabilecekleri yöntem ve teknik tercihlerinde etkilidir. Bu sebeple öğretmen adaylarının zihinlerinde oluşturdukları öğretim modellerinin ortaya konulması gelecekte eğitim verecekleri kurumlardaki öğretimin niteliğini ortaya açısından önemlidir. Bu araştırmanın amacı, Bilgisayar ve Öğretim Teknolojileri Eğitimi (BÖTE) bölümü öğretmen adaylarının dersin

hazırlık aşaması, öğrenme/öğretme süreci aşaması ve değerlendirme aşamalarında öğretmen sorumluluğu, öğrenci sorumluluğu ile bu aşamalarda kullanılabilecek yöntem ve tekniklere ilişkin zihinlerinde oluşturdukları öğretim modellerini ortaya koymaktır.

YÖNTEM
Araştırmanın Deseni
Çalışmada, nitel araştırma yöntemi kullanılmıştır. Nitel araştırma yöntemi, gözlem, görüşme ve doküman gibi nitel veri toplama tekniklerinin kullanıldığı, algıların ve olayların doğal ortamda gerçekçi ve bütüncül bir biçimde ortaya konmasına yönelik nitel bir sürecin izlendiği araştırma yöntemi olarak tanımlamaktadır (Yıldırım ve Şimşek, 2008).
Çalışma Grubu
Araştırmanın çalışma grubunu, 2015-2016 yılı eğitim öğretim yılında Siirt Üniversitesi Eğitim Fakültesi Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümünde (BÖTE) öğrenim gören toplam 30 öğretmen adayı oluşturmaktadır. Çalışma grubu amaçlı örnekleme yöntemlerinden "*ölçüt örnekleme*" yoluyla belirlenmiştir.
Veri Toplama Aracı ve Analizi
Çalışmada verilerin elde edilmesi aşamasında, öğretmen adaylarının dersin hazırlık, öğrenme/öğretme süreci ve değerlendirme süreci aşamalarında öğretmen sorumluluğu, öğrenci sorumluluğu ve bu aşamalarda kullanılabilecek yöntem ve tekniğe ilişkin zihinlerinde oluşturdukları öğretim modellerine ilişkin görüşleri açık uçlu sorulardan oluşan yarı yapılandırılmış bir anket form ile toplanılmıştır. Anket form hazırlanırken önceden konuyla ilgili alan yazınları değerlendirilmiştir (Ayvacı ve ark., 2014; Sünbül, 1999; Yeşil, 2014). Daha sonra elde edilen verilerin ışığında alan alanı uzmanı iki öğretim üyesinin görüş ve öneriler doğrultusunda form hazırlanmış ve anket forma son şekli verilmiştir. Araştırmanın uygulama sürecinde öğretmen adaylarına çalışmanın amacı ve içeriği hakkında bilgi verilmiş ve formları 30 dk. içerisinde doldurmaları istenmiştir. Öğretmen adaylarının kendi yazdıkları formlar belge ve doküman olarak araştırmanın temel verilerini oluşturmaktadır. Verilerin analizinde nitel veri analiz tekniklerinden betimsel analiz tekniği kullanılmıştır.

BULGULAR
Bu bölümde, BÖTE bölümü öğretmen adaylarının dersin hazırlık aşamasında, öğrenme/öğretme ve değerlendirme süreci aşamalarında, öğretmen ve öğrenci sorumluluğu ile bu aşamalarda uygulanabilecek yöntem ve tekniklere ilişkin zihinlerinde oluşturdukları öğretim modellerine yönelik görüşleri sunulmuştur.
Öğretmen adayları hazırlık aşamasında öğretmen sorumluluklarına ilişkin görüşleri incelendiğinde, en fazla "*iyi bir ders planı yaparak derse hazırlıklı olmalı*" (%26,7), "*öğrencilerin hazır bulunuşluluk düzeyini yoklamalı*" (%15) ve "*sınıf içerisinde düzeni sağlamalı*" (%13,3) şeklinde görüşlerini bildirdikleri tespit edilmiştir. Bu aşamada öğrenci sorumluluklarına ilişkin görüşleri incelendiğinde ise en fazla "*derse hazırlıklı gelmeli*" (%30,4), "*dersle ilgili araç ve gereçlerini hazırlamalı*" (%17,4), "*sınıf ortamında öğretmeni sessiz bekler*" (%14,5) ve "*öğretmenini dinler*" (%10,1) şeklinde görüş belirtmişlerdir. Yine öğretmen adaylarının bu aşamada uygulayabilecekleri yöntem ve tekniklere ilişkin görüşleri incelendiğinde ise en fazla "*soru cevap*" (%19), "*düz anlatım*" (%17,2) ve "*beyin fırtınası*" (%15,5) şeklinde görüşlerini belirtmişlerdir. Öğretmen adayları öğrenme/öğretme aşamasında, öğretmen sorumluluğuna ilişkin görüşleri incelendiğinde, en fazla "*öğrencilerin derse katılımını sağlamalı*" (%11,8), "*konu anlatımını zenginleştirecek görsel materyaller kullanmalı*" (%10,5), "*konu ile ilgili örnekler vermeli*" (%10,5), "*öğrencilerin sorularına cevap vermeli*" (%9,2) şeklinde görüşlerini belirtmişlerdir. Öğretmen adaylarının bu aşamada öğrenci sorumluluklarına ilişkin görüşleri incelendiğinde ise en fazla "*öğretmeni dinlemeli*" (%31,1), "*öğretmene soru sormalı ve sorulara cevap vermeli*" (%21,6), "*derste aktif olmalı*" (%16,2) ve "*not almalı*" (%13,5) şeklinde belirtmişlerdir. Öğretmen adaylarının öğrenme/öğretme aşamasında uygulayabilecekleri yöntem ve tekniklere ilişkin görüşleri incelendiğinde, en fazla "*düz anlatım*" (%13,3), "*soru cevap*" (%12,4), "*beyin fırtınası*" (%11,4) ve "*gösterip yaptırma*" (%8,6) şeklinde görüşlerini bildirmişlerdir. Öğretmen adaylarının değerlendirme aşamasında öğretmen sorumluluklarına ilgili görüşleri incelendiğinde ise "*ölçme değerlendirme yapmalı*" (%19,6), "*öğrencilerin hedeflere ulaşıp ulaşmadığını görmeli*" (% 19,6), "*tekrar yapmalı*" (% 17,6) ve "*soru sormalı*" (%17,6) şeklinde görüşlerini bildirmişlerdir. Değerlendirme aşamasında öğrenci sorumluluklarına ilgili görüşleri incelendiğinde ise en fazla "*sorulan sorulara cevap vermeli*" (%29,6), "*anlamadığı konularla ilgili soru sormalı*" (%22,2), "*öğrenme durumunu görmeli*" (%14,8), "*kendi kendini değerlendirmeli*" (%11,1) şeklinde görüşlerini bildirmişlerdir. Öğretmen adaylarının değerlendirme aşamasında uygulayabilecekleri yöntem ve tekniklere ilişkin görüşleri incelendiğinde ise en fazla ile "*sözlü yoklama*" (%40,4), "*çoktan seçmeli testler*" (%19,1) ve "*açık uçlu yorum soruları*" (%6,4) şeklinde görüşlerini bildirmişlerdir.

TARTIŞMA SONUÇ VE ÖNERİLER
Bu bölümde çalışmadan elde dilen sonuçlar sunulmuştur. Buna göre yapılan çalışmada, öğretmen adayları dersin hazırlık aşamasında öğretmen sorumluluklarını ilişkin olarak "iyi bir ders planı hazırlayarak derse hazırlıklı gelmeli, öğrencilerin hazır bulunuşluk düzeyini yoklamalı, sınıf düzenini sağlamalı ve öğrencinin derse olan

ilgisini çekmeli" şeklinde görüşlerini belirtmişlerdir. Bu durumda öğretmen adaylarının dersin hazırlık aşamasında zihinlerinde yapılandırmacı yaklaşım uygulamalarını benimsedikleri söylenebilir. Yapılandırmacı yaklaşımda öğretmenlerin görevlerinin öğrencilerin derse katılımını teşvik etme, ön bilgiler ile yeni bilgiler arasında ilişki kurma ve soru sormalarını destekleme olduğunu belirtmiştir (Orhan ve Bozkurt, 2005). Bununla birlikte öğretmenin en temel rolünün öğrencilerin bilgiye ulaşma ve bilgiyi anlamlandırmalarına yardımcı olacak öğrenme ortamlarını hazırlamak olduğu belirtilmiştir (Akpınar ve Ergin, 2005). Yine öğretmenlerin öğretim sürecini iyi planlanmasının öğrenciyi öğretme işine katma ve başarılı olmada büyük rolünün olduğunu bununla birlikte öğrencilerin fiziksel ve psikolojik hazır bulunuşluk düzeyinin göz önünde bulundurması gerektiği belirtilmiştir (Çelik, Şanal ve Yeni, 2005). Buna göre çalışmaya katılan öğretmen adayları öğretmenlerin sorumluluğunun iyi bir ders planı hazırlama ve öğrencilerin hazır bulunuşluluk düzeyinin belirlenmesinin farkında olması oldukça önemlidir. Şişman (2007) öğretmenlerin öğrencilerine karşı sorumluluklarını yerine getirmezlerse öğrencilerinde sınıf ortamında öğrenme sorumluluğunu yerine getirmesini beklememesi gerektiğini belirtmiştir. Yapılan çalışmada, öğretmen adayları dersin hazırlık aşamasında öğrencilerin sorumluluklarına ilişkin olarak derse hazırlıklı gelmeli, dersle ilgili araç ve gereçleri getirmeli, ödevlerini yapmalı, derse ilgili olmalı ve konuyla ilgili araştırma yapmalı şeklinde görüşlerini belirtmişlerdir. Ayrıca bu aşamada soru cevap, düz anlatım ve beyin fırtınası gibi yöntem ve tekniklerin kullanılabileceğini belirtilmişlerdir. Yapılandırmacı sınıflarda öğretmenlerin rolünün özgün öğrenme görevleri planlamak ve düşünmeye yardımcı olacak şekilde öğrenmeye rehberlik etmek olduğunu belirtilmiştir (Koç, 2006).

Çalışmada, BÖTE bölümü öğretmen adaylarının dersin öğrenme/öğretme aşamasında zihinlerindeki öğrenci sorumluluklarına ilişkin görüşleri incelendiğinde, öğretmeni dinlemeli, öğretmene soru sormalı, sorulan soruya cevap vermeli ve derse aktif katılım göstermeli şeklinde görüşlerini belirtmişlerdir. Öğretmen sorumluluklarını ise konu anlatımını zenginleştirecek görsel materyaller kullanmalı, konu ile ilgili örnekler vermeli ve öğrencilerin derse aktif katılımını sağlamalı şeklinde görüşlerini belirtmişlerdir. Bu durum yapılandırmacı yaklaşımı ile örtüşmektedir. Yapılandırmacı yaklaşımı benimseyen öğretmelerin, eğitim sürecinde farklı öğretim yöntem ve teknikleri kullanması gerektiğini bunun içinde öğrencilerin aktif olduğu örnek olay incelemesi, proje temelli öğrenme, probleme dayalı öğrenme, işbirliğine dayalı öğrenme gibi etkinliklere daha fazla ağırlık vermesi gerektiğini belirtmiştir (Saban, 2000). Yapılan çalışmada, öğretmen adayları öğrenme/öğretme süreci aşamasında en fazla düz anlatım, soru cevap ve beyin fırtınasına gibi yöntem ve tekniklerin uygulanabileceği belirtilirken işbirlikçi öğrenme, proje tabanlı öğrenme ve probleme dayalı öğrenme gibi yöntem ve teknikleri daha az ifade ettikleri belirlenmiştir. Buna göre öğretmen adayları öğrenme ve öğretme aşamasında süreç ve grup etkinliklerini içeren öğretimsel uygulamaları zihinlerinde yeterince oluşturamadıkları söylenebilir.

Yapılan çalışmada, öğretmen adayları dersin değerlendirme aşamasında öğretmen sorumluluğunu ölçme ve değerlendirme yapma, öğrencilerin hedefe ulaştığını görme, tekrar yapma, soru sorma şeklinde belirtirken öğrencilerin sorumluluğunu ise sorulan sorulara cevap verme, anlamadığı konularla ilgili soru sorma ve kendilerini değerlendirmeleri şeklinde görüşlerini belirtmişlerdir. Yine bu aşamada öğretmen adayları en çok sözlü yoklama, çoktan seçmeli testler ve açık uçlu yorum soruları şeklinde yöntem ve tekniklerin kullanılabileceğine ilişkin görüşlerini belirtmişlerdir. Buna göre BÖTE bölümü öğretmen adayları bir dersin değerlendirme aşamasında öğretmen ve öğrenci sorumluluğunu yapılandırmacı yaklaşımın ilkelerine göre zihinlerinde oluştururken bu aşamada uygulanabilecek yöntem ve teknikleri süreç ve sonuç odaklı yapılandırmacı yaklaşımın önerdiği alternatif ölçme araçları yerine sonuç odaklı davranışçı yaklaşımın önerdiği yöntem ve tekniklerini benimsediği söylenebilir.

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BLENDED LEARNING – HOW TO CREATE AN EFFECTIVE COURSE

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ABSTRACT
The definition of blended learning is a formal education program in which a student learns: at least in part through online learning, with some element of student control over time, place, path, and/or pace; at least in part in a supervised brick-and-mortar location away from home; and the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience. For universities blended classes is cost cutting, and leverages time when physical expansion is out of the question. For faculty / educators - increasing frequency and variety of engagement; transition to fully online teaching. for students - address access / convenience issues (online 24/7 access) while still offering social & instructional interaction opportunities (classroom)

As learning and technology evolves one of the more popular teaching formats is a blended learning course where a percentage of the time is face to face and the rest of the time is online. These types of classes are proving quite popular with students who want flexibility but at the same time experience a classroom feel and a personal connection with the teacher and other students. This gives the teacher a two faced problem in designing a class that meets the learning objectives through both formats. It is crucial that the teacher has a very clear vision how the class is going to flow and how the learning objectives will be met in the class room and online to have an effective class. In higher education the teacher must examine five critical areas.

1.Vision - The objectives and Learning outcomes
2.Interaction - The face to face and online interaction. How? What? and when?
3.Content - The ability to create learning modules that expand critical thinking
4.Assesment - Formal and informal assessment – what is important in the grading process
5.evaluation - This should be self peer and student evaluation. Its also very important to get some of reflective evaluation some time after the completion of the class.

This paper will examine the process of executing an effective blended learning course. It is one that takes careful preparation, attention to detail, keeping instruction and direction as simple and easy to understand as possible whilst keeping the learning objectives central to the plan. Blended learning can accommodate students of all backgrounds, provide a creative learning environment and give students an extremely positive educational experience. In order to build an effective blended class, it is important to establish what type of class you want to have and how this will be enacted. It is very important that it does not become two courses that run independently of each other. Learning objectives, learning outcomes, content assessment and evaluation have to be in sync with the online and in class interaction.

An effective course is well structured, easy to comprehend and allows the student to learn in an independent manner Formal and informal assessments correspond to the student's ability to grasp the critical thinking aspects of the course. A blended learning format is one that encourages collaboration, discussion and debate. This paper will help educators plan, process and execute a productive course.

Keywords: Blended Learning, Education, Teaching

INTRODUCTION
In order to create an effective blended course, it is very important to understand that it is for the benefit of the student and all design implementation and evaluation should be done that is in the best interests of the student. Blended Learning is a mixture of learning methods that incorporate multiple teaching modals. It is a natural development to the growing accessibility of eLearning, online resources and the continued need for a human component in the learning experience. A blended learning approach ensures that the learner is engaged and driving his or her individual learning experience. This approach also helps cater to the individual needs of the learner, most students have unique learning styles and a blended approach is more likely to cater to those needs than a traditional classroom teaching experience. Blended learning is important because it breaks down the traditional walls of teaching, ones that don't work for all

students and now with access to present day technologies and resources we can tailor the learning experience for each student. Blended learning also offers flexible time frames that can be personalized to each person, offering them the ability to learn at their own pace.

For universities, blended courses can be part of a strategy to compensate for limited classroom space, as well as a way to think differently about encouraging faculty collaboration. For faculty blended courses can be a method to infuse new engagement opportunities into established courses or, for some, provide a transitional opportunity between fully face-to-face and fully online instruction. For students the conveniences of online learning combined, the social and instructional interactions that may not lend themselves to online delivery. All students no matter their age learn differently and teaching methods should reflect this, by designing teaching programs in a way that reaches visual, auditory and kinetic learners alike. With the heavy integration of technologies, we'll be able to improve teaching, information retention, engagement, responsibility and enjoyment. Students never outgrow their learning styles, meaning blended learning is more important than ever, no matter what the industry is, from schools to corporations, in all walks of life.

When setting the course there are five basic tenants of a complete course: Interactions, Design, Content, Assessment and Evaluation. Each one is extremely important and leads the student to have well defined, organized and pedagogically centered experience.

INTERACTIONS
This area clearly explains to the student all the necessary information about times, assignment's, expectations and protocols. In order to learn any academic subject students, need to interact and even struggle with the material being learned (called active learning). Pre classroom assignments are set and students are asked to explain concepts and ideas to their peers in class. The online component allow students to work at their own speed but it should force them to research, reflect and discuss complex issues within the course. The assigned work should tie in with the course goals and objectives.

An example of course objective

Students will develop an understanding and appreciation for global sport business as it relates to the commercial management of sport and sport organizations. By the conclusion of this course, the student will, through discussion, investigation, written examination and application:
• Understand the body of knowledge in international sport business
• Develop a knowledge base regarding international sport business research
• Become aware of the differences in regional, national and geographic sports culture
• Develop a knowledge base regarding international sporting events
• Appreciate the complexity of international governing bodies of sport
• Understand the historical development of international sport business and global sport expansion
• Describe U.S. global sport exportation and importation
• Discuss economic integration as it relates to global markets
• Learn concepts, principles, and terminology as it relates to international sport marketing
• Critically examine the promotion of international sports products
• Understand the complexity of licensing and merchandizing of sport in international markets
• Understand the historical development and importance of The Olympic Movement
• Identify major social, cultural, ethical, and business issues facing international sport

Schedule

A course schedule with topics and assignment distribution. The material should be divided equally and cover the entire course. The course schedule also helps students know from Day 1 the exam and due dates, as well as plan their reading to come prepared to class.

Syllabus

A student course guide with important information. The official syllabus of most schools are very long with details and policies as required by institutional policy. A way to help the students is to create a mini syllabus to provide quick access to the most important aspects of the course.

Protocols

This is a document detailing course expectations and norms. In class preparation, E mail correspondence and online discussions are all discussed. This is where all technical support such as log in procedure .and course requirements are stated such as student responsibilities in the classroom and online are stated. Also the consequences of late/missed assignments.

Module Interaction

This document allows the alignment of the unit learning objectives with assessment and interaction activities. The teacher has to carefully consider how to design each week of the course, combining different content resources with faculty-student and student-student interaction activities that foster a sense of community and critical thinking, with formal and informal formative assessments.

Technology

There are of course many different technological tools. It is vital that the teacher designs' the course around technology that he/she is comfortable with and will aid the student in their learning process and not hinder it. Tools such as Google Docs, Edpuzzle, Padlett and Kahoot. Kahoot is especially effective as you can students individually or in teams compete against each other in their comprehension of the class that day. Each of the tools listed has its own functionalities, but all are beneficial when it comes to one crucial aspect of modern schooling: they pave the way for re-examination of the current learning methodologies. These tools open up the space for dialogue on the potential that technological devices can bring to today's learning environments.

In the majority of classes, interaction across all forms is vital. This gives the student a sense of belonging and that the course is important. The more effective interaction the more motivated the student will most likely be. Positive interaction will enhance the learning environment in all kinds of courses. The benefits of a blended format allow students to work at their own speed and time in the online format and therefore in the classroom this can maximize in class discussion. This gives students the ability to understand other student's viewpoints and ideas. The teacher's responsibility is to facilitate this discussion and make it relevant to the modules of the course

DESIGN

It is obviously important to have an effective design that makes learning intuitive and stimulating. The quote "The focus should be first on the learning, and second on the technologies that will support that learning" is very profound Different schools have various ways of approaching online learning and the design of the course must fit the mission of the institution. The cours should focus on teaching and learning in a very collaborative and informative manner. Discussion and debate are very important parts of the curriculum. If an institution's blended learning strategy can be designed to address the needs and dynamics of all three constituencies (institution, faculty, and student) simultaneously, then blended learning can become a powerful force for institutional transformation. With the right design and strong learning objectives the students will embrace blended learning and it will be a major addition to the curriculum.

The design of the course is to make sure it is not two independent courses. The online component must synchronize with the classroom activities. Online assignments must connect to the classroom subject. Striking the right combination of learning, assignments and assessments in a blended or online learning course is an important, albeit tricky thing to do. One can be tempted to overload the student with readings and all sorts of assignments, thus overwhelming the student and expecting far more than in a traditional face-to-face course. It is also detrimental if the course is designed as a collection of readings, videos, quizzes and exams. Course design should consider the different learning styles of the students, their interests and a variety of learning activities.

ASSESSMENT

Students should experience various learning outcomes through direct in terms of presentations case studies and in class discussion. Online the students will research, interact with an online discussion and blog their thoughts. The assessment process is very important. Students in the traditional 18 -22 age especially the grade is very important to them. The bulk of work that the students will do will be accessed. Content could be provided in the form of articles, student researched articles, educational YouTube videos and in class presentations. The idea being that the learning outcomes are given to the students in various formats. Student's should receive assessments in a way that it is the course as a whole and not just one form. The issue is when the student prefers one form of instruction a puts their energy either in the online format or face to face class. The various forms of technology are a tough issue. Teachers

should be on on the cutting edge but the class needs to be on task and it shouldn't get bogged down by technology issues. For right now Interactive online discussions, blogs and a podcast will be the limit of technology use.

It is crucial to provide clear instructions for all assignments, as well as exam objectives, to help students focus, have a clear understanding of expectations and how the assignments help fulfill course objectives. Written, clear instructions also help faculty minimize students' questions about what to do, when is the assignment due or how is it going to be marked. Part of the process is developing a scoring rubric. This can be a tedious, but it helps the teacher mark assignments consistently and students know how they're going to be evaluated and why they lost points.

Some student are inhibited to talk in a classroom format. There are instances where certain students do all the talking and almost bully the other students when their views aren't mainstream. This is when the teacher becomes an extremely important part of the process in how he/she involves all the class in honest and forthright discussion. It is obviously up to the individual teacher how they distribute their grades. Class size, length of course and technology will all factor into the different values and weights. Ideally students will be given questions that mean students have to think objectively and answer with thought and application.

Formal and informal formative and summative assessment are extremely important in the development of a course. Online assessments are quite personal and the student gets from it the level of work that they put in. In face to face classroom assessments the student's personalities are much more evident but sometimes one or two verbally strong students can dictate the class.   The balance is for the students to write and research online and in the classroom listen to others student's opinions and evolve their thought basis. The formal assignments will come in the form of a research paper, class presentations and essay exams. Informally the student will be accessed in the classroom with their commitment to read before class and add to the classroom discussion. Therefore, the ideal is to have a combination of effective assessment in a classroom and online environment.

EVALUATION
How will the teacher know if the course met the learning goals and was effective? Many evaluations are done right at the end of the class/semester when students are more concerned with finals as opposed to serious reflection of the class. Like many things as long as we grow in our learning each class should be more productive than the last and by building on a foundation of good teaching practices this should occur. It is advisable to have a colleague evaluate the formatting and design of the course and make comments. It is not easy to share with your peers and the teacher has to be able to take constructive criticism but it is a very valuable tool. The class needs to intuitive to a student, many teachers just assume the students understand what the teacher is thinking.

To determine the quality of the course and its levels of success hard to define in a learning environment. Success maybe having a class that those students who struggle with a traditional format find more appealing and their motivation to complete the class is enhanced. Quality is having best teaching practices best learning practices and the ability to effectively communicate with the students. It is good practice to follow the Universal Design for Learning Guidelines (UDL) guidelines for effective teaching practices. The UDL Guidelines are organized according to the three main principles of UDL that address representation, expression, and engagement. Most institution's has standard form evaluations from student's peers and sometimes outside consultants. The University of Central Florida Blendkit review evaluation is a very good tool. Its highly recommended to use this tool or something very similar for producing a quality program.

The key for having a quality blended learning class that is well received by the students doing the research and applying simple design rules. The content, the application of the content and then analyzing the content is the way for any class to be successful. Peer review is a very easy yet significant way of making sure you are on task with your course. Student evaluations are a critical component but sometimes they do offer a short term reflection.

CONCLUSION
A blended course isn't simply throwing in some PowerPoint presentations, assigned textbook readings, weekly quizzes and exams. The content must be balanced, clear, engaging and diverse.
Given the nature of the course, communication is important. Students shouldn't be abandoned and an effort must be made to both give them the assistance they need and create a sense of community between the students. Assessment activities are more than quizzes and exams. Learning management systems provide a plethora of assessment activities, such as discussion forums, peer reviews, collaborative wikis and other group projects. Assessment needs to go beyond

measuring cognitive learning and include other aspects such as the development of affective skills (i.e., working in group projects or integrating use if technology in the assignments). It is imperative that a blended or online learning course is organized and has an attractive, accessible design. This means that universal design for learning guidelines should be incorporated into the design. Though it can be tricky, accessibility must be ensured for all students, including those that may have some form of disability. Furthermore, students must be able to easily navigate course content and identify graded assignments to ensure the best learning environment. All legal and ethical aspects must be followed to the law. The only way these can be successfully accomplished is by the institution providing concrete support to the faculty and giving students the right to dispute these standards in a very tolerant atmosphere. When these tools are used effectively the student will be a very healthy learning environment that is intuitive and encourages growth.

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BRAZILIAN CURRICULAR POLICY: CHALLENGES FOR THE FUTURE

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ABSTRACT

As the fifth most populous country in the world, political and educational challenges in Brazil involves a continuing concern on the local diversity of its schools, municipalities, Federal District and States. The research aimed to investigate the current process of national curriculum reform, initiated in 2015 by the Ministry of Education, and the progress of its implementation phases. From initial text made by 116 experts from different fields of knowledge, from all parts of the country, began a national public consultation, through an internet portal. The amplitude of the process and the mobilization conducted by the federal government generated 12.4 million contributions, mainly from schools and teachers. Such users have agreed, disagreed and made modification suggestions for all 14 years of basic education, and all areas of knowledge. The suggestions were analysed, organized and sent back to the initial charge, which worked in commissions for specific areas. As a first stage, the virtual portal worked not only as a receiver, but also as a catalyst for national mobilization, promoting an early dialogue to a curricular reform that can change our future school.

Keywords: National curriculum , virtual portal , building the Future

The discussion about building a national curriculum policy has been present in the Brazilian education history of the twentieth century, associated with the different curriculum theory sheds, sometimes latent, sometimes resulting in the construction of legal frameworks, sometimes simply historically following the political changes education for all levels and modalities of the Brazilian education.

Associated more recently to educational policies that promoted and performed in Brazil the three main strands of the Education for All program led by the World Bank and UNESCO in Latin America and the Caribbean (MELO, 2004), questions relating to whether or not the construction of a national curriculum followed policies that resulted in expansion of the educational universalization, the implementation of various aspects of democratic management by Brazilian federated entities as well as followed the discussions and actions related better training and development of teachers in our region.

We can cite as essential legal frameworks for contemporary conduct of national curriculum policy for basic education Article 210 of the Constitution of 1988 states that says: "will set minimum content for the elementary school, in order to ensure a common basic education and respect for cultural and artistic values, national and regional "; and our Law of Guidelines and Bases of National Education (LDB) n. 9.394/96, in several articles, especially in its ninth article - which states that the Union is responsible, in collaboration with the States, Federal District and Municipalities, the establishment of skills and guidelines for basic education that will serve to guide the curriculum and their minimum content - and in articles 26 and 26a, which deal with specific topics to be addressed   in   the   national   education.
Among the XX and XXI centuries, Brazil developed the National Curriculum Standards and the National Curriculum Guidelines, covering all levels and modalities of education. The discussion about the need for development of a national curriculum was also present at the National Conference of Education (which include not only the National Conference of Education - CONAE - but also the National Conference of Basic Education, Professional and Technological Education and various other national specific seminars) with its local, regional, state and district stages, as well as the discussions that resulted in the 2001 and 2014 Education National Plans, reflecting intense and fierce battles for different interests and sometimes contradictory of an increasingly wide variety collective political subjects acting in the educational field. Added to these processes are also the efforts of 26 states, the Federal District and also the 5.570 Brazilian municipalities towards building their own curriculum proposals for basic education.

Among these subjects we can still emphasize the strengthening of discussions and local processes, taking new historical course since the promulgation of LDB 1996, especially regarding the implementation of Articles 12 and 13, laying on relevant obligations, responsibilities and autonomy of educational institutions and also the teachers, bringing the center of discussion on the democratic management of cultural and organizational processes that take place in everyday school life.

The research whose results we present below, have as the main objective the analysis of the new proposal led by the Ministry of Education (MEC), in very close cooperation with the National Council of Education Secretaries

(CONSED) and the Union of Municipal Education Officers (UNDIME), the preliminary document of the national curriculum Common Base (BNCC), which aims to rewrite and reset a national curriculum proposal for all levels of basic education.

We bring the discussion to the area of policy and management of basic education, because we believe that the development of national proposal is at the heart of the great political and educational changes in the area, generating consequences that will take place both in the various institutional levels as will constitute stage broad social and national academic discussions.

Waxed on March 15, 2016, the public consultation on the BNCC already points national and local challenges as far as their representativeness front of the complex framework of collective political subject area, with its contents as well as the planning of its implementation; even before its consolidation, as discussed in many instances the future of BNCC. We propose in this Communication, a brief discussion of the concept of curriculum in its relationship with the management of basic education, an analysis of the current discussion process BNCC and then some results that can point to current and future challenges.

National curriculum policy: principles for the discussion of the management of basic education. In theoretical fields involving discussions about curriculum, there are multiple interfaces with diverse areas of knowledge, each with their own genealogies, board designs and concepts of what is human, its historical ways of building knowledge, their own ways to produce science and technology, and their concerns about how such knowledge will be transmitted to new generations.

Going over the history curriculum in Brazil, especially with respect to a proposed new BNCC which is still in its principle, it means so much to recover the movements of its construction as take a future curriculum project covering the right notions of education for all, quality, democratic management of education, nation and development project, among other concepts that are becoming increasingly visible and expressed both in driving proposals of Brazilian educational policies, as in their own educational legislation.

In the specific case of BNCC, fulfilling both the cited legal provisions, the social pressures of the various institutional and ideological hues, the Ministry of Education, together with the CONSED and UNDIME, as well as in conjunction with its national and international advisors, constituted in 2015 a team of experts, gathering also names of academic researchers with expertise in various areas of knowledge and national scientific societies, which had the main task preparing the draft document for the national public consultation, opened also in September 2016, as we will show below. However, one of the main elements of the criticisms that already are structured in relation to BNCC, is that the document, having as main objective the objects of learning and knowledge, did not show a clear conceptual proposal of its meaning, or made clear the paths for its future management, for its implementation, through both by society and by the national agencies, state, district and municipal legally responsible until they become visible and collaborative with schools, teachers and educators in general.

As social playing field always in evidence in the conduct of national educational policies, the curriculum of basic education adds to the discussions concerning learning assessment policy and institutional assessment, on the need to build hegemonic and homogeneous directions that can be the basis of compliance with the constitutional provisions on the Union's responsibilities.

The preparation of BNCC, conducted with the role of the Department of Basic Education MEC, takes position in the discussions as an expression of a basic and common prescribed curriculum in order to ensure national uniformity, especially when it comes to basic learning rights. While complying with the flexibility determinations and is open to negotiations that will with the local authorities, the prospect is that in its next phase, shipping and discussion with the National Council of Education (CNE), are publicly placed the needs to clarify its theoretical and epistemological bases.

The curriculum discussions involved various hues and theoretical approaches over the centuries, from the first attempts of modern nations to set parameters for the education of its population to the most current discussions about the inextricable link between the prescribed curriculum, curriculum theory and its actual practice (Goodson, 2013). These are issues involving the weight of theory and practice in the realization of the curriculum.

According to the researchers Marcia Ferreira and Lisete Jaehn (2012), this author, who has epistemological roots in the new sociology of education, has a curriculum vision that integrates many of the socio-historical problems built on the subject, from large surveys conducted in the years 1970s and early 1980s, to discussions on practical

subjects in their school routine. Ivor Goodson also draws our attention to the history of the curriculum development process:

> "It is therefore not analyzing the development of the curriculum, the temptation will be to accept it as an assumption and seek variables within the classroom, or at least in each particular school environment. We would be accepting as "traditional" and "presupposed" curriculum versions that a further examination may be considered the climax of a long and continuous conflict. "(Goodson, 2013, p.24)

These are issues that are consistent with the ongoing investigation into the preparation of BNCC and its interfaces with the democratic management issues of education, also following the arguments of the historian Eric Hobsbawm about the historical process of creating, or even "invention of tradition" the object of some of its investigations (HOBSBAWN, 1997). By accentuating the issues relating to the social construction of curriculum, Goodson calls our attention to the need to consider the historical dynamics of curricula, placing them in their historical context, as far as comparing it with its effective practice in various educational institutions.

Curricular policies have a historical materiality that is associated with planning practices, management, financing and evaluation of education at various levels and modalities, however, when emerging as state policy, a national policy, may run the risk of unlink the direct connection it should have, since its drafting, its real historical practice in schools and other educational settings; also risks to unlink the action of the subjects that make the daily school.

The process of building the Common National Base Curriculum (BNCC)
One of the biggest challenges in the management of the Brazilian basic education is the need and legal obligation of the national construction of the basic education curriculum.

Having a population of 203 million people, including 50 million between 4 and 17 years old enrolled in compulsory basic education by 2015, Brazil entered in the process of condoning the construction of a national curriculum that both allow the development of administrative functions and social control, but also of learning outcomes, as respect the rights of learning and cultural and ethnic diversity of its population.

In addition to these challenges, as mentioned, this population lives in 26 states, a federal district and 5.570 municipalities that have their stories and dynamic management and own curriculum practices.

As a first step to start a new construction of the curriculum, the Ministry of Education, through the Department of Basic Education (SEB), negotiated with CONSED and UNDIME the composition of a committee of 116 experts who had as main task the joint in areas of knowledge and development of introductory texts for each area, and the development of learning objectives for each of the curriculum components. This team met for a few months and delivered to SEB the preliminary document which constituted the original proposal for the public consultation.

Next we will make a short description of the main structure of BNCC to then present some contradictions intrinsic to them.

The public consultation is configured in access to primary document, with its various types of text and each type has a specific entry for all users wishing to make their contributions. Users could register as individuals, organizations or schools, and their mandatory identification allows us to view today transparently each of contributions made, totaling, on March 15, 2016, 12.226.510 contributions that were all analyzed. The portal can also be accessed by basenacionalcomum.mec.gov.br address, even when the public consultation has already been closed.

Users could give their contributions agreeing, disagreeing and adding various types of suggestions for five types of texts: the original text entitled "give your contribution to BNCC", the introductory texts for each area, the areas of documents were also made available, learning goals and could also contribute to new learning objectives.
In total, as established in the Portal in the "query numbers," 305,207 users have registered and have made their contributions to the five proposed areas: early childhood education, languages, mathematics, humanities and natural sciences, divided, in turn, in curriculum components, covering all basic education: early childhood education, primary and secondary education. The site also brings the number of contributions by area, curricular component, by Federative Units, as well as offers a variety of content assessment documents of experts and new consultants who were in the process of public consultation, feeding preliminary data to rethink the necessary changes, as well as reviewing the draft document texts themselves.
The final data are not yet published on the site, but I can explain the process in general, to be part of the

multidisciplinary team at the University of Brasilia, which together with the research group of the Pontifical Catholic University of Rio de Janeiro, realized the project research with the MEC analysis of total data presented public consultation.

With more than 95% approval on the draft text, indicated by the quantification of consistent responses to the various types of text, the research did not aim justification or demonstration of support from society to the project but analyze each and every one of 12.2 million pointing contributions back to the team of experts, all that could be considered to change the texts.

With the generation of preliminary analysis, data analysis, although quantitative basis, sought to emphasize and respect all the contributions. Evaluated for clarity, relevance and pertinence, the texts of the learning objectives were also organized in several categories, according to the responses of the public consultation: all 1.714 learning objectives were evaluated, the quantification of responses for each ranged from 2500-16000 contributions, totaling approximately 3.7 million contribution (approximate because the final numbers are still coming in Portal BNCC itself), being different from the percentage for each area and each curricular component. Simplistically, we analyzed all the suggestions for modification of learning objectives, classified into general categories of: substantial alteration, change of year/stage comments (no exchanges), additions of few words, without editing the goal and not valid (or blank).

These data were synthesized in quantitative tables; however, all contributions are exposed, per user, at the BNCC´s Portal. In addition to the public consultation workshops across the country were being conducted in the states and municipalities, always in partnership with MEC, CONSED and UNDIME in order to better qualify the contributions that were being articulated at each of these sites; increasing the participation of federal entities and also of schools and teachers, to reflect from a broader spectrum, the needs and positions of public school systems in the country. Such seminars also contributed to stimulate the expression of the diversity of experiences and experiences   throughout   the   national   territory. From the analysis and synthesis produced from the public consultation and the ongoing work of experts and consultants on their specific texts, will be following the consolidation of the text of BNCC the subsequent submission to the consideration of the National Education Council, which has this is, in turn, working in bicameral committee (House of Basic Education in the conjunction with the Board of Higher Education) to consider the methodology of the new phase of discussion.

However, the scale and scope of such public consultation, as well as the success of the reach of contributions made, does not mean that the document is a homogeneous national acceptance, whereas, in the above, the vast majority of the 12.2 million contribution to it originated in the public school systems.

The construction process of public consultation as one of the building foundations of BNCC, not only contributes to redesign the national curriculum, as renewed discussion of the national curriculum policy, bringing the need to investigate not only the process preliminarily described above, as revealing issues that deserve   to   be   permanently   discussed. The national curriculum policy is not restricted to the curriculum, nor the curriculum is limited to BNCC, which is the first step in a broader and deeper curriculum reform, which will require more answers and more partnerships   and   a   wider   range   of   investments.

FINAL CONCERNS

In addition to the proposal of an official curriculum or formulation of goals and learning rights, in addition to the composition of scripts or lists of contents, the composition of a national curriculum also has a deep relationship with a project of society and education, or, more realistically, the composition of society and education projects often conflict.

If, on the one hand, the composition of BNCC had an intense social participation, led by the major partners mentioned, such participation was based on the mobilization of public networks, leaving other times and different social forums the participation of other collective political subjects also interested in participate in public decisions in planning and implementing the curriculum national policy.

All the companies represented in the Movement for the Base, a move that adds several private institutions based business consultancy, publishers, producers of educational material in general and specialized companies in the continuing education of workers in education, also accompanied the initial process of building BNCC, though otherwise, in direct contact with its traditional historical partners, CONSED and UNDIME.

In addition to the explicit interest in the conduct of curriculum policies as learning knowledge and new knowledge of what is politically consensus as the basis of school knowledge; these issues also relate to their own knowledge production, with the capacity of countries to produce new knowledge.

The way the BNCC is written with the intention of being one of the elements of the curriculum national policy - although its makers to recognize as a defining element; still brings great risks as far as the relationship between public and private education, as related to the dispute related to the use of public money for public education, the relationship with the national science policy, technology and innovation, as well as vocational education and technological, and other modalities of national education.

We also have the issues that involve the risk of the return of technical rationality and the new theory of human capital, as indicated by recent work of the Organization for Economic Cooperation and Development (MELO, 2015) and still all issues involving the implementation and realization the new BNCC.

In Brazil, we recognize education as a subjective public right, such private interests also try to permanently bring to the national curriculum policy, as well as for the initial and continuing teacher education policies, entrepreneurial and managerial values, in order to legitimize their own corporative interests and ethical-political values, trying to transform education into a commodity compatible with the management of their business. Among disputes, contradictory society projects, confrontation and resistance, we are leaning on a complex research field, which interfaces with diverse areas of knowledge and also involve specifically the composition of education systems, history of school subjects, internal relations and external changes in institutions focused on education   (Goodson,   1995).
Looking to go beyond all discussions of the area that tell us all that the curriculum can not or should not be, I believe that the process that involves BNCC in addition to its own propositional forms also brings merit to provoke new discussions also propositional in several areas of research, especially with regard to educational policies for basic education in Brazil, Latin America and the world.

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BUILDING BRIDGES: ENABLING INTERCULTURAL COMPETENCES WITHIN DOUBLE DEGREE PROGRAMS

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ABSTRACT

In today's globalised world intercultural competences (IC) are central in increasing understanding and improving relations across cultures. Institutions of Higher Education (HE) face a great challenge in having to prepare students to live and work in the global arena and yet, little knowledge exists about which measures can foster intercultural competences. Literature suggests that studying abroad is not sufficient and that the development of students' intercultural sensitivity should be better supported and organized. Thus, we have focused our attention on double degree programs, with particular reference to two issues: (1) how do students enrolled in double-degree programs develop IC? (2) How should double degree programs be structured in order to facilitate the development of IC? Building on our previous research, this paper aims to assess the development of students along the intercultural sensitivity continuum of the Bennett's Developmental Model of intercultural sensitivity (DMIS) (Bennett 1986, 1993) at different stages of the educational path of the MAIB programme. MAIB (Master in International Business Development) is a joint double credential Master's program designed by University of Milano-Bicocca in partnership with Alliance University, India and Centennial College, Canada. The qualitative data have been collected through semi-structured interviews with open-ended questions and group discussions. We have expanded the scope of the previous study, including the experiences of the 2nd MAIB cohort students (academic year 2015-2016) who are currently completing the India-term.

INTRODUCTION

Globalization of the world's economic, political, technological, and environmental systems has resulted in the need for academic institutions to prepare graduates with the knowledge, skills, and abilities to work effectively in the global arena. We are facing rapid increases in students' international mobility. OECD (2014) has stressed the need for national tertiary education systems to approach internationalization as one of the key priorities and has identified "growing globalization" as one of the main trends that will affect financing to higher education. According to OECD (Education at a Glance, 2014), the number of international students at world level has increased from 0.8 million (1975) to 3 million (2005), to 4.3 million (2011). Such figure should exceed 5 million students within a few years. Within a few years, international mobility will interest 5 million individuals across the globe: a trend which brings universities to agree that the development of intercultural competences – or the "ability to communicate effectively and appropriately in intercultural situations" – is a critical skill. Furthermore, the economic crisis and budget restrictions are forcing international companies to be more demanding: companies are looking for qualified employees with international experience, at least bilinguals, and interculturally competent (Bhawuk & Brislin, 1992).

This changing landscape has called for the attention of universities to invest in study abroad programs to prepare students for their life in a globalized world. All around the world, a variety of student mobility programs have developed, which range from academic stay to language courses, internships and study trips to foreign higher education institutions, summer courses, research exchange, etc. At the EU level, various programs have been recently merged into the Erasmus Plus Project which is going to finance 14.7 billion € for the 2014-2020 period (+ 40% respect to previous budget), offering to 4 million Europeans (students, teachers, youngsters) the opportunity to study and gain professional and voluntary experience abroad (Blanco, Frascaroli & Pasolini, 2015). Beyond transferring study credits and acquiring language skills, study abroad programs provide the participants with opportunities to immerse in-depth into getting an international exposure.

Although the development of intercultural competence is continuously emphasized, it is questionable how these study-abroad programs actually contribute to the students' intercultural sensitivity; in Milton Bennett's words: "every

program, no matter at what level, format, or focus continues to claim that educational cross-cultural contact contributes to intercultural competence and thus to global citizenship" (2009). In this paper we will argue that, although short-term intercultural trainings can be effective in building up cultural awareness and changing individual attitudes towards other cultures (Hammer & Martin, 1992; Pruegger & Rogers, 1994), intercultural education, intercultural competence and intercultural sensitivity development have to be conceived as a long-lasting and continuous learning process that should ideally be designed over a prolonged period (Graf, 2004).

This study originates from the idea that exposing an individual to cultural diversity is not sufficient to develop intercultural skills and is necessary to expose individuals to a continuous learning process, which elicits reflections about cultural diversity. How the development of intercultural sensitivity can be fostered and supported is an issue that needs to be further investigated. Thus, we looked at the role of double degree programs (DDP) in the development of intercultural competence with particular reference to two issues: (1) How do students enrolled in double-degree programs develop IC? (2) How should double degree programs be structured in order to facilitate the development of IC?

One of the longitudinal research studies, conducted by Vande Berg, Connor-Linton & Paige (2009) has provided significant evidence on the positive effects of teachers/trainers' pro-active interventions on intercultural learning. Taking these findings into account, it is consequently desirable to identify and apply specifically designed intervention techniques and strategies which facilitate the development of intercultural sensitivity (Anderson et al. 2006). This paper contributes to this aim by presenting MAIB - Master in International Business Development as a case in point to understand and demonstrate the holistic approach towards building intercultural sensitivity among the students. MAIB is a joint double credential Master Program between University of Milano-Bicocca, Italy, Alliance University, India and Centennial College, Canada, where students study and live in Milan, Bangalore and Toronto, across 3 different campuses in 3 global dynamic cities in the world.

DEVELOPING INTERCULTURAL SENSITIVITY WITHIN THE MAIB PROGRAM

Intercultural competence: a definition
The importance of effective intercultural relations in both global and domestic contexts is well recognized (Brislin, Cushner, Cherie & Yong, 1986; Hammer, 1989, 1999a; Kealey, 1989). As Bhawuk & Brislin (1992) suggested, "To be effective in another culture, people must be interested in other cultures, be sensitive enough to notice cultural differences, and then also be willing to modify their behaviour as an indication of respect for the people of other cultures". In this paper we use the term "intercultural sensitivity" to refer to the ability to discriminate and experience relevant cultural differences, and we use the term "intercultural competence" to mean the ability to think and act in interculturally appropriate ways. We argue that greater intercultural sensitivity is associated with greater potential for exercising intercultural competence.

An innovative approach
MAIB has been designed as a comprehensive Master's program to support the development of intercultural sensitivity among the students. The program includes: an intensive orientation course at the start of the Italy term; a 40 hour course on cross-cultural communication followed by a 10 hour pre-departure preparation before leaving for India. Moreover, there are 3 intensive coaching sessions with a personal coach during the first 3 months of the program, followed by two on-line coaching sessions in each of the two remaining terms. During the Course on cross-cultural competencies, communication is defined as the "mutual creation of meaning" and explored as both a tactical issue of improving understanding and as a strategic issue of creating value from cultural diversity. Some attention is also given to how intercultural competences can be sustained at an organizational level in global organizations.

The pre-departure program aims at sensitizing students to Indian and Asian culture and specific characteristics (e.g. as regards history, social, politics or economics). Lectures and seminars are organized held by experts on India. The faculty of the course on Cross-cultural skills once again focused on the need for cultural learning with the objective to raise among the students a general awareness and understanding of cultural diversity in typical intercultural interactions.

During the 2nd Term of the MAIB program, the students study and live at the campus of Alliance University, Bangalore, India, and experiencing *real-life* in the host country. At the start of such term, MAIB students go through a seminar on *Socio-cultural environment in India – Understanding & appreciating differences.* They are put in touch with their Indian buddies to explore campus life and connect with the Indian students. Visits are organized to Non-government/NGOs to understand the social reality. Bangalore site seeing trips and other useful historic and cultural events are also planned, in order to foster students' awareness and understanding of Indian social and cultural traditions.

As part of the courses the students take in India, direct interface with industry is planned, in order to help them understand the work environment and get an opportunity to participate in small projects, putting theory to practice. The

students are encouraged to write personal reflections on the blog. Faculty has been selected based on its competence, as well as on its sensitivity, and ability to encourage and support students in their academic and social life at the campus.

As already mentioned, the students continue their interaction with their Coach through Skype meetings. The Course Director, Coordinator and the Cross-Cultural Skills Course faculty also maintain a constant interaction with the students. The India term closes with exams, results and feedback from the students and faculty. The students thereafter move to Canada for their 3rd Term at Centennial College in Toronto.

In Canada, the students study at the Centennial College campus in Toronto and follow courses offered within the IBM program. Here too an initial detailed Orientation Program is organized by the International Department of the Centennial College and seminars are organized to give an insight into the socio-economic, cultural and political environment in Canada, particularly focused on the Ontario State. Being immersed into the IBM class, the students get to interact with Centennial students (coming from a very international background) and the International department staff helps them to settle in. All along the 14 months period the students are constantly supported by the MAIB course director and the program's coordinator.

The development of intercultural competence and thereby intercultural sensitivity is a challenging aim that calls for innovative approaches of teaching and learning. Therefore, as shared above, an innovative, learner-centred pedagogical design based on Bennett's DMIS model that combines individual and co-operative learning and applies experiential and reflective learning methods has been developed and implemented in the MAIB program. These methods have been chosen based on an intensive engagement with relevant literature, among them for example Graf (2004), whose research findings suggest that an experiential orientation supports the development of intercultural competence. At the same time DMIS model of intercultural sensitivity (Bennet 1993) helps us in analysing and measuring the development of intercultural sensitivity along the continuum.

THEORETICAL FRAMEWORK

Research studies in such diverse areas as overseas effectiveness (e.g., Brislin, 1981; Cleveland, Mangone, & Adams, 1960; Kealey & Ruben, 1983; Landis & Brislin, 1983a-c; Landis & Bhaget, 1996), international management (e.g., Adler, 1991; Black, 1990; Black, Gregersen, & Mendenhall, 1992; Black & Mendenhall, 1990), international study abroad (e.g., Klineberg & Hull, 1979), and international transfer of technology and information (e.g., Hawes & Kealey, 1979, 1981; Kealey, 1996) have identified intercultural competence as central in increasing understanding and improving relations across cultures (Bennett, 1993a, b; Hammer, 1999b). Additional research on domestic intercultural relations (contact across forms of ethnicity, gender, age, sexual orientation, etc.) has found a similar key role for intercultural competence (e.g., Gardenswartz & Rowe, 1993).

While cross-cultural research has posited the importance of intercultural competence in both global and domestic contexts, work by Bennett (1986, 1993b) has additionally suggested the Developmental Model of Intercultural Sensitivity (DMIS), an underlying theoretical framework, useful for conceptualizing intercultural sensitivity and competence. The DMIS model (Bennett 1986, 1993) of intercultural sensitivity proposes that individuals can be positioned along a continuum, characterized by different stages or orientations, ranging from ethnocentric perspectives towards more ethnorelative perspectives.

Fig. 1

As figure 1 indicates, the _____ views the world through one's own cultural experience – towards an ethnorelative orientation, which takes into account multiple

perspectives, adding to one's own views of the world also others' cultural perspectives. Three stages are identified for both orientations: for Ethnocentrism: Denial, Defense, and Minimization. Individuals in the Denial stage are unable to discriminate between various cultural differences and often miss cultural cues that suggest an underlying cultural relevance to different behaviours and communication patterns. The three stages within ethnorelativism are Acceptance, Adaptation, and Integration of difference.

We chose DMIS as theoretical framework for several reasons. First, it is a theoretically based measure sought to assess the impact of the study abroad experience on the intercultural sensitivity of students. Second, it has undergone extensive psychometric testing and is a reliable and valid measure (Hammer, Bennett, and Wiseman, 2003). Third, an established research literature base has developed over time, illustrating its use (Paige, 2003). On the basis of its grounding in theory, its empirical reliability and validity, and the fit with our program goals, DMIS deemed a good choice for measuring students' intercultural sensitivity.

This theoretical framework has provided us the conceptual guidance in program planning for the **MAIB Master Course** in order to explore the cultural journey of our students living and studying in Milan (Italy, Europe), Bangalore (India, Asia), and Toronto (Canada, North America). Our objective is to assess the development of our students along the intercultural sensitivity continuum.

METHODS

This study investigates the role of double degree programs (DDP) in the development of intercultural competence with particular reference to two issues: (1) how do students enrolled in double-degree programs develop IC? (2) How should double degree programs be structured in order to facilitate the development of IC? In order to answer these questions, we base our analysis on data that was collected at the end of the India term during the first two editions of the Master: academic years 2014-2015 and 2015-2016. The respondents from the MAIB second edition (2015-2016) are six: 4 females and 2 male from different nationalities (India, Italy, Jamaica, Russia, Romania, Mexico). The new data have been integrated with data which was collected in a previous research and presented at the annual international interdisciplinary conference (AIIC 2015) in Portugal. In the previous study we discussed how the 1st MAIB cohort had approached intercultural learning during the Italy and India terms.

What emerged was that the MAIB program had a positive impact on the development of the students' intercultural competence. The data were collected through qualitative interviews with nine students (3 to 6 person and on Skype) and focus groups. The interviewees were students from Italy, Mexico, Brazil, China and the United States at the end of their period in India in April 2015. In the first study, preliminary and follow-up interviews were conducted at the beginning and the end of the period in India. Particular attention was given to the subjective experiences and re-elaborations of the students.

In order to gain a better understanding of the perspectives and perceptions of individuals exposed to cultural diversity we chose a mainly qualitative approach. The aim of the current study is to understand the main factors contributing (or hindering) the development of inter-cultural sensitivity among students and expand the scope of our previous research using a comparative approach. Data were collected through semi-structured qualitative interviews and open-ended questionnaires conducted in person or on Skype. Such an approach seemed more flexible as it allowed respondents to use their own words and concepts. The interview guidelines developed to identify and measure:
      1. The student's development of intercultural competence and sensitivity;
      2. The creation of value from cultural diversity in new and challenging contexts;
      3. How the students approach culture-related difficulties.
The interviews were recorded and later transcribed, coded and interpreted. Although the sample used is not statistically relevant, it significantly contributes to the understanding of how individuals are affected by external circumstances and adjust their behaviour before they reach a greater awareness and enjoyment of cultural diversity. Thus, this study assesses the development of intercultural sensitivity during different phases of the course, based on the development model of intercultural sensitivity (DMIS) theorized by Bennett (1986, 1993).

FINDINGS

During the interviews, students from batch 1 expressed strong emotions and vivid memories when talking about their experiences abroad; this can be attributed to the fact that the interviews were conducted shortly after the end of the period in India when the memory of experiences was still very recent. In addition, Whalen (2009) noted that the experiences abroad have a particularly strong impact on student's emotional state. When describing their arrival in India, (non-Indian) students reported a sense of confusion, remembering the traffic, the chaos, new smells and the vivid colours. It is pertinent to that students from batch 1 had started the India term with an enthusiastic and optimistic attitude, but later had experienced difficulties in adjusting. They struggled with adapting to the new environment; for example, lower levels of cleanliness in the campus' accommodation, the quality of the food served in the cafeteria on

campus was defined poor in comparison to the Italian students' standards. Thus, at the beginning of the period in India, most of the non-Indian students were in a state of denial and showed a strongly ethnocentric orientation where "one's own culture is central to reality" (Bennett, 1993).

After various interventions from the coach, the program director and coordinator they slowly began to perceive and understand cultural differences in more observable areas of human behaviour (e.g. clothing, food, music, art, dance), and then to move to more subtle arenas (e.g. nonverbal behaviour, customs, dos and taboos). By the 2nd month of their stay in India, the students had moved toward the Minimization stage. Minimization is not monocultural in its capability, yet it is also not fully intercultural in its recognition of deeper patterns of cultural difference and the ability to appropriately respond to these differences (Bennett, 2004; Hammer, 2009).

In comparison with the Italian students, Mexican and Brazilian students had a relatively positive experience in "breaking the ice" with the new context; they started from the point of Minimization and experienced a certain degree of success in relating with peers in India and navigating their way through unfamiliar cultural practices. These students were able to identify commonalities, which helped to align better with the host country. At the same time they were very conscious of cultural differences. With support and inputs from the coach and the staff they were better able to appreciate diversity and were drawn upon to bridge different cultural practices.

Towards the end of the 3rd month, most students reflected a more acceptance-oriented mindset; they made local friends and showed a strong curiosity about different culture. However, they reported having encountered some difficulties in adopting an appropriate behaviour when confronted with cultural differences with their peers and the teaching staff. To sum up, all the students from batch 1 reduced their ethnocentric tendencies.

In comparison with the first cohort, the initial experience in India was perceived as less difficult by the students of the 2nd cohort. They reported that they struggled initially to adjust to the new environment because of their needs and habits (e.g. it was difficult to initially adjust to the food) but coped easily to the situation. All students considered the host country (both in the case of Italy and India) generally very hospitable and did not particularly encountered problems in living abroad, except for the initial feeling of estrangement. The difference between the 1st batch and 2nd batch students can be explained by considering that the students from the first edition had had little interaction with other cultural groups before starting the Master and were therefore more inclined to use stereotypes and generalizations toward the *other*. Although students from the second edition faced some challenges in dealing with culturally sensitive issues with teachers and other groups, they generally achieved a greater awareness of their difficulties after concluding the India term:

> *When dealing with businessmen and the professors, I think I should have phrased sentences in a less direct way and paid more attention to cultural aspects such as talking about religion in a sensitive way or criticizing how they work* (Student, private conversation, May 2016).

Interviewees reported that some unexpected positive events contributed to change some of their biases and prejudices - related to an initial more ethnocentric attitude. A respondent shared that she completely changed her negative opinion about the hygienic conditions and quality of Indian hospitals the morning she was forced to go to the hospital in the city of Bangalore due to a sudden eye pain. Although the idea was "frightening" the student was positively surprised:

> *I was really surprised to find out that hospitals are almost better than here. It was a good experience, they kept me only a couple of hours* (Student, private conversation, May 2016).

This shows how small episodes can permanently shape one's perceptions and ideas about a relatively unknown context, culture or person.

Students were asked to define the concept of culture and intercultural competence: all of them were able to provide articulated definitions. As previously said, during the period in Italy students followed a course of intercultural communication for business. In the course, culture was described as "the mutual creation of meaning" and was addressed as a strategic element to create added value from cultural diversity.

Nonetheless the interviews conducted with the students from batch 2 highlighted a gap between theory and practice: respondents said they encountered significant difficulties during the teamwork and attributed these difficulties to cultural issues. Students from batch 2 had more difficulties in the interpersonal area compared to students from batch 1. Some of the respondents even spoke about "cultural incompatibility" referring exclusively at the professional level: "working together was really mentally draining". For example, different ideas of what working together means lead to many misunderstandings and tensions in the class.

> *I think that in a multi-cultural class is very difficult to understand each other, you have a lot of pressure on you because you have to make people understand your point of view without offending them* (Student, private conversation, May 2016).

In light of the said difficulties, which were mostly related to group-work assignments that constitutes a fundamental feature of the program, we asked students what they thought the problem was and what were the possible solutions.

Two of the students reported that the intercultural communications course had not trained them to solve culture related interpersonal issues. However, the course laid the foundation for more sophisticated and nuanced reflections on cultural issues, proving the idea that experience is effective only when supported by intercultural education. The differences in language, food, customs and practices that elicited an initial feeling of discomfort and inadequacy, later became positive markers of a new experience. A student highlighted how important is to be aware of the processes involved in the development of intercultural communication because this awareness allows one to recognize some mechanisms and patterns that help dealing with disfunctional environment.

The Italy and India terms, although perceived as challenging (mainly because of group dynamics), were both described in positive terms by the respondents. After about a month, the students from batch 2 had shifted from acceptance to adaptation: such stage entails the ability to identify how culture affects a wide range of human experience and the use of a framework for organizing observations of cultural difference. In other word, they acquired the ability to adopt different behavioural patterns. 80% of the respondents reported constructive reflections about their cross-cultural interactions, describing diversity as a factor that can increase mutual interests and add value to an international group. In this view, differences become interesting and stimulating. Two respondents noticed that Indian society seems to be characterized by a more collective dimension in comparison to the individualistic dimension of the Western model.

Overall, there are more positive occurrences in the interviews than negative ones: the experiences described focusing more on the hospitality of the host country and the locals rather than on the challenges encountered when working together as a group. This indicates a positive inclination and the willingness to highlight the constructive aspects of the experience. Consequently, communication emerged as a key tool: you have to make yourself understood, and this can be done effectively only by really taking into account the other person's values system.

> *Trying to shape them and compete fiercely within the group is just pointless and stressful. Instead, we must think forward and show the best of what we are, this impressions will be for life not just for a project* (Student, private conversation, May 2016).

We believe it is important to highlight that an intercultural group studying together becomes an interconnected system and that communication and openness are the key features binding the group together. Our analysis reveals that the MAIB students had acquired the awareness of being part of an interconnected system.

> *I believe it's essential for everyone to understand that we are connected, we are interdependent on one another, not just at a personal level. If we want to understand globalization we must know what is behind it, and there are a number of countries, people, and cultures with different attributes, all of them valuable for our lives in an indirect way* (Student, private conversation, May 2016).

CONCLUSIONS

In light of the global environment of the twenty-first century, Universities increasingly foster opportunities promote intercultural competence among students, irrespective of whether these students travel outside their home city, region, or country (Levin, 2002; Otten, 2003; Raby, 1996). Of particular note are increasing demographic changes in the world that make international and intercultural competence essential for our students.

The paper provided a scope for understanding and envisioning the need and scope for the study abroad programs. First, the assessment of student learning that result from the MAIB program provides useful insights for the Universities. Second, the same could enhance awareness of the educational value of study abroad with the aim of showing how it promotes acquisition of intercultural competence in students.

One of the desired outcomes of MAIB, as an international Master program, is to foster an intercultural mind-set amongst the students. Intercultural competence is a key goal of internationalization because it indicates awareness and understanding of culturally diverse others and situations, as well as the presence of behaviours that promote productive and effective communication among and across cultures.

This paper has explored how the MAIB – joint Master program has enhanced the efforts towards internationalization of education, focusing on development of intercultural competence amongst the MAIB students. Through our experience with the MAIB program, working with students and faculty, we would like to expand the scope of our research by administering the Intercultural Development Inventory (IDI), which has its theoretical basis in DMIS. It is a fifty-item instrument that measures an individual's worldview toward cultural difference. The same shall render the measurement of intercultural competence more scientific and accurate. Since the research is focused on intercultural learning across the Italy and India terms, we shall be sharing the final findings at the end of the Master program after the students have experienced also the Canada term. Nonetheless, current research has shown that MAIB Master program has positively affected student learning and development of students' intercultural competence.

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BUILDING BRIDGES: ENABLING INTERCULTURAL COMPETENCES WITHIN DOUBLE DEGREE PROGRAMS

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ABSTRACT
In today's globalised world intercultural competences (IC) are central in increasing understanding and improving relations across cultures. Institutions of Higher Education (HE) face a great challenge in having to prepare students to live and work in the global arena and yet, little knowledge exists about which measures can foster intercultural competences. Literature suggests that studying abroad is not sufficient and that the development of students' intercultural sensitivity should be better supported and organized. Thus, we have focused our attention on double degree programs, with particular reference to two issues: (1) how do students enrolled in double-degree programs develop IC? (2) How should double degree programs be structured in order to facilitate the development of IC? Building on our previous research, this paper aims to assess the development of students along the intercultural sensitivity continuum of the Bennett's Developmental Model of intercultural sensitivity (DMIS) (Bennett 1986, 1993) at different stages of the educational path of the MAIB programme. MAIB (Master in International Business Development) is a joint double credential Master's program designed by University of Milano-Bicocca in partnership with Alliance University, India and Centennial College, Canada. The qualitative data have been collected through semi-structured interviews with open-ended questions and group discussions. We have expanded the scope of the previous study, including the experiences of the 2nd MAIB cohort students (academic year 2015-2016) who are currently completing the India-term.

Keywords: intercultural competence; internationalization; double degree program;
Intercultural Development Inventory (IDI).

INTRODCUTION
Globalization of the world's economic, political, technological, and environmental systems has resulted in the need for academic institutions to prepare graduates with the knowledge, skills, and abilities to work effectively in the global arena. We are facing rapid increases in students' international mobility. OECD (2014) has stressed the need for national tertiary education systems to approach internationalization as one of the key priorities and has identified "growing globalization" as one of the main trends that will affect financing to higher education. According to OECD (Education at a Glance, 2014), the number of international students at world level has increased from 0.8 million (1975) to 3 million (2005), to 4.3 million (2011). Such figure should exceed 5 million students within a few years. Within a few years, international mobility will interest 5 million individuals across the globe: a trend which brings universities to agree that the development of intercultural competences – or the "ability to communicate effectively and appropriately in intercultural situations" – is a critical skill. Furthermore, the economic crisis and budget restrictions are forcing international companies to be more demanding: companies are looking for qualified employees with international experience, at least bilinguals, and interculturally competent (Bhawuk & Brislin, 1992).

This changing landscape has called for the attention of universities to invest in study abroad programs to prepare students for their life in a globalized world. All around the world, a variety of student mobility programs have developed, which range from academic stay to language courses, internships and study trips to foreign higher education institutions, summer courses, research exchange, etc. At the EU level, various programs have been recently merged into the Erasmus Plus Project which is going to finance 14.7 billion € for the 2014-2020 period (+ 40% respect to previous budget), offering to 4 million Europeans (students, teachers, youngsters) the opportunity to study and gain professional and voluntary experience abroad (Blanco, Frascaroli & Pasolini, 2015). Beyond transferring study credits and acquiring language skills, study abroad programs provide the participants with opportunities to immerse in-depth into getting an international exposure.

Although the development of intercultural competence is continuously emphasized, it is questionable how these study-abroad programs actually contribute to the students' intercultural sensitivity; in Milton Bennett's words: "every program, no matter at what level, format, or focus continues to claim that educational cross-cultural contact contributes to intercultural competence and thus to global citizenship" (2009). In this paper we will argue that, although short-term intercultural trainings can be effective in building up cultural awareness and changing individual attitudes towards other cultures (Hammer & Martin, 1992; Pruegger & Rogers, 1994), intercultural education, intercultural competence and intercultural sensitivity development have to be conceived as a long-lasting and continuous learning process that should ideally be designed over a prolonged period (Graf, 2004).

This study originates from the idea that exposing an individual to cultural diversity is not sufficient to develop intercultural skills and is necessary to expose individuals to a continuous learning process, which elicits reflections about cultural diversity. How the development of intercultural sensitivity can be fostered and supported is an issue that needs to be further investigated. Thus, we looked at the role of double degree programs (DDP) in the development of intercultural competence with particular reference to two issues: (1) How do students enrolled in double-degree programs develop IC? (2) How should double degree programs be structured in order to facilitate the development of IC?

One of the longitudinal research studies, conducted by Vande Berg, Connor-Linton & Paige (2009) has provided significant evidence on the positive effects of teachers/trainers' pro-active interventions on intercultural learning. Taking these findings into account, it is consequently desirable to identify and apply specifically designed intervention techniques and strategies which facilitate the development of intercultural sensitivity (Anderson et al. 2006). This paper contributes to this aim by presenting MAIB - Master in International Business Development as a case in point to understand and demonstrate the holistic approach towards building intercultural sensitivity among the students. MAIB is a joint double credential Master Program between University of Milano-Bicocca, Italy, Alliance University, India and Centennial College, Canada, where students study and live in Milan, Bangalore and Toronto, across 3 different campuses in 3 global dynamic cities in the world.

1. DEVELOPING INTERCULTURAL SENSITIVITY WITHIN THE MAIB PROGRAM:

1.1. Intercultural competence: a definition

The importance of effective intercultural relations in both global and domestic contexts is well recognized (Brislin, Cushner, Cherie & Yong, 1986; Hammer, 1989, 1999a; Kealey, 1989). As Bhawuk & Brislin (1992) suggested, "To be effective in another culture, people must be interested in other cultures, be sensitive enough to notice cultural differences, and then also be willing to modify their behaviour as an indication of respect for the people of other cultures". In this paper we use the term "intercultural sensitivity" to refer to the ability to discriminate and experience relevant cultural differences, and we use the term "intercultural competence" to mean the ability to think and act in interculturally appropriate ways. We argue that greater intercultural sensitivity is associated with greater potential for exercising intercultural competence.

1.2. An innovative approach

MAIB has been designed as a comprehensive Master's program to support the development of intercultural sensitivity among the students. The program includes: an intensive orientation course at the start of the Italy term; a 40 hour course on cross-cultural communication followed by a 10 hour pre-departure preparation before leaving for India. Moreover, there are 3 intensive coaching sessions with a personal coach during the first 3 months of the program, followed by two on-line coaching sessions in each of the two remaining terms. During the Course on cross-cultural competencies, communication is defined as the "mutual creation of meaning" and explored as both a tactical issue of improving understanding and as a strategic issue of creating value from cultural diversity. Some attention is also given to how intercultural competences can be sustained at an organizational level in global organizations.

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intercultural interactions.

During the 2nd Term of the MAIB program, the students study and live at the campus of Alliance University, Bangalore, India, and experiencing *real-life* in the host country. At the start of such term, MAIB students go through a seminar on *Socio-cultural environment in India – Understanding & appreciating differences.* They are put in touch with their Indian buddies to explore campus life and connect with the Indian students. Visits are organized to Non-government/NGOs to understand the social reality. Bangalore site seeing trips and other useful historic and cultural events are also planned, in order to foster students' awareness and understanding of Indian social and cultural traditions.

As part of the courses the students take in India, direct interface with industry is planned, in order to help them understand the work environment and get an opportunity to participate in small projects, putting theory to practice. The students are encouraged to write personal reflections on the blog. Faculty has been selected based on its competence, as well as on its sensitivity, and ability to encourage and support students in their academic and social life at the campus.

As already mentioned, the students continue their interaction with their Coach through Skype meetings. The Course Director, Coordinator and the Cross-Cultural Skills Course faculty also maintain a constant interaction with the students. The India term closes with exams, results and feedback from the students and faculty. The students thereafter move to Canada for their 3rd Term at Centennial College in Toronto.

In Canada, the students study at the Centennial College campus in Toronto and follow courses offered within the IBM program. Here too an initial detailed Orientation Program is organized by the International Department of the Centennial College and seminars are organized to give an insight into the socio-economic, cultural and political environment in Canada, particularly focused on the Ontario State. Being immersed into the IBM class, the students get to interact with Centennial students (coming from a very international background) and the International department staff helps them to settle in. All along the 14 months period the students are constantly supported by the MAIB course director and the program's coordinator.

The development of intercultural competence and thereby intercultural sensitivity is a challenging aim that calls for innovative approaches of teaching and learning. Therefore, as shared above, an innovative, learner-centred pedagogical design based on Bennett's DMIS model that combines individual and co-operative learning and applies experiential and reflective learning methods has been developed and implemented in the MAIB program. These methods have been chosen based on an intensive engagement with relevant literature, among them for example Graf (2004), whose research findings suggest that an experiential orientation supports the development of intercultural competence. At the same time DMIS model of intercultural sensitivity (Bennet 1993) helps us in analysing and measuring the development of intercultural sensitivity along the continuum.

2. THEORETICAL FRAMEWORK

Research studies in such diverse areas as overseas effectiveness (e.g., Brislin, 1981; Cleveland, Mangone, & Adams, 1960; Kealey & Ruben, 1983; Landis & Brislin, 1983a-c; Landis & Bhaget, 1996), international management (e.g., Adler, 1991; Black, 1990; Black, Gregersen, & Mendenhall, 1992; Black & Mendenhall, 1990), international study abroad (e.g., Klineberg & Hull, 1979), and international transfer of technology and information (e.g., Hawes & Kealey, 1979, 1981; Kealey, 1996) have identified intercultural competence as central in increasing understanding and improving relations across cultures (Bennett, 1993a, b; Hammer, 1999b). Additional research on domestic intercultural relations (contact across forms of ethnicity, gender, age, sexual orientation, etc.) has found a similar key role for intercultural competence (e.g., Gardenswartz & Rowe, 1993).

While cross-cultural research has posited the importance of intercultural competence in both global and domestic contexts, work by Bennett (1986, 1993b) has additionally suggested the Developmental Model of Intercultural Sensitivity (DMIS), an underlying theoretical framework, useful for conceptualizing intercultural sensitivity and competence.
The DMIS model (Bennett 1986, 1993) of intercultural sensitivity proposes that individuals can be positioned along a continuum, characterized by different stages or orientations, ranging from ethnocentric perspectives towards more ethnorelative perspectives.

Fig. 1

Developmental Model of Intercultural Sensitivity (DMIS)

Cultural Sensitivity

| Denial | Defense | Minimization | Acceptance | Adaptation | Integration |

Ethnocentrism   Ethnorelativism

As figure 1 indicates, the DMIS includes six stages, ranging from an ethnocentric orientation – that views the world through one's own cultural experience – towards an ethnorelative orientation, which takes into account multiple perspectives, adding to one's own views of the world also others' cultural perspectives. Three stages are identified for both orientations: for Ethnocentrism: Denial, Defense, and Minimization. Individuals in the Denial stage are unable to discriminate between various cultural differences and often miss cultural cues that suggest an underlying cultural relevance to different behaviours and communication patterns. The three stages within ethnorelativism are Acceptance, Adaptation, and Integration of difference.

We chose DMIS as theoretical framework for several reasons. First, it is a theoretically based measure sought to assess the impact of the study abroad experience on the intercultural sensitivity of students. Second, it has undergone extensive psychometric testing and is a reliable and valid measure (Hammer, Bennett, and Wiseman, 2003). Third, an established research literature base has developed over time, illustrating its use (Paige, 2003). On the basis of its grounding in theory, its empirical reliability and validity, and the fit with our program goals, DMIS deemed a good choice for measuring students' intercultural sensitivity.

This theoretical framework has provided us the conceptual guidance in program planning for the **MAIB Master Course** in order to explore the cultural journey of our students living and studying in Milan (Italy, Europe), Bangalore (India, Asia), and Toronto (Canada, North America). Our objective is to assess the development of our students along the intercultural sensitivity continuum.

3. METHODS

This study investigates the role of double degree programs (DDP) in the development of intercultural competence with particular reference to two issues: (1) how do students enrolled in double-degree programs develop IC? (2) How should double degree programs be structured in order to facilitate the development of IC? In order to answer these questions, we base our analysis on data that was collected at the end of the India term during the first two editions of the Master: academic years 2014-2015 and 2015-2016. The respondents from the MAIB second edition (2015-2016) are six: 4 females and 2 male from different nationalities (India, Italy, Jamaica, Russia, Romania, Mexico). The new data have been integrated with data which was collected in a previous research and presented at the annual international interdisciplinary conference (AIIC 2015) in Portugal. In the previous study we discussed how the 1st MAIB cohort had approached intercultural learning during the Italy and India terms.

What emerged was that the MAIB program had a positive impact on the development of the students' intercultural competence. The data were collected through qualitative interviews with nine students (3 to 6 person and on Skype) and focus groups. The interviewees were students from Italy, Mexico, Brazil, China and the United States at the end of their period in India in April 2015. In the first study, preliminary and follow-up

interviews were conducted at the beginning and the end of the period in India. Particular attention was given to the subjective experiences and re-elaborations of the students.

In order to gain a better understanding of the perspectives and perceptions of individuals exposed to cultural diversity we chose a mainly qualitative approach. The aim of the current study is to understand the main factors contributing (or hindering) the development of inter-cultural sensitivity among students and expand the scope of our previous research using a comparative approach. Data were collected through semi-structured qualitative interviews and open-ended questionnaires conducted in person or on Skype. Such an approach seemed more flexible as it allowed respondents to use their own words and concepts. The interview guidelines developed to identify and measure:
1. The student's development of intercultural competence and sensitivity;
2. The creation of value from cultural diversity in new and challenging contexts;
3. How the students approach culture-related difficulties.

The interviews were recorded and later transcribed, coded and interpreted. Although the sample used is not statistically relevant, it significantly contributes to the understanding of how individuals are affected by external circumstances and adjust their behaviour before they reach a greater awareness and enjoyment of cultural diversity. Thus, this study assesses the development of intercultural sensitivity during different phases of the course, based on the development model of intercultural sensitivity (DMIS) theorized by Bennett (1986, 1993).

4. FINDINGS

During the interviews, students from batch 1 expressed strong emotions and vivid memories when talking about their experiences abroad; this can be attributed to the fact that the interviews were conducted shortly after the end of the period in India when the memory of experiences was still very recent. In addition, Whalen (2009) noted that the experiences abroad have a particularly strong impact on student's emotional state. When describing their arrival in India, (non-Indian) students reported a sense of confusion, remembering the traffic, the chaos, new smells and the vivid colours. It is pertinent to that students from batch 1 had started the India term with an enthusiastic and optimistic attitude, but later had experienced difficulties in adjusting. They struggled with adapting to the new environment; for example, lower levels of cleanliness in the campus' accommodation, the quality of the food served in the cafeteria on campus was defined poor in comparison to the Italian students' standards. Thus, at the beginning of the period in India, most of the non-Indian students were in a state of denial and showed a strongly ethnocentric orientation where "one's own culture is central to reality" (Bennett, 1993).

After various interventions from the coach, the program director and coordinator they slowly began to perceive and understand cultural differences in more observable areas of human behaviour (e.g. clothing, food, music, art, dance), and then to move to more subtle arenas (e.g. nonverbal behaviour, customs, dos and taboos). By the 2nd month of their stay in India, the students had moved toward the Minimization stage. Minimization is not monocultural in its capability, yet it is also not fully intercultural in its recognition of deeper patterns of cultural difference and the ability to appropriately respond to these differences (Bennett, 2004; Hammer, 2009)

In comparison with the Italian students, Mexican and Brazilian students had a relatively positive experience in "breaking the ice" with the new context; they started from the point of Minimization and experienced a certain degree of success in relating with peers in India and navigating their way through unfamiliar cultural practices. These students were able to identify commonalities, which helped to align better with the host country. At the same time they were very conscious of cultural differences. With support and inputs from the coach and the staff they were better able to appreciate diversity and were drawn upon to bridge different cultural practices.

Towards the end of the 3rd month, most students reflected a more acceptance-oriented mindset; they made local friends and showed a strong curiosity about different culture. However, they reported having encountered some difficulties in adopting an appropriate behaviour when confronted with cultural differences with their peers and the teaching staff. To sum up, all the students from batch 1 reduced their ethnocentric tendencies.

In comparison with the first cohort, the initial experience in India was perceived as less difficult by the students of the 2nd cohort. They reported that they struggled initially to adjust to the new environment because of their needs and habits (e.g. it was difficult to initially adjust to the food) but coped easily to the situation. All students considered the host country (both in the case of Italy and India) generally very hospitable and did not particularly encountered problems in living abroad, except for the initial feeling of estrangement. The difference between the 1st batch and 2nd batch students can be explained by considering that the students from the first edition had had little interaction with other cultural groups before starting the Master and were therefore more inclined to use stereotypes and generalizations toward the *other*. Although students from the

second edition faced some challenges in dealing with culturally sensitive issues with teachers and other groups, they generally achieved a greater awareness of their difficulties after concluding the India term:

> When dealing with businessmen and the professors, I think I should have phrased sentences in a less direct way and paid more attention to cultural aspects such as talking about religion in a sensitive way or criticizing how they work (Student, private conversation, May 2016).

Interviewees reported that some unexpected positive events contributed to change some of their biases and prejudices - related to an initial more ethnocentric attitude. A respondent shared that she completely changed her negative opinion about the hygienic conditions and quality of Indian hospitals the morning she was forced to go to the hospital in the city of Bangalore due to a sudden eye pain. Although the idea was "frightening" the student was positively surprised:

> I was really surprised to find out that hospitals are almost better than here. It was a good experience, they kept me only a couple of hours (Student, private conversation, May 2016).

This shows how small episodes can permanently shape one's perceptions and ideas about a relatively unknown context, culture or person.

Students were asked to define the concept of culture and intercultural competence: all of them were able to provide articulated definitions. As previously said, during the period in Italy students followed a course of intercultural communication for business. In the course, culture was described as "the mutual creation of meaning" and was addressed as a strategic element to create added value from cultural diversity.

Nonetheless the interviews conducted with the students from batch 2 highlighted a gap between theory and practice: respondents said they encountered significant difficulties during the teamwork and attributed these difficulties to cultural issues. Students from batch 2 had more difficulties in the interpersonal area compared to students from batch 1. Some of the respondents even spoke about "cultural incompatibility" referring exclusively at the professional level: "working together was really mentally draining". For example, different ideas of what working together means lead to many misunderstandings and tensions in the class.

> I think that in a multi-cultural class is very difficult to understand each other, you have a lot of pressure on you because you have to make people understand your point of view without offending them (Student, private conversation, May 2016).

In light of the said difficulties which was mostly related to group-work assignments and that constitutes a fundamental feature of the program, we asked students what they thought the problem was and what were the possible solutions. Two of the students reported that the intercultural communications course had not trained them to solve culture related interpersonal issues. However, the course laid the foundation for more sophisticated and nuanced reflections on cultural issues, proving the idea that experience is effective only when supported by intercultural education. The differences in language, food, customs and practices that elicited an initial feeling of discomfort and inadequacy, later became positive markers of a new experience. A student highlighted how important is to be aware of the processes involved in the development of intercultural communication because this awareness allows one to recognize some mechanisms and patterns that help dealing with disfunctional environment.

The Italy and India terms, although perceived as challenging (mainly because of group dynamics), were both described in positive terms by the respondents. After about a month, the students from batch 2 had shifted from acceptance to adaptation: such stage entails the ability to identify how culture affects a wide range of human experience and the use of a framework for organizing observations of cultural difference. In other word, they acquired the ability to adopt different behavioural patterns. 80% of the respondents reported constructive reflections about their cross-cultural interactions, describing diversity as a factor that can increase mutual interests and add value to an international group. In this view, differences become interesting and stimulating. Two respondents noticed that Indian society seems to be characterized by a more collective dimension in comparison to the individualistic dimension of the Western model.

Overall, there are more positive occurrences in the interviews than negative ones: the experiences described focusing more on the hospitality of the host country and the locals rather than on the challenges encountered when working together as a group. This indicates a positive inclination and the willingness to highlight the constructive aspects of the experience. Consequently, communication emerged as a key tool: you have to make yourself understood, and this can be done effectively only by really taking into account the other person's values system.

> Trying to shape them and compete fiercely within the group is just pointless and stressful. Instead, we must think forward and show the best of what we are, this impressions will be for life not just for a project (Student, private conversation, May 2016).

We believe it is important to highlight that an intercultural group studying together becomes an interconnected

system and that communication and openness are the key features binding the group together. Our analysis reveals that the MAIB students had acquired the awareness of being part of an interconnected system.

> *I believe it's essential for everyone to understand that we are connected, we are interdependent on one another, not just at a personal level. If we want to understand globalization we must know what is behind it, and there are a number of countries, people, and cultures with different attributes, all of them valuable for our lives in an indirect way* (Student, private conversation, May 2016).

CONCLUSIONS

In light of the global environment of the twenty-first century, Universities increasingly foster opportunities promote intercultural competence among students, irrespective of whether these students travel outside their home city, region, or country (Levin, 2002; Otten, 2003; Raby, 1996). Of particular note are increasing demographic changes in the world that make international and intercultural competence essential for our students.

The paper provided a scope for understanding and envisioning the need and scope for the study abroad programs. First, the assessment of student learning that result from the MAIB program provides useful insights for the Universities. Second, the same could enhance awareness of the educational value of study abroad with the aim of showing how it promotes acquisition of intercultural competence in students.

One of the desired outcomes of MAIB, as an international Master program, is to foster an intercultural mind-set amongst the students. Intercultural competence is a key goal of internationalization because it indicates awareness and understanding of culturally diverse others and situations, as well as the presence of behaviours that promote productive and effective communication among and across cultures.
This paper has explored how the MAIB – joint Master program has enhanced the efforts towards internationalization of education, focusing on development of intercultural competence amongst the MAIB students.

Through our experience with the MAIB program, working with students and faculty, we would like to expand the scope of our research by administering the Intercultural Development Inventory (IDI), which has its theoretical basis in DMIS. It is a fifty-item instrument that measures an individual's worldview toward cultural difference. The same shall render the measurement of intercultural competence more scientific and accurate. Since the research is focused on intercultural learning across the Italy and India terms, we shall be sharing the final findings at the end of the Master program after the students have experienced also the Canada term. Nonetheless, current research has shown that MAIB Master program has positively affected student learning and development of students' intercultural competence.

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CHALLENGE LEARNING STRATEGIES FOR BUSINESS STATISTICS

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ABSTRACT

Teaching and learning business statistics is an essential core requirement for most undergraduate and graduate business programs.   Most students encounter difficulties in their statistical education. It is a challenge to teach and learn business statistics with interesting and enjoyment. The rapid change and integration of technology innovation was used to encourage and support in teaching and learning statistics particularly. Mobile learning is the new learning environment using wireless transmission and mobile devices. Moreover, mobile learning allows students to have more control over their own learning, to think analytically as well as critically and to construct their own learning through technology. The research aims to develop learning strategies in business statistics on mobile devices. The materials were thirty statistical glossaries consisted of meaning, formulae, examples and usage in business statistics. The quantity approach was use to determine the quality of learning media from sixty volunteers were random selected from undergraduates who interested in business statistics. This paper will discuss the results obtained and the evaluation on quality and usage of media. It is revealed that the quality and usage of media is on effective level. This investigation will be the challenges and opportunities for learning business statistics.

INTRODUCTION

Business competition is tougher than formerly, it forces the firm's role to use more information and forecasts in decision-making. In addition, the business environment is changing with increasing complexity. Makridakis et al. (1983) noted that various factors (e.g. complexity of organizations, demand and technology change, more systematic decision-making, etc.) which have caused the increasing forecasting needs for organizations.

Business statistics education has become a more important concern in the information age. Much of the information in the world around us is determined mathematically by using statistics. Correct statistical usage provides not only any trends in what has happened in the past, but also predicts what may happen in the future. Therefore, business statistics courses are important and compulsory at the higher education level in business both for undergraduate and graduate students. Moreover, business statistics continues to equip students with the technical and logical skills in problem solving. As Giesbrecht (1996) pointed out, almost every discipline, the ability to understand, interpret, and critically evaluate research findings are becoming an essential core skill. In addition, Buche and Glover (1988) agreed that college students interested in becoming practitioners need to be able to comprehend, appreciate, and apply research.

Business statistics concepts are complex, abstract and difficulties in computational. Problems with business statistics learning are universal. Most students in developed and developing countries encounter difficulties in their Statistics Education. Students can be very effective at it and others simply shy away from it. The evidence from a variety of sources makes it clear that many students are not learning the business statistics they need or are expected to learn. The reasons for this phenomenon are related to the way business statistics is taught. The approach of this study is to enhance learning sources in Business Statistics by using challenge learning strategies to those traditionally adopted for teaching business statistics course.

The growth of the Internet has impacted on virtually every aspect of society. Online learning is becoming a favored training option in industry, government, and higher education. Mobile Learning technologies offer teachers and students in a more flexible approach to teaching and learning. CDW-G (2010) pointed that students use the technologies such as mobile devices, blog, and podcasts in their lives and are largely absent from the classroom. Yilmaz (1996) believed that the methods of teaching statistics are not effective. Even though there are a various websites dedicated to interactive learning of statistics with a lot of free download interactive statistical program. Maridakis and Winker (1984) also indicated that Interactive Statistical Programs is a comprehensive system for learning and teaching purpose. Educators should employ mobile technologies to deliver knowledge according to students' lifestyle and provide more online learning for supporting the creation of student communities of interest and disseminates information associated to the academic life. Gikas and Grant

(2013) indicated that the advantages of mobile devices for student learning are 1) accessing information quickly, 2) communication and content collaboration, 3) variety of ways to learn, and 4) situated learning. In addition, Greenhow (2011) summarized that using social media tools in learning promotes a more student-centred course. It caused that mobile learning has become a new educational paradigm of learning via mobile technology. Moreover, teaching and learning can be carried out at anyone, anytime and anywhere. This study aims to develop challenge strategies learning in business statistics course by using mobile learning.

THE STUDY
The business statistics on mobile device was developed by using C++ Builder 2009 enhanced by R-program for applying applications and managing database system by Microsoft Access. The learning media of business statistics procedure is following steps: 1) collect the statistical analysis in business statistics by applying R-program 2) design Database 3) establishes database and application 4) implementation and 5) evaluation.
The appropriateness assessment of the business statistics learning material contained 3 aspects: Content and presentation (5 items), Font and color (5 items), and Technical media production (7 items). A 5-point Likert scale was used. The options are 5-Very effective, 4-Effective, 3-Average, 2-Ineffective, and 1-Very ineffective.

This study has been carried out at Suan Sunandha Rajabhat University (SSRU) involving 1) six experts in business statistics and computer technologies 2) sixty volunteer students were randomly selected including both genders, 19-21 yrs-of-age and students interested in business statistics. They were assigned invited to practice with the learning media.

The quantitative approach was used to investigate the evaluation survey on business statistics learning sources by 6 experts and 60 students' opinion in using mobile learning sources. The quality classification level of learning media is defined as shown in Table 1.

Table 1. Rating of quality evaluation

Mean	Quality Classification.
4.50 - 5.00	Very effective
3.50 - 4.49	Effective
2.50 - 3.49	Average
1.50 - 2.49	Ineffective
1.00 - 1.49	Very ineffective

FINDINGS
In assessing the descriptive statistics concerning quality of learning resource for business statistics on mobile devices, the study discovered that the experts' opinion were effective level in font and color and average level in content and presentation, and technical media production. In addition, the overall evaluation was average (mean = 3.34) by the highest average opinions were color of text and color of background. The result was shown as Table 2.

Table 2 Quality of Business statistics learning resource according to Experts' opinions

Items	$\overline{x}$	S.D.	Assessment
I. Content and Presentation	**3.29**	**0.45**	**Average**
1.1 Clarity in describing the content	3.50	0.55	Effective
1.2 Sequence of content	3.17	0.98	Average
1.3 Accuracy of content	3.17	0.41	Average
1.4 Appropriate in style and presentation	3.17	0.41	Average
1.5 Appropriateness of the content presented in each episode	3.50	0.55	Effective
II. Font and Color	**3.50**	**0.55**	**Effective**
2.1 Format of font used	3.33	0.52	Average
2.2 Clarity of text	3.50	0.55	Effective
2.3 Color of text	3.67	0.82	Effective
2.4 Color of Background	3.67	1.03	Effective
2.5 Overall color of screen	3.33	1.03	Average
III. Technical media production	**3.28**	**0.52**	**Average**
3.1 Screen overall design	3.33	0.52	Average

Items	$\overline{x}$	S.D.	Assessment
3.2 Appropriateness of the size of the command button	3.17	1.17	Average
3.3 Speed and accuracy of searching information	3.17	0.41	Average
3.4 Availability of the input to the calculation.	3.33	0.81	Average
3.5 Speed and accuracy of the Statistical data analysis	3.33	0.52	Average
3.6 Flexibility in use	3.33	0.52	Average
3.7 Suitability of the operating instructions	3.33	0.52	Average
Total	**3.34**	**0.43**	**Average**

The study discovered that the students' opinions were effective in overall and each factors: 1) content and presentation 2) font and color, and 3) technical media production except in item 3.7, the research result was shown as Table 3.

Table 3 Quality of Business statistics learning resource according to Students' opinions

Items	$\overline{x}$	S.D.	Assessment
I. Content and Presentation	**3.78**	**0.54**	**Effective**
1.1 Clarity in describing the content	3.83	0.81	Effective
1.2 Sequence of content	3.67	0.98	Effective
1.3 Accuracy of content	4.00	0.63	Effective
1.4 Appropriate in style and presentation	3.83	0.40	Effective
1.5Appropriateness of the content presented in each episode	3.67	0.51	Effective
II. Font and Color	**4.02**	**0.76**	**Effective**
2.1 Format of font used	4.00	0.63	Effective
2.2 Clarity of text	4.17	0.89	Effective
2.3 Color of text	4.00	0.75	Effective
2.4 Color of Background	4.00	0.89	Effective
2.5 Overall color of screen	4.00	0.89	Effective
III. Technical media production	**3.78**	**0.54**	**Effective**
3.1 Screen overall design	3.67	0.51	Effective
3.2 Appropriateness of the size of the command button	3.83	0.40	Effective
3.3 Speed and accuracy of searching information	4.33	0.51	Effective
3.4 Availability of the input to the calculation.	3.83	0.75	Effective
3.5 Speed and accuracy of the Statistical data analysis	4.00	0.98	Effective
3.6 Flexibility in use	3.83	0.63	Effective
3.7 Suitability of the operating instructions	2.50	1.64	Average
Total	**3.84**	**0.49**	**Effective**

From Table 3, the highest average of students' opinion was 4.33 in speed and accuracy of the statistical analysis and the lowest average was 2.50 in suitability of the operating instructions.

CONCLUSIONS
The assessment of the development of business statistics learning strategies on mobile devices indicated that the educational media via mobile technologies achieved an effective level based on students who interested in business statistics. The research finding affirms and realizes as UNESCO pointed that in the twenty-first century, computers are viewed as a crucial component to learning, but mobile technologies will undoubtedly become more integrated and commonplace in both formal and informal education (Shuler, et al., 2013).

This study was intended to be enhancing teachers and students in learning business statistics by using mobile technology. It would be beneficial to those looking for alternative strategies in teaching and learning business statistics for students in Thailand. For the further investigation, it should be expanded more effective and more business statistics technique.

ACKNOWLEDGEMENTS

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CHANGING SHOPPING METHODS IN TECHNOLOGY ERA: A STUDY OF 'DIESRE.COM' WEB SITE FROM TURKEY

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Internet's getting more and more wide spread and being able to easily accessing to it any time and in anywhere using different devices have caused a lot of habits to change by time. Among today's most common behaviours are reading newspapers on the internet, making doctor appointments or buying plane tickets online, watching a soap opera that one could not watch when aired on TV again on the internet. Let alone every aspect of life, this process has also affected methods of shopping habits. Many people prefer shopping on the internet both to save time and choose from wide range of services. The number of the online shopping sites selling clothes increase in Turkey as well as in the world. These sites vary from a chother considering the services they offer (textile, cosmetics, sports equipment etc.) and client profiles (for women, men or the young etc). In addition, there is a client group who determine their clothing preference staking the irreligious vulnerability into account. 'www.diesre.com' differ from the others in this sector in terms of providing services mainly aimed at this specific group. In this study it is aimed at examining this website offering services for 'head-covered' women (tesettür), interviewing with the marketing communication director of the website.
Keywords: B2C, virtual marketing, head- covered outfits

TEKNOLOJİ ÇAĞINDA DEĞİŞEN ALIŞVERİŞ YÖNTEMLERİ: TÜRKİYE'DEN 'DİESRE.COM' WEB SİTESİNİN İNCELENMESİ

Internetin gün geçtikçe yaygınlaşması, her zaman, her yerden ve birçok farklı cihaz ile kolay ulaşım imkanı zaman içinde birçok alışkanlığın dönüşüme yol açmıştır. Günümüzde hızla yaygınlaşan davranışlar arasında; gazeteyi internetten okumak, doktor randevusunu internetten almak, uçak biletini internetten satın almak, kaçırdığımız diziyi internetten izlemek vb. sıralanabilecektir. Bu süreç her alanda olduğu gibi alışveriş alışkanlıklarında da yöntemin değişimine neden olmuştur. Çoğu kişi hem vakitten kazanmak hem de sunulan hizmetlerin oldukça geniş bir yelpazeyi kapsıyor olması nedeniyle internet üzerinden alışveriş yapmayı tercih etmektedir. Türkiye'de de dünyada olduğu gibi web üzerinden giyim alanında hizmet veren alışveriş siteleri gün geçtikçe çoğalmaktadır. Bu web sitelerinin sundukları hizmetler (tekstil, kozmetik, spor malzemesi vb.) ve müşteri profilleri (kadına, erkeğe, gençlere vb.) nedeniyle farklılaştıkları görülmektedir. Bununla birlikte, Türkiye'de dini hassasiyetleri nedeniyle giysi seçiminde bu hassasiyetler doğrultusunda hareket eden bir müşteri grubu bulunmaktadır. 'www.diesre.com' bu müşteri grubuna odaklanarak verdiği hizmet ile sektörde farklı bir yere sahip bulunmaktadır. Çalışmada, Türkiye'de özel bir müşteri grubuna 'tesettürlü' kadınlara yönelik hizmet veren bir web sitesinin; pazarlama iletişimi yöneticisi ile gerçekleştirilecek derinlemesine mülakat yoluyla, incelenmesi planlanmıştır.
Anahtar kelimeler: B2C, sanal pazarlama, tesettür giyim

1. Introduction

The rapid growth of the technology usage caused the reconsideration of the concepts of the marketing literature of 10 years ago. The internet usage, which is increased by the technological developments, has changed the forms of socialization and has had effects on people's everyday habits so changes on business life has become inevitable.

The extent of the 'market' concept has expanded and studies on areas such as 'e-marketing', 'e-market', 'e-commerce' on the 'consumer' focused market researches started. This process has changed the market structure, distribution channels and customer behavior.

E-commerce concept eliminated geographical limitations and enabled customers to access more information and products in less time and with less cost. Within this changing period, it is observed that customers developed tendency to buy coats they didn't touch, buy perfumes they didn't smell or buy shoes they didn't try on. Aksoy (2006a) states that the internet technology transformed the customer behavior in conventional markets. According to him, in behavioral perspective, the internet is an environment where customers are completely free unlike physical environment so the behavior norms of ordinary stores are not valid in this environment. This situation also brings up the problems of creating 'consumer' loyalty, for the same reasons.

Three areas, 'B2C, B2B. C2C', can be specified under the main title e-commerce. In all these three areas, making sure the customer visits the website again with recurrent behaviors after he/she visits the site for the first

time, covers a big area of study. The features websites are required to have and the consumer behaviors are the two important focus points.

A Hamburg based market research company 'yStats.com' (2013, 2), reports that clothes are the number one product type in terms of the sales in the worldwide e-commerce market. This report also states that more than one third of the internet users all over the world either bought or intended to buy a product of this type.

The number of internet users in Turkey is increasing every year. According to a report by TUIK (Turkish Statistical Institute), in 2014 (as of the end of September) the number of internet users in Turkey is 39.837.692. In 2013, this number was 32.613.930 and 10 years ago, in 2004, it was 1.474.590. It is clear by these data that the number of internet users in Turkey is increasing at an incredibly rapid rate. The results of another research that is conducted in Turkey are also remarkable. According to these data, in the year of 2014 the number of sales online has increased. TUIK (2014) data states that the rate of internet using individuals ordering products or services is 30.8%. The same rate was found to be 24.1% in the previous year. The same report suggests that the individuals who shops online, in the 12 month period between April 2013 and March 2014, bought 51.9% sport and clothing products, 27% household goods, 26.8% travelling tickets, car renting, etc., 24.9% electric devices, 15.9% books, newspapers, magazines. This data shows the fact that "sport and clothing products" has the highest rate of sales in the last one year in Turkey.

The websites in Turkey, like all over the world, differ from each other based on the services they provide and their customer profiles. In addition to this, it is also observed that the demand of some customer groups varies depending on their religious sensibilities. 'www.diesre.com' has a special place in the market with the service they provide to this customer group. In this study, our object is to analyze a website which provides service to a specific group in Turkey, 'veiled women', via a thorough interview with their marketing communications manager. The results of this study is considered to be important for providing the data to be analyzed with the intention of focusing on a line of business which has a specific target customer group (target group), realizing this line of business in a new market (social media) and the realization of known communication methods (B2C) in a different environment.

It should be stated that the results of this study do not provide all the necessary data on the market and this study shall be regarded as a pilot study.

2. The Development of B2C Sites and Their Characteristics

4P concept (product, place, price ve promotion) can be encountered in almost every source on marketing literature. Marketing approach who focuses on this concept caused the 'place' to be a subject in courses for years. Today we observe that the rapid growth of the internet causes changes not only on people's socialization styles but also on their consumption habits. It is clear that technological developments created virtual consumption environments. This means that we are experiencing a new environment where the power of the place, the color, the sound, the music, the staff, etc. have no effect on customer's choices as we were repeatedly told in our schools before.

Concepts such as 'Business to Customer (B2C), 'Business to Business (B2B)' and 'Customer to Customer (C2C)' are always mentioned in the context of e-commerce. The first B2B online shopping was conducted by Thomson Holidays in 198. (C.Palmer, "Using IT for competitive advantage at Thomson Holidays" by Uygur 2010, p.13). The first B2C is conducted by TESCO, which operates in Turkey as 'Kipa', in Gateshead/England. (Videotex takes Gateshead Teleshopping into the home, by Uygur 2010, p.13). 72 years old Jane Snowball who lives in Gateshead/England is the first electronic customer of the history. . (Michael Aldrich, Finding Mrs Snowball by Uygur 2010, p.13)

"… as technology improved Internet usability, acceptance grew exponentially. Early e-retailers blazing the way were "dot-coms", discrete entities unfettered by brick-and-mortar stores. Internet marketers ere viewed as part of the e-commerce world, distinct from their Old Economy brethren. However, just as Internet usage spread from Silicon Valley to Main Street, Internet marketing was absorbed into marketing's mainstream" Taylor David G., Strutton David (2010:950). It seems that B2C of which we saw examples in 1980s was brought up academically with the spread of the internet. "Academic study of the Internet follows a similar pattern. In the early 1990s, information systems (IS) articles on Internet topics began to appear in publications such as *MIS Quarterly, Information Technology and Management* and others. Studies examine technological aspects of the Internet, including user adoption, vendor attributes. Web site design, platform performance and stability" Taylor David G., Strutton David (2010:950).

Online shopping has been a matter of interest for retail corporations since 1990s. This shows us the fact that first steps towards the growth of online shopping were taken by retail corporations. "In the mid 1990's, leading marketing journals also began publishing prescient, forward-looking articles about the Internet's transformational potential as a driver or marketing activities. Among the first are Hoffman and Novak's (1996) "hypermedia computer-mediated" communication model, Alba and Lynch's (1997) work on incentives to go online and Burke's (1997) predictions about the future of online consumer marketing. A revolution is predicted in marketing thought and strategy (Sharma and Sheth, 2004). And analogies are drawn between the potential of

the Internet and the impact of the printing press and democratic governance (Dickson, 2000) " Taylor David G., Strutton David (2010:950).

It is observed that B2C websites which is one of the focuses of this study have two main type of services.

According to the B2C sites' place in the market;

1. chain store's websites
2. shopping websites where several brands make sale

According to the B2C sites' company structure;

1. **Pure Play Companies:** Companies which has no other platform to interact with their customers except for the website where they make their sales.
2. **Multi-channel Companies:** Companies which interact with their customers on various platforms.

It is known that many companies in Turkey first interacted with their customers in their stores and then they created their websites and begin e-commerce with the growth of the internet platform/market.

"Internet pure-plays, once heralded as the leaders of an economic revolution, have lately had a tough go of it. Of the 142 companies with top-ranked websites between 1996-1998, 88% were pure-plays. Just one year later, 61 % had merged of formed alliances with other pure-plays, a handful had joined forces with bricks-and-mortar companies, and 10% had gone bankrupt. This may be just the tip of the iceberg. Of 300 publicly-traded B2C pure-play companies, less than 5% are profitable today, and many are dire straits" Vishwanath and Mulvin, 25-26.   Of course this should not be seen as an ending. Successful examples may be found in alternative structures, countries and cultures.

There have been many studies over the years about the effect of physical environments on the consumption. However, today's B2C web sites are thought to cover an important area of service due to their ability to provide convenience for their customers. For instance, people who live in smaller cities might prefer online shopping because they can have access for more various products and people who live in bigger cities might prefer online shopping because it takes less of their time.

There are two more areas of e-commerce. These are B2G (business to government) and C2G (customer to government). B2G covers commercial actions such as following and managing the transactions and customs procedures between government agencies and private companies via digital platforms and using this digital platform to announce procurements. C2G is the interactions between the government and its citizens. It is also known as 'electronic government' or 'e-government'.

3. Required Characteristics of B2C Sites and Their Safety Measures

Online consumers' awareness of the site and maintaining customer's choice are important areas of works. The first step shall be to catch the attention of the visitors of the site. Design elements that make a web site effective can be classified into the following:

- Presentation elements;
- Content;
- Accessibility;
- Navigation;
- Language;
- Transaction pages; and
- Security, privacy and authority (Oppenheim and Ward, 2006, 238).

Considering the fact that the company's object is to keep the customers interested the structure of the site gains importance. "The stages at which customers lose interest can be summarized under the following headings:

- Home page;
- Product research;
- After product found;
- Shopping cart; and
- Failure to repeat purchase.

    A reason for defection which applies throughout each of these stages is:

    - Unacceptable download times." (Vishwanath and Mulvin, 30).

At this stage, it is clear that the company needs to know the customer profile well and form their website in accordance with their profiles. Your brand can be a worldwide known textile retail or it can be an organic jam that is made by a housewife in her house. Therefore, it is very important to make sure that the customer visits the site. The next step shall be to provide the customer an easy shopping means.

'Customer loyalty' is a very important matter for both retails and e-commerce. Loyalty is a more delicate and difficult matter for e-commerce. Safety is an important issue for gaining the loyalty of a customer. In electronic commerce, trust remains a critical issue because consumers face the challenge of buying online from an unfamiliar merchant a product or service that they cannot actually see or touch." Hong and Cho (2011:471).

Safety is a significant factor for customers to maintain their preference for the site. The other criteria for the loyalty of the customers are the companies' product change, payment, shipping and refund policies.

4.   B2C and Customer Relationship Management

It is observed that there is a transformation from mass marketing to individual marketing with the evolution of everyday habits. However, there is no change of the human need of belonging. Kaban Kadioglu (2014:105,106) states that the belongingness has always been an important matter for humans and humans always tried to attach themselves to the groups to satisfy that need. He also adds; groups such as family, friends, and fandom or fan groups all serve to satisfy the need of belonging.

Customer loyalty is one of the most important matters in today's commercial life. Considering the fact that it is difficult to gain customer's loyalty even when they are in your store, 'in your house', in online shopping reaching the customer and gaining their trust is fairly more difficult where there is no real contact involved.

CRM had its origins in two unrelated places. One was in the U.S. where it was driven by technology (Dowling (2002, 87-89) qtd. D.Schultz, 2000, p.11). The second place CRM developed was in B2B marketing in Scandinavia and Northern Europe. The IMP (Industrial Marketing and Purchasing) Group has been instrumental in developing our understanding about the nature and effects of building long-term, trust based relationships with customers. (Dowling (2002, 87-89 qtd.D.Ford, 1990). There are different corporate approaches in both places. The first place has an approach where the database is the base of customer relations and the second place has an approach focusing on supporting more than managing.

E-commerce is a platform where it is very difficult to manage customer relationships. Dowling (2002, 89-90) 'In B2C markets, the nature of a seller-customer relationship becomes somewhat paradoxical. The paradox is the problem of trying to form a "relation-ship" with customers while at the same time trying to make a profit by selling products and services to them'.

The fact that the customer and the seller are not able to see each other and that the problems have to be solved in a virtual platform are seen as a disadvantages in e-commerce. The first step shall be to transform the consumer to a customer by making them feel the approach towards making their relationship continue after their first purchase. Therefore, a thank you note, an exclusive recommendation or a discount coupon can lead the customer making further purchases. 'Contrary to the line of argument that long-life customers are more profitable, Graham Dowling and Mark Uncles caution that loyal customers will often be less profitable" (qtd. Dowling and Mark Uncles, 1999, 71-82, Dowling (2002, 93).' Since the loyal customer makes profit as well, extra advantages, gifts and awards also may also serve to maintain the process of creating the 'loyal customer'.

5. Changing Shopping Methods in Technology Era: A Study of 'diesre.com' web site from Turkey
5.1. The Aim of the Research

The number of shopping websites that sells clothing is increasing every day in Turkey like all over the world. These sites differ from each other based on the service they provide (textile, cosmetic, sports equipment) and their customer profiles (men, women, young). There are also some customer groups who choose their clothing in line with their religious sensibilities. 'www.diesre.com' is known for servicing this customer group. The results of this study is considered to be important for providing the data to be analyzed with the intention of focusing on a line of business which has a specific target customer group (target group), realizing this line of business in a new market (social media) the realization of known communication methods (B2C) in a different environment.

5.2. Sample and Method of the Research

E-commerce is a concept that covers a wide area of work. This study focuses on a Turkish enterprise which makes sales only through their website (B2C) and whose target is a specific customer group (veiled women).

5.3. The Data and Evaluation

The data we use in this study are collected from a detailed interview we conducted with the marketing communications manager of 'Tozlu & Diesre's B2C website 'www.diesre.com' on 19 July 2015.

The study consists of two main chapters. The first chapter is titled 'Corporate Information of the Web Site' and the object of this chapter is to explain the corporate structure of the website 'diesre.com'. The second chapter of the study is titled 'The Website's Policies for Customer Loyalty'. The challenges of today's B2C shopping websites include the competition with the retail stores and the difficulties of a virtual platform. The object of the second chapter is to ask the questions to explain what diesre.com has been doing to earn customer satisfaction and loyalty.

The study consists of 17 main questions and sub questions to these main questions. However, these 17 questions are not in order in the evaluation part. This is because some questions were answered within a part of another question during the interview. The answers to these questions are included as in the interview (not as in the question form).

We also asked the interviewee for his opinions and suggestions.

5.3.1 Results

The first data we acquired from the interview was the address of the web site. The address is 'diesre.com'.

5.3.1.1 The history of the website
It is stated that the website was started in September 2014. We also learned that the site, within their first year, got the %20 of the market share and they were able to afford the funding of their communication budget since February 2015.
It is known what e-commerce also created many jobs in Turkey. Based on the data above, it is understood that e-commerce is a line of work of which trading volume can expanse rapidly as long as the right opportunity is seized.

5.3.1.2 The content of the website (products) and the services it provides
The content of the website is defined as an online platform where clothing sales are made for conservative women.
This B2c website, which is the subject matter of this study, is considered to be significant in terms of the range of the target group of sales. The product range is strictly designed for the target customer group. This line of work represents a newly recognized market in Turkey.

5.3.1.3 Customer profile of the website and the number of registered customers
It is stated that the website has about 1 million members. The customer profile of the website is described as the following:
    a.   The average age of the visitors is 25-34,
    b.   Most of the customers are from Istanbul, Ankara and Izmir.
    c.   91% of the customers is women and the 9% is men.
It is clear that the majority of the customers of the website is women. This shows us the importance of the fact that men feel more comfortable shopping in any store they prefer whereas conservative women use more products that are designed with religious sensibilities such as clothing ('hasema', topcoat) and accessories (cap, scarf magnet, etc.).
It is also remarkable that most of the customers are from the three biggest cities in Turkey. It can be inferred this is caused by the difficulties of living in a big city (e.g. traffic, overpopulation). People prefer saving time and avoiding from the traffic by online shopping.
There are still significant number of people who still prefers to go to the stores and try on the product even though e-commerce is growing every day. Based on the data above, the average age being 25-34 confirms this common opinion.
When the website is analyzed (this kind of study is not included in this one), the first thing anyone would notice that most of the images on the site are of young women. Moreover, there is also a 'big size' section where there are images of a middle aged female model. This defines the customer profile the website aims to have.

5.3.1.4 Competitors and the position in the sector/market share
There are some other firms whose target groups are the same with the company we interviewed. 'sefamerve.com' and 'modanisa.com are two biggest competitors of the 'diesre.com'. It is stated that 'diesre.com' is the third biggest brand in their sector.
Based on the data above, it is clear that the target group of these firms is not actually wide. Therefore, it is observed that shopping habits of Turkish people is still going on the same line with the retail shopping habits in a market where the target group is bigger.

5.3.1.5 The opinion on the idea that e-market is the place for 'the people who doesn't want to deal with people'
The interviewee stated that this definition is inadequate. According to him, this is not a lack of relationship but an online version of an offline relationship so saying that there is no relationship involved would be wrong. The interviewee describes what people gain with online shopping as follows:
    1.   Time (he says it is the most precious)
    2.   The chance to see more products and more choice
    3.   Not having a salesman who might trick the customer to buy something. On the contrary, you can see thousands of people who bought the same product.
    4.   Not having to wait in line.
Based on the data we collected, today's customer –it is stated above that the majority of customers are from Istanbul, Ankara and Izmir- has a tendency to online shopping. The group of people who have these characteristics are thought to be more easily adapting to changes. It is also observed that the interviewee always sees the advantages of B2C.

5.3.1.6 The opinion on earning the loyalty of customers at e-commerce
The interviewee answered this question by saying 'too hard'. The interviewee defines e-commerce and the market as a platform where the customer can compare two products in seconds and have access to the complaints, comments, other products, and every information on the product very easily. He defines the electronic market as market where there is war not a competition. Therefore, having a good business model too keep the customers, choosing the target customers right and having a consistent marketing on that sector is crucial.

Based on the answer the interviewee gave to us, it is crucial to decide the target group first and make a good business plan. After all these stages, the next steps shall be conducting a good public relations, having a target audience based approach and planned working.

5.3.1.7 Definition of 'loyal customer' in e-commerce

According to the interviewee, the loyal customer is who shops two times and visit the site at least 15 times a month. Based on the data, the definition of loyalty has changed with the evolution of technology over the years. This approach should be considered as a unique contribution for the B2C companies.

5.3.1.8

It is understood that every month the site gets 30% more customers. Although, it is also stated that this number should not be compared with non-e-commerce sectors. The interviewee used Cohort analysis to answer. 'The percentage of loyal customers is 40%. The plan is to make this number 50%-60% by 2016.'

Based on the data, it is clear that the market 'diesre.com' is in growing rapidly even though it is a new one. The stillness in the retail market is not observed in e-commerce. 50%-60% growth signifies the potential of this market's trading volume.

5.3.1.9 Customers' reasons for loyalty

It is stated that the loyalty is earned by giving the customer their money's worth.

For the evaluation of the data, considering 4P of marketing, the correlation between the product and the price is clear. This shows the fact the keeping the product promise is as important as the communication.

5.3.1.10 Exclusive loyalty implementations for the customers

The interviewee stated that they don't have such implementations currently. However, he also stated that they are considering it and they are planning to launch a new program related to this matter.

Based on the interviewee's answer, e-commerce, which is a growing market, also requires public relations projects.

5.3.1.11 Research on the design and customer satisfaction

The interviewee informed us about a system they use to track the customer's instant reactions and mouse movements. He also stated that they are interacting with customers on their website or social media in real time. All of the customers' complaints, requests and suggestions are noted and reported. These reports leads to actions eventually.

Based on the data; every measure to detect the satisfaction of the customers (including the technical tracking) is taken. The evaluations of these tracings form the new business plan of the company.

5.13.1.12 Policies for the customers' feedback, suggestions and complaints

Call center, 'give us your feedback' button, e-mail and most importantly social media are the means through which public relations are conducted. The website was also chosen as the website which has the highest answered question rating by 'Web Arazi'.

The award and the detailed answer the interviewee gave us show us the fact that the company uses the internet to create communicate with the customers in a 'non-face-to-face' platform.

5.3.1.13 Safety measures and thoughts

The interviewee states that they are using a high standard security. He also adds that there is no difference in terms of security with the websites like ebay and aliexpress and they have taken all the necessary measures.

It is clear that the company is sensitive about the safety of their customers.

5.3.1.14 Policies about the product refunds

The interviewee states that for every product except for underwear and gowns and other personal products, they have an unconditional refund guarantee policy. The refund department pays for the costs and processes every product returned.

Product return is one of the most risky areas of e-commerce. Every company gets damaged if their return process does not managed properly. Our observation is 'diesre.com' is a successful company in that matter.

6. Discussion and Conclusion

It is an indisputable fact that the world is changing in a rapid fashion. While computers used to be a luxury office equipment in the offices in 1990s in Turkey, they are now cheap products everyone can access easily.

In line with the information technologies development, the root of economical actions are changing. The way of doing business is transforming from a face to face fashion to electronic based systems. Electronic practices are getting widely popular among governments, businesses, academies, etc.

As it is well known, 'commerce' means buying and selling of goods and services. E-commerce is basically the practice of buying and selling goods and services on an electronic platform. E-commerce, which can be seen as the last form of marketing, has been becoming more popular since the internet became a place to do business in 1990s. In addition, e-commerce's history begins in 1980s given the fact that sales via calls and TV are also a form of electronic commerce.

E-commerce is the focus of this study. The growth of e-commerce in Turkey and the forming of e-commerce that targets specific audiences are the starting points. There is a women customer group who chooses their clothing with different expectations due to their religious sensibilities. 'www.diesre.com' website which has the slogan

'Turkey's conservative brand' has an important place in this target market. In this study, we interviewed the marketing communications manager of website whose specific target audience is 'veiled women' in Turkey and we asked about their relationship with their customers and the management of their company. The target audience, shopping habits of the target audience, loyalty policies and the security process are the focuses of this interview.

The results we had from this study are:

1. 'diesre.com' has grown rapidly in a short time and expects to grow more in this market;
2. The connection between the product and the customer was built well;
3. They had a good way of tracking the customer's behaviors and they prepared new business plans based on it.
4. They are sensitive about two very important e-commerce matters which are their security and refund policies.

The connection between the website and the customer or the potential customer is very important. The concept of loyalty is crucial for this connection. Apart from the policies we discussed above, we also observed that there is an important area of study about how to develop the communication between the customer and the seller. This is also confirmed by the subject matter company of this study by their plan of a new special loyalty program.

We observe that there is not a study on the criteria required for a successful online business. We believe it would be helpful if nations did studies on sectors comparatively or together on this matter.

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CHARACTERISTICS OF COLOURS, INTERIOR DESIGN AND THEIR PSYCHOLOGICAL AND PHYSIOLOGICAL EFFECTS

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ABSTRACT

In this study, psychologists', interior architects', designers', doctors' and advertisement writers' studies and thoughts about the impact of interior design and colors were searched. For this purpose, studies national and international studies related to colors were examined and psychological and physiological impacts of colors were investigated. The most important goal of interior design is to create physical environments that address people's physical, mental, emotional and social requirements. While creating these environments, it is crucial that people are happy, peaceful, comfortable and healthy when using them. Interior art aims at achieving visual effects and functionality. In this regard, the expectation is to design places that people can feel themselves in psychological well-being. Besides the interior art, which has an important effect on human psychology, the impact of colors on emotions has attracted scientists' attention for years. For this purpose, studies have been conducted but to a limited extent. In this study, the aim was to collect the results of related studies in the area conducted by scientists in various professional fields. Thus, it was planned to present to the reader the places that people live in more happily, peacefully and healthy; and the reasons why they use certain colours at home and in business by providing examples.

INTRODUCTION

The main aim of interior design is to develop the functionality, enrich the aesthetics and consider the psychological effects of the interior space (Ertek,1994).

Baring in mind that an architectural work of art cannot exist without the existence of space, we should look at how architects define space; "space is an emptiness that separates people from their environment and allows them to do certain actions" (Hasol,1990).

According to Lang (1987), the buildings and designs that architects create have an influence on human behaviour. As such, architects and designers need to take action so that they create environments which also have psychological effects on the user.

Human beings both affect and are affected by the environment they live in. In other words, individuals can change and better their environment based on their needs and expectations. The individual, being the main element of interior design, shows variations with regards to culture or group. Actually, even within the same culture or group, there are differences among people in terms of age, gender, socio-economical status and personal characteristics. In interior design, all physiological, psychological and social needs of the user have to be met. There are some features that account for the harmony between the human being and the environment. These consist of the shape, colour, smell, texture, sound and symbolic meaning.

The concept of living space resulted from humans' need to protect themselves from life conditions and to meet their basic needs. Having fulfilled the basic necessities, people want to create a home where they can sustain their life in peace and comfort. The change from crowded families to core families has also resulted in the change of preferences towards more simple living spaces. Rather than gorgeous and luxurious spaces, peaceful, healthy and functional places are being preferred. Especially the individuals of today who are subject to a hectic and speedy work life prefer to live in organized, and simple places with minimal details and far from the chaos; places that will not put a burden on their eyes, body and soul. To meet these needs, a lot of studies and research have been conducted on interior use and interior organization. These have formed the foundations for interior architecture and interior design. In interior design, there are factors which affect the individual's peace and comfort; these include the psychological effects of light regulation, the features of the material (warm or cold), sound insulation, heat comfort and the choice of colours.

Colour is an indispensable part of interior design. Thus, studying the colours for interior and the effects of colours are of vital importance. It is similar to the way how cheerful a person feels when it is sunny; and also how unhappy a person feels on a rainy day. Colour has the energy to influence both emotions and cognitive processes (Kalia, 2013).

According to Engelbrecht (2003) and Shabha (2006), psychological reactions towards colours are the result of the changes in a person's state of emotions and attention.

Once colours are perceived and transmitted to the brain, the brain produces a hormone that affects the individual's emotional state, cognitive receptivity and level of energy (Engelbrecht, 2003).

As for Torrice, Logrippo (1989), because colour waves can be absorbed by the body, the effect of colour cannot be limited to visual perception only.

Similar results were obtained in the research conducted by Harry Wohlfarth and Catherine Sam, who studied both visually impaired and non-impaired children. The results suggest that we are affected from colours in such a way that it goes beyond the visual limits. One hypothesis claims that despite the lack of visual ability, neurotransmitters in our eyes transmit the data about light to the brain and this data enables the hypothalamus to produce a certain hormone. It is exactly this hormone that has numerous effects on our psychological state, rational clarity and energy level (Zelanski, Fisher, 2003).

TYPES OF COLOURS
The Dictionary of Turkish Language Society defines colour as "different sensations on the eye as a result of the way objects reflect or emit light". In the 17th century, famous physician and mathematician Sir Isaac Newton, carried out various experiments to prove that the rainbow is comprised of all existing colours. He darkened a room and let a thin sun light enter into the room from a tiny hole. Putting a prism in front of it, he succeeded in reflecting all seven colours on a white panel, just like it is the case with a rainbow. Newton, following this experiment, named these seven colours as the Visible Spectrum. These colours are; red, orange, yellow, green, blue, indigo and violet (Zelanski, Fisher, 2003).

In nature, there are three basic colours, which are red, yellow and blue. Accent colours are formed by mixing these three. For example, the combination of red and yellow results in orange, the combination of blue and yellow results in green, and the combination of blue and red results in purple. Colours located opposite each other on the colour spectrum are called transverse colours. These colours are blue and orange, purple and yellow, green and red.

Another categorization is based on the effects colours have on people, namely cold and warm. Warm colours are red, orange and yellow; whereas cold colours are blue, green and purple. (Artut, 2004).

Black, White and grey are neutral colours. Neutral colours are the combination of all main colours, which leads to colourlessness (Kalmık, 1964). Warm colours usually have the effect of liveliness, joy, excitement and action. Cold colours lead more to calmness, comfort and relaxation (Altınçekiç, 1994).

CHARACTERISTICS OF COLOURS, PSYCHOLOGICAL AND PHYSIOLOGICAL EFFECTS
Colours are not only used to express emotions but they are also used to activate (Zelanski, Fisher, 2003).
As Zelanski andFisher (2003) suggest, it is worldwide accepted that colours do have an impact on our emotions. While blue and green make us feel in peace, bright red, orange and yellow tend to have a stimulating effect.

RED
Psychological and Physiological Effect:
According to Martel (1995), red is the colour of passion and liveliness. It has the effects of increasing alertness, attracting attention, activation, brain stimulating, excitement, courage and power.
Chiazzari (1998) relates the red colour to liveliness, power, warmth, sensuality, assertion, anger and impatience.
Vodvarka (2008) claims that red accelerates the heart beat and respiration. Engelbrecht (2003) suggests that red increases the sense of smell and affects appetite. That's is why a lot of brands in food sector all over the world use the colour red. Coca Cola, Nestlé, KFC, Wendy's, Arby's and McDonald's are some of the most famous examples. Because of its physiological effect, items that target teenagers also use red in their logo. It is highly probable that companies such as Levi's, Ray Ban, H&M, New Balance and even Netflix use red in their logos because it creates excitement in the individual. According to a study investigating the effect of multi-coloured

lights on physiology, red waves do not only stimulate heart, circulatory system and suprarenal glands but also increase stamina and life force (Zelanski, Fisher, 2003)

Use in interior:
Red, when used in interior, can be said to cause excitement and negatively affect time perception and lead to disturbance in sleep. Thus, it explains why casinos and night clubs commonly refer to this colour. Baring in mind its psychological and physiological effects, it can be claimed that red, when used on walls or ceiling, may lead to disturbances related to time or lack of anger management on the side of the individual. On the other hand, as red is associated with warmth, an interior dominant in the red colour can be perceived as warmer than it actually is. As we all know from examples from traffic, red also has a warning effect. As such, it is reasonable to use red in interior, especially if warning is needed in floor covering and height difference.

YELLOW
Psychological and Physiological Effect
Pile (1997) states that yellow, when compared to red, is less aggressive. It is interpreted as sunny and joyful, which suggests that yellow is the happiest colour in the spectrum. Yellow is the colour of creativity (Morton, 1998). Chiazzari (1998) claims that yellow is associated with happiness, rational stimulation, optimism and fear. In addition, the colour of gold is combined with wisdom, wealth and idealism. Martel (1995) believes that yellow, among all others, is the only colour that increases the power of muscles. Zelanski, Fisher (2003) thinks that yellow light waves act as stimulants to the brain and neural system, trigger rational alertness and activate the nerves in the muscles.

Use in interior:
It would be wise to suggest that yellow would make people using the interior more active as it is associated with daylight and the colour of the sun itself and people tend to be more active during the day when compared to night time. Apart from this, an interior that looks bright will be perceived as being more spacious that it really is. Furthermore, as yellow is a warm colour and it is associated with the sun, people will perceive the place as warmer than it normally is.

GREEN
Psychological and Physiological Effect
Chiazzari (1998) relates green to harmony, relaxation, peace, silence, sincerity, honesty, contentment and generosity. According to Martel (1995), green is associated with silence, productivity, life, growth, nature, wisdom and belief. The results of a questionnaire conducted in Europe and US suggest that green is mostly associated with nature, life, health, youth, spring, hope and desire (Heller, 2009). Pile (1997) claims that green is more preferred by people who are intelligent, social, fluently speaking and fond of food. Moreover, the colour has a calming, relaxing and refreshing effect. Zelanski, Fisher (2003) state that green light waves regulate the heart and circulatory system, contribute to relaxation and cure illnesses such as hay fever and liver problems.

Use in interior:
Considering the psychological and physiological effects of green, when used in interior, it can be claimed that it will have a relaxing, calming and even refreshing effect on people who associate green with nature and nature with calmness. Thus it is logical to use green in bed rooms; for example, a place that is used for relaxation. Considering this relationship, health institutions that use green seem to have a appropriate approach to their choice.

BLUE
Psychological and Physiological Effect
As for Chiazzari (1998), blue is associated with tranquility, width, spaciousness, hope, belief, flexibility, faith and acceptance. Dark blue is related to seriousness and thinking broadly (Martel, 1995). Studies conducted in Europe and US suggest that blue is mostly associated with harmony, loyalty, trust, distance, eternity, imagination, coldness and sometimes sadness. In a poll done in Europe and US, half of both male and female participants chose blue as their favourite colour, making it the most popular colour (Heller, 2009).

Verghese (2001) states that blue is a tranquilizing, relaxing and comforting colour. Zelanski, Fisher (2003) claims that blue light waves affect thyroid glands and throat in a refreshing and calming way, and lower blood pressure. Deep blue reduces pain. Bluish green light, on the other hand, lessens infections, calms down nervous breakdown and regulates weaknesses in the immune system. Hepatitis seen in premature birth is also cured with exposure to blue light (Zelanski, Fisher, 2003).

Use in interior:
Blue is the colour that people are used to seeing around them quite frequently during the day; may be they are not aware of it but it is the most frequent colour. For people who associate blue with the eternity of the sky, its use in interior will give the impression of spaciousness in the place. As the association comes from the colour of sky, this effect can be created when used on the walls and ceiling, rather than floor covering.

When the psychological and physiological effects of blue are considered, it can be said that interior which is dominant in blue would give its user a much more calming and relaxing effect when compared to the colour of red. It is well-known that blue is considered a cold colour and as such, is associated with coldness. Likewise, the effect that it will give its user is that of coldness in. It is likely that the user will perceive the place as colder than it actually is.

ORANGE
Psychological and Physiological Effect
According to Chiazzari (1998) orange is related to joy, security, creativity, stimulation and activation. In a study conducted in Europe and US by Heller (2009), orange is mostly associated with entertainment, being extraordinary, extrovertness, warmth, fire, action, danger, taste-aroma and autumn. Seybert (2007) believes that orange implies happiness, and increases courage, attention and the amount of oxygen that reaches the brain.
Martel (1995) states that orange,which is the symbol of balanced power, intuition and pure happiness, spreads optimism. Zelanski, Fisher (2003) claims that orange light waves have a positive effect on the Solar plexus (the neural network in the abdominal cavity), the immune system, the lungs, the pancreas and the digestive system.

Use in interior:
As orange is the result of the combination of yellow and red, its effects in interior is also a combination of the two. Taking the stimulant influence of red and the optimism of yellow, it can be said that orange will create an atmosphere of curiosity and restlessness. Another feature similar to yellow is that it will make the place look brighter when used on the walls and ceiling. As with the colour red, when used in interior, orange will have the effect of stimulation. As a matter of fact, multivitamins used as stimulants are usually produced in orange.

PURPLE
Psychological and Physiological Effect
Pile (1997) believes that purple is the colour of sensitivity and artistic nature. While the light shades of the colour define magic and joy, dark shades represent nobility and mysteriousness. Violet stands for authority, chaos, death, dedication, and holly love (Martel, 1995). According to Chiazzari (1998), indigo and violet are related to spirituality, intuition, inspiration, deep thought and innocence. Heller (2009), in a study done in Europe and US, points out that the colour purple is mostly associated with kingdom, magic, mysteriousness and religion. Pink, on the other hand, is the colour of eroticism, charm, womanish behaviour and temptation.

Questionnaire results from Europe and US suggest that purple symbolizes arrogance, extravagancy and individualism. Furthermore, among the seven fatal sins, purple stands for arrogance (Heller, 2009). Moreover, purple is the colour that is unconventional, artificial and rarely found in nature. The first colour synthesized is purple as well. Zelanski, Fisher (2003) claim that indigo light waves fight against high fever and skin diseases. Violet light waves, impact the brain, purify and have a refreshing and disinfectant effect. It also regulates the metabolism and suppresses hunger.

Use in interior:
Purple is one of the oldest colours used in interior. According to the research done by Varichon (2000), somewhere between 1600 BC and 2500 BC, purple was used to draw human hand and animal figures with the help of hematite and manganese sticks in Pech Merle cave located in France, in an area called Midi-Pyrénées. This is one of the oldest known man-made interior design examples to change colour.

The use of dark shades of purple may lead to a depressive atmosphere. The use of light shades result in a womanish effect on the interior. This influence comes from the fact purple stands for the colour of flowers and woman attraction. When used in combination with black, it creates a cosmic effect. When used with white, the connotation is nobility.

BROWN
Psychological and Physiological Effect

According to Chiazzari (1998), brown is associated with physical and emotional satisfaction, earthiness, reclusion and narrow mindedness. Heller's study (2009) conducted with participants in Europe and US suggests that people relate brown mostly with modesty, rurality and poverty. According to the questionnaire results, brown is the least liked colour.

Use in interior:
Pile (1997) believes that brown has a more positive effect on home comfort. If combined with warm colour shades, it displays comfort. However, when used alone, it creates a depressive atmosphere.

In fact, people are used to seeing brown; it is the colour of earth, the colour of most tree trunks and mammals. Its different shades are commonly used in furniture and interior/exterior walls. In the use of brown, the determining factor is not the colour itself but the type of material that is chosen. The use of wood, which is a natural material, can create a warm atmosphere. However, if brown is used dominantly, it may have a detractive effect. Fast food restaurants are a good example for brown interior walls where customers are expected to eat quickly and leave rather than spend hours.

BLACK, WHITE AND GREY
Psychological and Physiological Effect
Rather than being a colour, black is the state of "lightlessness". Ladu (1989) claims that black symbolizes seriousness and prestige. Dark grey and blue are considered in a similar manner and may reflect similar features. Chiazzari (1998) believes that black is associated with femininity and protection. The questionnaire results in Heller's study (2009) suggest that in Europe and US, black is mainly associated with mourning, end, secrecy, power, magic, violence, malice, and elegancy. Martel (1995) indicates that white is comprised of all existing colours. It is the symbol for unity and purity. Rather than being a colour, white is the state of being "the brightest". Chiazzari (1998) points out that white represents peace, innocence, loneliness and spaciousness.
Ladu (1989) states that white is the brightest shade and it symbolizes emptiness, simplicity, cleanliness and purity. Birren (1988) believes that grey, when used in its darker shades can be quite depressive; however when used in lighter shades and in combination with warm colours, it can form a convenient background. Chiazzari (1998) related grey with independence, separation, loneliness and self-criticism.

Use in interior:
When black is used on all walls and ceiling, it tends to create a depressing feeling because it is known to absorb all the light it receives. When used as floor covering, it may give the impression of depth.

White, on the other hand, when used both on walls and the ceiling, may make decrease the user's ability to perceive and lose the perception of depth. The reason why this colour is frequently used in mental hospitals is to prevent patients from subconsciously perceiving different things.

The use of grey may lead to an industrialized feeling in the interior. Grey, which is the colour of machines and devices in factories, may create a metallic atmosphere in place.

RESULT
Colour plays a vital role in the world of design, and because it is related to so many different places, it may influence human life enormously. Knowing the psychological effects of colours is a must to people working in various areas of design (interior architecture, graphic design, advertising).

Starting from birth up to the time of death, the concept of colour is evident in all phases of life; and as such the use and choice of colour is quite significant. It has great effects on the places people live in, the clothing they choose, the emotions they experience, their physiological well-being, interpersonal relationships and their state of happiness. Colours are an indispensable part of our lives; they create energy and affect us as long as we are alive. The colour choice of the individual determines whether the psychological, physiological and social effects will be positive or not.

If the aim is a more peaceful and calm state of mind, the appropriate colours to be chosen in homes and in clothes would be blue and green. However, if the tendency is towards energy, excitement and creativity, the correct colours are yellow, orange and red.

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CHILDREN'S AGENCY. NEW PERSPECTIVES ON WEEKLY OUTDOOR DAYS IN GERMAN PRIMARY SCHOOLS

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ABSTRACT

In recent years, concepts of curriculum-based learning outside the classroom are on the rise in primary school education. The present study examines the socio-material arrangement(s) of extracurricular learning spaces in the model project "Draußenschule" ["outdoor school"] in Germany from the perspective of children's agency. In an ethnographic approach, based on participant observations and group interviews with pupils, the article addresses the question of which agency outdoor school enables for children. Referring to approaches of practice theory as well as relational social theory, three social practices by pupils are elaborated, in which agency appears: 1) Practices of free play 2) Practices of establishing communities and 3) Practices of presenting oneself as expert and provider of knowledge. These practices reveal, that the children realize agency by appropriating, reproducing, transforming but also by redefining 'arrangements of meanings', which are particularly related to the materiality of outdoor school and their social embeddedness. The findings show agency as a promising approach for the analysis of educational arrangements, in which children are involved.

Keywords: Agency, Childhood, Outdoor School, Ethnography, Practice Theory, Materiality

INTRODUCTION

Primary school children realize agency in social and material relations, which are generally organized in institutionalised arrangements of classroom. Underlying ideas about curriculum-based learning outside the school building at primary school level have become more and more important in recent years (Ahrens, 2009; Waite, 2011; Fuhs & Brand, 2014; Erhorn & Schwier, 2016). These developments go along with changed arrangements of bodies, objects and spaces as well as with changes in children's agency in the context of school lessons. That is the starting point of this contribution, which discusses agency in the course of restructuring the educational setting in a German model project named "Draußenschule" ["outdoor school"]. The concept of outdoor school derives from the understanding of education as a holistic and interdisciplinary process. The teaching and learning outside the school building covers various subjects and happens once a week by making use of natural and cultural amenities in the immediate neighbourhood. The German University XXX accompanies the pilot project with help of an ethnographic approach. Participatory presence at three outdoor schools made it possible to gain insight into the children's 'social and material world' within this context. The article addresses the question of *which* agency outdoor school enables for children. Therefore, the study bases on field notes made on the spot, close descriptions of participant observation and written records of group interviews with pupils. Following David Oswell (2016, p. 25), "children's agency is less something that can be or needs to be asserted, as something to be explored". The current contribution explores agency within practices

of children, resulting out of social and material relations in the outdoor school. After outlining the theoretical and methodological framework as well as elaborating the concept of agency, a close description of the educational setting of the extracurricular learning spaces follows. Subsequently, three key practices of children in outdoor school are elaborated, in which agency appears, followed by a conclusive discussion of the results.

THE STUDY
Considering children's agency in primary school lessons, two theoretical perspectives were chosen as leading approach: On the one hand, the empirical research was led by the central assumption of practice theory, conceiving practices as the "smallest units" (Reckwitz, 2003, p. 290) of social theory and analysis. In this comprehension, social practice can be understood as a routinized "nexus of doings and sayings" (Schatzki, 1996, p. 89), which are connected by implicit knowledge. Following these thoughts, children's agency in outdoor school must be searched in the social practices in which pupils participate. The idea of understanding agency as a feature and effect of practices (Bollig & Kelle, 2016, p. 39) leads – on the other hand – to the theoretical approach of relational social theory. According to this, agency is not to be seen as a pre-social, anthropological precondition of children or childhood, but rather as a capacity, that is generated and enabled in social relations, within a social network, where children and their practices are involved (Emirbayer & Mische, 1998). For a clearer understanding of what is meant by the term *agency*, the elaborations of Mustafa Emirbayer and Jeff Goodwin (1994) can give an appropriate definition: According to the authors, human agency is defined as "the capacity of socially embedded actors to appropriate, reproduce, and, potentially, to innovate upon received categories and conditions of action, in accordance with their personal and collective ideals, interests and commitments". Following the question, *which* agency is enabled in outdoor school, it is – moreover – helpful to refer to a further assumption of practice theory, saying practices are both embedded in material artefacts and objects and performed in socio-material arrangements (Bollig & Kelle, 2016, p. 38 f.). Paying regard to that and observing the martial structure of outdoor school, such as arrangements of bodies, objects and spaces as well as social practices of dealing with(in) them, children's agency gets tangible. For the analysis, an ethnographic approach was chosen. Agency in social practices of children in outdoor school were reconstructed based on observation protocols and interview transcripts. The study was designed in a way, that over a period of two years, the researchers visited weekly outdoor days at three primary school classes once a month. In addition, group interviews with all 51 children of the three outdoor schools were conducted at three points in time: 1.) September 2014, shortly after implementing the outdoor school practice, 2.) July 2015, after one year and 3.) July 2016, after two years of practice. The following analysis refer to the group interviews at the first two points in time as well as to one year of participant observation. The interview-groups included four to five pupils. At the beginning of the studies, the pupils were at the outset of second grade (age 7 to 8), at the finish, they reached the end of third grade in primary school (age 8 to 9). Outdoor days took place in the closer social and natural environment, like forests or parks respectively museums or factories. The classroom provided both starting and endpoint. The outdoor school lasted one school day. The teacher, who was sometimes supported by external experts, provided the daily structure. Characteristic for outdoor school lessons was an alternation of *class time* and *free time* where children were allowed to choose their activities on their own. By analysing the socio-material setting of outdoor school, three types of children's practices could be reconstructed, in which agency appears: 1.) Practices of free play, 2.) Practices of establishing communities and 3.) Practices of presenting oneself as expert and provider of knowledge.

FINDINGS
Practices of Free Play
The observation of outdoor days show, that free play activities, initiated and kept up by the children themselves, play a vital role in the outside. By taking a closer look, two main aspects of these practices are to identify, in which children's agency becomes obvious. The first one is to be seen in the creative circumventions of control and disciplining settings of school, which show in the practices of so-called "hidden games". To take a closer look at this type of game, one may refer to a sequence from a group interview with pupils from an outdoor class:

> Kent: *"Secretly we always play Star Wars [...] with the sticks. We are not allowed to do that. We always do that secretly."*
> Fabian: *"Then, then we mostly take the sticks as pistols and then tschtschs ((shooting sounds))."*

As the assertion of Kent makes evident, the children know about the rule, not to play with sticks during outdoor school, while still doing it regularly – in a secret way. This practice is connected through the implicit pupils' knowledge of the socio-material arrangement of outdoor space and the possibilities to act, which goes along with one another. To clarify that, another explication of Kent and Fabian out of the same group interview also regarding their Star-Wars-Game can be added:

> Kent: *"In outdoor school, Mrs Schmidt is hardly ever looking behind herself. We can always play secretly."*

> *Interviewer: "I see, and in the classroom?"*
> *Fabian: "There she catches everybody, every time."*

Following the explanation, in the outdoors pupils feel to have more opportunities to act (freely) at extracurricular learning places, because of the less structured arrangement of bodies and line of visions. On the contrary the classroom is (and can be) more controlled by the teacher. Looking at the arrangements of bodies and line of visions in the classroom as well as in the outdoors, it becomes clear:

Fig. 1: Arrangement of bodies and line of visions in classroom lessons.
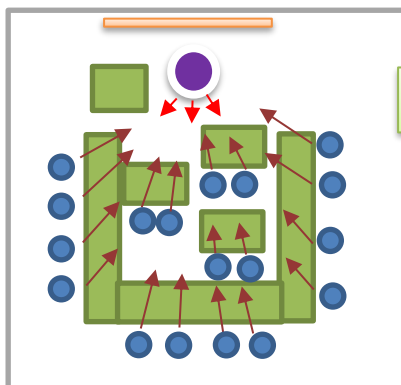
Figure 1 shows a typical arrangement of bodies and line of visions in the classroom, as also observed all the three schools. Bodies and views of pupils and the teacher are arranged along straight lined axes. Every child sits on a chair behind a desk. The teacher stands in front of the class, looking towards the pupils from an elevated position. While the line of visions [Fig. 1: pictured as arrows] of the pupils mostly face the teacher and the blackboard, the teacher's view faces the pupils. Through the elevated position the teacher can oversee the whole class. This arrangement of bodies and views is bound by a bunch of institutionalized rules about permitted and forbidden behaviours in the classroom, like not talking with classmates during lessons, staying on one's seat, raising one's hand, if one would like to contribute, not leaving the classroom without a solid reason and so on. In this arrangement of rules, bodies and of course objects in the classroom, a specific control and disciplining setting of classes become apparent. Every deviation by moving the body, changing the view or raising one's voice is easily recognized and may be sanctioned by the teacher. The possibilities to act in class – as a pupil participating in lesson as well as a peer with one another besides the teachers' instruction – are highly shaped by this arrangement.

Fig. 2: Arrangement of bodies and line of visions in lessons at an
extracurricular learning place (here: the forest).
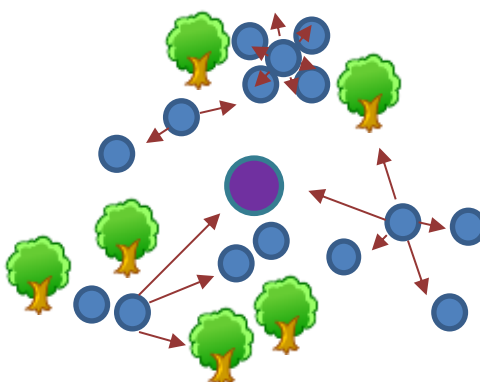
As shown in *Figure 2,* in contrast to the classroom, the bodies of pupils and the teacher at a typical setting in outdoor school are not intentionally arranged along straight lines and there are partly big distances between them. From observance protocols is known, that most pupils are standing and moving within a certain range. They are able to turn their bodies as well as their views in any direction. So is the teacher. In many cases, she cannot oversee the whole class at the same time. While the bodily arrangement in the classroom can be characterized as 'rigid', the arrangement at an extracurricular learning place can be distinguished as 'dynamic'. The ensemble of rules in outdoor lessons is also a specific one. For example, talking to classmates in a moderate

loudness, moving within the closer environment, getting in touch or cooperating with classmates are allowed ways of acting and don't have to be justified by the pupils. Instead, it is, for example, forbidden to harm animals or plants, to go alone deeper into the forest, to move beyond hearing distance or – at *School B* – to involve sticks in the games.

Within this modified socio-material setting in the outdoors, the pupils realize new forms of practices, which concern also how to deal with rules and proscriptions. The practice of so-called 'hidden games' can be seen as a paramount example. Using their standing and moveable bodies as well as the 'forbidden' objects of sticks and avoiding the teacher's view, the children create and keep up role games at the 'backstage' of lessons (Zinnecker, 1987), where they address themselves as peers and game partners. By referring to a precisely explored knowledge about a changed arrangement of bodies and views – which is condensed in the assertion, that *"the teacher is hardly ever looking behind herself"* – the children develop adequate forms of practices, which allow them to circumvent the control and disciplining setting of lessons and follow their interests. As seen above, these practices are also supported by a compendium of rules, which encourage interactive engagement at the extracurricular learning places.

By taking a closer look at the quoted objects, a second aspect of free playing practices in outdoor school can be elaborated. One should know that the children have a great variety of free playing games on weekly outdoor days, such as various forms of symbolic games and games with rules. A role game, like playing Star Wars as expressed before, can serve as an appropriate example for a typical free play activity. Within the Star-Wars-Game, which is inspired by the same-named film series, the children use objects of the outdoor space – namely the sticks – 'transform' them into guns and swords by saying, *"I have the red double-bladed lightsabre now"*, and perform symbolic actions like shooting and beating within the context of an incessant battle between good and evil in the vastness of space. Besides the vast extent of the forest and the arrangement of bodies in this setting, it is especially the quality of the objects, which enables these practices. While most objects and their arrangements in the classroom suggest defined usages, many objects at extra-curricular learning places, like the forest, offer a greater variety of potential uses and meanings. This difference can be explained with the help of Bruno Latour's (1994) term of *artefact*, which denotes objects that are intentionally created by human beings for a certain usage. Within networks, certain calls of action ("scripts") are implemented into these artefacts through a process of translation. For their part, the artefacts again require specific actions, which the users recall in dealing with these objects (Latour, 1994). When looking at the material arrangement inside the classroom, it becomes obvious that this setting prepares a composition of artefacts. However, this does not apply equally for arrangements of objects at extracurricular learning places like the forest, which – usually – are neither constructed by human beings nor intentionally constructed for a certain usage. Of course, also objects in the natural environment, like trees and sticks, have been culturally appropriated by humans within different contexts; took and take part in various practices. But in the context of school in the outdoors, these objects offer a heterogeneous variety of potential uses and meanings to all participating actors. Consequently, they often have to be appropriated self-acting and situation-related. Free playing activities like the role-play are popular ways for pupils to do so and to give own significances to objects in outdoor school (Hörning, 1999, p. 90 f.). These processes may also contrast to the teacher's intention to establish an educational field. Objects might be supposed to be seen different, as learning objects, while the pupils appropriate this space as a playing field with their peers. In this sense, the secret 'battles' that the children perform in a symbolic game by using the 'forbidden objects' of sticks, can also be interpreted as a 'battle' over the arrangement of meanings at the backstage of outdoor lessons. So children's agency in practices of free play appears also in the collective appropriation of the outdoor space.

Practices of Establishing Communities

A second type of social practices in outdoor school, where agency shows, can be seen in the various forms of children *establishing communities*. There are for example social practices, which can be called 'doing difference' (West & Fensternarker, 1995), referring in particular to creation of gender differences between boys and girls. The participant observations show, that the children's activities often take place in gender homogenous groups. Sometimes it is the teachers, who arranges these group compositions: Sports competitions of 'boys against girls' are one example observed in the outdoor school. But also in situations, when the children are conceded to explore the outdoor space on their own, they often choose same-gender groups. When making this a subject in a group interview, Emma explained regarding her classmates: *"They hate girls and we hate boys."* In this statement, a certain perception about gender relation between boys and girls is proclaimed, which is then elaborated later in this group interview, when Lilli explains the differences between boys and girls: *"They [the boys] are much meaner than us, the girls"*. Given reasons for that are, that the boys in their class – unlike the girls – are intentionally pushing, disturbing and bugging other pupils. While the boys are drawn as active and more aggressive beings, the girls appear in their own descriptions as more passive, reserved and kind. These differences are also linked to playing practices, as Isak, a boy in this class, explains. According to him, girls play 'girls' games', like *"Barbie or princess"*, while boys play 'boys' games, like *"cars, soccer, boxing"*.

With this nexus of doings and sayings, the children draw boundaries by addressing themselves as boys or girls and name distinctions to reinforce this differentiation referring to practices of playing or behaviour patterns. All of this goes along with (self) permitted and proscribed forms of arranging contact to the other group: While annoying and pushing are widely accepted practices for the boys in contact with the girls, they have to fear being derided by their male group, if they act across the boundaries and play with the girls. Besides the teasing, certain catching games for example in the context of being in love – mostly girls catching boys –, are recognized practices of interactions between boys and girls in the outdoor school context. In the sense of Barrie Thorne (1993) the interactive work at the boundaries of gender and, with that, the construction of gender differences by the children, can be defined as *borderwork*. Children's agency appears here in reproducing as well as in redefining differences in community-based practices. Although adults – like teachers – are not immediately involved in these occurrences, they are relevant actors in the network of outdoor school, bringing in their own beliefs and stereotypes about gender related activities, which again are picked up and reinterpreted, reproduced, modified and redefined by the children within their 'borderwork' (see also Esser, 2015, p 45 f.).

Above the establishment of gender-orientated communities, children's agency becomes also apparent in the practice of using the body of pupils as a collective, which provides competent support in difficult situations in the outdoors. A situation, where a classmate in outdoor school suddenly runs away can serve as an example here. The girl Amelie describes:

> *"Once we were at this huge tower and then Klara ran away. That was really bad. Look, we said, we have to get to Klara, before she runs onto the street and then, look, she jaywalks the street, there, where a garbage truck stood. Imagine! And then we caught her, really, we sat her down on a bench, Isak held her in place."*

In this situation the pupils realize, how one of their classmates puts herself in danger, by running away from the group towards a busy street. Instead of letting the teacher solve the problem on her own, the pupils feel responsible and take it upon them to run after the girl and catch her. A tall boy, who is rather labelled an outsider in class, because of his often rude behaviour, uses his strength to secure and hold the girl, until the teacher arrives.

By this example, it becomes particularly apparent, how children's agency is not just enabled, but also rather demanded by the socio-material arrangement of outdoor school. Unlike the classroom, the visited places in the outdoors are often not prepared for lessons with primary school children and also provide potential dangers through more freely arrangements of bodies and objects. In addition to that, the teacher cannot always prevent these dangers in outdoor space. Knowing that, the pupils are encouraged to pay particular attention as well as to cope with unexpected situations. Children's agency in this case is seen in quickly mobilizing the body of pupils as a collective, which provides a competent support in a difficult situation as well as using particular qualities of single pupils to solve the problem. A central point in this consideration is the fact that the pupils do not act in this way through external instructions. Instead, children's agency is produced in the creation and participation in the quoted practices, which refer to an implicit knowledge of the socio-material arrangement of the extracurricular learning places. Vice versa "silent knowledge" (Hengst, 2009, p. 64) about the space(s) of outdoor school is appropriated through participating these social practices.

Practices of Presenting Oneself as Experts and Providers of Knowledge
The case of children acting as competent supporters in difficult situations in outdoor school leads to the third type of practices: children presenting themselves as *experts and providers of knowledge*. This takes place in didactic arrangements, when the teacher asks about phenomenons in outdoor space and children are able to bring in their knowledge about these subjects as in the following sequence from a participant observation.

> *Mrs Schreiner gets on to the rabbit. She asks the children, if they know where rabbits sleep. After the other pupils ventured guesses, Olivia explains that rabbits sleep in holes in the ground and protect themselves from natural enemies there. To the question, how she does know all of that, she answers, that she is spending much time with her family outdoors.*

The example shows, the teacher asks a question, which brings to light knowledge, that is not gained in the school context. Most pupils answer with long-shot guesses, which points to the fact, that this has not been a subject in class. Still, the girl Olivia can answer the question by referring to knowledge acquired in her lifeworld – in the family context, where she often spends time outside. Besides family, also media shows to be an important source of knowledge for the children. In various group interviews, children mention educational channels on TV as source of their knowledge about nature-relevant topics, e.g. plants or animals. Through the practice of presenting themselves as experts by referring to an often exclusive knowledge gained in the own lifeworld, children like

Olivia generate social recognition at the 'frontstage' of classes, where they are mainly addressed as pupils and graded by their performance (Zinnecker, 1987, p. 34 ff.).

Moreover, these practices can be found also in periods, when pupils have time for free explorations. The following sequence was observed when a class visited a children's library in outdoor school:

> *Jessica runs with a book, titled "How boys and girls are ticking", to Gregor and wants him to come with her to the 'reading place'. She says: "Come Gregor, I will now explain to you, how you will become a girl".*

The pupil Jessica considers the material arrangement of the children's library, which provides several retreat areas with tables, chairs, couches, carpets and bookshelves, as an appropriate setting to impart knowledge to her classmate. With help of a book found in the library, she presents herself as an expert for "how to become a girl". Obviously, she ascribes a lack of knowledge to Gregor considering this subject and inviting him to the "reading place" filling there the gab. The book serves as a didactic medium, which supports the knowledge transfer. Concerning the content, she can rely on her knowledge gained out of the book (before) and certainly also rely on lifeworld knowledge about being a girl. Moreover, Jessica can draw on an existing knowledge about shaping educational settings with help of didactic materials from her own experiences in school. By taking up these bodies of knowledge, the girl uses the open space, in which all pupils are allowed to move freely and rummage in books, to create an educational setting, where she can present herself as an expert and competent provider of knowledge in the peer-context. Again it appears that – besides the social framing of lessons in the library by the teacher – the material arrangement of the library plays a vital role in the execution of social reality. With Bernd Hackl (2015, p. 145 f.) one could say that the library serves as an 'arrangement of meanings', which communicates with the users, appeals to them or provokes them, enables certain mental and physical actions or obstructs them and by that essentially affects children's agency.

CONCLUSION

The study examined the socio-material arrangement of extracurricular learning places in outdoor school under the theoretical perspective of agency. Of particular interest was the relation between the materiality of outdoor school and children's agency in this context. The analysis focused on the arrangements of bodies, objects and spaces – taking into account that this has to be an analytic differentiation – and their relevance for children's agency. Especially the confrontation of lessons at extracurricular learning places and lessons in the classroom, changes in material and, with this, social arrangements could be elaborated. Concerning the above-quoted categories, it can be revealed, that the analysed arrangements of bodies in outdoor school can be described as dynamic and mostly in motion, while the arrangement of bodies in the classroom, intentionally arranged along straight lined axes, follows a rigid order. The objects in the classroom – like schoolbooks, pencils, blackboard etc. – suggest defined usages; many objects at extracurricular learning places, like sticks and stones, allow various and heterogeneous meanings and potential usages to the children. The space of classroom in general, with bodies sitting shoulder to shoulder at shared tables, surrounded by walls, is characterized by narrowness and allows less liberty of action than the more spacious outdoor spaces. Considering that any arrangement of materiality has inscribed calls to action (Latour, 1994), the elaborated practices of children in outdoor school show, children's agency particularly appears in dealing with these calls to action by non-human as well as human actors. Both, reproduction and transformation of 'arrangements of meanings' (Hackl, 2015, p. 145) were shown a central aspect of children's agency in the outdoors. Children's agency shows furthermore in practices, where pupils give significance to objects by using them in a certain way, embed them in temporal and spatial structures and allocate a position and a meaning to them within a whole complex of actions (Hörning, 1999, p. 90 f). By doing so, the pupils sometimes act against the intentions and attributions of (inscribed) meanings or against allowed ways of acting. This reveals the creative potential, which appears in the agency of children. Likewise, the elaborated practices make it obvious, that the children's capacity to reproduce, transform and redefine "arrangements of meanings" in outdoor school does not exist irrespectively of the material arrangements in which they are embedded, but rather are they constitutively enabled or restricted by them. In fact, one must assume a complex interconnection of children's agency and the material arrangements of outdoor school. Moreover, it becomes apparent that children's agency in the context of the material arrangements of outdoor school is generated in social relations, that include age-homogeneous groups of pupils, adult persons, rules etc. All together form a network. Beliefs and stereotypes of adults influence this as well as the perceptions that the children gained in other networks like media or family (Esser, 2015, p. 45). Conclusively it can be stated, that an approach to children's agency, which considers the materiality of educational arrangements as well as their social embeddedness, provides a promising perspective for the analysis of educational settings, in which children participate. The benefit of this approach, which renounces essential perceptions of children's capacity to act, can be seen in the empirical analysis of children's agency within the concrete socio-material conditions in which agency is embedded.

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CHILDREN'S BILINGUALISM AND LANGUAGE DELAY: A LITERATURE REVIEW

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ABSTRACT

This paper aimed to examine the development of language acquisition mechanisms in bilingual preschoolers and primary school-aged students by reviewing the thirty two (32) most recent (2000-2015) relevant empirical studies conducted at European and international level. Regardless of student age, bilingualism's multiple beneficial impact on children's language development as well as the awareness of the concurrently acquired lingual systems have been observed. Moreover, bilingual children's linguistic and lexical deployment does not substantially fall short of the respective of monolingual. In conclusion, bilingual settings by majority do not burden children's language acquisition, underpinning corresponding educational programs.

INTRODUCTION

Firstly, language delay is defined as the evolutionary failure of linguistic skills timely acquisition in the typical developmental timeframe, also compared to peer rates (Wallace et al., 2015). It is diagnosed in 1 out of 20 up to in 1 out of 5 children in the general population, being of accordingly graded severity and owing to various causes, e.g. autism, physical disabilities such as partially separated palate, psychological disorders or emotional difficulties. However, in two-thirds of the cases its exact causes are unknown, even in typically developing children (Kohnert, Yim, Nett, Kan, & Duran, 2005). Secondly, in regard to bilingual language acquisition, one the one hand the "bilingual paradox" of the seemingly effortless way of learning two or more languages exists, provided with early exposure to different linguistic settings. One the other hand, this subjection is sometimes treated with the suspicion of causing language delay, under the risk of bilingual children's insufficiency in both languages, in comparison to monolingual (Byers-Heinlein, 2014).

Thus, the discussion concerning the characteristics of bilingual language acquisition constitutes a timely topic of international interest, being a composition of two lingual systems (Meisel, 2007). In that context, the constant comparison of a bilingual child's linguistic competence with the respective of a monolingual is mainly directed by the "deficit hypothesis", leading to an ascertainment of language delay and to the creation of perceptions as to negative effects on individual development (Hoff et al., 2012). Nonetheless, bilinguals' abilities comprise linguistic, grammatical, semantic, pragmatic and phonological elements and of a second lingual code. Ergo, under the "theory of particularity", their range should be broader than the ones of monolinguals' (Genesee & Nicoladis, 2006). Still, differences occur between these linguistic competences, with reference to their level and to their field of development; hence, it is considered advisable that research on bilingualism overcomes their collation (Bialystok, 2007). In this manner, Bialystok (2001) and Paradis (2008) suggest bilingual children's linguistic competency to be evaluated focusing on their overall communicative capacity rather than on the developmental level of specific linguistic abilities in each language. Therefore, the aim of this study is to examine the development of language acquisition mechanisms in bilingual preschoolers and primary school-aged students.

RESEARCH METHODOLOGY

A literature research was conducted through the following databases: ERIC, MEDLINE, PsycARTICLES, PsychINFO, SocINDEX, Elsevier, Wiley, Taylor and Francis, and Springer. The key search terms were "children's bilingualism" and "language delay", focusing on studies published between 2000 and August 2015. The research yielded over 100 relevant research studies. Thus, the following criteria were applied to narrow down the search:
1. Studies were conducted with bilingual preschoolers and / or primary school-aged students in educational environments of corresponding level.
2. Studies comprised empirical and measurable data.

In total, 32 research studies matched the abovementioned selection criteria. These studies were then grouped and analyzed for the individual parameters related to the participants' language acquisition mechanisms.

RESULTS

In principle, despite their small number, recent brain scanning studies confirm the typical development of children early exposed to bilingual settings (Flores & Barbosa, 2014; Hulk & Müller, 2000). To continue, early bilingualism's or trilingualism's / multilingualism's cognitive advantages are indicated; notably, participants demonstrate mental astuteness (Brohy, 2001) and increased linguistic and metalinguistic skills, along with improved performance on tests requiring attentional focus (Hulk & Müller, 2000). Likewise, they exhibit high awareness of the learned languages' phonological units (Andreou, 2007), as well as enhanced communicative strategies and memorization techniques (Griessler, 2001). What's more, researchers advocating the "consolidated lingual system hypothesis" argue that children exposed to two languages begin distinguishing them from the age of 3, whereas a prolonged / delayed language development until the given distinction is implied, passing through a phase of substantial monolingualism (Horwitz et al., 2003; Petitto & Holokwa, 2002). On the contrary, research in favor of the "differentiated language system hypothesis" asserts that bilingual children from the age of 2 form rudimentary two-three word sentences using elements from both languages. More specifically, the existence of translational equivalents at 25-30% supports the partial awareness of the simultaneous acquisition of two explicit lingual codes and of the correspondence of every pair of words to the same semantic concept (Austin, 2009; Keshavarz & Ingram, 2002).

Withal, it is presumed that the said combination is positively influenced by sociolinguistic and environmental factors (Gutierrez-Clellen, Simon-Cereijido, & Wagner, 2008; Rothweiler, Chilla, & Clahsen 2012), in conjunction with the participants' stages of language development and age progress (Genesee & Nicoladis, 2006; Scheele, Leseman, & Mayo, 2010). With respect to the latter, the same timespan applicable to monolingual children (i. e. one-word phase at the age of 7-12 months, two-words and fifty-words phases at the age of 1-2 and 2-3 years and / or several months after, respectively) has been observed in bilingual (Holowka, Brosseau-Lapré, & Petitto, 2002; Keshavarz & Ingram, 2002; Petitto et al., 2001). In general, they both produce the same vocabulary (Armon-Lotem, 2010; Glennen, 2002); thereon, scientific attention is drawn to the investigation of bilingual infants' concurrently modulated vocabulary at one-word level (Nayeb, Wallby, Westerlund, Salameh, & Sarkadi, 2015). In that regard, it is deemed that bilingual children apply the case "the fewer the better" for a longer time period than monolingual, facing greater identification and word retrieval challenges for naming (Fennell, Byers-Heinlein, & Werker, 2007; Polka & Sundara, 2003). Besides, a bilinguals' speed drawback is noted, since they make more use of the language considered first and dominant (Gollan, Montoya, Fennema-Notestine, & Morris, 2005).

Another issue is the determination of the language where the early, "neutral" produced linguistic types belong, by reason of bilingual infants' phonological immaturity; their presence conceals both languages' comprehensive knowledge (Hoff et al., 2012; Kohnert et al., 2005; Nicoladis, 2006). In fact, Holowka et al. (2002) and Petitto et al. (2001) found that bilingual toddlers learning both sign and spoken language at the same time distinguished them from their first lexical productions, not forming two distinct phonological systems in the same oral cavity. In like manner, Petitto and Holokwa (2002) inferred the ostensible perception of language delay that "neutral" linguistic types create, not induced by an inherent linguistic confusion because of the early exposure to bilingual settings. Yet, taking into account the similarities noted between monolingual and bilingual children, it is argued that both first acquire the word (and meaning) concepts of their personal interest, subsequently classifying them identically in the different languages (Gatt, Grech, & Dodd, 2013; Marchman, Fernald, & Hurtado, 2010).

Notwithstanding, it is often speculated that the elimination of any additional requirements (e.g. emotional stress) will alleviate bilingual children's cognitive load (Paradis, 2008; Thordardottir, Cloutier, Ménard, Pelland-Blais, & Rvachew, 2015). Howbeit, where applicable, the reported abrupt school or family linguistic change (Paradis, Crago, Genesee, & Rice, 2003) together with the maintenance or the discontinuance of a bilingual teaching method (Gibson, Peña, & Bedore, 2014; Glennen, 2002) mostly have no effect on language delay. Instead, further student disorientation as well as cognitive and emotional difficulties and disorders of a "double semilingualism" have been observed (Helot & Young, 2002; Mueller Gathercole, 2007).

CONCLUSIONS
Having expressed reservations relating to the probability of bilingual children's delayed linguistic skills acquisition, this review aimed to examine the development of language acquisition mechanisms in bilingual preschoolers and primary school-aged students. Irrespective of student age, bilingualism's multiple beneficial influence on language development is deduced. As a result, bilingual educational programs' ultimate goal ought to be the early exposure to corresponding intercultural environments, with children gaining fuller proficiency in both languages and being subject to significant sociocultural and educational effects. Indeed, using a variety of research sources and taking into consideration both languages of the learners, despite their smaller long-term exposure to each second language, it is verified that bilingual and monolingual children are of consistent development in terms of vocabulary increase rate and of morphosyntactic deployment, with a majoritarian lead

of the first language. Nevertheless, the occasionally observed dissimilarities lie in the vocabulary size, being attributed to the frequency and to the context of the exposure to both lingual systems, as well as to their similar characteristics. Thusly, additional research is needed in order to understand the particular determinants contributing to the successful simultaneous learning of two languages from a young age. To conclude with, individualized interventional programs should be developed and documented by research, promoting multiply and systematically bilingual children's linguistic proficiency.

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"CINEMA AND THERAPIES". EMPLOYING MOVIES TO IMPROVE BASIC SKILLS IN PHARMACY STUDENTS

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ABSTRACT
The aim of the 'Cinema and Therapies' project in the Faculty of Pharmacy of the University of Castilla-La Mancha is to complete the acquisition of some of the Key Skills Qualifications (KSQs) the students learn in the degree, such as the reinforcement of a second language, the use of information and communication technology (ICT), their improvement of oral and written communication or the understanding of the ethical compromise of their profession through the employment of movies. In this paper we would like to report the results obtained from this film series and sum up the benefits that students can obtain from it.

INTRODUCTION
The degree in Pharmacy of the University of Castilla-La Mancha is included in the branch of Health Sciences and its main objective is to train specialists in all aspects of drugs and medicines, in accordance with European Directives relating to the pharmacology profession. It requires five years of full time study, and there are two semesters per year. The first two years are foundation years in which students study anatomy, biology, chemistry, basic pharmaceutical science and are introduced to pharmacy. The remaining three years are devoted to higher levels of biomedical and pharmaceutical sciences, together with specialized clinical pharmacy studies. During the fourth and fifth year, considerable time is spent in clinical placements in community and hospital pharmacies, where valuable practical experience is gained.

Key Skills Qualifications (KSQs) are capabilities not specifically included in any modules of the degree but in all of them. They are fundamental for each individual in a knowledge-based society. As the European Union claims "they are particularly necessary for personal fulfilment and development, social inclusion, active citizenship and employment (…) They guarantee more flexibility in the labour force, allowing it to adapt more quickly to constant changes in an increasingly interconnected world". They include good communication in the mother tongue and in foreign languages; correct application of knowledge and methodologies that explain the natural world; cultural awareness; leadership; sense of initiative and entrepreneurship; complete understanding of the ethic and deontological compromise of each profession and employment of information society technology (IST) with skills in ICT.

In order to expand educational opportunities for students throughout their degree, different programs are being currently conducted by the school of Pharmacy of Albacete (Alonso, C. 2013) (Tolosa, J. 2014). In this context, "Cinema and Therapies" program was conceived to improve acquisition of KSQs in the degree of Pharmacy. It started on 2015 and it is conceived to be biannual.

The interdisciplinary nature of the degree of Pharmacy makes that virtually any film in the field of science or

science fiction present, directly or indirectly, some aspect that will deepen in one of the subjects of the degree. Therefore, a film series can introduce future elements to new students or remember important concepts already acquired to students in the final years of the degree while they complete their formation.

THE STUDY

The program is open to all students and takes place on September and October, before the first exams take place in order not to compromise the study time. It consists in four sessions, one conference to introduce the program and three movie projections (*GATTACA*, *Dallas Buyers Club* and *Requiem for a Dream* in this first edition) in original version with Spanish subtitles. After each screening, students engage the program through oral presentations or by their participation in a debate. 59 students covering every course of the degree participated in the program this year and their tasks were assigned randomly.

- Bioethics in *GATTACA*. 20 students conducted a debate after the screening of the film about whether or not society should manipulate offspring genetics if science allows it. Regardless of their personal opinion, a third of the students enrolled in the program defended one position (YES or NO) before opening the debate to the rest of the students.

- Contextualization of HIV treatment in *Dallas Buyers Club*. 20 students prepared oral presentations about four of the drugs mentioned in the film -AZT, zalcitabine, peptide-T and Interferon-alpha- showing their mechanism of action, side effects and current use to confront reality and the fictional approach of the film.

- Drug abuse and addiction in *Requiem for a Dream*. The last 19 students prepared oral presentations about the four drugs the plot of the film talks about: heroin, cocaine, amphetamines and benzodiazepines. Their mechanism of action and their short- and long-term side effects (many of them reflected in the film) were discussed.

FINDINGS

After the program, in the evaluation stage, survey forms were the chosen tool to confirm the success of this project and the perception of students about the acquisition of five KSQs: reinforce of the use of a second language (item 1); improvement of the knowledge of ICT (item 2); perfection of write and oral communication (item 3); understanding the ethical and deontological compromise of pharmacists (item 4); and development of useful abilities for future studies (item 5). The results are summarized in figure 1. Independently of their type of participation, all students completed the same survey.
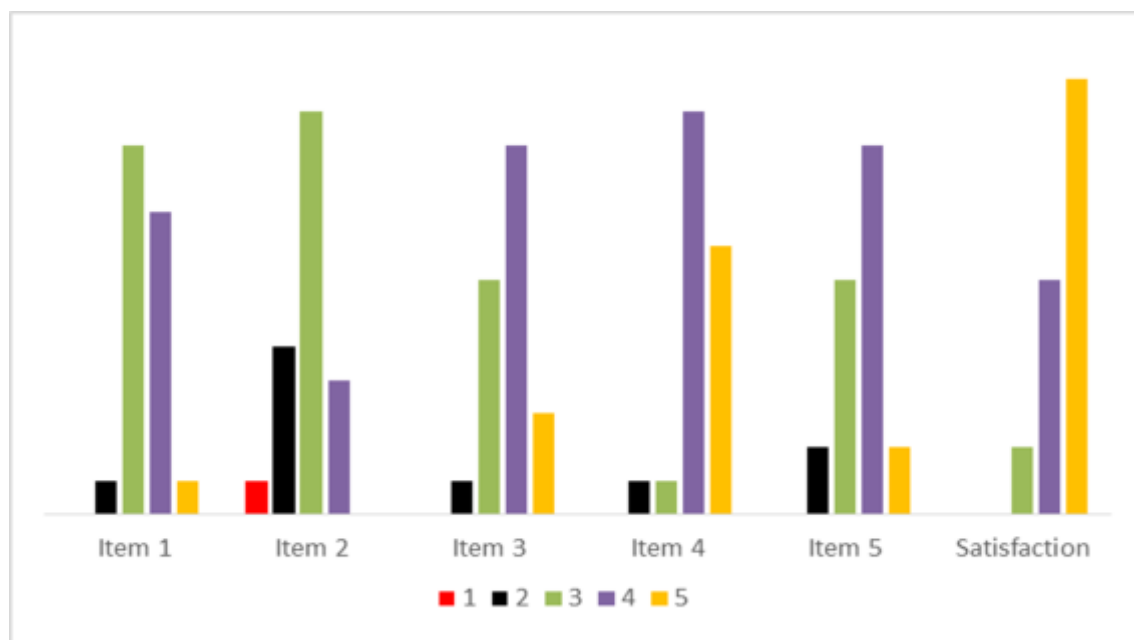
Figure 1. Survey completed after the program by students about the skills acquired during the program. They ranged their opinion from 1 (they do not believe the skill was worked at all) to 5 (they believe that the skill was strongly worked in the program). A similar range was collected about the usefulness of the program (satisfaction)

Students consider that they have worked well or very well 4 of the 5 competences studied. The best results in terms of skills acquisition were obtained for item 4, with an average above 4. The plot of the three films (genetic control,

social economic aspects in the pharmaceutical industry and consequences of drug abuse) seems to provide students a clear understanding of the ethical side of their future profession.

Items 3 and 5 also get average values above 3.5, which implies a proper job on the skills associated with the preparation for future studies such as a Ph.D. or the perfecting of oral and written communication, expressed both in the debates and in the presentations that students had to prepare.

Item 1 shows an average above 3. Students think that watching the movies in original version with Spanish subtitles was enough to work on their knowledge of English; but improvement in this aspect of the program seem necessary.

Finally, item 2 in the only one that shows an average value below 3, indicating a low employment of ICTs during the program.

CONCLUSIONS

The results obtained and the high degree of satisfaction expressed by students (figure 1) ensures the continuity of "Cinema and Therapies" as a program to reinforce the acquisition of KSQs in the degree of Pharmacy. However, some improvements should be implemented, especially to increase the use of ICT and to have a greater presence of foreign language content within the program.

Since they are accustom to work with scientific literature along their degree, most of our students already have a significant level of English, so that showing movies in original version subtitled in English instead of Spanish should be considered in future editions of the program.

The presence of science in general and pharmacy in particular in the cultural baggage of the Spanish society is sometimes too low compared to the humanities. It could be therefore appropriate to employ this program as speaker in the implementation of scientific knowledge in society. In this informative task, we will extend the program beyond the university. Students could use the film series as a perfect starting point to generate discussions about many interesting aspects of science, and also to clarify concepts that may be obscure to the average citizen. We will try to make students themselves be the face of the program, reserving a secondary role to teachers as pure articulators. Regarding the use of ICT, students, for instance, can publish press releases and appear in media, working as well other important aspects linked to KSQs as entrepreneurship or teamwork.

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CIVILITY LEVELS OF THE TEACHING STAFF OF THE FACULTY OF EDUCATION

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ABSTRACT

The objective of this study is to determine the civility levels of the teaching staff of the faculty of education, who are the role models of future teachers. The study is a quantitative study carried out in the survey model. The research group consists of 758 students it total, 256 of whom are male, and 502 are female. Arithmetic mean, t-test, Pearson's correlation test, ANOVA test and Scheffe's tests were used in the analysis of the data. As a result of the analysis, it was determined that the civility levels of the teaching staff are generally good; female students appreciate the teaching staff more, and the civility levels of the teaching staff of the Department of Pre-School Teaching are more problematic.

Keywords: Civilising, teaching staff, faculty of education, civility level.

INTRODUCTION

One of the important concepts that have come to the agenda in parallel to the democratization of the society is civilising (Balkaya, 2015; Aytekin, 2013; İğci, 2008). Democratization or civilising point to a culture (Keyman, 2015; Şirin, 2009; Tutar, Tutar and Erkan, 2012). At the same time, enculturation or acculturation are education problems (Demirel and Kaya, 2012; Gahramanova, 2012). It can be said that schools rank at the top of the institutions that are responsible for the acculturation of the individuals or society.

Variables such as students, teachers, management and legislation make up the main components of schools. The interaction between these components makes up the school culture (Demirel and Kaya, 2012; Balkaya, 2015). While school culture is shaped by its components, on the one hand, it shapes the identity and personality of the people in the environment (Yeşil, 2002; Gahramanova, 2012; Richardson, Tolson, Huang and Lee, 2009).

It can be said that teachers are the most effective component of the school on the acculturation of the students (Komalasari, 2009; Kumral, 2009). Teachers are individuals who shape the cognitive, emotional and behavioural properties of the students, sometimes with the information they transmit, sometimes with the attitudes and behaviours they exhibit, and sometimes with their authority to shape the education process (Kumral, 2009; Revell and Arthur, 2007; Lockwood, 1997). All science people accept that the words, attitudes, and behaviours of the teachers shape the personality of the student (Komalasari, 2009; Gahramanova, 2012; Richardson et al., 2009; Nucci et al, 2005).

Faculties of education have undertaken an important task in the acculturation of the new generation as institutions raising teachers (URL1; Gahramanova, 2012; Nucci et al., 2005; Kumral, 2009). Teachers shape both their and the society's culture by means of sharing their education processes with the new generation. The teaching staff of education faculties that have a part in extending the civil culture to the society have a more important role with their function of raising future teachers (Kumral, 2009; Gahramanova, 2012; Revell and Arthur, 2007; Nucci et all, 2005). In other words, it can be said that the teaching staff have an important effect on the civilising of the society as they will shape the new generation by being role models to pre-service teachers.

The main problem of this study is to determine the civility levels of the teaching staff working at the faculties of education. Thus, it is believed that the correct determinations related to positive or negative situations that can be encountered in regard to the civilising levels of future societies can be made.

Sub-problems of the study

The sub-problems of the study can be listed as follows:

1. What is the civility level of the teaching staff of the department according to the students?
2. Are the civility levels of the teaching staff at different dimensions related?
3. Do the civility levels of the teaching staff vary by their department, gender, place of residence and the type of high school they graduated from?

Objective of the Study

The objective of this study is to determine the civility levels of the teaching staff working at the faculty of education. Thus, it was aimed to determine the problems that can negatively affect the transfer of civil culture to the society with the help of future teachers in terms of the attitudes and behaviours of the teachings staff, and achieve the scientific data that can constitute the basis of making the necessary interventions.

METHOD
Research Model
The research is a descriptive and quantitative study performed in the survey model. The civility levels of the teaching staff were assessed by describing them by using a scale by the students (pre-service teachers) of the faculty of education in terms of different variables.

Study Universe and Sample
The study universe of the research consists of 1726 students in total, who study at the third and fourth grades of eight different departments/programs of Ahi Evran University, Faculty of Education. These departments are Classroom Teaching (CT), Turkish Teacher (TT), Psychological Counseling and Guidance (PCG), Computer Education and Instructional Technology (CEIT), Math Teacher (MT), Science Teacher (ST), Social Science Teacher (SST) and Pre-school Teacher (PST). The sample of the study consists of 758 students. 256 of the students in the sample group are male, while 502 are female.

Data Collection Tools
The data of the study were collected using two tools as the "Personal Information Form" and the "Scale for Determining the Civility Levels of Individuals (SDCLI)" developed by the researcher. The Personal Information Form consists of four questions which aim to collect information on the personal features of the students and are the independent variables of the research. SDCLI is a five-item Likert-type valid and reliable scale, which is gathered under 4 factors and includes 27 items so as to be used in the assessments on the validity levels of the teaching staff. The factor names were determined as Openness to Criticism/Development (O-C/D; 14 items), Participatoriness/Activeness (P-A; 8 items) and Unprejudicedness/Flexibility (U-F; 5 items). The grading is as "(1) Never", "(2) Rarely", "(3) Sometimes", "(4) Most of the time" and "(5) Always". The amount of explaining the variance by the scale is 45,840%, and the Cronbach's alpha reliability coefficient is 0,938. These values show that the scale is a valid and reliable scale (Büyüköztürk, 2012).

Analysis of the Data
The data collected were analysed using the main arithmetic mean, standard deviation, independent sample t-test, Pearson's correlation test, one-way variance analysis (ANOVA) and Scheffe's tests. The level of $p < ,05$ was deemed as sufficient for significance in difference and relationship tests.

FINDINGS
The findings obtained as a result of the study are summarized below in tables, and short explanations are made.

1. The level of the teaching staff to have civil individual properties

Table 1. The level of the teaching staff to have civil individual properties

	N	$\overline{X}$	Sd
O-C/D	720	3,54	,89
P-A	726	3,73	,78
U-F	740	3,71	,88
SDCLI	686	3,68	,77

In Table 1, it is seen that the civility levels of the teaching staff by factors vary between $\overline{X}$ =3,54 and 3,73. The general civility levels are $\overline{X}$ =3,68 (high). While the civility levels of the teaching staff are better in terms of P-A factor when compared to others; it is at a more insufficient level when compared to O-C/D factor.

2. Relationship between the civility levels of the teaching staff at different dimensions

Table 2. Relationship status between the civility levels of the teaching staff at different dimensions

		O-C/D	P-A	U-F	SDCLI
O-C/D	r	1	,799(**)	,704(**)	,924(**)
P-A	r		1	,669(**)	,905(**)
U-F	r			1	,877(**)

N: 718;   **: p<,01

In Table 2, it is seen that there are significant and positive relations between the civility levels of the teaching staff according to the sub-factors of the scale and the scale in general.

3.1. Differentiation of student assessments on the civility levels of the teaching staff by department

Table 3. Differentiation of student assessments on the civility levels of the teaching staff by department

	Depart.	N	$\overline{X}$	Sd		K T	df	KO	F	p	Sch.
O-C/D	(1)CT	92	3,68	,92							
	(2)TT	98	3,27	1,19							
	(3)PCG	84	3,75	,62							
	(4)CEIT	86	3,74	,44	Between groups	37,933	7	5,419	7,111	,000	2-6 3-7
	(5)MT	102	3,59	,71	Within groups	542,613	712	,762			4-7 6-8
	(6)ST	92	3,78	,58	Total	580,546	719				
	(7)SST	90	3,23	1,20							
	(8)PST	76	3,23	,92							
P-A	(1)CT	90	3,99	,74							
	(2)TT	102	3,66	,95							
	(3)PCG	92	3,95	,60							
	(4)CEIT	86	3,81	,48	Between groups	22,581	7	3,226	5,424	,000	1-7 1-8
	(5)MT	104	3,75	,66	Within groups	427,026	718	,595			3-7 3-8
	(6)ST	90	3,68	,65	Total	449,607	725				
	(7)SST	94	3,51	1,10							
	(8)PST	68	3,42	,70							
U-F	(1)CT	94	3,84	,99							
	(2)TT	98	3,75	,93							
	(3)PCG	94	3,94	,72							
	(4)CEIT	86	3,70	,71	Between groups	21,529	7	3,076	4,052	,000	1-7 3-7
	(5)MT	110	3,74	,88	Within groups	555,610	732	,759			
	(6)ST	82	3,65	,71	Total	577,138	739				
	(7)SST	100	3,34	1,10							
	(8)PST	76	3,63	,71							
SDCLI	(1)CT	88	3,89	,76							
	(2)TT	96	3,56	,94							
	(3)PCG	82	3,94	,54							
	(4)CEIT	86	3,75	,43	Between groups	23,354	7	3,336	5,888	,000	1-7 1-8
	(5)MT	100	3,71	,70	Within groups	384,148	678	,567			3-7 3-8
	(6)ST	78	3,70	,62	Total	407,501	685				
	(7)SST	88	3,38	1,06							
	(8)PST	68	3,42	,68							

As is seen in Table 3, the civility levels of the teaching staff by department significantly vary in terms of all factors (p<,01). As a result of the Scheffe's test carried out in order to determine the reason of the differentiations, it was found that the differentiation in O-CD results from the differentiation between the civility levels of the teaching staff of ST and TT and PST departments and the teaching staff of SST and PCG and CEIT departments; the differentiation in P-A factor results from the differentiation between the civility levels of the teaching staff of CT and SST and PST departments, and teaching staff of PCG and SST and PST departments; the differentiation in U-F factor results from the differentiation between the civility levels of the teaching staff of SST and CT and PCG

departments; and the differentiation in SDLCI in general results from the differentiation between the civility levels of the teaching staff of PCG and SST and PST departments.

In the O-CD factor, the civility levels of the teaching staff of PST and TT department are significantly lower than the teaching staff at the department of SST; while the civility levels of the teaching staff of the department of PST are significantly lower than the teaching staff of PCG and CEIT departments. In the P-A factor, the civility levels of the teaching staff of SST and PST departments are significantly lower than the teaching staff of CT and PCG departments. In the U-F factor, the civility levels of the teaching staff of SST department are lower than the teaching staff of CT and PCG departments. When it comes to SDCLI as a whole, the civility levels of the teaching staff of SST and PST are significantly lower than the civility levels of CT and PCG departments. Accordingly, it can be said that the civility levels of the teaching staff of SS and PST departments are less adequate when compared to the civility levels of the departments of PCG and CEIT.

3.2. The state of differentiation of the level of the teaching staff to have civil individual properties by gender

Table 4. The state of differentiation of the assessments made on the civility levels of the teaching staff by the gender of pre-service teachers

| | Gender | n | $\overline{X}$ | Sd | Levene | | t | df | p |
					F	p			
O-C/D	Male	242	3,48	,87	,572	,450	1,250	718	,212
	Female	478	3,57	,90					
P-A	Male	248	3,55	,83	2,932	,087	4,548	724	,000
	Female	478	3,82	,74					
U-F	Male	244	3,50	,92	2,917	,088	4,529	738	,000
	Female	496	3,81	,84					
SDCLI	Male	226	3,52	,80	1,283	,258	3,857	684	,000
	Female	460	3,76	,74					

In Table 4, it is seen that the assessments made on the civility levels of the teaching staff are between $\overline{X}$ = 3,48 and 3,55 for male students and $\overline{X}$ =3,57 and 3,82 for female students. There is a significant difference between the assessments of female and male students to the advantage of female students in terms of all factors apart from the O-CD factor and in terms of SDCLI (p<,01). Male students consider the civility levels of the teaching staff in terms of all factors and the overall scale as more inadequate.

3.3. The state of differentiation of the assessments on the teaching staff of the students by their places of residence

Table 5. The state of differentiation of the assessments on the teaching staff of the students by their places of residence

	Place of residence	n	$\overline{X}$	Sd		K T	df	KO	F	p	Sch.
O-C/D	(1)Student house	242	3,62	,87							
	(2)Dormitory	282	3,42	,96	Between groups	7,066	3	2,355	2,941	,032	1-2 3-2
	(3)Family	106	3,63	,78	Within groups	573,480	716	,801			4-2
	(4)Apart house	90	3,61	,83	Total	580,546	719				
P-A	(1)Student house	248	3,72	,75							
	(2)Dormitory	284	3,71	,83	Between groups	2,776	3	,925	1,495	,215	
	(3)Family	108	3,70	,78	Within groups	446,831	722	,619			
	(4)Apart house	86	3,90	,67	Total	449,607	725				
	(1)Student	246	3,69	,87							

		n	$\overline{\text{X}}$	Sd		K T	df	KO	F	p	Sch.
	house										
	(2)Dormitory	286	3,63	,95	Between groups	5,157	3	1,719	2,212	,085	
	(3)Family	110	3,78	,84	Within groups	571,982	736	,777			
	(4)Apart house	98	3,88	,70	Total	577,138	739				
SDCLI	(1)Student house	224	3,70	,75							
	(2)Dormitory	272	3,59	,82	Between groups	4,705	3	1,568	2,655	,048	2-4
	(3)Family	106	3,70	,76	Within groups	402,797	682	,591			
	(4)Apart house	84	3,85	,61	Total	407,501	685				

As is seen in Table 5, the assessments made by the students on the civility levels of the teaching staff by their places of residence significantly differ in terms of the O-CD factor and SDCLI in general (p<,05), while there is no differentiation in other factors (p>,05). As a result of the Scheffe's test carried out in order to determine the source of this differentiation, it was determined that students' opinions differ in the O-CD factor between the students who stay in student dormitories and in other places. Students staying in dormitories find teaching staff more inadequate in terms of their civility levels. In SDCLI in general, it was determined that this differentiation exists between the students staying in student dormitories and in apart houses. Students staying in dormitories assessed the teaching staff as less adequate.

3.4. The state of differentiation of the assessments on the civility level of the teaching staff by the types of high school from which the students graduated

Table 6. The state of differentiation of the assessments on the civility level of the teaching staff by the types of high school from which the students graduated

	Graduated high school	n	$\overline{\text{X}}$	Sd		K T	df	KO	F	p	Sch.
O-C/D	(1)General High School	346	3,48	1,00	Between groups	5,696	3	1,899	2,353	,071	
	(2)Vocational High School	116	3,58	,72	Within groups	574,529	712	,807			
	(3)Anatolian High School	252	3,61	,80	Total	580,225	715				
P-A	(1)General High School	356	3,69	,87	Between groups	6,479	3	2,160	3,499	,015	
	(2)Vocational High School	112	3,67	,64	Within groups	443,104	718	,617			1-3 2-3
	(3)Anatolian High School	252	3,82	,70	Total	449,582	721				
U-F	(1)General High School	350	3,64	,93	Between groups	9,889	3	3,296	4,257	,005	
	(2)Vocational High School	118	3,65	,74	Within groups	566,874	732	,774			1-3 2-3
	(3)Anatolian High School	266	3,82	,85	Total	576,763	735				
SDCLI	(1)General High School	326	3,63	,85	Between groups	6,842	3	2,281	3,861	,009	
	(2)Vocational High School	112	3,64	,61	Within groups	400,470	678	,591			1-3 2-3
	(3)Anatolian High School	242	3,77	,70	Total	407,312	681				

As is seen in Table 6, the assessments made by the students on the civility levels of the teaching staff by the type of high school they graduated from do not differ in the O-CD factor (p>,05), it differs significantly in the P-A and U-F factors and in overall (p<,05). As a result of the Scheffe's test, it was determined that these differentiations resulted from the difference between the assessments of the students graduated from Anatolian High School and General

High School and Vocational High School. The students who are graduated from Anatolian High School appreciate the civility levels of the teaching staff more when compared to others.

CONCLUSIONS

The results obtained as a result of the study are discussed as follows.

1. The civility levels of the teaching staff are generally high. It can be said that this will contribute to the teaching staff being a right role model and the students' learning of the civil culture by living it (Yeşil, 2002; Kumral, 2009; Revell and Arthur, 2007; Nucci et al, 2005). Indeed, Gahramanova (2012) states that the university education process and the process of creating value in the minds of young people are overlapping, and this period is quite important in students' developing a cultural personality. For, according to her, the period when the personality is shaped and becomes stable is between 18 and 20 years of age.

Nevertheless, teaching staff are more problematic in terms of being open to criticism and development. This can be interpreted as the teaching staff act more antidemocratically in the practices that require students to act critically. The desire of the teaching staff to dominate the teaching process and their concern of finishing the subjects, and on the other hand, the tendency of university students to declare opinions in certain discourses may have led the teaching staff to preventing this.

On the other hand, the weaknesses of people, who must have an academic personality like teaching staff, of being closed to criticism and development are an important deficit. For, one of the most evident properties of the academic personality is to criticise and be open to criticism and development (Ortaş, 2004). According to Erdem (2012), criticism and critical thinking are among the main properties that science and science people must have. Ortaş (2004) defines universities as "environments that ensure the recognisability of the incidents by seeing and discussing by prioritizing the reason over emotion in a philosophical discussion environment." Accordingly, it should be indicated that it is important that the teaching staff who are also science people at the same time (URL 1) are open to criticisms and development in order to be role models for both themselves and their students. Teaching staff can be suggested giving more place to practices that will contribute to the dominance of the criticism culture in a civil and democratic attitude.

2. The civility levels of the teaching staff at different dimensions are positively and significantly correlated. Accordingly, it can be said that there is integrity between the dimensions of civility that are multi-directionally correlated (Demirel and Kaya, 2012; Komalasari, 2009; Yeşil, 2002). This is consistent with the assertion that different dimensions of culture are interrelated (Richardson et al, 2009; Lockwood, 1997; Balkaya, 2015). It can be interpreted as civilising of the teaching staff in one dimension more will contribute to their becoming more civil in other dimensions, as well.

3. In general, the civility levels of the teaching staff of SST and PST departments, which can be deemed to have social content, are more problematic. At the same time, the civility levels of the teaching staff in PCG and SST departments with a higher content of equally weighted and science/mathematics lessons are better. The teaching staff of the department of PCG are especially in a better situation. That the teaching staff of the department of PCG are more competent in knowing individuals such as psychology and counselling may have led to such a result. Upon examining the PCG professional definition in the literature of the lesson content in the curriculum of the department of PCG, that communication competencies and the use of individual recognition techniques have a particular importance attracts the attention (Kuzgun, 2014; Yeşilyaprak, 2016). Kumral (2009) states that the teaching staff that are not deemed to be adequate in terms of their communication competencies are regarded as poor and criticised by the students. There are also studies showing that the students from the department of PCG are evidently better in terms of their communication competencies (Dilekman, Başcı and Berktaş, 2008; Karataş, 2012). Accordingly, it can be suggested to include lessons on communication and student recognition in the curriculum of each department.

4. There is a significant difference between the assessments of female and male students in terms of all factors apart from the O-CD factor and in terms of SDCLI. Female students appreciate the civility levels of the teaching staff more. The positions of female and male students within the traditional social structure may have led to such a difference. As is known, in the traditional Turkish society, the movement area of girls is more limited when compared to boys. Girls are under the close control both by their families and other adults in the society (Günay and Bener, 2011; Ersöz, 2010). This perception of being under control and supervision among girls may have led to their perceiving the university environment and the attitudes and behaviours of the teaching staff as more flexible and libertarian when compared to men. Furthermore, there are also research findings in their assessments that females are more tolerated when compared to males. Çoban, Karaman and Doğan (2010) have shown that females approach differences in a more tolerated manner.

On the other hand, that teaching staff behaved differently towards female and male students may also have led to assessment differences. Teaching staff may be treating female students in a more flexible and understanding way. It can be said that this is not a right attitude as it means gender differentiation in communication. Although legal regulations also show that positive discrimination towards girls will be made/should be made (Ersöz, 2010; Günay and Bener, 2011; Soysal, 2010); there is a segment of the society that criticises this attitude (Dedeoğlu, 2009; Soysal, 2010). In the study carried out by Asan (2010), it was determined that both the teachers and the texts and pictures in course books include gender discrimination. Dedeoğlu (2009) states that the positive discrimination towards females, especially in work life, fosters the gender discrimination perception in the society. This detracts many females from work life. According to him, there is a tendency in the West to eliminate gender discrimination.

5. The assessments made by the students on the civility levels of the teaching staff by their places of residence significantly differ in terms of the O-CD factor and overall SDCLI. Students staying in student dormitories find teaching staff more inadequate in terms of their civility levels. This may be a consequence that students staying in student dormitories fail to have the opportunity to act freely and express their emotions they find in student dormitory environment in the classroom environment. Student dormitories are more flexible and free when compared to classroom environments both in terms of time and restrictive rules. Teaching staff in classrooms are more restrictive as classrooms are purposeful and planned environments. This may have led to their assessing the teaching staff stricter and prim. On the other hand, as of the traditional structure, family environments are both warmer and sincerer and are also places where especially the authority of the father is felt (Günay and Bergen, 2011; Ersöz, 2010; Yeşil, 2002). This brings about the fact that students can act within certain limits in their families while they can act more freely in apartment house environments.

6. The assessments made by the students on the civility levels of the teaching by the type of high school they graduated from significantly differed in terms of the P-A and U-F factors and overall SDCLI. Students who have graduated from Anatolian High School appreciate the civility levels of the teaching staff more when compared to others. Students from Anatolian High Schools, where the education and teaching conditions are more disciplined and teaching-oriented, may have assessed the environment at education faculties and the behaviours of the teaching staff as more civil. Indeed, Anatolian High Schools are schools that focus on university exams and where educational discipline is more dominant. Nevertheless, the atmosphere is more flexible in vocational high schools and general high schools. Students can act more arbitrarily. This may have caused the students from this type of high schools to assess the atmosphere at the faculty of education more disciplined and strict (Berberoğlu and Kalender, 2005).

Together with all these, another important reason for the differentiation in the assessments made on the civility levels of the teaching staff may be the differences in the civility perceptions of the students. While civility, a concept of the Western origin, dates back to very old times, its expression in Turkey is quite new (İğci, 2008; Aytekin, 2013; Keyman, 2015; Jonaski, 1998). Although it occupies the agenda of the politicians, jurists, educators, etc. much in recent years, is researched much, and the effect power of the non-governmental organizations increases in Turkey and around the world day-by-day (Karakuş, 2006; Young, 1999; İğci, 2008; Balkaya, 2015), it can be said that it cannot be built on a right basis both in terms of its theoretical reflections and its reflections on political and social life. Multi-dimensional discussions on what civilisation is still take place especially in Turkey (İğci, 2008; Aytekin, 2013; Balkaya, 2015; Karakuş, 2006). As a result of wrong meanings and meaning giving, while some people consider civilising as the basis of chaos and complication, others consider it as an efficient way out for the country and society to develop (İğci, 2008; Young, 1999; Cohen and Arato, 1992; Jonaski, 1998). For this reason, it can be said that more studies on civilising should be carried out in Turkey. It can be said that the scientific studies on what to do in order to determine the perception of civility among individuals, introduce content that fits our culture, and extending this correct perception to the whole society, should be prioritised.

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CLASSIFICATION OF EXPENSES IN INCOME STATEMENT: IS THERE ANY DIFFERENCE BETWEEN NATURE AND FUNCTION FROM THE STUDENTS' POINT OF VIEW?

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ABSTRACT
Financial statements serve as an important tool of informing investors and other users about the financial position and performance of companies. The decision-usefulness of information indicating a particular company's performance is dependent, inter alia, on the classification of expenses presented in the operating section of the income statement. Using a sample of 216 students enrolled into a university course "Introduction to Accounting", a regression model contains a weak form of evidence (significant at 10%) for the difference in the results of a midterm test, checking for the students' knowledge of both methods (classification by nature and classification by function). The students solving an example, requiring the classification of expenses by their function, perform slightly better (by 2.5%) than their colleagues, unravelling the same example with the classification of expenses by their nature. The finding has inferences for the education as well as the practices. A weaker comprehension of accounting procedures relating to the classification of expenses by their nature in accounting courses, if not removed by practical experience, can result in material errors contained in the financial statements of real companies and thus to mislead the users. On the other hand, regression model indicates that students are able to learn from past mistakes, as failure in the course in a previous semester increases the test score by 7% (significant at 1%).

INTRODUCTION
The preparation of financial statements is the final phase of an accounting cycle and it is a crucial task of accountants in delivering information useful to investors and other users in their economic decision-making. When designing the content and format of financial reports, a company has to decide, which classification to use for the disaggregation of operating expenses. According to the International Accounting Standard 1 (IAS 1.99), an entity shall present the expenses using a classification based on either their nature or their function within the entity. The choice is not discretional, as the entity shall select the classification providing its users with information that is reliable and more relevant. Furthermore, an entity classifying expenses by function shall disclose additional information on the nature of expenses (IAS1.104). For these reasons, a professional accountant needs to master both approaches so that financial statements meet the informational requirements of users. Both classifications have certain advantages and disadvantages for the users' point of view. The distinct information potential is mirrored in the phase of regular bookkeeping as well as in the phase of preparation of financial statements, as different accounting techniques shall be applied to ensure matching of revenue with expenses. Naturally, this feature of transaction recording and financial statements preparation has an impact on accounting education and selection of suitable teaching methods. Accounting courses shall be organised so that students obtain the knowledge and competence needed for practical mastering of both systems, including awareness of the errors, which may occur during recording and/or finalisation phase.

The goal of this paper is to investigate, whether there is any difference between students' ability to prepare an income statement, which presents the expenses according to their function, compared to students' ability to prepare an income statement with the classification of expenses based on their nature. To answer the research question, the paper examines the results of the second midterm test in the "Introduction to Accounting" course taken by the students of the Faculty of Finance and Accounting at the University of Economics, Prague. As the classification by nature does not guarantee automatic matching of revenue with expenses (the matching requires accounting for the change in inventory), better results are expected for the students solving the variant of the test requiring the classification by function.

The rest of the paper is structured as follows. The introduction is ensued by the review of relevant literature, which serves as a basis to refine the paper's goal by developing the research hypotheses. Third section describes the research design and presents its main results. Final section concludes.

LITERATURE REVIEW
The students' performance in any type of subject and on any level of education is one of the major issues in

education research. There are several factors explaining the variance in success rates across different groups of students, such as self-efficacy, intrinsic motivation, self-regulation, and social support (Spitzer, 2000). The relative impact of each variable appears to be cross-sectional and/or time heterogeneous (Marginson & Rhoades, 2002); and studies on similar aspects of education process produce frequently distinct results. Mixed findings are also evidenced by the research of students' performance in accounting courses. (Bouillon & Doran, 1990) identify the association of having experience with accounting from the high school with the students' results in the introduction course to accounting at the university level. The same conclusion is demonstrated by (Lynn, Shehata, & White, 1994) and (van Rensburg, Penn, & Haiden, 1998). However, the high school experience with accounting does not influence (Bouillon & Doran, 1990), or even degrades (van Rensburg et al., 1998) the performance of university students in advanced courses on accounting.

Similarly mixed conclusions are also available for the student-endogenous factors. General ability to learn is the only variable confirmed across studies as being one of the crucial determinants of success rate (Bouillon & Doran, 1990), (Lynn et al., 1994), (Tho, 1994), (Jackling & Anderson, 1998). (Naser & Peel, 1998) stress that the intelligence predisposition needs to be accompanied with an active student's effort to pass successfully an accounting course. Regarding personal characteristics, (Gul & Cheong Fong, 1993) find evidence of the variance in performance depending on a personality type, but (Oswick & Barber, 1998) challenge this view by showing that personality traits are not associated with the performance in accounting. From recent research, (Tan & Laswad, 2015) attribute the learning style mastered by a student as being a factor affecting the results. Similarly divergent outcomes of research are present in the case of the importance of language proficiency, if accounting is taught in foreign language (Gul & Cheong Fong, 1993), (Jackling & Anderson, 1998). From commonly applied variables, gender seems to exhibit similar patters across studies, which evidence its neutral impact on likelihood of passing an accounting course.

Alongside with the determinants of performance, research in accounting education focuses on the specifics of different teaching methods, for example the case studies (Boyce, Williams, Kelly, & Yee, 2001), (Weil, Oyelere, Yeoh, & Firer, 2001), (Hassall & Milne, 2004), the computer business games (Marriott, 2004) and other problem-based teaching methods (Milne & McConnell, 2001). Different assessment methods are a matter of interest as well. The advantages and disadvantages of multiple choice tests in accounting education are originally addressed by (Collier & Mehrens, 1985) or recently by (Einig, 2013). (Mohrweis, 1991) assesses the utilisation of writing assignments. Finally, (Tinkelman, Venuti, & Schain, 2013) investigate the impact of changes in the weights assigned to various tasks in course assessments on the ultimate course grades. Despite a great range of studies on accounting education is elaborated (Apostolou, Dorminey, Hassell, & Rebele, 2015), there is no piece of work addressing the students' ability to master a selected part of a particular course syllabus (e.g. preparation of balance sheet, double entry, accounting for intangibles, etc.). The paper fills in this gap by providing the evidence on students' partial performance in the area of the preparation of income statement, focusing on the classification of operating expense by nature or by function.

Based on the literature review, following hypotheses about the students' performance in the midterm test on classification of expenses are proposed:

- H1: There is no difference in mastering accounting procedures relevant for the classification of expenses by function compared to the classification of expenses by nature.
- H2: There is no difference in the performance of students having the accounting specialisation as their major and "non-accounting" students.
- H3: There is no difference in the success rate of students according to their gender.
- H4: There is no difference in the success rate of students according to the year of their study.
- H5: There is no difference in the success rate of students according to their age.
- H6: There is no difference in the success rate of students according to their nationality.
- H7: There is no difference in the success rate of students enrolling the course for the first time compared to the students repeating the course.

RESEARCH DESIGN, DATA, AND RESULTS

Based on the literature review, the hypotheses will be assessed with the following regression model.

$$Points = \beta_0 + \beta_1 Test + \beta_2 Major + \beta_3 Gender + \beta_3 Age + \beta_4 Year + \beta_5 Average + \beta_6 Language + \beta_7 Attempted + \varepsilon$$

<p style="text-align:center">Table 1: Description of variables</p>

Variable	Description	Values	Expected direction on "Points"
Points	The percentage result of the midterm test	0-100%	xxx
Test	The type of test according to the required classification of expense	Function Nature	Students solving the variant "Function" should have better result
Major	Major specialisation of the student	ACC (accounting) BAN (banking) EDU (economic education) FIN (finance) TAX (taxation)	Indecisive
Gender	The gender of a student	M (male) F (female)	No difference
Age	The age of a student, when taking the course	Young (less 22 years) Mature (22 years and older)	The higher age, the better result
Year	The year, in which a student takes the course	Integer ranging from 1 to 4	The higher year, the better result
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 better result
Language	Proxy for mother language	CZE (if a student is of Czech or Slovak nationality) nonCZE (otherwise)	Native speakers should perform better
Attempted	Indicates, whether a student was enrolled in the course already in previous semester	No (first attempt) Yes (failure in previous semesters)	Indecisive

(Bouillon & Doran, 1990) indicate that a student's study programme can determine the outcome of the test, as students having accounting as a major specialisation perform better than those, who selected other fields of study. However, in case of this sample, students are quite homogeneous, as all are students of the Faculty of Finance and Accounting and their majors are closely related. The expected direction of the "Major" variable is therefore unpredictable. Referring to previous research (Tho, 1994), (Jackling & Anderson, 1998), the variable "Sex" is not supposed to produce different results. (McKenzie & Gow, 2004) present a positive correlation of age and performance, as the older student benefits from self-reported learning styles. The model captures two approximation measures of learning capacities – "Age" and "Year" (indicating the number of years, a student has already been studying at the university). General capability to learn is the major determinant of performance (Guney, 2009), (Jackling & Anderson, 1998), (Naser & Peel, 1998). This factor is expressed by the variable "Average", measuring score from other courses taken during the study. As one third of students in the sample are not of Czech nationality, the model also controls the language proficiency. Despite previous evidence is inconclusive (Gul & Cheong Fong, 1993), (Jackling & Anderson, 1998), the natural expectation is that Czech students shall perform better, as they do not face to language barriers. (Bouillon & Doran, 1990), (Lynn et al., 1994), (van Rensburg et al., 1998) identify the positive impact of experience with accounting at a high school on the performance of students in the introductory course on accounting at universities. The model approximates this kind of experience by controlling for the failure of students in the same course in previous semesters. However, the expected direction on dependent variable is not clear.

The model will be tested using data on the second midterm test in the course "Introduction to Accounting", which is a compulsory subject for all bachelor students at the University of Economics, Prague. Its assessment is composed of two individual midterm tests (15% of total assessment), semestral group case study (15%), activity during the semester (10%), and final test (60%). The test on classification of expenses is written in the middle of a 13-week semester and it includes following tasks: the opening of the balances (6% of the total score), the recording of 10 transactions requiring either functional classification of expenses or classification by nature, including the measurement of inventory (64%), and the preparation of balance sheet and income statement (30%). To get a homogeneous sample, only students of the Faculty of Finance and Accounting are examined. The students of this faculty are expected to work in the related fields and shall thus have greater incentives and predispositions to perform better than students from other faculties. To avoid the influence of external factors (such as different teaching styles of different teachers; different tests; etc.), the sample consists only students enrolled with the same

teacher.

The final sample contains 216 students of the same tutor writing the same midterm test. Figure 1 shows the frequency distribution of the students' percentage performance in the midterm test. The distribution is skewed to the right, i.e. the majority of students reach or are close to reach the ideal 100% mark. Table 2 sketches the descriptive statistics of dependent and independent variables, including their univariate tests measuring the potential variation in the response variable "Points" depending on different levels of a particular explanatory variable. The Mann–Whitney U test is used for the testing of difference in means for all independent variables except for the group variable "Major", where The Kruskal–Wallis test is applied.

Figure 1: Frequency distribution of the mid-term test assessment
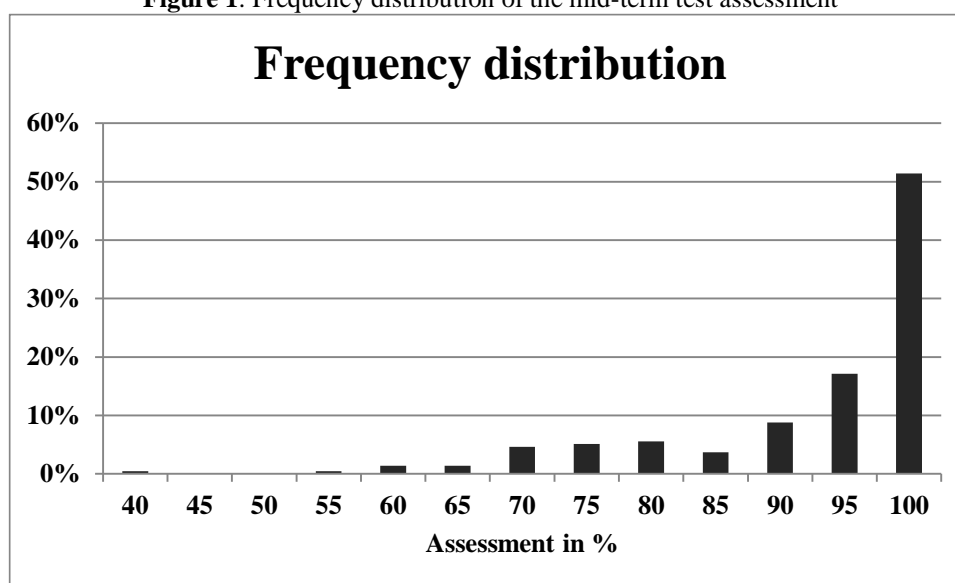
Table 2: Descriptive statistics and univariate tests

Variable	Value	Count	Min	Median	Max	Mean	St. Dev.	Univariate tests
Points	xxx	216	44.00	96.00	100.00	90.68	11.36	xxx
Test	Function	109	53.00	96.00	100.00	91.82	11.21	W = 6542
	Nature	107	44.00	94.00	100.00	89.51	11.45	p = 0.119
Major	ACC	60	57.00	97.00	100.00	91.70	11.11	KW = 8.5594
	BAN	42	44.00	93.50	100.00	86.83	14.13	p = 0.036**
	EDU	3	72.00	88.00	100.00	86.67	14.50	
	FIN	84	56.00	96.00	100.00	92.36	9.74	
	TAX	27	65.00	93.00	100.00	89.59	10.75	
Gender	Female	138	53.00	96.00	100.00	91.05	11.00	W = 5626
	Male	78	44.00	96.00	100.00	90.01	12.10	p = 0.578
Age	Young	194	44.00	96.00	100.00	90.74	11.49	W = 1963.5
	Mature	22	67.00	94.50	100.00	90.09	10.38	p = 0.537
Year	1	59	53.00	96.00	100.00	90.64	11.57	W = 4686#
	2	153	44.00	95.00	100.00	90.51	11.41	p = 0.665
	3	2	96.00	97.00	98.00	97.00	1.41	
	4	2	98.00	98.00	98.00	98.00	0.00	
Average	xxx	216	1.160	2.405	3.390	2.357	0.467	W = 46656
								p = 0.000*
Language	Czech	167	44.00	96.00	100.00	90.65	11.50	W = 4321.5
	Foreign	49	53.00	93.00	100.00	90.76	11.00	p = 0.547
Attempted	No	192	44.00	96.00	100.00	90.53	11.42	W = 2229.5
	Yes	24	58.00	96.50	100.00	91.83	11.70	p = 0.796

* 1% significance; ** 5% significance
\# The Mann–Whitney U test id applied only for the pair "Year 1 vs. Year 2"

Finally, regression analysis is run to detect significant determinants of students' performance holding other effects fixed. As the distribution of the test's results is heavily skewed to the right (see Figure 1), a generalised linear model (GLM) with gamma distribution is used for the estimation of parameters. GLM is preferable over OLS, if the error distribution does not conform to normal distribution. Furthermore, the model controls for the heteroscedasticity.

Table 3: GLM Regression

Dependent variable: Points (%)	estimate	t-statistic	p-value
Constant	121.292	19.911	0.000
Test-Nature	-2.455	-1.671	0.096***
Major-BAN	-4.766	-2.214	0.028**
Major-EDU	-4.798	-0.787	0.432
Major-FIN	-1.948	-1.001	0.318
Major-TAX	-0.741	-0.296	0.767
Gender-Male	-0.020	-0.013	0.990
Age-Young	-2.158	-0.864	0.389
Year	0.145	0.093	0.926
Average	-11.578	-6.573	0.000*
Language-NonCZ	2.863	1.549	0.123
Attempted-Yes	6.988	2.705	0.007*

* 1% significance; ** 5% significance; *** 10% significance

The analysis of regressors' estimates reveals that general ability to learn (measured by the variable "Average") is associated with the performance at the midterm test at 1% significance level. Each grade down (in average score) leads to an 11.5% drop in the test's result. Similarly, an unsuccessful attempt to pass the course in previous semesters increases an average score from the midterm test by almost 7% (with p-value = 0.007). Hence, students are able to learn from the past mistakes and can capitalise on the previous experience with the course content. Furthermore, the students studying Banking as their major specialisation perform significantly worse (at 5% significance level) than the students with the major in Accounting. Differences for other specialisations are not statistically significant. Finally, there is a 2.455% difference in the average score, holding other effects fixed, in favour of students solving the example with the functional classification of expenses. However, the p-value is relatively high and the association is identified only if 10% significance level is admitted. A weaker comprehension of accounting procedures relating to the classification of expenses by their nature in accounting courses by students might be rubbed off to their jobs, once they enter the job market. Material errors can then occur in the financial statements of real companies and thus to mislead the users. This risk is although mitigated by the above described finding, that students reattempting the course are able to learn from their past mistakes. Finally, the remaining explanatory variables, such Age, Year, Gender, and Language are not found statistically significant.

CONCLUSIONS

The paper contributes to current knowledge in accounting education by analysing the study results in one particular piece of the assessment in the introductory course on accounting at the university level. Using data on 216 students solving a midterm test, which focuses on the classification of operating expenses in the income statements of a manufacturing company, the results of regression model draw attention to three main findings. The first one is unsurprising and in line with the previous research. The performance in accounting is positively associated with a general capacity to learn. Secondly, unsuccessful achievement in past semester increases likelihood of repeating students to perform better than novices in the course. Thirdly, students have slightly worse test's assessment in case of classification of expenses by their nature compared to the variant with a functional form of classification. This conclusion is a matter of importance for the practice, as a weaker comprehension of accounting procedures relating to this classification can produce material errors in financial statements of real companies.

Regarding the main limitations of the study, at least two aspects shall be mentioned. Firstly, the test's design might not be developed in a manner to measure the students' comprehension of the topic satisfactorily. Secondly, despite 18.1% students managed to write a test in the range 75-89%, which is a fairly good result (the second best grade), a comparable extent of errors in real financial statements would surely surpass the acceptable materiality level. Future research shall therefore examine the "success rate" alternatively, for example by binary dependent variable – "passed" (over 90%) and failed (below 90%) – to deliver an error-free solution of the test's example. Another

option is to transform the variables and to test the mutual interdependencies under a fuzzy-set design.

Acknowledgement

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CLASSROOM MANAGEMENT AND INCLUSION: PEDAGOGICAL AND TECHNOLOGICAL APPROACH.

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ABSTRACT

This paper is a discussion of technology and teachers preparation about classroom management, differentiation and inclusion. Nowadays the role of teaching and educating the youth has become more difficult than in the past [1]. In the classroom there are present students with different approaches to learning, but also students with disabilities and/or students with specific learning disabilities and they need a specific approach to have a good experience at school. The role of teachers is central to promote well-being in the classroom for all students, included those with disabilities. Every student needs a teacher who understands the power of Universal Design for Learning and Differentiation and manages the classroom according to the guidelines allowing inclusion for everyone. Technology can support teachers to teach more inclusively and is an essential tool for students to learn in a more effective way. This is mainly true when technology solutions allow to personalize the approach to learning and therefore to make the learning experience more interactive and immersive. When students are more engaged, in fact, they are more motivated and they perform better. The following two Apps can support teachers in classroom management and create a better learning context for all students: Classroom App and iNclusion App.

INTRODUCTION

" Is it getting harder to manage your classrooms?". This was one of the questions of the research carried out from September 2012 to May 2013 by Research Centre on Disability and Marginality (CeDisMa, http://centridiricerca.unicatt.it/cedisma) in the Catholic University of the Sacred Heart in Milan. The goal was to understand, through specific indicators, the teachers' perception about the difficulties to manage the classroom. This study allowed the researchers to reach a statistically significant sample of teachers (754) from different schools level in Italy (from kindergarten to secondary schools), in order to allow an easy and direct participation.

The project was set up in order to analyze the indicators of complexity in a classroom and to define a pedagogical approach to answer the teachers' needs. The data analysis and results have clearly pointed out the increasing complexity of the teachers' role and the relational dynamics involved in the process of teaching-learning. First of all, since 1977 (L. n.517/1977), when Italian schools started to include students disabilities, the School System has experienced continuous adjustments to build a "school for all students" [2]; secondly, our society has been continuously changing and that has had a repercussion at school because, since there are new needs in the society, this translates into new needs for students in the classroom such as new need in society it is translatable in new needs for student in classroom such as immigrants students, students with difficult economic or social background, bad mannered students; thirdly, students have more transversal competences and are more multitasking than their teachers and are able to use technology better than teachers. Technology is for students a new way to learn.

In conclusion, teachers need support to answer those necessities and deserve a training to obtain the competences and strategies to teach inclusively, to manage the classroom accurately and to use new approaches in order to answer their students' needs (that nowadays is a digital student), to keep up with the society.

THE STUDY: THEORETICAL FRAMEWORK

Classroom management is a challenge that many teachers constantly face. They must be ready to guide all students in the class to do their best version, to be able to learn, to be active and a pro-active part of the teaching-learning process, to be motivated and interested in knowledge. "Without a safe learning environment, teachers cannot teach and students cannot learn" (Kaufman and others, 1998). Schools are safe when they are able to include all students, when they allow everyone all to participate in the classroom, when answer to all students' needs. The role of teachers is getting harder especially considering the complexity of today's society.

In schools, teachers need to face with many kinds of inclusion: not only the inclusion of student with disabilities but also inclusions of foreign students, bad-mannered students, students with dyslexia or other specific learning disabilities, unmotivated students or students with difficult social conditions. Furthermore, in addition to these issues, there is also the technology gap between teachers and students. The latter use technology to communicate, to meet someone, to play and to learn. Teachers, instead, are often technologically illiterate or, if they have some skills, they are usually the result of self-study and, frequently, they are afraid of disappointing their students' expectations.

In general, and especially in the classroom, it's important for generations to bridge this gap so that they can power up an effective teaching-learning process. The classroom management is the first support teachers have to bridge the gap: if teachers know how their students learn, how they live in the classroom and how they are able to respond to their teachers' offers, then true learning can happen.

How should teachers manage the classroom to allow all students to really learn?

How can teachers promote motivation for all students?

In today's difficult situation, classroom management can be a solution to support teachers to teach in the best way and represents a set of effective strategies to guide the class and promote the interests of all students also in order to respect the values of the Universal Design for Learning.

Teachers play a fundamental role in the cognitive, social and emotional development of their students by giving them the opportunity to learn, as numerous studies have shown [3]. The classroom management sets the stage for learning in this way; without it, classrooms are chaotic, disorganized and blundering [4]. Effective teaching and learning, in fact, cannot take place in poorly managed classrooms [5]. The classroom management is based on the principle of establishing a positive classroom environment encompassing effective teacher-student relationships [6].

In their definition of classroom management, Evertson and Weistein (2006), describe it as a set of actions to create a supportive global environment of students. They explain [7] five actions that teachers can use to manage effective the classroom:

1. developing supportive relationships with and among students;
2. organizing the activity and giving clear instructions;
3. using group management and cooperative learning methods;
4. employing appropriate interventions to support students with behavior problems;
5. promoting an ongoing interaction between teachers and their students.

In Brophy' definition [8], the classroom management refers to the actions taken to create and maintain a learning environment conducive to successful instruction arranging the physical environment, establishing rules and procedures, promoting students' attention and engagement in activities.

The classroom management is not only a way to teach but a set of strategies to promote students' engagement; it is based around teachers' ability to organize the classroom using an effective connection between management and teaching to realize a "good lesson movement". This is possible through these strategies [9]:

- withitness (teachers' ability to know what was going in classroom);
- overlapping (being able to present a new topic while preventing misbehaviors);
- momentum and smoothness (to be able to "roll-with-the-punches" and to keep on a plan or course action);
- focus group (the ability of teacher to engage the whole class).

In addition, in effectively managed classrooms it is necessary to establish:

- clear rules and procedures;
- disciplinary interventions;
- teachers-students relationships;
- mental set (that includes two aspects: 'withitness' and 'emotional objectivity') [10].

All these strategies allow to teachers to catch students' interest e promote learning. Have digital skills allowing them to use such tools to manage the classroom and to establish a student-teacher connection. Nowadays, technology is present in schools but, as some studies prove, often teachers didn't receive a correct training and so they're unable to use these tools in the most appropriate way. On the other side, students are able to exploit technology for their own daily activities, but lack the essential skills to apply technology to the learning process. To promote a correct use of technology, it is important for teachers to guide students to find out how technology solutions can support their learning process and improve their competences. Furthermore, technology allows moreover to differentiate the activities according to specific students' need. Using

technology, teachers can help students with disabilities, students with dyslexia, students that have different approaches to learning. That's why it is important to apply different technology tools for education so that each teaching style can match each individual learning style

How it is possible use technology during the lessons?

How can technology solution support the classroom management?

How can technology promote inclusion in the classrooms?

FINDINGS

In the field of education, the well-being of students is a necessary condition to make them feel included, accepted, part of the class and therefore ready to learn. This analysis about two Apps allows to reflect on the well-being in classroom, teachers perception about students' motivation and management. The two apps considerd in this analisys are the iNclusion App (https://itunes.apple.com/it/app/inclusion/id1093478813?mt=8), by CeDisMa and MMN (Marketing Media Network, http://mmn.it), a support for teachers to think about their teaching style and their management competences, and Classroom (https://itunes.apple.com/it/app/classroom/id1085319084?mt=8), by Apple, a support for an effective classroom management and teachers-students relationship. iNclusion App is a technological tool for Italian teachers to analyze how the classroom management can support students' motivation [11]. It is based on a qualitative questionnaire which will be filled in by primary, middle and secondary school teachers (in Italy) to find out how often they implement educational actions. The iNclusion App works in a specific platform: Research Kit (http://researchkit.org) that allows the collection of data. Teachers need an IOS device to use the iNlcusion App (8.4 or following).

(https://itunes.apple.com/it/app/inclusion/id1093478813?mt=8)

Teachers can use the App following these steps:

- they login to the format and agree to transfer their data to the platform;
- they read a short presentation about CeDisMa research center and the aim of the study;
- they select the teacher's questionnaire;
- they answer the questions (60 question about classroom management, students in the class, teacher and student needs - special needs included).

The questionnaire will also drive teachers to reflect on the importance of students' motivation. A motivated student is a student that feels well in the class.

Good class management creates a positive work environment and therefore plays an important role in implementing a more functional "context" for learning, as a social and physical reality. The data collected will make it possible to analyze and "measure" the relationship between class management, students' motivation and the subsequent impact on their learning. The platform will allow the research team to provide a qualitative data analysis. Technology is no longer just a way of processing statistics and data, but it's an invaluable support for research. Teachers will find it useful to analyze their own class management skills and to share procedures, good practices and needs [11]. This App can promote actions and interventions to encourage well-being, supported by technology; students' engagement in learning processes; social well-being in the

classrooms. Based on the classroom management strategies, the App help teachers in the process to create collaborative and profitable environment in order to enhance learning in the classroom. Thanks to the iNclusion App, teachers can think over their own strategies to improve the learning environment in the name of inclusion of all their students. The first tool they need to use to do so is of course observation. When teachers answer to the questions they can focus on:

- classroom management [12];
- relationships in the teaching-learning process [13];
- students' behavior in the classroom [14];
- best practices to teach [15].

After the first use, about four month later, teachers will get a notification asking them to re-use the App to notify any changes about their teaching style. iNclusion App can support teachers to teach and manage the classroom in order to create a positive atmosphere in the classroom. Teaching and learning should bring joy. Every child deserves a champion, an adult who will never give up on them, who understands the power of connection, and insists that they become the best that they can possibly be [16]. Thanks to this App, teachers will be able to think about inclusion and students' motivation. If students feel actively part of a lesson, they can learn better and more effectively [11]. This can be possible if teachers are able to select their methodology according to the single individuals they're teaching to [11]. At the moment feedback received (data available only from April 29th, 2016) confirms CeDisMa's theory on the the importance of supporting teachers in developing the strategies and methodologies to promote inclusion and well-being [17] in the classroom.

The second App, Classroom, is a technological tool released by Apple (in March 2016) to manage the classrooms according to the theoretical framework, such as presented in this paper, about this topic. This App allows to convert each iPad into a didactical tool that help teachers to guide their students through technology to really learn and make it possible to supervise the progresses of the class.

(https://itunes.apple.com/it/app/classroom/id1085319084?mt=8)
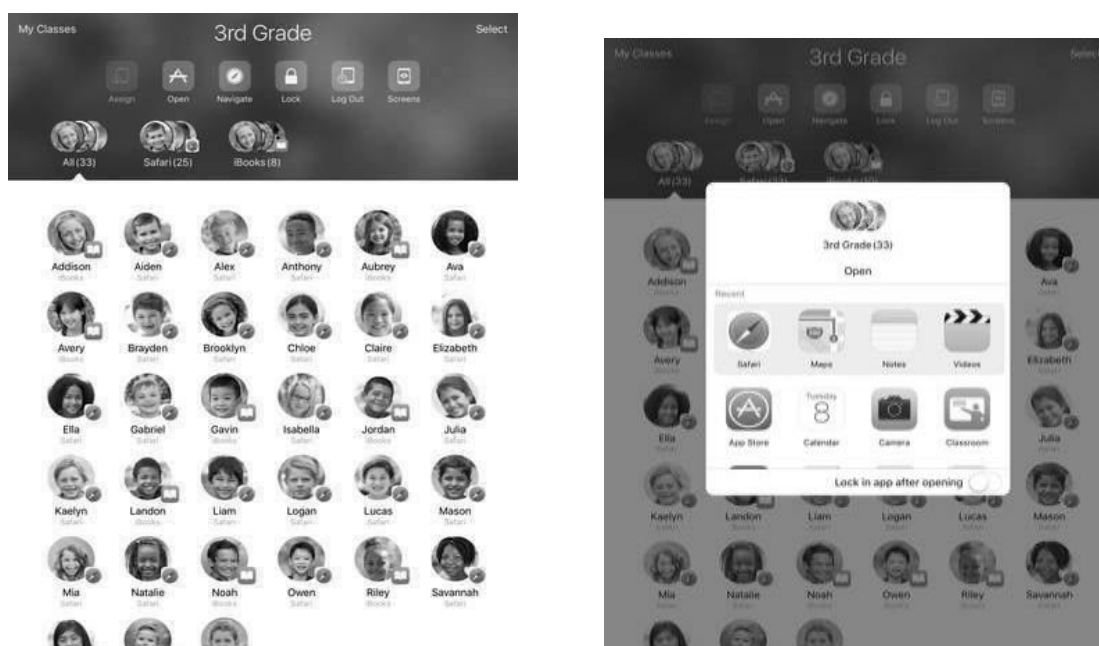
Thanks to this tool it is possible open the same App on all devices present in the classroom or, when it is necessary to differentiate the activities, open different application to answer students' needs (single or in group). Using Classroom, teachers can focus on inclusive strategies which include at he same time students with disabilities, dyslexia or any sort of special needs. Using Classroom, students are able to think over their learning style. To use Classroom, all students and all teachers need an iPad. It needs to be configured with an education configuration profile, and the requires an iPad running IOS 9.3 or later. Once properly set up,

teachers can use Classroom to open apps, web pages, assign iPads and much more on their student's devices. All the devices are sharing contents in a digital class:

- every student has an account and when the student is it at school , the account is visible to teachers;
- every teacher has an account and is able to control more classrooms.

By a simple touch, teachers can:

- assign Shared iPads to students;
- start, focus or pause students work;
- see what students see with Screen View;
- share students' work on the classroom Apple TV;
- organize students' devices using groups.

 According to the privacy policy, when teacher views the students' iPad, students can see, in their iPad, a blue line that informs them about that the Screen view was activated. Teachers can view all the screens on the same page or can decide to visualize a single iPad' activities. To catch everyone's attention, teachers can also lock all iPads (selecting a student or a group of students), which might be helpful during an important announcement or activity or to avoid misbehaviors and distraction. This App includes the framework for classroom management, witch allows to promote learning activities that answer single student's need but without neglecting the classroom as a whole and the other students. It can be said that this App is inclusively for three reasons at least: first of all, when teachers use Classroom , they can share contents that every student can personalize without other tools or technologies; secondly, it is possible not only to control the students but also to guide them towards their personal learning style through different activities, resources, tools in an informal way (through private, not public, remarks that can be sent to the students' iPad); thirdly, the App is a a tool that supports teacher during the classroom management, allowing them to better understand students' learning style, to reinvent teachers' style so that they can follow an approach based on the students' needs; thus through an innovative instrument innovative that students admire and use daily.

CONCLUSIONS

To conclude this dissertation, it is possible to declare that:

- it's getting harder and harder to deal with students;
- technology can be a connection between generations in the classrooms;
- teachers need more support to teach in today's societies' complexity;
- students deserve the best school and the best teachers to became the best they can.

Technology isn't the only solution to difficulties we are facing in schools nowadays, but might be one of the solutions that teachers can apply in their didactical activities. Technology is a way, an instrument and it is therefore important for teachers to learn to use it, not only to set up a more interactive and lively didactics, but also like a tool that allows to promote a correct classroom management, inclusion and personalization. Technology is not very widespread in schools: this happens because teachers lack the right tools (or maybe an internet connection), because they lack the right skills or just ignore the full potential of technology. In the hands of a well-trained teacher, technology, allows to achieve a school opened to everyone, also for students with disabilities or specific needs [18]. These two Apps, presented in this paper, deserve a curious teacher who wants to test a new way for education. Technical skills aren't a prerequisite: they will come along with training and using the tools. When teachers teach, they have to focus on students and when teachers have students with special needs, technology can be the way to get to all students, to overpass "barriers", to allow students to hear, to see, to write, to learn according to their individual needs, to be able to do achieve a goal in their own way. Clearly, technology can't cancel the difficulties, but it can build a bridge and help creating the most inclusive context possible.

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COĞRAFYA ÖĞRETİMİNDE SINIF DIŞI OKUL ORTAMLARININ KULLANIMINA İLİŞKİN ÖĞRETMEN GÖRÜŞLERİ

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ÖZET
Coğrafya öğretiminde sınıf dışı öğrenme etkinlikleri, derse ve kazanımlarına katkı sağlamak amacıyla yürütülen ve daha çok okulun sınırları dışında yapılan etkinliklerdir. Bu çalışma, coğrafya öğretmenlerinin coğrafya dersinde sınıf dışı öğrenme konusundaki görüşlerinin ortaya konması, sınıf dışı öğrenmeyle ilgili işleyen ve aksayan konuların belirlenmesi amacıyla gerçekleştirilmiştir. Nitel araştırma yaklaşımına dayalı olarak desenlenen çalışmaya 73 coğrafya öğretmeni katılmıştır. Araştırma verileri, yarı-yapılandırılmış görüşmeler yoluyla toplanmış ve betimsel analiz yoluyla çözümlenmiştir. Araştırma sonucunda coğrafya öğretmenleri coğrafya öğretimine katkı sağlayacak sınıf dışı okul ortamlarına ilişkin görüşlerinde doğal çevre alanları, okul bahçesi, meteoroloji istasyonları öne çıkmıştır. Öğretmenler ileri sürdükleri sınıf dışı okul ortamlarını daha çok ders işleme ve gözlem yapma şeklinde kullandıklarını belirtmişlerdir. Coğrafya öğretmenleri sınıf dışı okul ortamlarının yaparak yaşayarak öğrenmelere olanak sunduğunu, bilgiyi somutlaştırdığı ve derse ilgiyi arttırdığını ileri sürmüşlerdir. Öğretmenler prosedürün fazlalığı, maddi yetersizlikler ve ders saatlerinin azlığını sınıf dışı okul ortamlarının kullanımını engelleyen en önemli sorunlar olduğunu düşünmektedir. Coğrafya öğretmenleri sınıf dışı okul ortamlarının coğrafya öğretiminde etkili bir biçimde kullanılabilmesine yönelik olarak ders saatlerinin arttırılmasını, idari sürecin kolaylaştırılmasını, daha fazla finansal destek sağlamasını ve coğrafya sınıflarının oluşturulmasını öneri olarak sunmuştur.
Anahtar Kelimeler: Coğrafya Dersi, Sınıf Dışı Öğrenme, Coğrafya Eğitimi, Coğrafya Öğretmeni

GİRİŞ

Günümüzde okulun rolü, bazı hedef, davranışların belli süre içinde yapılan eğitim faaliyetleri sonucunda kazandırılmasının çok ötesine geçmiştir. Okul artık biri hayata hazırlayan bireylerin yaşadığı çevreye uyum sağlamasına katkı sağlayan, dersinde kazandırılması amaçlanan bilgi, beceri tutum ve değerlerin kişinin günlük hayatına rehberlik edecek özellikte olduğu bir yapı haline dönüştürülmelidir. Bu kapsamda eğitim faaliyetlerinin sadece okulların sınırları içinde yürütülmesi toplumun eğitime yönelik beklentilerini gerçekleştirilmesini sağlamaktan oldukça uzak görülmektedir (Şeyihoğlu ve Uzunöz, 2012).

Bugün eğitimde yaşanılan önemli sorunların birisi de okulda öğrenilen bilgilerin günlük yaşama aktarılamaması, bilgilerin yenilenememesi ve araştırma alışkanlığının gelişmemesidir. Bu sorunların aşılması için öğrenme ve öğretme faaliyetleri içinde öğrenme nesnelerini yani, öğretmen, öğrenci, aile, çevre, okul ve sınıf ortamı temel yapıtaşlarını bir arada düşünmemiz gerekmekte ve bu yapıtaşlarının birbirleri ile etkileşim içinde çalışmalarını sağlamanın yanı sıra günümüz eğitim araştırmalarında, birbirleri ile olan bağlantılarını göz ardı etmeden, öğrenme ve öğretme süreçlerini oluşturan faktörler tek tek ele alınıp incelenebilmektedir. Bu sayede bir alandan ya da bileşenden elde edilen sonuçlar diğer tüm alanlar için de yol gösterici olmaktadır (Özür, 2010).

Sınıfın dışında gerçekleştirilen her tür eğitimsel etkinliğe *"Sınıf dışı eğitim"* adı verilmektedir. Sınıf dışı eğitim, çoğunlukla çevre eğitimi için kullanılsa da bu eğitimin, hem fen ve hem de sosyal konuların eğitimi için kullanılabileceği belirtilmektedir. Sınıf dışı eğitimin, öncelikle çevre ile ilgili olduğu söylenebilir. Sınıf dışı eğitim programları, rekreasyon alanlarını tanıma ve oluşturma; tarihi, kültürel ve doğal mirası koruma; doğal kaynakların doğru ve dengeli kullanımı; ekolojik sistemlerin tanınması ve korunması vb. konuları içermelidir. Buna ek olarak sınıf dışında disiplinler arası fırsatlar vardır. Sınıf dışı etkinlikler, doğa içinde yaratıcı ve yapılandırıcı çalışmaları, güzel sanatları, matematiksel ölçme ve hesaplamaları ve daha birçok konuyu bünyesinde barındırabilir. Bu da öğrenene, anlamlı öğrenmeler için büyük olanaklar sağlar (Altın ve Oruç, 2008). Gün geçtikçe dünyada ve ülkemizde sınıf dışı eğitimin kullanım alanları genişlemektedir. Hayal gücünün ön plana çıktığı konular arasında ekoloji de bulunmaktadır. Öğrencilerin yeni bilgiler öğrenirken aynı zamanda

hayal güçlerinin de geliştirilmesini sağlayacak öğretim programları ve etkinliklerin planlanmasının, geleceğin hem öğretmenlerinin hem de bilim insanlarının yetiştirilmesi açısından önemli olacaktır (Berberoğlu ve Uygun, 2013). Köse (2013) tarafından sınıf dışı eğitimin sınıflandırması Tablo 1'de verilmiştir.

Tablo 1: Sınıf Dışı Eğitimin Sınıflandırması

Formal Eğitimi Tamamlayan Etkinlikler	Ders Dışı Sosyal Etkinlikler	Okul Dışı Etkinlikler
1. Ev ödevleri ve projeler etkinlikleri	1. Sportif etkinlikler	1. Ev ve sokak
2. Bilgisayar destekli etkinlikler etkinlikleri	2. Sanat etkinlikleri	2. Dinî bayram
3. Yetiştirme kursları katkı	3. Kültürel etkinlikler	3. Aileye ekonomik
4. Sınavlara hazırlık çalışmaları için	4. Toplantılar için yapılan işler	4. Meslek kazanmak
5. Belirli gün ve haftaların kutlanması	5. Rehberlik ve psikolojik danışma	
6. Çevre-okul gezileri	6. Öğrenci kulüpleri yapılan işler	

Literatürde sınıf dışında kullanılabilecek farklı uygulama örnekleri vardır. Örneğin Özür (2010)'ün yaptığı çalışmada sınıf dışı etkinlikler; gezi, gözlem, günlük, anket, röportaj, proje, performans görevi, araştırma ve grup çalışmaları olarak belirlenmiştir. Gençer, Gürbulak ve Adıgüzel (2014) araştırmasında *Ters-Yüz sınıf sistemi* ileri sürülmüştür. Bu sistem; geleneksel öğrenim-öğretimin aksine öğrenciye teorik bilgiyi evde kendi başına öğrenip, öğrendiklerini okulda uygulama fırsatı sunan bir metot olarak tanımlanmaktadır. Sınıf dışı eğitimin kapsamına, sportif etkinlikler (oryantiring), sanatsal etkinlikler (farklı yörelere ait el sanatlarını yaparken neden bu sanatın o yörede geliştiği ile ilgili sorgulama yapılabilir) kültürel etkinlikler, toplantılar, öğrenci kulüpleri (çevre koruma, enerji tasarrufu, doğada hayatta kalma kulübü) doğa sporları da girmektedir. Özellikle doğa sporları çevre bilincinin ve farkındalığının oluşturulmasında etkili olabilecek yöntemlerden birisidir (Altın ve Oruç, 2008). Sınıf dışı uygulamalar arasında literatürde en sık rastlanan uygulama gezi- gözlem metodudur (Şahin ve Yazgan. 2013).

Sonuç olarak, okullarda öğretimin gerçekleştirilebileceği birçok ortam bulunmaktadır. Sınıfın dışında gerçekleştirilen her tür eğitimsel etkinliğe *"Sınıf dışı eğitim"* adı verilmektedir. Sınıf dışı etkinlikler, dünya üzerindeki ilişkileri doğal çevre ve insan yaşamı bağlamında ele alan geniş bir bakış açısını yansıtmaktadır. Sınıf dışı eğitim sürekli bir eğitim deneyimi olup yalnızca bir alan gezisi ya da bir haftayı okul dışında geçirmek anlamına gelmemektedir. Sınıf dışı eğitimin temel özellikleri; deneyime dayanması, öğrencilerin yaparak yaşayarak öğrenmesine olanak sağlaması, tüm duyuları kullanmayı gerektirmesi, disiplinler arası konulara odaklanması ve insanla doğal ortam arasındaki ilişkileri konu edinmesi biçiminde sıralanabilir

Araştırmanın Amacı

Günümüzde coğrafya eğitimi; çevresini doğru algılayabilen geleceğe yönelik çıkarımlarda bulunabilen dünya algısı gelişmiş bireyler yetiştirmeyi amaçlamaktadır (Coğrafya Dersi Öğretim Programı [CDÖP], 2006). Bunun yanı sıra; Coğrafya dersi öğretim programında diğer programlarda verilen ortak projelerin yanında coğrafyaya ait temel coğrafi becerilerin kazandırılması da amaçlardan biridir. Coğrafi beceriler öğrencinin yaşamlarında kullanılabilecekleri; harita okuma, arazi çalışması, coğrafi sorgulama, tablo- grafik- diyagram hazırlama, yorumlama; zamanı algılama, değişim ve sürekliliği algılama ile kanıt kullanma gibi becerilerdir. Ayrıca; dayanışma, hoşgörü, bilimsellik, sevgi, saygı, duyarlılık, vatanseverlik, barış, estetik, sorumluluk gibi değerlerin kazandırması coğrafya öğretiminin öncelikli beklentilerindendir. Bu beklentilerin karşılanması okuldaki teorik, pratik öğrenimin yanı sıra iyi planlanmış sınıf dışı uygulamaların coğrafya öğretimine entegre edilmesi ile mümkündür.

Coğrafya öğretiminde sınıf dışı uygulamaların kullanılmasının önemi ele alındığında her şeyden önce coğrafyanın disiplinler arası bir bilim olduğu belirtilmelidir. Coğrafyanın ana temasının doğa insan ilişkisi üzerine olduğunu düşünürsek, doğayı; coğrafi açıdan insan ve diğer canlıların içinde yer aldığı organik ve inorganik unsurlardan oluşan, süreç ve etkileşimin gerçekleştiği ortam olarak tanımlayabiliriz. Doğa insan ilişkisinin ortaya konulmasında çevre önemli bir kavramdır. Coğrafya eğitimcileri eğitimleri süresince öğrencilere kazandırılacak coğrafi bilincin oluşmasında çevre/yer üzerine şu soruların cevapları üzerinde durmalıdırlar;

1.Olay yer nerededir?
2. Olayın diğer olaylarla benzer ayırt edici özellikleri nelerdir?
3.Olay neden orada gerçekleşmiştir?
4. Olay nasıl gerçekleşmiştir?
5. Olaya/ yere etki eden fiziki ve beşeri unsurlar nelerdir?
6.Olayın etkileri nelerdir?
7.Olay/ yer/ diğer olay ve yerlerle nasıl bir etkileşim içerisindedir? (Öztürk, 2007).

Bu soruların cevabı dışarıdaki gerçek yaşam ortamında bulunabilir ve öğrencinin, eğitim hayatı boyunca gerçek yaşama hazırlandığı düşünülürse, sınıf dışındaki gerçek yaşamla etkileşerek yaptığı çalışmaların birer gerçek yaşam provası olduğu varsayılabilir. Bu durumda, gerçek yaşama hazırlamada sınıf dışı etkinliklerin katkısı göz ardı edilmemelidir. Sonuç olarak; coğrafya eğitiminde sınıf dışı öğrenme ortamlarının kullanılması ile; bireyin doğayı koruması, çevreye nasıl yaklaşması gerektiğini öğrenmesi, canlı ve cansız çevre arasındaki ilişkiyi kavraması, gerçek yaşamda nasıl rahat ve güvenli bir şekilde yaşanacağının öğrenmesi, sınıf içinde öğrendiği teorik bilgilerin yansımalarını deneyimlemesi mümkün olacaktır. Bu durumda eğitim alanında harcanan maddi ve manevi emeğin çıktısının istenilen kalitede olmasını sağlanacaktır.

Bu çalışma, coğrafya öğretmenlerinin coğrafya dersinde sınıf dışı öğrenme konusundaki görüşlerinin ortaya konması, sınıf dışı öğrenmeyle ilgili işleyen ve aksayan konuların belirlenmesi amacıyla gerçekleştirilmiştir. Bu amaç doğrultusunda aşağıdaki sorulara yanıt aranmıştır:

1. Coğrafya öğretmenlerinin, coğrafya öğretiminde sınıf dışı okul ortamlarının neler olduğuna ilişkin görüşleri nelerdir?
2. Coğrafya öğretmenlerinin, coğrafya öğretiminde sınıf dışı okul ortamlarının kullanımına ilişkin görüşleri nelerdir?
3. Coğrafya öğretmenlerinin, coğrafya öğretiminde sınıf dışı okul ortamlarından yararlanmalarının coğrafya öğretimine katkılarına ilişkin görüşleri nelerdir?
4. Coğrafya öğretmenlerinin, coğrafya öğretiminde sınıf dışı okul ortamlarının kullanımının önündeki engellere ya da sorunlara ilişkin görüşleri nelerdir?
5. Coğrafya öğretmenlerinin, coğrafya öğretiminde sınıf dışı okul ortamlarından işlevsel bir biçimde yararlanabilmesine ilişkin görüşleri nelerdir?

YÖNTEM
Araştırma Modeli
Coğrafya öğretiminde sınıf dışı okul ortamlarını kullanma durumlarını belirlemek amacıyla yapılan bu araştırmada nitel araştırma yaklaşımı benimsenmiştir. Nitel araştırmanın temel özelliklerinden biri, ele alınan olguyu katılımcıların bakış açısıyla anlamaya odaklanmasıdır. Bu süreçte araştırmacı veri toplama ve analizde birincil araç olarak rol oynamaktadır (Merriam, 1998). Araştırma verilerinin toplanmasında Malkoç (2014) tarafından geliştirilen yarı yapılandırılmış görüşme formu kullanılmıştır. Yarı yapılandırılmış görüşme öğretmenlerin deneyim, duygu, düşünce ve tutumlarına ilişkin bilgiler edinmede en etkili yöntemlerden biridir (Yıldırım ve Şimşek, 2011).

Çalışma Grubu
Araştırmanın çalışma grubunu 2015 Mart ayında Mersin'de gerçekleşen hizmetçi eğitime katılan coğrafya öğretmenleri oluşturmaktadır. Araştırmaya katılan coğrafya öğretmenlerinin kişisel bilgileri Tablo 2'de verilmiştir.

Tablo 2: Araştırmaya katılan öğretmenlerin kişisel bilgileri

Değişkenler	Demografik Özellikler	Sayı (f)	Yüzde (%)
Cinsiyet	Erkek	52	71.2
	Kadın	21	28.8
	Toplam	73	100.0
Mezun Olunan Yükseköğretim Kurumu	Eğitim Fakültesi	45	61.6
	Fen-Edebiyat Fakültesi	25	34.2
	Eğitim Enstitüsü	3	4.1
	Toplam	73	100.0
Öğretmenlikte Hizmet Yılı	0-5 Yıl	2	2.7
	6-10 Yıl	8	11.0
	11-15 Yıl	23	31.5
	16-20 Yıl	12	16.4
	21-25 Yıl	12	16.4
	26 ve üzeri	1	1.4
	Toplam	73	100.0
Coğrafya Dersi Öğretmeni Olarak Hizmet Yılı	İki yıldan az	-	-
	2-5 Yıl	4	5.5
	6-10 Yıl	21	28.8
	11-15 Yıl	14	19.2
	15 Yıl ve üzeri	34	46.6
	Toplam	73	100.0

Araştırmaya katılan coğrafya öğretmenlerinin 52'si (%71.2) erkek, 21'i (% 28.8) kadındır. Öğretmenlerin 45'i (%61.6) Eğitim Fakültesi mezunu iken, 25'i (%34.2) Fen-Edebiyat, 3'ü (%4.1) de Eğitim Enstitüsü mezunudur. Öğretmenlerin 2'si 0-5 yıl, 8'i 6-10 yıl, 23'ü 11-15 yıl, 12'si 16-20 yıl, 12'si 21-25 yıl ve 1'i 26 yıl ve üzeri hizmet süresine sahiptir. Öğretmenlerin coğrafya öğretmeni olarak hizmet yılları incelendiğinde, öğretmenlerden 4'ünün (%5.5) 2-5 yıl, 21'nin (%28.8) 6-10 yıl, 14'nün (%19.2) 11-15 yıl, 34'ünün (%46.6) 15 yıl ve üzeri hizmet süresine sahip olduğu görülmektedir.

Veri Toplaması ve Analizi

Mevcut çalışmada veri toplama aracı olarak Malkoç (2014) tarafından geliştirilen yarı yapılandırılmış görüşme formu kullanılmıştır. Kuş'a (2003) göre, araştırmalarda yarı yapılandırılmış formların kullanılması, görüşme sürecine daha fazla esneklik kazandırmakta, görüşülenlere daha fazla konuşma imkânı vermekte ve daha detaylı bilgiler almayı sağlamaktadır. Böylece katı bir yapılandırmadan kaçınılacak ve görüşme anında doğabilecek her fırsattan yararlanılarak veri toplanılmaya çalışılacaktır. Görüşme formu iki bölümden oluşmaktadır. İlk bölümde öğretmenlerin cinsiyeti, mezun olduğu yükseköğretim kurumları, meslekteki hizmet süreleri ve kaç yıldır Coğrafya dersine girdiklerine ilişkin sorular yer alırken ikinci bölümde görüşme sorularına yer verilmiştir. Ortalama 10 dakika süren görüşmeler sırasında öğretmenlerin Coğrafya dersinde okul dışı sınıf ortamlarına ilişkin görüşlerini rahat bir ortamda dile getirmeleri yönünde çaba harcanmıştır. Toplanan veriler *içerik veri analizi tekniğiyle* değerlendirilmiştir ve yazılı biçimdeki veriler belirli aşamalardan geçirilerek sayılara dökülmüş ve böylece nitel veriler nicelleştirilmiştir.

BULGULAR

Araştırmanın bu bölümünde coğrafya öğretmenleriyle yapılan görüşmelerden elde edilen verilerin betimsel analizi sonucunda elde edilen bulgular ve yorumlar aşağıda yer alan araştırma sorularına dayalı olarak sırayla açıklanmıştır.

Öğretmenlerin coğrafya öğretimi için kullanılabilecek sınıf dışı okul ortamlarına ilişkin görüşlerinden elde edilen bulgular

Coğrafya öğretmenlerine görüşmeler sırasında ilk olarak *"Coğrafya öğretimi için kullanılabilecek sınıf dışı okul ortamları hangileridir?"* sorusu yöneltilmiştir. Öğretmenlerin bu soruya verdikleri yanıtlar ve frekans dağılımları Tablo 3'te görülmektedir.

Tablo 3: Coğrafya öğretmenlerine göre coğrafya öğretimi için kullanılabilecek sınıf dışı okul ortamları ($n = 73$)

Ortamlar	Frekans
Okul bahçeleri	21
Meteoroloji istasyonları	7
Kütüphane	6
Laboratuvar	6
Okul koridorları	3
Doğal çevre alanları	3
Müzeler	3
Konferans salonu	3
Coğrafya dersliği	3
Fabrikalar	3
İnternet	2
Orman	2
Baraj	1
Katı atık depolama tesisleri	1
Maden Ocakları	1
Uygulama bahçeleri	1
Kurum gezileri	1
MTA	1
Milli parklar	1
Resmi kurumlar	1
Teknoloji odaları	1
Sergiler	1
Park	1
Görüş Toplamı	73

Tablo 3'de görüldüğü gibi çalışmaya katılan coğrafya öğretmenlerinin coğrafya öğretimi için kullanılabilecek sınıf dışı ortamlarına ilişkin en fazla öne sürdükleri ortamlar okul bahçeleri, meteoroloji istasyonları, kütüphane, laboratuvar olarak belirlenmiştir. Bu konudaki öğretmen görüşlerinden örnekler aşağıda verilmiştir.

> *"Arazi çalışması... Çevre gezileri... Kurum gezileri düzenlenebilir." (67.Ö)*
> *"Doğal çevre alanları (yer şekilleri ..vb), Üretim alanları (fabrikalar), Belediyeler, Orman fidan yetiştirme müdürlüğü..." (51.Ö)*
> *"Fabrikalar.. Maden ocakları.. Santraller... Katı atık depoları ..." (66.Ö)*
> *"Kütüphane.. Okul bahçesi..." (40.Ö)*
> *"Meteoroloji istasyonları, MTA, Fabrika ..." (62.Ö)*
> *"Meteoroloji istasyonları.. Milli parklar... Doğal çevre alanları.. Ormanlık sahalar.. İnternetin bulunduğu ortamlar.." (15.Ö)*

Öğretmenlerin sosyal bilgiler öğretimine katkı sağlayabilecek sınıf dışı okul ortamlarına ilişkin görüşlerinden elde edilen bulgular

Coğrafya öğretmenlerinin *"Coğrafya öğretiminde sınıf dışı okul ortamlarından nasıl yararlanıyorsunuz?"* sorusuna verdikleri yanıtlar ve frekans dağılımları Tablo 4'te görülmektedir.

Tablo 4: Coğrafya öğretmenlerine göre Sınıf dışı okul ortamlarının coğrafya öğretiminde kullanımı ($n = 73$)

Yararlanma Biçimleri	*Frekans*
Gezi düzenliyoruz (Yılsonu, baraj, fabrika, Müze, yakın çevre vb.)	30
Kullanmıyorum	25
Gözlem yapma (okul bahçesinde, hava olayları, bitki vb.)	10
Araştırma yapmak	3
Etkinlik hazırlama	2
Görüş Toplamı	70

Çalışmaya katılan öğretmenlerin sınıf dışı okul ortamlarından en fazla yararlanma biçimleri öğrencileri gezi düzenlediğini (yıl sonu, baraj, fabrika, müze vb..) olarak belirlenmiştir. Öğretmenlerin görüşlerinden örnek ifadeler aşağıda verilmiştir.

> *"Baraj gezisi.. yakın çevre .. Doğa yürüyüşü.. Şeker fabrikasına götürüyorum.. 51.Ö)*
> *"Bitki ve toprak türleri için okul bahçesini kullanıyorum." ((24.Ö)*
> *"Gerektiğinde atlas, kaynak vb. için kütüphane... Gözlem için bahçeyi kullanıyorum." (40.Ö)*
> *"Koridorları ürün sergilemede (ödev) kullanıyorum." (55.Ö)*
> *"Laboratuvarları deney yapmak için kullanıyoruz.. Kütüphaneyi araştırma ve ödev hazırlama için kullanıyoruz.. Bahçeyi çevre eğitimi için kullanıyoruz.. Okul binasını kroki, yön bulma konusunda kullanıyorum." (18.Ö)*
> *"Okul bahçesinde ders işleyerek toprak, bitki, gökyüzü gibi özelliklerden bahsediyorum." (38.Ö)*
> *"Yılda 3-5 gezi düzenliyoruz" (67.Ö)*

Tablo 4'e göre öğretmenlerin coğrafya dersinde sınıf dışı okul ortamlarını kullanma durumları çeşitlilik göstermektedir. Çalışmaya katılan öğretmenlerin %32'si (n=12) derslerinde sınıf dışı okul ortamlarını *kullanmadığını* belirtmiştir. Sınıf dışı okul ortamlarını kullanmayan öğretmen görüşlerinden bazıları aşağıda verilmiştir.

> *"Kullanmıyorum. Hakkımda işlem yapılması, öğrencilerin en küçük sorununda öğretmenin ceza alması korkusuyla hazırlamıyorum." (73.Ö)*
> *"İmkanlar olmadığı için kullanmıyorum.. Bakanlık yeterli ödenekle öğretim ortamlarını iyileştirilmesi gereklidir." (61.Ö)*
> *"Zaman yetersizliği nedeniyle sağlıklı bir şekilde kullanamıyorum." (39.Ö)*

Öğretmenlerin sınıf dışı okul ortamlarından yararlanmanın coğrafya öğrenim ve öğretimine katkılarına ilişkin görüşlerinden elde edilen bulgular

Coğrafya öğretmenlerinin *"Sınıf dışı okul ortamlarından yararlanmanın coğrafya öğretimine ve öğrenimine yapacağı katkıların neler olduğunu düşünüyorsunuz?"* sorusuna verdikleri yanıtlar ve frekans dağılımları Tablo 5'de görülmektedir.

Tablo 5: Coğrafya öğretmenlerine göre sınıf dışı okul ortamlarından yararlanmanın coğrafya öğretimine katkıları
(*n* = 73)

Katkı Biçimleri	Frekans
Yaparak ve yaşayarak öğrenme ortamı sağlayarak bilgilerin kalıcılığını arttırıyor	35
Dersi ilgi çekici hale getirmektedir.	8
Öğretimi kolaylaştırır.	3
Öğrencilerin sosyal ilişkisine olumlu katkı	2
Doğayı yakından tanıma	2
Görüş Toplamı	50

Tablo 5'de görüldüğü gibi coğrafya öğretmenlerinin büyük bir kısmı sınıf dışı okul ortamından yararlanmanın coğrafya öğretiminde yaparak ve yaşayarak öğrenme ortamları sağlayarak bilgilerin kalıcılığını arttırdığını ifade etmiştir. Ayrıca öğretmenler dersi ilgi çekici hale getirdiğini belirtmiştir. Öğretmenlerin görüşlerinden örnek ifadeler aşağıda verilmiştir.

> "Coğrafyada konular görsel, işitsel, yaparak ve yaşayarak öğrenileceği için daha hızlı ve öğrenilen bilgiler daha kalıcı olacaktır. (61.Ö)
>
> "Çok büyük katkısı var... Bunu uyguladım.. Öğrencilerin hem sosyal gelişimleri hem de bilimsel bakış açılarının geliştiğini gözlemledim." (39.Ö)
>
> "Öğrencilerin doğada yer şekillerini inceleyerek öğrenmesi bilgilerin daha kalıcı olmasını sağlayacaktır. Öğrenciler çevrelerine daha farklı bir gözle bakacaktır. Bu da derslerin daha anlaşılır olmasını sağlayacaktır." (62.Ö)
>
> "Yaparak ve yaşayarak öğrenmenin gereğidir. Öğrenilen bilgilerin pekiştirilmesi ve zihinde bilgilerin çağrılmasında yararı olmaktadır." (7.Ö)
>
> "Yaparak, yaşayarak ve görerek öğrenme fırsatı verdiği için kalıcı bilgi sağlıyor" (52.Ö)
>
> "Yapılan gezilerle öğrenciler doğayı daha yakından tanıyacak ve coğrafya dersine daha fazla ilgi gösterecektir." (38.Ö)
>
> "Yaşadığımız yakın çevrede bulunan fiziki ve beşeri unsurlar, konu ile ilişkilendirilerek araştırıp, veri toplayıp, değerlendirme ve analiz yapmamızı sağlıyor" (14.Ö)

Öğretmenlerin sınıf dışı ortamların coğrafya öğretiminde kullanımı önündeki engeller ya da sorunlara ilişkin görüşlerinden elde edilen bulgular

Coğrafya öğretmenlerine görüşmeler sırasında dördüncü olarak "*Sınıf dışı okul ortamlarının coğrafya öğretiminde kullanımını engelleyen sorunlar nelerdir?*" sorusu yöneltilmiştir. Öğretmenlerin bu soruya verdikleri yanıtlar ve frekans dağılımları Tablo 6'da görülmektedir.

Tablo 6: Coğrafya öğretmenlerine göre sınıf dışı okul ortamlarının coğrafya öğretiminde kullanımını engelleyen sorunlar (*n* = 73)

Sorunlar	Frekans
İzin alma ile ilgili engeller (okul idaresi, veli vb.)	26
Maddi yetersizlikler	19
Prosedürün fazla olması	13
Ders saatlerinin azlığı	11
Güvenlik	5
Ulaşım	4
Sorumluluğun öğretmene bırakılması	3
Ders programları	3
Araç temini	2
Kalabalık sınıflar	2
Okulun çevresi	1
Görüşlerin Toplamı	89

Tablo 6'ya göre, öğretmenlerin sınıf dışı okul ortamlarının kullanımı önünde gördükleri engeller ve sorunlar çeşitli biçimlerde ifade edilmiştir. İzin alam ile ilgili engeller, maddi yetersizlikler, prosedürün fazla olması ve ders saatlerinin azlığı sorunları öne çıkmıştır. Öğretmenlerin görüşlerinden örnek ifadeler aşağıda verilmiştir.

> "Genellikle okul idaresi, öğrencilerle okul bahçesinde vb. yerlerde ders işlenmesine pek sıcak bakılmıyor." (57.Ö)

"Resmi izin prosedürleri.. İdarecilerin keyfi kararları.. Maddi sorunlar… Ulaşım aracı temininde yaşanan sıkıntılar." (25.Ö)

"İzinler… Sorumluluğun öğretmene bırakılması.. Maddi imkânların bakanlıkça sağlanmaması." (36.Ö)

"Yönetmelik ve okul yönetiminden izin alınması zorlukları var." (56.Ö)

"Araç temini.. Prosedür.. Maliyet… Diğer derslerin aksaması." (51.Ö)

"Maddi nedenler… zaman yetersizliği… İdarecilerin desteklememesi…" (44.Ö)

"Yakın yerlere… okul bahçesine öğrencileri götürüyorum." (26.Ö)

"Dış mekanlarda çocukların birbirine zarar vermesi söz konusu olabilir.. Özellikle arazi gezilerinde bu risk daha fazla.. Güvenlik sağlayamama problemi…" (30.Ö)

Öğretmenlerin coğrafya öğretiminde sınıf dışı okul ortamlarından işlevsel bir biçimde yararlanılabilmesi için öne sürdükleri öneriler

Coğrafya öğretmenlerine görüşmeler sırasında dördüncü olarak *"Sınıf dışı okul ortamlarının coğrafya öğretiminde işlevsel bir biçimde kullanılabilmesi için neler önerirsiniz?"* sorusu yöneltilmiştir. Öğretmenlerin bu soruya verdikleri yanıtlar ve frekans dağılımları Tablo 7'de görülmektedir.

Tablo 7: Coğrafya öğretmenlerine göre sınıf dışı okul ortamlarının coğrafya öğretiminde işlevsel bir biçimde kullanılabilmesine yönelik öneriler (*n* = 73)

Öneriler	Frekans
İdare süreci kolaylaştırmalı	11
Maddi destek	10
Ders saati arttırılmalı	7
Coğrafya sınıfı zorunlu olmalı	6
Prosedürler daha aşılabilir olmalı	6
Müfredatta yer almalıdır	5
Ulaşım aracı temini	5
Planlama doğru yapılmalı	4
Öğretmenin sorumluluğu azaltılmalı	3
Planlarda ve zümrelerde bu tip çalışmalara yer verilmeli	3
Okul bahçesi daha etkin kullanılmalı	1
Doğa gezilerinde diğer kulüplerin desteği alınmalı	1
Öğretmenler ödüllendirilmeli	1
Görüşlerin Toplamı	63

Tablo 7'de görüldüğü gibi coğrafya öğretmenlerini sınıf dışı okul ortamlarının coğrafya öğretiminde işlevsel bir biçimde kullanılabilmesine yönelik olarak idarenin süreci kolaylaştırmalı, maddi destek sağlanmalı, ders saatlerinin arttırılmalı vb. öneriler getirmiştir. Öğretmenlerin görüşlerinden örnek ifadeler aşağıda verilmiştir.

"Araç ve izin işlemleri kolaylaşmalı… İdare süreci hızlandırmalı ve engel olmamalı.. Ayrıca doğa gezilerinde bazı kulüplerden destek alınması.." (51.Ö)

"Bu tür etkinliklerde öğretmeni engelleyecek her türlü unsur yönetmeliklerle kontrol altına alınmalıdır. Okullarda "Coğrafya Sınıfı/Atölyesi" zorunlu olmalıdır." (35.Ö)

"Bürokratik engeller kaldırılmalı.. Performans değerlendirme kriterleri getirilerek başarılı öğretmenler ödüllendirilmelidir. Sınıf dışı ortamda karşılaşılabilecek olumsuz durumlarda kurumun yanınızda olması.." (27.Ö)

"Okullara bu tür etkinlikler için bütçe ya da kaynak aktarılmalı.. Okul idaresi coğrafya öğretiminin amaçları konusunda bilgilendirilmeli.. Arazi çalışması ayrı bir ders olmalı." (16.Ö)

"Bürokratik engeller, izin işlemleri ve öğrenci sorumluluğunun üzerimde olması benim açımdan caydırıcı olabiliyor. Öğretmenin yükünü hafifletip, sorumluluğunu azaltabilirsek her türlü sınıf dışı ortamdan faydalanılabilir." (24.Ö)

"Coğrafya sınıf oluşturulmalı. Doğadaki malzemeler bu sınıfta sergilenmelidir." (67.Ö)

"Okullarda coğrafya dersliği olsa deney ve uygulamalar daha rahat yapılabilir." (55.Ö)

"Prosedürün daha aşılabilir şekilde olması ve özellikle aile ile okul idaresinin daha fazla katkı ve destek sunması gerekmektedir." (38.Ö)

"Resmi işlemlerin kaldırılması gerekir. Sınıf dışı kullanımların arttırılması için teşvik edici ortamların hazırlanması gerekir." (46.Ö)

"Zaman ayılması hatta coğrafya öğretmenlerine zorunlu tutulmalıdır. Maddi olanaklar arttırılmalı… Yazışmalar basit ve kolay hale getirilmelidir… Teşvik edilmelidir." (33.Ö)

SONUÇ VE TARTIŞMA

Bu çalışma, coğrafya öğretmenlerinin coğrafya dersinde sınıf dışı öğrenme konusundaki görüşlerinin ortaya konması, sınıf dışı öğrenmeyle ilgili işleyen ve aksayan konuların belirlenmesi amacıyla gerçekleştirilmiştir. Araştırma sonucunda coğrafya öğretmenleri coğrafya öğretimine katkı sağlayacak sınıf dışı okul ortamlarına ilişkin görüşlerinde *doğal çevre alanları, okul bahçesi, meteoroloji istasyonları* öne çıkmıştır. Benzer bir çalışmada Çepni ve Aydın (2015) sosyal bilgiler öğretmenlerinin sosyal bilgiler öğretimi için kullanılabilecek sınıf dışı ortamlarına ilişkin en fazla öne sürdükleri ortamlar *müzeler, tarihi mekânlar, doğal alanlar, sivil toplum kuruluşları, okul bahçesi, resmi kurumlar ve kütüphanelerdir*. Bir diğer araştırmada Malkoç (2014), öğretmenlerin sosyal bilgiler öğretiminde yararlanılabilecek sınıf dışı okul ortamları kapsamında en çok *okul bahçesi, kütüphane, spor salonu, çok amaçlı salon, koridor, laboratuvar, sosyal bilgiler dersliğini* dile getirdikleri görülmüştür.

Öğretmenlerin öne sürdüğü sınıf dışı okul ortamlarından bir diğeri "okul bahçesi", "bilgisayar laboratuvarı", "konferans salonu" gibi *okulun fiziki mekanları* olmuştur. Benzer bir şekilde Skinner ve Chi (2012), Karasolak (2009) Yılmaz ve Şeker (2012) çalışmalarında, okulların fiziki mekân uygunluğunun eğitim ve öğretimin kalitesini etkilemede önemli bir faktör olduğu sonucuna ulaşmışlardır. Bu araştırmada öğretmenlerin ders saatlerinin ve maddi imkânların yetersizliğini sınıf dışı okul ortamlarında en büyük sorun olarak ifade etmişlerdir. Bu açıdan bakıldığında, okulun fiziki mekan özelliklerinin bu sorunun çözümü noktasında önemli olduğu düşünülebilir.

Çalışmaya katılan öğretmenlerin sınıf dışı okul ortamlarından en fazla yararlanma biçimlerinden biri de *yakın ve uzak çevreye yapılan bilimsel amaçlı geziler* olarak belirlenmiştir. Özellikle 1950'lerden sonra, uygulamalı bir bilim haline gelen coğrafyada, arazi çalışmalarının yeri ve önemi, tartışılmaz bir gerçek olarak kabul edilmiştir. Arazi çalışmaları; bir taraftan teoriği pratiğe dönüştüren, diğer taraftan masa başında soyut problemlerle uğraşan kişiler yerine, bizzat yerinde gözlem yapan bireylerin yetişmesini sağlayan, coğrafya eğitiminin dinamik ve önemli unsurlarından birisidir (Yılmaz ve Bilgi, 2011). Coğrafi arazi uygulamalarında mevcut coğrafi bilgiler öğrencilerin faydalanacağı şekilde somutlaştırılır ve teorik bilgiler pratiğe dönüştürülür.

Araştırmada elde edilen bir diğer sonuca göre, çalışmaya katılan öğretmenlerin bir kısmı derslerinde sınıf dışı okul ortamlarını kullanmamaktadır. Benzer bir şekilde Şensoy (2014), Özbek (2004) ve Güven (2002) çalışmalarında öğretmenlerin okul dışı sahaları etkili kullanmadıkları sonucuna ulaşmışlardır. Gerek bu çalışmanın bulguları gerekse ilgili alan yazın incelendiğinde, öğretmenlerin sınıf dışı öğrenme ortamlarını kullanmama nedenleri olarak ders saatlerinin yetersizliğinin, müfredatın yoğunluğunun ve prosedürün fazlalığının önemli unsurlar olarak öne çıktığı ifade edilebilir.

Bu araştırmada coğrafya öğretmenleri sınıf dışı okul ortamından yararlanmanın coğrafya öğretiminde bilgilerin kalıcılığını arttırdığını, yaparak ve yaşayarak öğrenmeye katkı sağladığını, öğrenmeyi zevkli hale getirdiğini ve konuları somutlaştırdığını belirtmiştir. Bu sonucu destekleyen benzer bir çalışmada Öner (2015), sosyal bilgiler öğretmenlerinin okul dışı öğretimin 'bilginin kalıcılığını sağlayacağı, derse ilgiyi artıracağı ve öğrencilerin tarihsel empati kurabileceği yönünde çeşitli yararlar sağlayacağını ifade ettiklerini bulgulamıştır. Malkoç'un (2014) araştırmasında öğretmenler, sınıf dışı öğrenme ortamlarının öğrencilerde kalıcı öğrenmeler sağladığını, bilgiyi somutlaştırdığını, yaparak yaşayarak öğrenmelere olanak sunduğunu, öğrencilerin sosyalleşmesini desteklediğini ve ders dışı çalışmalara olanak sağladığını belirtmişlerdir. Yapılan çalışmalarda ve bu araştırmada da görüldüğü gibi sınıf dışı okul ortamlarının etkin kullanımının, sosyal bilgiler dersinin öğretiminde öğrencilerin bilişsel ve duyuşsal ürünlerine olumlu etkileri olduğu söylenebilir.

Bu çalışmada coğrafya öğretmenleri sınıf dışı okul ortamlarının kullanımını engelleyen sorunlara ilişkin *ders saatlerinin azlığı, maddi yetersizlikler, prosedürün fazlalığı, müfredatın yoğunluğu ve ulaşım* gibi sorunları öne sürmüşlerdir. Akşit (2011) tarafından yapılan araştırmada sosyal bilgiler öğretiminde ders saatlerinin yetersizliği ve programı yetiştirme sorununun, öğretmenler tarafından önemli bir engel olarak görüldüğü belirlenmiştir. Çengelci (2013) araştırmasında, öğretmenlerin sınıf dışı öğrenmede yaşadıkları sorunlar arasında zaman sorunun önemli yer tuttuğunu ortaya koymuştur. Öğretmenler ders içeriğindeki konuları yetiştirme kaygısı ile öğrencilerin ders dışı zamanlarda sınıf dışı öğrenme için zaman ayıramaması sorunundan söz etmişlerdir. İlgili alanyazın incelendiğinde sınıf dışı okul ortamlarının kullanımını engelleyen sorunlarda benzerlikler göze çarpmaktadır. Bunlar arasında özellikle ders saatlerinin yetersizliği, yasal prosedürlerin fazlalığı, müfredatın yoğunluğu ve ekonomik yetersizlikler öne çıkmaktadır.

Coğrafya öğretmenleri sınıf dışı okul ortamlarının coğrafya öğretiminde işlevsel bir biçimde kullanılabilmesine yönelik olarak ders saatlerinin arttırılmasını, bakanlık bütçesinden destek verilmesini, izinlerin kolay alınabilir hale getirilmesini, müfredat yoğunluğunun azaltılmasını bekledikleri görülmektedir. Benzer bir araştırmada Malkoç (2014), özellikle okulların fiziki yapısının eğitim ve öğretimi zenginleştirecek bir biçimde tasarlanması, okullardaki öğrenci sayısının azaltılması ve programın hafifletilmesi dile getirilen başlıca önerilerdir. Çetin, Kuş ve Karatekin'in (2010) yaptıkları çalışmada da MEB'in bu tür faaliyetleri desteklemesi gerektiği, öğretmenlerin konuyla ilgili bilinçlendirilmesi gerektiği ve yasal prosedürlerin azaltılması gerektiği gibi benzer sonuçlara ulaşılmıştır.

Sonuç olarak bu araştırmada elde edilen sonuçları genel olarak değerlendirildiğinde; araştırmaya katılan coğrafya öğretmenleri coğrafya öğretimine katkı sağlayacak sınıf dışı okul ortamlarına ilişkin görüşlerinde *doğal çevre alanları, okul bahçesi, meteoroloji istasyonları* öne çıkmıştır. Öğretmenler ileri sürdükleri sınıf dışı okul ortamlarını daha çok der*s işleme ve gözlem yapma* şeklinde kullandıklarını belirtmişlerdir. Coğrafya öğretmenleri sınıf dışı okul ortamlarının *yaparak yaşayarak öğrenmelere olanak sunduğunu*, bilgiyi somutlaştırdığı ve derse ilgiyi arttırdığını ileri sürmüşlerdir. Öğretmenler *prosedürün fazlalığı, maddi yetersizlikler ve ders saatlerinin azlığını* sınıf dışı okul ortamlarının kullanımını engelleyen en önemli sorunlar olduğunu düşünmektedir. Coğrafya öğretmenleri sınıf dışı okul ortamlarının coğrafya öğretiminde etkili bir biçimde kullanılabilmesine yönelik olarak *ders saatlerinin arttırılmasını, idari sürecin kolaylaştırılmasını, daha fazla finansal destek sağlamasını* ve *coğrafya sınıflarının oluşturulmasını* öneri olarak sunmuştur.

Araştırmada elde edilen sonuçlara dayalı olarak şu öneriler getirilebilir:
- ✓ Öğrencilere okul dışı eğitimin amacı ve önemi hakkında bilgi verilmeli, uygulamalar sırasında etkin katılımları sağlanmalıdır.
- ✓ Sınıf dışı öğrenme için bürokratik izin süreci (yazışma süreci, araç temini, izin alma süreci vb.) kolaylaştırılabilir.
- ✓ Coğrafya öğretimine uygun ortamlar tasarlanmalı ve okul mimarileri bu bakımdan ele alınıp organize edilmelidir. Coğrafya derslikleri oluşturulup dersin amaçlarına uygun şekilde donanımı sağlanmalıdır.

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COMPARING HIGHER EDUCATIONAL STUDENTS LEVELS ON EDUCATIONAL STRESS MANAGEMENT

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ABSTRACT
Today, stress is at the base of our lives. It plays an active role in many different areas of life and it is also dominant in education. This pressure and nervous situation effect college students. Meeting the academic expectations of universities may tire many college students out. Adapting to university environment and having a new friend environment create a stressful period. This study determines educational stress level of verbal and numeric college students; also pressure of studying, workload, grade anxiety, self expectation and hopelessness will be researched. Also gender differences will be determined. The type of the scale used in the study is self-assessment scale/Paper pen test. The scale is a medium which is based on providing information about educational stress levels of individuals and the individual. Turkey validity of the scale is tested on 300 college students. The study group consists of 300 women and 297 men (597 in total) who study in a foundation university in İstanbul.

Keywords: Gender, university, student, education, stress

INTRODUCTION
Stress is a form of reaction which changes the balance of living beings and and towards incidents which are difficult to deal with. Stres has certain and uncertain situations. People generally see stress as trouble. Stress occurs when people see incidents as a threat to their physiological and psychological health (Santrock, 2012). People receive many stimulants from the environment. These stimulants consist of many internal and external conditions that are known as stressors and have many types. These internal and external conditions are stimulants that direct people towards stress (Gerrig and Zimbardo, 2014). Also people assess all troubled situations as stress. However, not all these stressful events result in bad situations. When we look at the course of our lives, we sometimes see stressful events in our daily lives resulting in a good way. Eustress means "well" in Old Greek. So when we use stress in a controlled way, it can bring along positive changes (Gerrig and Zimbardo, 2014). Stress has constructive and destructive effects on human life (Aydın, 2008, p.93).

Stress
According to Aydın, stress indicators are gathered in three stages as behavioral stress indicators, psychological stress indicators and physical stress indicators (Aydın,2008,p.vii-ix). Aydın (2008) states physical stress indicators as hypertension, digestive disorder, sweating, shortness of breath, headache, fatigue, allergy, nausea. Behavioral stress indicators are insomnia, sleep request, anorexia, overeating, smoking, alcohol use. Psychological stress indicators are emphasized as tension, discord, avoidance of cooperation, constant anxiety, feelings of inadequacy, misplaced haste. Stress-performance relation can be gathered in two titles as eustress and distress (Aydın, 2008, p.93-95).

Education / Education Stress
"Education is the period in which the individual create conscious change through his/her own behavior and life" (Ertürk,1972,p.12). It is the process in which wanted changes occur consciously and through the person's own behaviors and life (Ergün, 2009, p.1). It is the process creating behavior change in an individual. It is the social interaction process in which an individual adapts to general rules, beliefs and manner of life (Demirel and Kaya, 2009; Gülşen, 2014, p.77-78). "It is the process of changing a behavior in education" (Şişman, 2010, p.189). Education can also be defined as "the process to turn/to be turned into a person into mature, virtuous, perfect being" (Şişman, 2010, p.2) It can be realized

through education. Communication should be flawless for this to happen. Communication abilities of people decrease in stress and excitement moments (Aydın, 2008, p.101-102)

Educational Stress in Turkey

"There is no equality of opportunity in education" (Akyüz,2012,p.423). People who live in our country study in different regions. This difference cause socio economical and education opportunities to differ. These effect the success of students (Gülşen, 2015a, p.1918-1930; Gülşen, 2015b, p.166-171) . (The effect on the success of students creates stress.)

The number of universities has increased and there is a strong demand in recent years in our country. This situation cause graduates to be unemployed (Akyüz,2012,p.423). Uncertainty in adult years for people who study to enter into a college, study in a college and graduate from a college may cause stress.

Constant increase in rate of literacy is against women and daughters (Akyüz,2012,p.424).

Students who study in crowded classes may be disturbed from discipline models teachers use to lead the class and may feel pressured (Akyüz,2012,p.442)

College exams in Turkey create negative effects in high school education and cause students to come to colleges unprepared (Çelik, 2011). This process may create stress in students who start to university with lack of information.

Exam stress

Students spend most of their daily lives for education. Because of this, they experience different emotions when they prepare for exams or classes. This situation is likely to put a student under stress (Plotnik, 2009). Students sometimes get worried. This is because they are not sure if they will lose their motivation while competing with other students and that they do not think their intelligence as sufficient (Plotnik, 2009).

DEALING WITH STRESS

According to Aydın, individual strategies to deal with stress are as such: changing personal qualities, physical movement (sports and exercise), breathing exercises, meditation, bio-feedback, relaxing, nutrition, social support, social, cultural, sportive activity participation, massage, prayer and religious ritual, time management (Aydın,2008,p.x-xi).

Sub-titles

This study determines educational stress levels of numeric and verbal college students; it aims to analyze grade anxiety, hopelessness of their self-expectations and workload. Also gender differences will be determined.

For this reason, the study determines educational stress levels according to the questions below.

1- What are the differences of education stresses according to the workload of verbal and numeric students?
2- What are the differences of education stresses according to the study pressure of verbal and numeric students?
3- What are the differences of education stresses according to the hopelessness of their self-expectations of verbal and numeric students?
4- What are the differences of education stresses according to the gender of verbal and numeric students?
5- What are the differences of education stresses according to the class level of verbal and numeric students?
6- What are the differences of verbal and numeric students according to student type (full scholarship, half scholarship, fee-paying)?
7- What are the differences of education stresses according to the class level of verbal and numeric students?
8- What are the educational stress status of verbal and numeric students according to the people who experience it?
9- What are the educational stress status of verbal and numeric students according to the settlement?

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. The type of the scale used in the study is self-assessment scale / Paper pen test. The scale is a medium which is based on providing information about educational stress levels of individuals and the individual. Turkey validity of the scale is tested on 300 college students. The scale applied is developed by Ölcek, Akın, Gediksiz,Arslan and Akın (2012). It is a medium which aims to measure stress level students experience in education during adolescence / young adult period. Grades received from the classes, thoughts on future, attitude of parents and attitude of the individual towards himself/herself measure emotional situation towards teachers and friends.

Sub-headings of the scale consist of work pressure, workload, grade anxiety, self-expectation, hopelessness areas.

Population and Sample: Sample of the study consists of 597 students in İstanbul Foundation University. Number and percentage of female participants are $(f = 300, 50,3 \%)$, number and percentage of male participants are $(f = 297, 49,7 \%)$. In the sample acquired, work pressure, workload, grade anxiety, self-expectation, hopelessness areas are analyzed.

Data Collection

This study determines educational stress level of verbal and numeric 597 college students in Istanbul Foundation University; also pressure of studying, workload, grade anxiety, self expectation and hopelessness are analyzed. 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.

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.

DISCUSSION AND ANALYSIS

The purpose is the analysis of self-expectations and education stress status of students. This study is the analysis of comparison of educational stress of college students who receive education in numeric and verbal areas. This study determines educational stress levels of numeric and verbal college students; it aims to analyze grade anxiety, hopelessness of their self-expectations and workload. Also gender differences will be determined. Socio demography frequencies and results acquired are below.

Table 1

Gender	F	%
Women	300	*50.3*
Men	297	*49.7*
Total	597	100.0

As is seen in the table, 597 people participated in total. Number and percentage of female participants are *(f = 300, 50,3 %)*, number and percentage of male participants are *(f = 297, 49,7 %)*.

Table 2 Department

Department	F	%
Verbal	300	*50.3*
Numeric	297	*49.7*
Total	597	100.0

Departments of the students are divided into two in the table. Number and percentage of verbal department participants are *(f = 300, 50,3 %)*, number and percentage of numeric department participants are *(f = 297, 49,7 %)*.
There is no significant difference in the participation rates of the students in numeric and verbal departments.

Table 3 Class Level

Class level	F	%
grade2	198	*33.2*
grade3	150	*25.1*
grade1	143	*24.0*
grade4	105	*17.6*
Other	1	*,2*
Total	597	100.0

As is seen in the table, the most participants are from grade 2 *(f = 198, 33,2 %)* and grade 3 *(f = 150, 25,1 %)* follows it. These are followed by grade 1 *(f = 143, 24,0 %)* and then grade 4 *(f = 105, 17,6%)* and finally by others *(f = 1, ,2 %)*.

Table 4 Scholarship Status

Scholarship status	F	%
Half-scholarship	259	*43.4*
Fee-paying	205	*34.3*
Full scholarship	132	*22.1*
Other	1	*,2*
Total	597	100.0

As is seen in the table, the most rate is consisted of half-scholarship students *(f = 259, 43,4 %)*. Then fee-paying participants *(f = 205, 34,3 %)* follow it. Full-scholarship students *(f = 132, 22,1 %)* follow it and others comprise the last part. *(f =1, ,2%)*

Table 5 Marital Status

Marital status	F	%
Single	581	*97.3*
Married	13	*2.2*
Divorced	3	*,5*
Total	597	100.0

As is seen in the table, the most rate is consisted of singles *(f = 581, 97,3 %)*. Then married students *(f = 13, 2,2 %)* follow them. A small percentage of them is comprised of divorced students *(f = 3, ,5 %)*.Since rate of singles is low in the table, it is considered that students do not consider getting married in college.

Table 6 Settlement

Settlement	F	%
Metropolis	318	*53.3*
City	177	*29.6*
District	67	11.2
Village-town	35	*5.9*
Total	597	100.0

As is seen in the table, most of the students live in metropolis *(f = 318, 53,3 %)*. The second line is consisted of people who live in cities *(f=177, 29,6 %)*. People who live in districts follow them *(f=67, 11,2 %)*. Then people who live in villages-towns follow them *(f = 35, 5,9%)*.

Table 7 Geographical Attitude

Geographical attitude	F	%
Democrat	396	*66.3*
Protective	102	*17.1*
Authoritative	52	*8.7*
Liberal	41	*6.9*
Other	6	1.0
Total	597	100.0

As is seen in the table, the most rate is consisted of democrats *(f = 396, 66,3 %)*. People who are protective follow them *(f = 102, 17,1 %)*. Then people who are authoritative *(f = 52, 8,7 %)* liberal *(f = 41, 6,9 %)* and other *(f = 6, 1,0 %)* follow.

Table 8 Settlement

Settlement	F	%
Parents	210	*35.3*
Friend	167	*28.2*
Dorm	132	*22.3*
Relative	15	*2.5*
Alone	48	*8.1*
Mother	10	*1.7*
Father	10	*1.7*
Total	597	100.0

Parents *(f = 210, 35,3 %)* friend *(f = 167, 28,2%)* dorm *(f = 132, 22,3 %)* alone *(f = 48, 8,1 %)* relative *(f = 15, 2,5%)* mother *(f = 10, 1,7 %)* father *(f = 10, 1,7 %)*

Table 9 Correlations

	Work pressure	Workload	Grade anxiety	Self-expectation	Hopelessness
Work pressure	1				
Workload	,414**	1			
Grade anxiety	,393**	,129**	1		
Self-expectation	,426**	,268**	,395**	1	
Hopelessness	,377**	,159**	,251**	,334**	1

**Correlations are at 0.01 significance level (double queue).

Before starting MANOVA test, correlations between dependent variables should be checked. It is important to determine these relations to define significant MANOVA effect. Correlations shown in the table present that variables for MANOVA printouts are at an acceptable limit.

1.Predictions made for gender

Table 10 Multivariate Tests

Impact		Value	F	p
Section	Pillai's Trace	,963	3051.127	0.000
	Wilks' Lambda	,037	3051.127	0.000
	Hotelling's Trace	25.813	3051.127	0.000
	Roy's Largest Root	25.813	3051.127	0.000
Gender	Pillai's Trace	,071	8.977	,000
	Wilks' Lambda	,929	8.977	,000
	Hotelling's Trace	,076	8.977	,000
	Roy's Largest Root	,076	8.977	,000

Multivariate test statistics presented in the table above (Pillai's, Wilks', Hotelling's Trace, and Roy's Largest Root) test zero hypothesis in which "variances in the group are equal in terms of average" and that is among MANOVA assumptions. In the study realized, Pillai's Trace and Wilks' Lambda tests are based on to determine the difference of group averages. According to Pillai's Trace and Wilks' Lambda tests, it is concluded that educational stress components differ statistically according to the gender of the participants (p=0.000<0.01). Wilks Lambda represent the part described by predictive variances of generalized variance in the dependent variance.

Tablo11.Box's test

Box's M	30.842
F	2.038
sd1	15
sd2	1425106.264
P	,010

In the MANOVA method, inter-group (dependent variances) covariance matrix is assumed equal. As a result of Box's M test above, because of p > ,001, it is determined that covariance matrix regarding dependent variance is equal. Educational stress components included in the analysis differ in terms of score according to the gender and it is possible to make an estimation.

Table 12. Levene's test of error variance equality

	F	sd1	sd2	p
Work pressure	1.371	1	595	,242
Workload	,550	1	595	,459
Grade anxiety	,259	1	595	,611
Self-expectation	6.691	1	595	,010
Hopelessness	1.465	1	595	,227

When all variances become (p>0.05) in variance homogeneity between groups, the results are significant. In this case, except self-expectation variance, all variances can be used separately in the analysis. p value of self-expectancy variance is smaller than 0.05, thus it does not included in the analysis.

Table 13.MANOVA results of Educational Stress components according to Gender Difference

Source		Sum of Squares	sd	Mean Square	F	Sig.
Gender	Work pressure	,984	1	,984	,082	,774
	Workload	103.242	1	103.242	13.610	,000
	Grade anxiety	12.502	1	12.502	1.427	,233
	Hopelessness	2.063	1	2.063	,270	,603

Significant differences are acquired according to the gender in workload variance in the results of multivariate analysis of variance. Workload is significant with 1, F=13.61 degree of freedom (p=0.000<0.05). There is no significant difference between gender for other variances. Except the specified variance, women and men levels are equal. In the workload variance, women are higher than men in average (Women average:0,66; men average:8,83).

2.Predictions made for Class Level

Table 14. Multivariate Tests

Impact		Value	F	p
Section	Pillai's Trace	,961	2886.028	0.000
	Wilks' Lambda	,039	2886.028	0.000
	Hotelling's Trace	24.541	2886.028	0.000
	Roy's Largest Root	24.541	2886.028	0.000
Class	Pillai's Trace	,090	3.666	,000
	Wilks' Lambda	,911	3.696	,000
	Hotelling's Trace	,095	3.719	,000
	Roy's Largest Root	,067	7.882	,000

Multivariate test statistics presented in the table above (Pillai's, Wilks', Hotelling's Trace, and Roy's Largest Root) test zero hypothesis in which "variances in the group are equal in terms of average" and that is among MANOVA assumptions. In the study realized, Pillai's Trace and Wilks' Lambda tests are based on to determine the difference of group averages. According to Pillai's Trace and Wilks' Lambda tests, it is concluded that educational stress components differ statistically according to the class of the participants (p=0.000<0.01). Wilks Lambda represent the part described by predictive variances of generalized variance in the dependent variance.

Table 15 Box's M test

Box's M	81.759
F	1.788
sd1	45
sd2	624321.018
p	,001

In the MANOVA method, inter-group (dependent variances) covariance matrix is assumed equal. As a result of Box's M test above, because of p > ,001, it is determined that covariance matrix regarding dependent variance is equal. Educational stress components included in the analysis differ in terms of score according to the class and it is possible to make an estimation.

Table 16. Levene's test of error variance equality

	F	sd1	sd2	p
Work pressure	1.214	3	592	,304
Workload	3.218	3	592	,022
Grade anxiety	,858	3	592	,462
Self-expectation	3.144	3	592	,025
Hopelessness	1.098	3	592	,349

When three variances become (p>0.05) in variance homogeneity between groups, the results are significant. In this case, except workload and self-expectation variance, all variances can be used seperately in the analysis.

Table 17. MANOVA results of Educational Stress components according to Class Difference

Source		Sum of Squares	sd	Mean Square	F	Sig.
Class	Work pressure	176.422	3	58.807	5.027	,002
	Grade anxiety	233.787	3	77.929	9.243	,000
	Hopelessness	89.045	3	29.682	3.958	,008

In the result of the multivariant analysis, significant differences are obtained according to grade anxiety, hopelessness variances. Work pressure is significant with 3, F=5.027 degree of freedom (p=0.002<0.05). Grade anxiety is significant with 3, F=9.243 degree of freedom (p=0.000<0.05). Hopelessness is significant with 3, F=3.958 degree of freedom (p=0.008<0.05). The significance of other variances is not included in the study.

In the next stage, paired comparisons in each variation are realized to understand which classes have difference, homogeneous groups are created by using Tukey HSD test. In this case, class differences for work pressure are listed as such: First class, third class, fourth class and second class. The class that feels the work pressure the most is the first class and the class that feels it the least is the second class. Class differences for grade anxiety are as such: First, third,

fourth. There is no significant difference in second classes. The sorting of hopelessness is as such: First, second and forth classes. There is no significant difference between third classes.

3. Predictions according to the settlement

Table 18. Multivariate Tests

Impact		Value	F	p
Section	Pillai's Trace	,929	1530.183	0.000
	Wilks' Lambda	,071	1530.183	0.000
	Hotelling's Trace	12.990	1530.183	0.000
	Roy's Largest Root	12.990	1530.183	0.000
Settlement	Pillai's Trace	,022	,863	,607
	Wilks' Lambda	,978	,862	,608
	Hotelling's Trace	,022	,861	,609
	Roy's Largest Root	,014	1.617	,153

Multivariate test statistics presented in the table above (Pillai's, Wilks', Hotelling's Trace, and Roy's Largest Root) test zero hypothesis in which "variances in the group are equal in terms of average" and that is among MANOVA assumptions. In the study realized, Pillai's Trace and Wilks' Lambda tests are based on to determine the difference of group averages. According to Pillai's Trace and Wilks' Lambda tests, it is concluded that educational stress components do not differ statistically according to the settlement of the participants (p=0.000<0.05).

In this case, MANOVA test cannot be applied and there is no significant difference between settlements.

4. Predictions regarding geographical attitude

Table 19. Multivariate Tests

Impact		Value	F	p
Section	Pillai's Trace	,926	1466.337	0.000
	Wilks' Lambda	,074	1466.337	0.000
	Hotelling's Trace	12.576	1466.337	0.000
	Roy's Largest Root	12.576	1466.337	0.000
Geographical attitude	Pillai's Trace	,036	1.439	,120
	Wilks' Lambda	,964	1.440	,120
	Hotelling's Trace	,037	1.440	,120
	Roy's Largest Root	,014	1.617	,023

Multivariate test statistics presented in the table above (Pillai's, Wilks', Hotelling's Trace, and Roy's Largest Root) test zero hypothesis in which "variances in the group are equal in terms of average" and that is among MANOVA assumptions. In the study realized, Pillai's Trace and Wilks' Lambda tests are based on to determine the difference of group averages. According to Pillai's Trace and Wilks' Lambda tests, it is concluded that educational stress components do not differ statistically according to the geographical attitude of the participants (p=0.000<0.05).

In this case, MANOVA test cannot be applied and there is no significant difference between geographical attitudes.

5. According to the department -verbal numeric predictions

Table 20. Multivariate Tests

Impact		Value	F	p
Section	Pillai's Trace	,962	2999.207	0.000
	Wilks' Lambda	,038	2999.207	0.000
	Hotelling's Trace	25.374	2999.207	0.000
	Roy's Largest Root	25.374	2999.207	0.000
Department	Pillai's Trace	,038	4.706	,000
	Wilks' Lambda	,962	4.706	,000
	Hotelling's Trace	,040	4.706	,000
	Roy's Largest Root	,040	4.706	,000

Multivariate test statistics presented in the table above (Pillai's, Wilks', Hotelling's Trace, and Roy's Largest Root) test zero hypothesis in which "variances in the group are equal in terms of average" and that is among MANOVA assumptions. In the study realized, Pillai's Trace and Wilks' Lambda tests are based on to determine the difference of

group averages. According to Pillai's Trace and Wilks' Lambda tests, it is concluded that educational stress components differ statistically according to the department of the participants (p=0.000<0.01). Wilks Lambda represent the part described by predictive variances of generalized variance in the dependent variance.

Table 20. Box's M test

Box's M	38.262
F	2.528
sd1	15
sd2	1425106.264
p	,001

In the MANOVA method, inter-group (dependent variances) covariance matrix is assumed equal. As a result of Box's M test above, because of p > ,001, it is determined that covariance matrix regarding dependent variance is equal. Educational stress components included in the analysis differ in terms of score according to the department and it is possible to make an estimation.

Table 21

Levene's test of error variance equality

	F	sd1	sd2	p
Work pressure	,362	1	595	,548
Workload	3.839	1	595	,051
Grade anxiety	,537	1	595	,464
Self-expectation	,120	1	595	,730
Hopelessness	4.711	1	595	,030

When one variance become (p>0.05) in variance homogeneity between groups, the results are significant. In this case, except hopelessness variance, all variances can be used seperately in the analysis.

Table 22

MANOVA results of Educational Stress components according to Department Difference

Source		Sum of Squares	sd	Mean Square	F	Sig.
Department	workpressure	138.706	1	138.706	11.847	,001
	workload	9.238	1	9.238	1.193	,275
	gradeanxiety	80.785	1	80.785	9.342	,002
	self-expectation	17.717	1	17.717	2.383	,123

Significant differences are acquired according to the work pressure and grade anxiety in all variances in the results of multivariate analysis of variance. Work pressure is significant with 1, F=138.706 degree of freedom (p=0.001<0.05). Grade anxiety is significant with 1, F=9.342 degree of freedom (p=0.002<0.05). There is no significant difference between departments in terms of work load and self-expectation. Hopelessness variance is not included in the model. In the work pressure, it is seen that verbal average is lower than numeric (Verbal average=10,77; numeric average=11,74). In terms of grade anxiety, numeric is superior (Verbal average=8,50;numeric average=9,24).

Table 23

6. Predictions according to the scholarship:

Multivariate Tests				
Impact		Value	F	p
Section	Pillai's Trace	,959	2743.763	0.000
	Wilks' Lambda	,041	2743.763	0.000
	Hotelling's Trace	23.292	2743.763	0.000
	Roy's Largest Root	23.292	2743.763	0.000

Scholarship	Pillai's Trace	,056	3.390	,000
	Wilks' Lambda	,945	3.407	,000
	Hotelling's Trace	,058	3.424	,000
	Roy's Largest Root	,049	5.797	,000

Multivariate test statistics presented in the table above (Pillai's, Wilks', Hotelling's Trace, and Roy's Largest Root) test zero hypothesis in which "variances in the group are equal in terms of average" and that is among MANOVA assumptions. In the study realized, Pillai's Trace and Wilks' Lambda tests are based on to determine the difference of group averages. According to Pillai's Trace and Wilks' Lambda tests, it is concluded that educational stress components differ statistically according to the scholarship status of the participants (p=0.000<0.01). Wilks Lambda represent the part described by predictive variances of generalized variance in the dependent variance.

Table 24

Box's M test	
Box's M	58.871
F	1.937
sd1	30
sd2	651322.050
p	,002

In the MONOVA method, it is assumed that covariance matrix is equal in the group (dependent variances).
 Since it is p > ,001 in the result of Box's M test, it is determined that covariance matrix regarding dependent variances are equal.
 Educational stress components included in the analysis differ in terms of score according to the scholarship and it is possible to make an estimation.

Table 25
Levene's test of error variance equality

	F	sd1	sd2	p
workpressure	3.503	2	593	,031
workload	,215	2	593	,806
gradeanxiety	,416	2	593	,660
self-expectation	2.902	2	593	,056
Hopelessness	5.621	2	593	,004

When all variances become (p>0.05) in variance homogeneity between groups, the results are significant. In this case, except work pressure and hopelessness variances, all variances can be used separately in the analysis.

Table 26

MANOVA results of Educational Stress components according to Scholarship Difference

Source		Sum of Squares	sd	Mean Square	F	Sig.
Scholarship	workload	10.521	2	5.261	,678	,508
	gradeanxiety	22.783	2	11.391	1.300	,273
	self-expectation	3.060	2	1.530	,204	,815

There is no significant difference according to the scholarship in any of the variances specified in the results of the multivariate analysis.

RESULT

Significant differences are acquired according to the gender in workload variance in the results of multivariate analysis of variance. Workload is significant with 1, F=13.61 degree of freedom (p=0.000<0.05). There is no significant difference between gender for other variances. Except the specified variance, women and men levels are equal. In the workload variance, women are higher than men in average (Women average:0,66; men average:8,83).

It is determined that educational stress components show a significant difference statistically according to the class of the participants.

In the result of the multivariate analysis, significant differences are obtained according to grade anxiety, hopelessness variances. Work pressure is significant with 3, F=5.027 degree of freedom (p=0.002<0.05). Grade anxiety is significant with 3, F=9.243 degree of freedom (p=0.000<0.05). Hopelessness is significant with 3, F=3.958 degree of freedom (p=0.008<0.05). The significance of other variances is not included in the study.

In the next stage, paired comparisons in each variation are realized to understand which classes have difference, homogeneous groups are created by using Tukey HSD test. In this case, class differences for work pressure are listed as such: First class, third class, fourth class and second class. The class that feels the work pressure the most is the first class and the class that feels it the least is the second class. Class differences for grade anxiety are as such: First, third, fourth. There is no significant difference in second classes. The sorting of hopelessness is as such: First, second and forth classes. There is no significant difference between third classes.

It is determined that educational stress components show a significant difference statistically according to the settlement of the participants. It is determined that educational stress components show a significant difference statistically according to the geographical attitude of the participants.

There is no significant difference according to the scholarship in any of the variances specified in the results of the multivariate analysis.

As a result of this, MANOVA results are the most interesting field of educational stress components according to class difference in the study. Especially at the second stage, the result that presents which classes have differences under work pressure area, first class is determined as the class that feels it the most and second class is the class that feels it the least. Regarding the grade anxiety, the results are first class, third class and forth class, respectively. In this area, there is no significant difference in terms of second class. In hopelessness area, it is first, second and forth classes, respectively. There is no significant difference in third class in terms of class.

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COMPARING THE MATHEMATICAL THINKING EXPERIENCES OF STUDENTS AT FACULTY OF EDUCATION AND FACULTY OF ARTS AND SCIENCES

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ABSTRACT
The aim of this study is to compare the mathematical thinking experiences of fourth grade students at faculty of education and faculty of arts and sciences in the stages of specializing, generalizing, conjecturing, and proving. The study was conducted with 72 fourth grade students in the spring term of the academic year of 2015-2016. While 36 were from the elementary mathematics teaching programme at faculty of education; 36 of students were from the department of mathematics at faculty of arts and sciences. The data were collected via the study worksheets and unstructured observations that were performed during the application and they were analyzed via content analysis method. Findings acquired from the worksheets and observations that were performed during the application show that students at faculty of education are more successful in the stages of mathematical thinking than students at faculty of arts and sciences.
Keywords: Mathematics education, mathematical thinking, faculty of education, faculty of arts and sciences.

INTRODUCTION
Mathematics is one of the most important tools of improving thinking (Keskin, Akbaba Dağ, & Altun, 2013) and requires a specific form of thinking. This form of thinking is referred to as "Mathematical Thinking (MT)". MT is not essentially different from daily and scientific thinking, but a form of daily thinking developed with a specific method (Yıldırım, 2004). Since MT is one of the most significant objectives of mathematics education (Baki, 2008; Stacey, 2006), it is of great importance for people. Because people need to think in order to continue their lives (Sternberg, 1996).

It is noted in the literature that MD consists of following components: *specializing* (Alkan & Bukova Güzel, 2005; Hacısalihoğlu, Mirasyedioğlu, & Akpınar, 2003; Liu, 2003; Piggott, 2004; Stacey, Burton, & Mason, 1985)*, abstraction* (Alkan & Bukova Güzel, 2005; Tall, 2002), *synthesizing* (Tall, 2002), *generalizing* (Alkan & Bukova Güzel, 2005; Hacısalihoğlu et al., 2003; Liu, 2003; Piggott, 2004; Stacey et al., 1985; Tall, 2002), *conjecturing* (Alkan & Bukova Güzel, 2005; Hacısalihoğlu et al., 2003; Liu, 2003; Piggott, 2004; Stacey et al., 1985), *modelling* (Tall, 2002), *problem solving* (Piggott, 2004; Tall, 2002), *proving* (Alkan & Bukova Güzel, 2005; Hacısalihoğlu et al., 2003; Liu, 2003; Stacey et al., 1985; Tall, 2002; Yıldırım, 2004), *analogy* (Liu, 2003), *induction* (Liu, 2003; Yıldırım, 2004), *deduction* (Liu, 2003; Yıldırım, 2004)*, and reasoning* (Umay, 2003). When these components are examined, it seems that specializing, generalizing, conjecturing, and proving stand out among other components. Since it would not be possible to assess all components in a single study, it was decided to investigate only the components which stand out among others. Components included in the study are described briefly below:

Specializing is the main component of MT (Mason, Burton, & Stacey, 2010). Specializing can be defined as the act of examining special conditions when faced with a problem situation (Burton, 1984). Working on such special conditions is of great importance in terms of providing a foundation for conjecturing and generalizing (Çelik, 2016). In specializing, concrete examples of abstract problems are considered (Nickerson, 2010).

The word generalizing is defined as "mind's act of thinking in general or the transition from special to general" in the Dictionary of Turkish Language Association (Turkish Language Association [TLA], 2011). Generalizing is one of the main activities of mathematics education (Baki, 2008) and the second main component after specializing (Hashemi, Abu, & Kashefi, 2013). The generalizing process involves revealing patterns between certain examples and conjecturing about larger set/sets which involve these examples as well (Çelik, 2016).

In the Dictionary of Turkish Language Association, the word conjecture is defined as "the theoretical thought or hypothesis which is not yet verified with experiments, but expected to be verified" (TLA, 2011). Conjecturing is the process of sensing that something might be true, estimating, and researching whether it is true (Çelik, 2016). This process automatically occurs in a circular manner when performing the specializing phase and the generalizing phase (Arslan & Yıldız, 2010; Mason et al., 2010).

Proving is the process of revealing the accuracy of something by showing evidences (TLA, 2011). Proving is the last stage of the activity in which ideas are concluded during problem solving (Tall, 1991). For mathematicians,

proving involves considering new conditions, focusing on important bits, taking relations into account, making predictions, formulating definitions when necessary, and forming valid arguments (Hanna & de Villiers, 2012).

From these descriptions, it can be said that "MT is a process in which these four components follow each other" (Alkan & Bukova Güzel, 2005; Arslan & Yıldız, 2010; Hacısalihoğlu et al., 2003; Keskin et al., 2013). In some studies in the literature (Hacısalihoğlu et al., 2003; Hendersen, 2002; Piggott, 2004; Tall, 2002), it is noted that MT skill can be improved with activities related to problem solving. The importance of MT and problem solving is highlighted in updated mathematics teaching programs as well (Ministry of National Education [MoNE], 2013a, 2013b). In this regard, this study investigates MT processes of students attending different faculties focusing on activities related to problem solving. Therefore, this study aims to reveal differences between 4th year mathematics students attending the Faculty of Education (FE) and the Faculty of Arts and Sciences (FAS) in terms of MT processes. Determination of differences between students attending different faculties in terms of MT will shed light to how teaching and learning activities should be carried out, guide faculty members in determining course content, and examine improvement of FE and FAS students in MT processes.

METHOD
The study utilizes the qualitative research approach. Qualitative research is a method which examines the study problem in an interpretative approach based on a holistic point of view (Karataş, 2015).

Study Group
The study group consists of 36 fourth year students attending the elementary mathematics teaching program of the FE in Giresun University and 36 fourth year students attending the mathematics department of the FAS in the same university in 2015-2016 academic year. This study utilizes the maximum diversity sampling to determine common or different aspects in a variety of situations, thus describe the problem in a wider framework (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2009). All students in the study group participated in the research on a voluntary basis. Among FE students, 10 were male and 26 were female, whereas among FAS students, 17 were male and 19 were female. Also, most students in both faculties were regular high school graduates and attended the science department in high school.

Data Collection Tools
The data were collected via three worksheets developed by the researcher and through unstructured observations. Questions in the worksheets were prepared utilizing works of Baki (2008) and Watson and Mason (1998). Each worksheet consists of two activities and 9 questions in total. It was concluded from opinions of three academics, experts in mathematics education, that questions in the worksheets were aimed at specializing, generalizing, conjecturing, and proving phases. The questions were encoded as W_aS_b, where indicates the worksheet and b indicates the question number. The first worksheet (W_1) contained questions related to unit squares and the second worksheet (W_2) and the third worksheet (W_3) contained questions related to unit cubes. The 1st and 5th questions in the worksheets were related to *specializing*; the 2nd and the 6th questions were related to *generalizing*; the 3rd, 7th, and the 9th questions were related to *conjecturing*; and the 4th and 8th questions were related to *proving*. In order to test the feasibility of the worksheets and determine the time required to answer questions in the worksheets, a pilot study was performed with 3rd year prospective mathematics teachers. During the pilot application, it was realized that the number of cubes in the second worksheet was wrong and made the necessary correction to give the worksheet its final form. One of the most important data collection tools in qualitative research is observation (Yıldırım & Şimşek, 2008). For this reason, unstructured observations were used in this study in order to observe behaviors of FE and FAS students in classroom environment and describe these behaviors in detail.

Implementation of Data Collection Tools
The students were given three hours to answer the questions in the worksheets during the actual implementation. The students worked in groups of two. The researcher participated in the implementation without hiding his identity and guided students. The researcher tried to collect data by asking Watson and Mason's (1998) MT encouraging questions without leading students to any direction.

Data Analysis
The data obtained from the worksheets were analyzed using the content analysis method. Firstly, an answer key containing possible answers from the students was created. Then, answers given by the students were tabulated according to questions. Then, the data in the tables were read by the researcher multiple times and draft codes were created for each question in the worksheets. Answers with the same meaning were placed under the same code. Another researcher was asked for help to ensure the reliability of the encoding and answers from the students were encoded separately by two researchers. The following formula was used to calculate the

consistency of codes prepared by two researchers: "Reliability = [Agreement / (Agreement + Disagreement)]" (Miles & Huberman, 1994). Using this formula, the consistency between two researchers was found to be 92.3%. Two researchers discussed on codes on which they did not agree, reached an agreement on codes and the common codes were presented to the reader in tables. The observation data and answers given by students to questions asked during the observation process were used in order to interpret answers given to questions in the worksheets.

Limitations

Questions in the worksheets were aimed at specializing, generalizing, conjecturing, and proving phases of MT. Also, instead of all subjects in mathematics, these questions were related to unit squares and unit cubes. Finally, this study was limited to 36 fourth year students attending the elementary mathematics teaching program of the FE in Giresun University and 36 fourth year students attending the mathematics department of the FAS in the same university.

FINDINGS

This section involves answers given by students to questions aimed at specializing, generalizing, conjecturing, and proving phases and findings obtained from observations.

Specializing

In the 1st and 5th questions in the worksheets, students were asked to draw 3 and 4 unit squares side-by-side and calculate the number of adjacent edges in the final shape (W_1S_1); find the perimeter of shapes composed of 3 and 4 unit squares drawn side-by-side (W_1S_5); draw 3 and 4 unit cubes side-by-side and calculate the number of adjacent edges in the final shape (W_2S_1); find the surface area of shapes composed of 3 and 4 unit cubes drawn side-by-side (W_2S_5); draw 8 and 10 unit cubes in a way that the number of junction points will be 3 and 4 (W_3S_1); calculate the number of adjacent surfaces in the final shapes consisting of 8 and 10 unit cubes in a way that the number of junction points will be 3 and 4 (W_3S_5). Codes created for the specializing phase and student answers related to these codes are given below:

Code 1: Drawing All Systematic Shapes Correctly: This code was related to drawing both shapes which were systematic and had a certain pattern correctly, therefore associated with W_1S_1, W_2S_1, and W_3S_1. The success rate related to this code was 88.9%, since some groups were not able to draw any of the shapes. Examples from answers given by the students to W_2S_1 and W_3S_1 are given below:
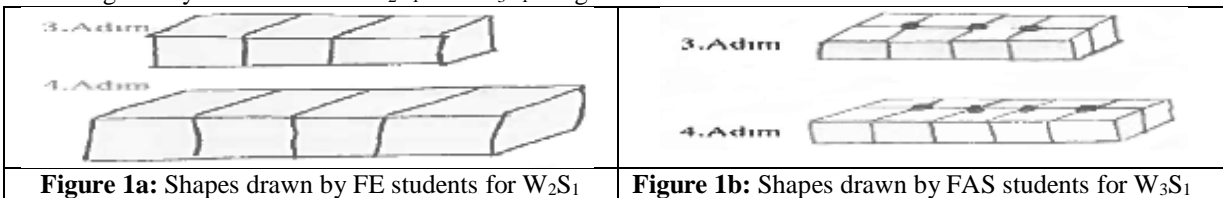
| **Figure 1a:** Shapes drawn by FE students for W_2S_1 | **Figure 1b:** Shapes drawn by FAS students for W_3S_1 |

Code 2: Correctly Finding what is Asked for Special Conditions: This code was related to answering questions taking two special conditions into account and following a systematic path, therefore associated with W_1S_1, W_2S_1, W_3S_1, W_1S_5, W_2S_5, and W_3S_5. It was found that the students correctly found all of what was asked from them. Examples from answers given by the groups to W_2S_5 and W_3S_5 are given below:

| **Figure 2a:** One of the answers given to W_2S_5 by FE students | **Figure 2b:** One of the answers given to W_3S_5 by FAS students |

The frequency of codes created for the specializing phase is shown in Table 1:

Table 1: The frequency of codes related to the specializing phase

	Faculties	**W_1S_1**	**W_1S_5**	**W_2S_1**	**W_2S_5**	**W_3S_1**	**W_3S_5**	**Total**
Code 1	FE	18	0	15	0	16	0	49
	FAS	16	0	16	0	15	0	47
Code 2	FE	18	18	18	18	18	18	108
	FAS	18	18	18	18	18	18	108
Unanswered	FE	0	0	3	0	2	0	5
	FAS	2	0	2	0	3	0	7

Table 1 shows that all necessary operations related to the specializing phase were correctly performed by the students and the majority of students drew shapes perfectly. It was seen during the observations in the classroom environment that the groups answered questions related to the specializing phase in a short amount of time.

Generalizing
In the 2nd and 6th questions in the worksheets, students were asked to mathematically describe patterns in the number of adjacent edges in unit squares drawn side-by-side (W_1S_2); the perimeter of shapes composed of unit squares drawn side-by-side (W_1S_6); the number of adjacent surfaces in shapes composed of unit cubes drawn side-by-side (W_2S_2); the surface area of shapes composed of unit cubes drawn side-by-side (W_2S_6); the number of junction points in shapes composed of unit cubes drawn side-by-side (W_3S_2); the number of adjacent surfaces in shapes composed of unit cubes drawn side-by-side (W_3S_6). The codes created in relation to the generalizing phase are briefly explained and examples from student answers are given below:
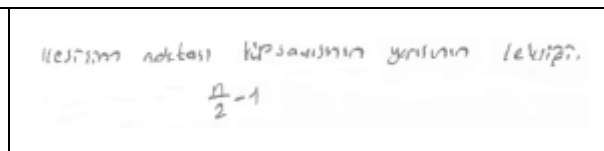
Code 1: Making Verbal Generalizations: This code was related to the students' ability to verbally describe relations between numbers or variables and relevant questions were answered correctly by some of the students. Two examples from answers given by the students to W_1S_2 and W_2S_2 are given below:

| **Figure 3a:** One of the correct verbal generalizations made for W_1S_2 by FE students | **Figure 3b:** One of the incorrect verbal generalizations made for W_2S_2 by FAS students |

Code 2: Making Mathematical Generalizations: This code was related to the students' ability to mathematically describe relations between numbers or variables and relevant questions were answered correctly and incorrectly by the students. Correct and incorrect answers given to W_3S_2 are given below:

| **Figure 4a:** One of the incorrect mathematical generalizations made for W_3S_2 by FE students | **Figure 4b:** One of the correct mathematical generalizations made for W_3S_2 by FAS students |

Code 3: Making Verbal and Mathematical Generalizations: This code was related to the students' ability to verbally and mathematically describe relations between numbers or variables and relevant questions were answered correctly by all groups. Some examples from answers given by FE and FAS students to W_2S_2 and W_3S_2 are given below:

| **Figure 5a:** One of the verbal and mathematical generalizations made for W_2S_2 by FE students | **Figure 5b:** One of the verbal and mathematical generalizations made for W_3S_2 by FAS students |

The frequency of codes created for the generalizing phase is shown in Table 2:

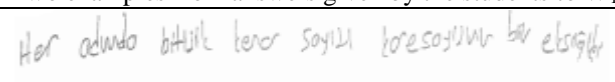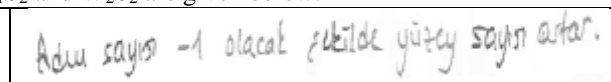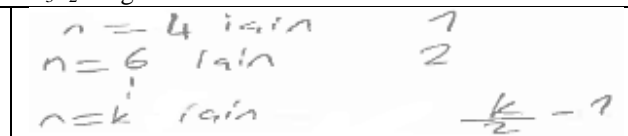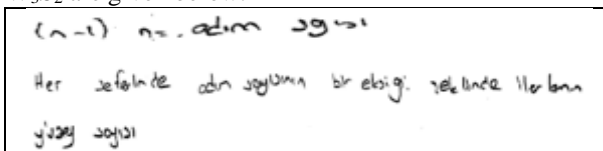**Table 2:** The frequency of codes related to the generalizing phase

	Faculties	**W_1S_2**	**W_1S_6**	**W_2S_2**	**W_2S_6**	**W_3S_2**	**W_3S_6**	**Total**
Code 1	FE	4	1	1	0	1	3	10
	FAS	4	2	4	0	2	2	14
Code 2	FE	13	16	16	16	13	12	86
	FAS	13	10	13	11	14	11	72
Code 3	FE	1	1	1	2	4	3	12
	FAS	1	2	1	2	2	2	10
Unanswered	FE	0	0	0	0	0	0	0
	FAS	0	4	0	5	0	3	12

Table 2 shows that FE and FAS students mostly preferred to express relations between numbers or variables mathematically. It was seen in observations made in the classroom environment that the students did not have difficulties in terms of making mathematical generalizations. However, some students were not able to find the patterns asked in W_3S_2 and W_3S_6 and asked for help.

Conjecturing
In the 3rd, 7th, and 9th questions in the worksheets, students were asked to mathematically describe relations between numbers of adjacent edges in unit squares drawn side-by-side (W_1S_3); perimeters of shapes composed of unit squares drawn side-by-side (W_1S_7); numbers of adjacent surfaces in cubes drawn side-by-side (W_2S_3); surface areas of shapes composed of unit cubes drawn side-by-side (W_2S_7); numbers of junction points in unit cubes drawn side-by-side (W_3S_3); numbers of adjacent surfaces in shapes composed of unit cubes drawn side-by-side (W_3S_7); numbers of adjacent edges in unit squares drawn side-by-side and perimeters of shapes (W_1S_9); numbers of adjacent surfaces and surface areas of shapes composed of drawn side-by-side (W_2S_9); numbers of conjunction points and numbers of adjacent surfaces of shapes composed of unit cubes drawn side-by-side (W_3S_9). Codes created for the conjecturing phase and answers given by the groups related to these codes are shown below:

Code 1: Making Verbal Conjectures: This code was related to expression of conjectures verbally and it was found that students made correct and incorrect conjectures. Examples from correct and incorrect verbal conjectures made by the students for W_1S_9 are given below:

Figure 6a: One of the correct verbal conjectures made for W_1S_9 by FE students	**Figure 6b:** One of the incorrect verbal conjectures made for W_1S_9 by FAS students

Code 2: Making Mathematical Conjectures: This code was related to describing conjectures mathematically. It was found that the students made mathematically correct or incorrect conjectures related to this code. Some of the answers given to W_2S_9 are shown below:

Figure 7a: One of the incorrect mathematical conjectures made for W_2S_9 by FE students	**Figure 7b:** One of the correct mathematical conjectures made for W_2S_9 by FAS students

Code 3: Making Verbal and Mathematical Conjectures: This code was related to the students' ability to verbally and mathematically describe relations between numbers or variables and relevant questions were answered incorrectly by some students. Two examples from answers given to W_1S_7 and W_3S_7 are given below:

Figure 8a: One of the correct verbal and mathematical conjectures made for W_1S_7 by FE students	**Figure 8b:** One of the incorrect verbal and mathematical conjectures made for W_3S_7 by FAS students

The frequency of codes created for the conjecturing phase is shown in Table 3:

Table 3: The frequency of codes related to the conjecturing phase

	Faculties	W_1S_3	W_1S_7	W_1S_9	W_2S_3	W_2S_7	W_2S_9	W_3S_3	W_3S_7	W_3S_9	Total
Code 1	FE	8	8	8	11	11	7	11	11	6	81
	FAS	5	4	6	4	5	5	6	5	1	41
Code 2	FE	4	5	4	5	6	6	3	5	5	43
	FAS	12	13	5	13	12	5	12	12	4	88
Code 3	FE	5	5	2	2	1	1	3	2	0	21
	FAS	0	1	1	1	1	5	0	1	4	14
Unanswered	FE	1	0	4	0	0	4	1	0	7	17
	FAS	1	0	6	0	0	3	0	0	9	19

Table 3 shows that the students made verbal, mathematical or verbal and mathematical conjectures as in the generalizing phase. Also, it was observed that FAS students preferred mathematical conjectures, whereas FE students preferred verbal conjectures. Observations showed that most groups had difficulties with the 9th question of each worksheet, which were related to the conjecturing phase. When asked about why they could not answer these questions, the students gave answers such as, "*We are having difficulties with making associations. What should we do?*" or "*They do not have a relation.*"

Proving

4th and 8th questions in the worksheets were related to the proving phase. In this context, the students were asked to calculate and prove the number of adjacent edges at the nth step of a pattern created by drawing unit squares side-by-side and the perimeter of the shape in W_1S_4 and W_1S_8 respectively and calculate and prove the number of adjacent surfaces at the nth step of a pattern created by drawing unit cubes side-by-side and the surface area of the shape in W_2S_4 and W_2S_8 respectively. Also, the students were asked "What would be the number of conjunction points in at the nth step of a pattern created by drawing unit cubes side-by-side?" in W_3S_4 and "What would be the number of adjacent surfaces at the nth step of a pattern created by drawing unit cubes side-by-side?" in W_3S_8. Codes created for the proving phase and student answers related to these codes are given below:

Code 1: Proving Algebraically: This code was more significant for FE students and related to proving a mathematical expression by induction. The students proved mathematical expressions either completely correctly, partially correctly or completely incorrectly. Also, the number of students who proved mathematical expressions completely correctly was quite low. Examples from answers given to W_2S_4 by the students are shown below:

| **Figure 9a:** One of the algebraically correct proofs for W_2S_4 by FE students | **Figure 9b:** One of the algebraically incorrect proofs for W_2S_4 by FE students |

Code 2: Proving Arithmetically: This code was more significant for FAS students and related to proving a mathematical expression by giving values to variables. The answer given by one of the groups to W_3S_8 is shown below:

Figure 10: One of the arithmetic proofs for W_3S_8 by FAS students

The frequency of codes created for the proving phase is shown in Table 4:

Table 4: The frequency of codes related to the proving phase

	Faculties	W_1S_4	W_1S_8	W_2S_4	W_2S_8	W_3S_4	W_3S_8	**Total**
Code 1	FE	18	18	18	18	16	13	101
	FAS	3	2	2	3	2	1	13
Code 2	FE	0	0	0	0	0	0	0
	FAS	15	16	16	15	13	17	92
Unanswered	FE	0	0	0	0	2	5	7
	FAS	0	0	0	0	3	0	3

Table 4 indicates that the students algebraically and arithmetically proved their conjectures. Observations showed that most FAS students attempted to prove mathematical expressions arithmetically in the 4th and 8th questions by giving values to variables and explained this as "*Since we do not know which proving method to use, we tried to prove through trial and error.*" or "*We took the more convenient road and tried to prove expressions by giving values, since we have insufficiencies in terms of proving by induction.*" It was found that all FE students used algebraic proving with induction in the 4th and 8th questions and the students explained this as "*Our teachers emphasized how to prove expressions with induction especially in the general mathematics and the abstract mathematics classes.*" Also, it was observed that most groups performed algebraic proving incorrectly or could not complete the proof correctly.

DISCUSSION

It was found that FE and FAS students answered a considerable portion of questions related to the specializing phase perfectly. The fact that the students did not experience any problems when answering questions related to the specializing phase shows that operational knowledge is given importance in mathematics courses. This is mentioned in some studies in the literature as well (Arslan & Yıldız, 2010; Keskin et al., 2013; Uğurel & Moralı, 2010). In terms of generalizing, it was seen that FE and FAS students mostly expressed relations between numbers or variables mathematically. In addition, it was observed that the students did not have difficulties in expressing these relations with mathematical symbols. The finding that the students did not have problems with making mathematical generalizations is not consistent with studies conducted by Arslan and Yıldız (2010), Keskin et al. (2013), Özmantar, Bingölbali, and Akkoç (2008) and Tall (2008). It was observed that FAS students preferred mathematical conjectures, whereas FE students preferred verbal conjectures, which shows that FAS students were more successful in terms of expressing relations between numbers or variables mathematically compared to FE students. The fact that students have difficulties related to conjecturing is mentioned in the literature as well (Arslan & Yıldız, 2010; Keskin et al., 2013). However, FE and FAS students are expected to conjecture, test conjectures, and express conjectures with mathematical symbols and notations. In this context, it should be remembered that creating an environment for students using in-class activities where they can make conjectures is important for the improvement of their MT skills.

Although FAS students developed a formula through trial and error, they were not able to produce valid arguments related to proving the accuracy of these formulas. Said answers were mostly numerical, but not in the form of algebraic representations. The fact that FAS students attempted to prove expressions experimentally by giving values to variables shows that they performed specializing instead of proving. Students were found to attempt to prove mathematical expressions experimentally and this attempt was found to be their dominant strategy in some studies in the literature (Almeida, 2001; Arslan & Yıldız, 2010; Çelik, Güler, Bülbül, & Özmen, 2015; Özer & Arıkan, 2002). FE students, on the other hand, developed valid formulas, but they produced partially correct arguments related to the accuracy of these formulas. All these answers utilized induction and were in the form of algebraic representations. An important part of FE students found the answer for "n=k+1" incorrectly when proving with induction. It was reported in some studies in the literature (Baker, 1996; Movshovitz-Hadar, 1993; Stylianides, Stylianides, & Philippou, 2007) that students had difficulties related to proving with induction. In conclusion, it was understood that FE and FAS students had insufficiencies in terms of proving.

Finally, FAS students correctly answered 95.7%, 86.1%, 81.5%, and 6.5% of questions related to specializing, generalizing, conjecturing, and proving phases respectively. Finally, FAS students correctly answered 96.9%, 95.4%, 82.7%, and 25% of questions related to specializing, generalizing, conjecturing, and proving phases respectively. It seems that the success rate of students from both faculties decreased toward the proving phase, FAS students in particular.

CONCLUSIONS and RECOMMENDATIONS

It was found that FE and FAS students answered a considerable portion of questions related to the specializing phase perfectly and showed a high success rate in the specializing phase. Therefore, it is understood that FE and FAS students were competent in specializing. In this context, it is recommended that conceptual questions are given importance as well as operational questions in primary, middle, secondary, and undergraduate levels. In terms of generalizing, it was seen that FE and FAS students mostly expressed relations between numbers or variables mathematically. A similar result was found for FAS students in the conjecturing phase as well. FE students, on the other hand, mostly used verbal conjectures in the conjecturing phase. This shows that FE students were not as successful as FAS students in terms of making mathematical conjectures. For this reason, it is necessary for faculty members to express relations between numbers and variables using more mathematical symbols and notations and allow students to use the daily and mathematical language in an efficient manner. The fact that some questions were left unanswered, answered incorrectly or partially correctly in the proving phase

shows that FE and FAS students had more difficulties in the proving phase compared to other components of MT. In order to improve students' skills related to proving, faculty members should mention the importance of MT phases and proving methods and allow students to work on different proofs of problems. Finally, it was found that the success rate of FE and FAS students decreased when transitioning from one phase of MT to another. It is recommended that proving and proving methods are emphasized more in FE and FAS and worksheets related to proving are added to undergraduate level textbooks.

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COMPARISON OF LEISURE SATISFACTION LEVEL AND PHYSICAL ACTIVITYOF NOT-PRACTICING AND PRACTICING DIFFERENT PHYSICAL ACTIVITIES WITH REGULARLY PLAYING TENNIS

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ABSTRACT

The purpose of this study was to comparison the leisure satisfaction and the physical activity level in both regular recreational tennis players (RT) and practicing different physical activities with regularly recreational tennis (FART).

A total of 75 recreational tennis players who 28 women (age, 48.53±9.20years; height, 160.64±7.55cm; weight, 65.25±9.91kg), 47 men (age, 46.24±9.25years;height, 175.06±6.58cm; weight, 78.89±8.35kg), (age, 47.10±9.24years; height, 169.68±9.85cm; weight, 73.80±11.11kg) participated voluntarily in this study. The participants have indicated that they had been playing tennis for 9.13±5.14 years. Leisure satisfaction level was determined by Leisure Satisfaction Scale (LSS). Physical activity level was determined International Physical Activity questionnaire (IPAQ) short form was applied to all the participants.

As a result of the study, according to IPAQ Points (MET-min/week), it was determined that, FART group receive higher points in the parameters of Walking (n=34, 1128±1005) and Vigorous Physical Activity (VPA) (n=31; 4954.84±4536.59), than RT group (Walking: n=25; 603.90±558.83;VPA: n=18; 1655.55±1165.39) (p<0.05).

Furthermore, in the education sub dimension of the LSS (FART: n=39; 38.00±6.17; RT: n=36; 34.61±5.91), it was determined that there was a significant difference in favor of the FART group (p<0.05).

Keywords: Physical Activity, Exercise, Recreation, Tennis.

DÜZENLİ TENİS OYNAMAKLA BİRLİKTE FARKLI FİZİKSEL AKTİVİTELERE KATILAN VE KATILMAYAN BİREYLERİN FİZİKSEL AKTİVİTE VE SERBEST ZAMAN TATMİN DÜZEYLERİNİN KARŞILAŞTIRILMASI

ÖZET

Çalışmanın amacı boş zamanlarında rekreatif amaçlı düzenli tenis oynayan bireyler (DT) ve rekreatif amaçlı tenis oynamakla birlikte farklı fiziksel aktivitelere katılan bireylerin (FADT) Serbest Zaman Tatmini (SZT) ile Fiziksel Aktivite (FA) düzeylerini karşılaştırmaktır.

Çalışmaya 28 kadın (yaş, 48.53±9.20 yıl; boy, 160.64±7.55 cm; ağırlık, 65.25±9.91kg), 47 erkek (yaş, 46.24±9.25 yıl; boy, 175.06±6.58cm; ağırlık, 78.89±8.35kg), toplam 75 rekreatif tenis oynayan birey gönüllü olarak katılmıştır. Katılımcıların ortalama 9.13±5.14 yıl tenis oynadığı belirlenmiştir. Çalışmada tüm katılımcılara Serbest Zaman Tatmin Ölçeği (SZTÖ) ve Fiziksel Aktivite Anketi (FAA) Kısa Formu uygulanmıştır.

Çalışma sonunda, FAA puanlarına göre (MET-dak/hafta) FADT grubun Yürüme (n=34, 1128±1005) ve Şiddetli Fiziksel Aktivite (ŞFA) parametrelerinde (n=31; 4954.84±4536.59) DT gruba göre daha yüksek puan aldığı (Yürüme: n=25;603.90±558.83;ŞFA: n=18; 1655.55±1165.39) belirlenmiştir (p<0.05).Orta Düzeyi Fiziksel Aktivite (ODFA) parametresinde FADT grup ile (n=34;1507.06±1439.75), DT grup (n=31;920.00±393.96) arasında α=0.05 anlam düzeyine çok yakın fark olduğu saptanmıştır (p=0.06).

SZTÖ eğitim alt boyutunda(FADT: n=39; 38.00±6.17; DTgrup: n=36; 34.61±5.91) FADT grubun lehine anlamlı fark olduğu belirlenmiştir (p<0.05). Diğer alt boyutlarda (psikolojik; FADT: 35.44±3.53; DT: 34.53±4.46,

sosyal; FADT: 32.53±5.28; DT: 31.17±4.55, rahatlama; DT: 18.59±1.52; FART: 18.61±1.84; fizyolojik; DT: 24.76±3.53;FADT: 24.92±2.99, estetik; DT: 17.05±2.84;FADT:16.72±2.61, toplam; DT:166,38±17.76;FADT: 160.56±16.39) anlamlı farka rastlanmamıştır.

Anahtar Kelimeler: Fiziksel Aktivite, Egzersiz, Rekreasyon, Tenis.

GİRİŞ

Yaşam tatmini kişinin kendi duygularını negatif duygular olmadan pozitif duygularla değerlendirmesi için gerekli olan bilişsel süreçler olarak açıklanmaktadır. Yaşam tatmini sosyal aktivite, mutluluk, affetmek, yaşam standartları, işsizlik, iş ortamı, gelir düzeyi, stres, çalışma koşulları, psikolojik yıpranma, iş tatmini, serbest zaman aktivitelerine katılım ve serbest zaman tatmini ile ilişkilidir (Ercan, 2004).

Serbest zaman; "bireyin hayatını idame ettirebilmek için yapmak zorunda olduğu işlerinden geriye kalan zaman dilimidir". Serbest zaman etkinlikleri ise "insanların çalışma saatleri, yeme ve uyuma gibi biyolojik ihtiyaçlarını karşılamak amacıyla kendilerine ayırdıkları zaman dilimleri dışında kalan zamanlarında özgür iradeleriyle seçtikleri ve belirli kurallara bağlı olmayan etkinliklerdir" (Yerlisu ve Ağyar, 2012). Bu etkinliklere katılım sonucu kişinin ortaya koyduğu, elde ettiği ve ulaştığı pozitif doyum veya duygulara serbest zaman tatmini (SZT) denir. Serbest zaman aktivitelerine katılım SZT ile ilişkilidir. Bu nedenle belli bir aktivite bir bireyde pozitif memnuniyete neden olurken başka bir bireyde aynı etkiyi yaratmayabilir. Bu nedenle serbest zaman tatmini bireyin zevkine, becerisine, serbest zamanının bulunmasına ve çeşitli kaynaklara (finansal araçlar ve sosyal etkileşim) bağlıdır. SZT düzeyine bireyin cinsiyeti, yaşı, gelir düzeyi ve ev çevresi gibi diğer etkenler etki edebilir (Muzindutsi ve Masango, 2015). Yaşamın belli dönemlerinde yapılan serbest zaman aktivitelerinin türü yaşam tatmini üzerinde olumlu ya da olumsuz etkili olabilir. Örneğin, adölesanlarda yapılan bir çalışmada serbest zaman aktivitesi olarak online oyunları fazla miktarda oynayanların daha az oynayanlara göre yaşamlarından daha az tatmin oldukları belirlenmiştir (Wang, Chen, Lin ve Wang, 2008).

Serbest zaman etkinlikleri önemli ölçüde spor aktivitelerini içerir (tenis, yürüyüş, yüzme, bisiklet, futbol, dans, fitness vb.) (Ercan, 2004). Sporun çeşitlilik, değişkenlik ve hareket özelliklerinden dolayı serbest zaman aktiviteleri arasında yaygın olarak tercih edilme nedeni olabilir(Arabacı ve Çankaya, 2007). Fiziksel Aktivite (FA) kişinin fiziksel, bilişsel ve sosyal gelişimini pozitif etkileyen eğlenceli ve öğretici rekreatif aktivitelerdir (Ercan, 2004), (Afyon ve Karapınar, 2014).Literatürde FA'lerin hastalık oranını ve iskemik kalp hastalıklarından ölüm riskini azaltan en büyük faktör olduğu bildirilmektedir. Aynı zamanda FA ve psikolojik olarak iyi olmayı etkileyen faktörler (mental stres, yaşam tatminsizliği vb.) arasındadır (Schnohr ve diğ., 2004). Düzenli FA'nin sağlık üzerine etkileri egzersizin süresi ve şiddeti ile ilişkilidir (Genç ve diğ., 2011). Önceki çalışmalarda serbest zamanlarında haftada en az 3 kez fiziksel aktivite uygulayan bireylerin düşük ölüm oranına sahip oldukları belirtilmektedir (Moore ve diğ., 2012).

Çalışmada serbest zamanlarında düzenli olarak tenis oynayan bireylerle tenis sporu ile birlikte farklı fiziksel aktivitelere katılan bireylerin FA ve SZT düzeyleri karşılaştırılmıştır. Çalışma tenis odaklı FA düzeyi ve çeşitliliği fazla olan bireylerde az olan bireylere göre serbest zaman tatmin düzeyinin daha fazla olacağı düşünülerek planlanmıştır. Çalışmanın sonuçlarının toplumumuzda serbest zamanlarında fiziksel aktivite yapan bireylerin SZT düzeylerini artırmak için yapılması gerekenler hakkında fayda sağlayacağı düşünülmektedir.

Çalışmada FA düzeyini belirlemek için kullanılan Uluslararası Fiziksel Aktivite Anketi (FAA) kolay uygulanabilen ve maliyet getirmeyen geçerli ve güvenilir yöntemlerden biridir (Topsaç ve Bişğin, 2014). Serbest zaman tatmin düzeyini belirlemek için Beard ve Ragheb (1980) tarafından geliştirilen SZT ölçeği uzun formunun Türkçeye uyarlanmış şekli kullanılmıştır (Karlı ve diğ.,2008).

MATERYAL VE METHOD

Katılımcılar

Araştırmaya Antalya ilinde toplam 75 rekreatif amaçlı tenis oynayan birey gönüllü olarak katılmıştır. Bu bireylerin 39'u (13 kadın 26 erkek) rekreatif olarak tenis ile birlikte farklı fiziksel aktivitelere katılıyorken 36'sı (15 kadın 21 erkek) katılmıyordu.

Veri Toplama Yöntemi

Veriler tüm katılımcılara yaş, cinsiyet, tenis oynama yıllarını içeren sorulardan oluşan kişisel bilgi formu, SZT ölçeği ve UAFA anketi uygulanarak elde edilmiştir. Katılımcılar anketleri doldurmadan önce çalışma hakkında detaylı bir şekilde bilgilendirilmiştir.

Serbest Zaman Tatmin Ölçeği (SZTÖ)

SZTÖ ilk olarak Beard ve Ragheb (1980) tarafından geliştirilmiştir. Orijinal form 51 soru ve 6 alt boyut içerir. Çalışmada 39 soru ve 6 alt boyutu içerecek şekilde Türkçeye uyarlanmış ve geçerlilik güvenirlilik çalışması

yapılmış şekli kullanılmıştır. Bu 6 alt boyut psikolojik, eğitimsel, sosyal, rahatlama, fizyolojik ve estetik boyutu olarak belirlenmiştir. Bu sorular ölçekte 1 ile 5 arasında puanları içeren Likert tipi ölçektir (1=Benim için hemen hemen hiç geçerli değil ve 5=Benim için hemen her zaman geçerli). Karlı ve arkadaşları tarafından yapılan çalışmada Cronbach Alpha güvenirlilik katsayısı α=0,92, bizim çalışmamızda da 0,92 olarak hesaplanmıştır (Karlı ve diğ.,2008).

Uluslararası Fiziksel Aktivite Anketi (FAA)

Boş zamanlarda yapılan fiziksel aktiviteyi değerlendirmek için Uluslararası Fiziksel Aktivite Anketi (FAA) kısa formu kullanılmıştır. FAA kısa formu bireyin fiziksel aktivite seviyesini belirlemek için 7 soru içerir. 18-69 yaş arası yetişkinlerde uygulanması tavsiye edilmektedir. Anket son 7 günde en az 10 dk yapılan FA ile ilgili soruları içermektedir. FA düzeyini belirlemek için MET yöntemi kullanılmaktadır. 1 MET=3,5 ml/kg/dk. 'dır. İstirahat halinde iken her birey kg başına bir dakikada 3,5 ml oksijen tüketmektedir. FAA'de, Yürüme, orta ve şiddetli FA düzeyleri değerlendirilir. [Yürüme 3,3 MET, Orta FA(OFA) 4MET; Şiddetli FA (ŞFA) 8MET].Her Bir kişinin haftada kaç gün ve ne kadar süre ile Yürüme, OFA, ŞFA yaptığı tesbit edilerek bu üç farklı fiziksel aktiviteden harcanan toplan MET-dak/hafta miktarı hesaplanmaktadır. FAA'nin geçerliliği Brezilyada bir kaç çalışmada belirlenmiştir. Azevedo ve ark. (2007) tarafından yapılan bir çalışmada FAA'nin fiziksel aktiviteyi ölçmek için güvenilir ve kolay uygulanabilir bir araç olduğu belirtilmektedir

BULGULAR

Katılımcıların 28'i kadın (yaş, 48.53±9.20 yıl; boy, 160.64±7.55 cm; ağırlık, 65.25±9.91 kg), 47'si erkek bireylerden (yaş, 46.24±9.25 yıl; boy, 175.06±6.58 cm; ağırlık, 78.89±8.35 kg) oluşmaktadır. Katılımcıların ortalama 9.13±5.14 yıl tenis oynadığı belirlenmiştir

Tablo1: Tüm Katılımcıların Fiziksel Aktivite Düzeyleri.

n=75	**Yürüme** (AO±SS)	**ODFA** (AO±SS)	**ŞFA** (AO±SS)
FADT(MET-dak/hafta) (n=39)	1128±1005	1507.06±1439.75	4954.84±4536.59
p=	0.02*	0.06	0.00*
DT(MET-dak/hafta) (n=36)	603.90±558.83	920.00±393.96	1655.55±1165.39

Çalışma sonunda, FAA puanlarına göre (MET-dak/hafta) FADT Yürüme (n=34, 1128±1005) ve ŞFA parametrelerinde (n=31; 4954.84±4536.59) DT göre daha yüksek puan aldığı (Yürüme: n=25; 603.90±558.83; ŞFA: n=18; 1655.55±1165.39) belirlenmiştir (p<0.05).

ODFA parametresinde FADT (n=34; 1507.06±1439.75) ile DT (n=31; 920.00±393.96) arasında ise α=0.05 anlam düzeyine çok yakın fark olduğu saptanmıştır (p=0.06).

FADT grubunun haftada harcadığı toplam MET miktarının(6235,96± 6068,84) DT grubuna göre (2039.3750±1949.56) anlamlı derecede fazla olduğu bulunmuştur (p=0.00).

Tablo 2: Katılımcıların Serbest Zaman Tatmin Düzeyleri.

SZTD n=75	**FADT** (AO±SS) n=39	**p**	**DT** (AO±SS) n=36
Psikolojik	34.53±4.46	0.33	35.44±3.53
Eğitim	38.00±6.17	0.01*	34.61±5.91
Sosyal	31.17±4.55	0.23	32.53±5.28
Rahatlama	18.59±1.52	0.96	18.61±1.84
Fizyolojik	24.76±3.53	0.85	24.92±2.99
Estetik	17.05±2.84	0.60	16.72±2.61
Toplam	166.38±17.76	0.14	160.56±16.39

SZT ölçeği eğitim alt boyutunda(FADT: n=39; 38.00±6.17; DT: n=36; 34.61±5.91) FADT lehine anlamlı fark olduğu belirlenmiştir (p<0.05).

Tüm katılımcıların SZTD puanları ile FA puanları arasında anlamlı bir ilişki bulunmamıştır (p<0.05).

Tablo 3: Tüm Katılımcıların Cinsiyetlere Göre Serbest Zaman Tatmin Düzeyleri.

SZTD n=75	Kadın (AO±SS) n=47	p	Erkek (AO±SS) n=28
Psikolojik	36.64±2.93	0.00*	34.02±4.25
Eğitim	39.03±4.54	0.00*	34.79±6.61
Sosyal	33.50±4.69	0.03*	30.91±4.90
Rahatlama	18.82±1.85	0.34	18.47±1.85
Fizyolojik	25.75±2.25	0.04*	24.30±3.65
Estetik	17.53±2.62	0.11	16.51±2.73
Toplam	171.28±13.21	0.00*	159.00±17.85

Tüm katılımcıların cinsiyetlere göre SZTD arasında Psikolojik, Eğitim, Sosyal, Fizyolojik alt boyutlarında ve toplam boyutta anlamlı derecede farklı olduğu belirlenmiştir (p<0.05).

Tablo 4: FADT ve DT Gruplarının Cinsiyetlere Göre Serbest Zaman Tatmin Düzeyleri.

Alt Boyutlar	FADTn=39			DTn=36		
	Kadın (AO±SS)n=13	p	Erkek (AO±SS)n=26	Kadın (AO±SS)n=15	p	Erkek (AO±SS)n=21
Psikolojik	37.00±3.16	0.04*	34.65±3.51	36.33±2.79	0.02*	33.24±5.00
Eğitim	41.69±2.78	0.00*	36.15±6.59	36.73±4.57	0.05	33.09±6.39
Sosyal	35.46±3.84	0.00*	31.08±5.35	31.80±4.81	0.49	30.71±4.41
Rahatlama	18.38±1.50	0.56	18.69±1.54	19.20±1.01	0.07	18.19±2.18
Fizyolojik	26.31±1.49	0.01*	24.00±4.00	25.27±2.71	0.55	24.67±3.21
Estetik	17.77±2.98	0.29	16.69±2.75	17.33±2.35	0.23	16.28±2.76
Toplam	176.61±1.66	0.00*	161.27±18.23	166.66±13.07	0.05	156.19±17.40

FADT yapan kadınların Psikolojik, Eğitim, Sosyal, Fizyolojik ve Toplam Puanlarda erkeklerden anlamlı derecede farklı olduğu belirlenmiştir (p<0.05).
DT yapan kadınların ise Psikolojik alt boyutunda erkeklere göre anlamlı derecede farklı olduğu belirlenmiştir (p<0.05).

TARTIŞMA

Çalışma düzenli olarak tenis oynayan bireyler ile tenis oynamanın yanında diğer FA'ler ile uğraşan bireylerin SZT düzeyleri ve FA düzeylerini incelemek amacıyla yapılmıştır. Çalışmada serbest zaman FA çeşitliliğinin FA düzeyini artırdığı belirlenmiştir. Önceki çalışmalarda düzenli yapılan fiziksel aktivite şiddetinin bazı psikolojik parametreler üzerine etkisi incelenmiştir. Düzenli olarak yapılan haftalık egzersiz sayısı fazla olanların az olanlara göre daha az stres seviyesine sahip olduklarını belirten araştırmalar da bulunmaktadır (Schnohr ve diğ., 2004). Dünya Sağlık Örgütü tarafından 18-64 yaşları arasındaki yetişkin bireylerde haftada 150 dk orta şiddette yapılan FA ile haftada 75 dk yapılan FA'nin kombine edilerek yapılmasının depresyon riskini azalttığı bildirilmektedir (Kuwahara ve diğ., 2015). Ancak literatürde FA çeşitliliğinin SZT düzeyine etkisi ile ilgili bir çalışmaya rastlanmamıştır. Bu anlamda bu çalışmadan elde edilen sonuçların faydalı olacağı düşünülmektedir.

Tüm katılımcıların SZT düzeyleri incelendiğinde düzenli olarak birden fazla farklı FA yapan bireylerin yapmayanlara göre yalnızca eğitim boyutunda puanları daha yüksek bulunmuştur. Bu sonuçlara göre serbest zamanlarında yaptıkları FA çeşitliliğinin bireylerin eğitim ile ilgili tatmin düzeylerini olumlu etkilediği söylenebilir.

Tüm katılımcıların SZT düzeyi puanlarına cinsiyete göre bakıldığında; psikolojik, eğitim, sosyal, fizyolojik alt boyutlarında ve toplam puanda kadınların puanları erkeklerden fazla bulunmuştur. Ancak rahatlama ve estetik boyutlarında anlamlı fark bulunmamıştır. Bu bulgulara dayanarak 28'i kadın (yaş, 48.53±9.20 yıl) 47'si erkek (yaş, 46.24±9.25 yıl) bireyin katıldığı bu çalışmada serbest zamanlarında fiziksel aktivite yapan kadınların SZT

düzeyleri erkeklere göre daha fazla bulunmuştur. Birden fazla fiziksel aktivite yapan kadınların SZT puanlarının psikolojik, eğitim, sosyal, fizyolojik alt boyutlarında ve toplam puanda erkeklerden daha fazla olduğu belirlenmiştir.

Literatürde serbest zaman aktivitelerinin neler olduğuna bakılmaksızın çeşitli yaş gruplarında yapılan çalışmalarda cinsiyetin serbest zaman aktivitesi üzerine etkileri incelenmiştir. Çocuklar ve ergenler üzerinde yapılan bir araştırmada boş zaman aktivitelerine katılımda cinsiyete göre farklılık olmadığı belirtilmiştir (Muzindutsi ve Masango 2015). Gençler üzerinde Türkiye'de 804 üniversite öğrencisi üzerinde yapılan bir çalışmada ise hem serbest zaman tatmin düzeyinde hem de alt boyutlarında cinsiyetler arasında fark olmadığı belirten çalışmalar yer almaktadır (Ardahan, Lapa, 2010). 65 yaş üstü bireylerde yapılan bir çalışmada ise kadın ve erkeklerin SZT düzeyi arasında anlamlı fark bulunmamıştır (Broughton ve Beggs, 2007). Ancak daha eski bir çalışmada erkeklerin serbest zaman tatmin düzeylerinin kadınlardan daha baskın olduğu ancak kadınların sosyal etkileşim için daha fazla boş zamana ihtiyaç duyduğu belirtmektedir (Kabanof, 1982). Bu çalışmada ise serbest zamanlarında tek bir fiziksel aktiviteye katılan ve farklı fiziksel aktivitelerle (tenis odaklı) katılan bireylerin serbest zaman tatmin düzeylerinde cinsiyete göre farklılıkları incelenmiş ve kadınların erkeklere göre SZT puanlarının daha fazla olduğu belirlenmiştir. Ayrıca birden fazla fiziksel aktivite ile uğraşan kadınların erkeklere göre daha fazla SZT düzeyine sahip oldukları belirlenmiştir. SZT ölçeği puanları ile FA anketinden elde edilen puanlar arasında ise herhangi bir anlamlı ilişkiye rastlanmamıştır.

Sonuç olarak; FA çeşitliliğinin FA miktarını artıran bir faktör olduğu söylenebilir. Serbest zamanlarında birden fazla FA ile uğraşan bireylerin yeni beceriler öğrenme, deneme, toplumu ve kendini daha iyi tanıma vb. duygulardaki (eğitim boyutu) tatmin düzeylerinin daha yüksek olduğu belirlenmiştir. Serbest zaman aktivitelerine katılan kadınların erkeklerden daha fazla SZT düzeyine sahip oldukları ve birden fazla FA katılan kadınların erkeklere göre daha fazla SZT düzeyine sahip olduğu bulunmuştur. Bu sonuçlara göre serbest zamanlarında fiziksel aktivite ile uğraşan bireylerde cinsiyetin SZT üzerine etkili olduğu ancak yapılan fiziksel aktivitenin çeşitliliğinin, şiddet ve sıklığının SZT düzeyi ile ilişkili olmadığı belirlenmiştir.

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COMPARISON OF THE TRENDS IN HIGHER EDUCATION IN THE CZECH REPUBLIC, SLOVAKIA AND AUSTRIA

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ABSTRACT
The situation in the tertiary education sector is changing every year according to many factors and conditions. The economic situation influenced by the financial crisis has had the negative impact on the public expenditures including public spending on education. Higher education institutions (HEIs) across Europe face today a threat of critical underfunding and dependence on public sources. As the trends are not similar in all countries we have selected three of them for the comparison. This paper is aimed at the description of the higher education systems in the selected countries (Czech Republic, Slovakia, Austria) and afterwards the comparison of the trends of various factors during last several years is added. The studied factors are percentage of GDP from public sources spent on higher education, private spending on education, % of population studied at HEIs, expenditures per student as % of GDP, school enrolment in tertiary education etc. For the comparison the regression analyses was used.

INTRODUCTION

Today's economic circumstances and financial crisis have resulted into restrictions on public expenditures, which have many impacts into several areas, among others into education. The key problem is to find a way how to arrange that education system can continue to fulfil its role with limited sources. Higher education institutions across Europe face today a threat of critical underfunding which could result into decrease of quality in teaching and also in other educational and research activities. There is a need for finding more effectiveness in setting the system and in running each organisation as well. That is the reason why traditional models of funding have been transformed and continue to evolve. Public sources become more demanding and competitive. In many countries the crisis has intensified public debate about private sources coming from student financial contributions. These discussions tend to focus on the introduction or increase of tuition fees which would help institutions to diversify their income sources and contribute to their overall financial sustainability.

The dependence on the public sources seems to be a problem and so the discussion about the private sources and tuition fees is more important than before. European higher education institutions (HEIs) can be academically or professionally oriented and usually are separated according to the main funding sources as public and private ones. Academic higher education is traditionally offered by universities whereas professional higher education is offered by non-university institutions - universities of applied sciences, university colleges, polytechnics, institutes of technology, Fachhochschulen, hogescholen. Terminology in higher professional education is based on national concepts and is generally a product of historical tradition and background. The problem is that there is no clear and internationally shared definition for the two types of higher education (Camilleri et al., 2013). Professional higher education is a specific form of higher education that offers a particularly intense integration with the world of work in all its aspects (including teaching, learning, research and governance). Its' function is to focus especially on application of learning. This means the combination of study and work processes and the cooperation with employers about the use of practice-relevant knowledge (Camilleri et al., 2013). In some European countries the distinction of the academic/professional higher education was influenced by the Bologna process that started the reform of higher education in the sense of the separation of the system into two cycles, undergraduate (usually three year study bachelor degree) and graduate (Bologna declaration, 1999). According to these changes more non-university institutions practically oriented started to grow. As Kyvik (2004) mentioned, "the main purpose of the non-university institutions was to offer a wide spectrum of vocational education, either to qualify for a specific occupation or to prepare for a profession." Following these assumptions we can suppose that the professional higher education is connected with non-university sector. But the problem is that the boundaries between universities and non-university institutions started to blur (Witte et al., 2008). More about the professional higher education in selected European countries was presented in Kuncova, Mulac (2015).

Education expenditure is financed by two distinct types of funding: public funding and private funding. Public expenditure includes all direct funding of education by the public sector, whereas private expenditure includes the payment of tuition fees and all other payments primarily by households (i.e. students and their families), businesses and non-profit associations. Blankenau et al. (2007) found a positive relationship between public education expenditures and long-term growth but the relationship is also influenced by the level of government spending, the tax structure and the parameters of production technologies. As it is not easy to control all these parameters the idea of private funding seems to be logical step.

MATERIALS AND METHODS

Higher education in Europe faces a lot of problems connected mainly with the underfunding from public sources, uneasy ways of private funding or the demographic decrease. The financial crisis in 2008 and the consequent economic downturn have had a huge impact on public finances in EU countries and also it had influenced the worse position of the higher education among the publicly financed sectors and from the government interest point of view. The need for the government to limit the increasing higher education expenditures is guided by the intention that public resources should be allocated in a transparent way while at the same time offering specific performance incentives (OECD 2010).

The analysis is aimed at the 3 European Union countries that have common history – Czech Republic, Slovakia and Austria. The closest common history dates back to the times of the Austria-Hungary Empire (1867-1918) followed by the Czechoslovakia (1918-1992) with its different political organisation before and after the Second World War and before and after the socialist era. According to these facts the systems of education and higher education as well are similar. As the Czech Republic and Slovakia were for a long time under the influence of the Soviet Union the differences between western European countries (including Austria) and eastern ones (included the Czech Republic and Slovakia) raised.

The qualitative and quantitative data including literature findings and statistical data as well as information gained from interviews with representatives of higher education institutions in each country studied were used in this paper to compare the trends in higher education. The studied factors are percentage of GDP from public sources spent on higher education, private spending on education, % of population studied at public and private HEIs (part time and full time), expenditures per student as % of GDP, school enrolment in tertiary education and the main fields of study. Indicators were then transformed and adjusted using basic mathematical operations into to the desired form of tables. If necessary the regression and correlation analyses were used for the comparison. Before the data comparison the basic description of each country and its higher educational system is presented.

Higher Education in the Czech Republic

Higher education in the Czech Republic is realised at higher education institutions and consists of three cycles: bachelor's, master's and doctoral degree programme. Regarding the system of funding and ownership higher education institutions can be public institutions (legally established), private institutions, existing on the basis of the state approval or state-run institutions (only in the case of military and police academies), legally established under the control of the relevant ministries.

In 2016 higher education in the Czech Republic is provided by 26 public higher education institutions, 2 state higher education institutions and 42 private higher education institutions Under the Higher Education Act, they are classified as university type (24 public, 2 state and 3 private) which offer study programmes at all three levels of higher education and non-university type (2 public and 39 private) which offer mainly bachelor's programmes but may also provide Master's programmes. (MSMT, 2016).

Public higher education institutions are established by law and have the status of a legal entity. They are self-governing organisations and own a property passed on them by the state. State higher education institutions are also established by law and governed by the relevant ministries as organisational units of the state. Private higher education institutions are relatively new elements in the system, their foundation was made possible by the 1998 Higher Education Act. Prior to the establishment, the legal entity that establishes a private education institution is required to have an approval from the Ministry of Education, Youth and Sports. Conditions for its bestowment are clearly set by the law. Public and state higher education institutions are funded from the state budget, private higher education institutions receive funds from other sources. They can receive a subsidy from the Ministry of Education, Youth and Sports only if they have the status of a public benefit corporation (Eurydice-CR, 2016).

Study programmes that can be divided into branches are subject to accreditation awarded by the Ministry of Education, Youth and Sports on the basis of the Accreditation Commission standpoint. In April 2016 the amendment to Higher Education Act was approved. One of the main issues is e.g. new rules for accreditation, including establishment of independent Accreditation Office, and a new system of quality evaluation of higher education institutions.

Universities may offer all three types of study programmes and carry out scientific, research, developmental, artistic or other creative activities connected with these. Almost all public higher education institutions with the exception of two are the university type of institutions and both state higher education institutions are universities too. Higher education institutions of the non-university type offer mainly bachelor's degree programmes include a period of practical training and carry out research, art and other creative activities connected to the programme. They can also offer master's degree programmes, if they receive accreditation for them. Two public higher education institutions of the non-university type are transformed from previous tertiary professional schools. The first higher education institution of the non-university type was established in September 2004 – the College of Polytechnics Jihlava. Since 2006, the second public institution, the Institute of Technology and Business in České Budějovice, has also been in operation. All private higher education institutions started as institutions of the non-university type, only three of them became universities lately. (Eurydice-CR, 2016)

In the Czech Republic there is the same system for financing public universities and non-university type of higher education institutions and also the criteria for evaluation of institutions are common for both segments. But the portfolio of the criteria is quite wide, which creates space for some specialization of each organisation. Until 2009 the formula of contribution allocation was depended only on quantity of students. As a result of financial and demographical situation, it has been decided to introduce a new mechanism of performance based funding encompassing the whole range of activities HEIs could perform. Three measures have been taken. First, the Performance Based Funding was introduced only in certain parts of the budget allocated to Public HEIs and its proportion has been gradually increasing. Second, further expansion of the sector has been capped by limiting the number of new students that would be funded by the state. And third, both measures were linked together – for each HEI the number of students funded by the state would depend on performance indicators attained. It is thus clear that the choice of performance indicators is very sensitive as it would significantly affect the behaviour of HEIs and their further development (Koucky, 2012). The Performance Based Funding for 2015 is based on 10 indicators and their weights. The most important is the performance in research activities represented by so-called RIV points with the weight 34.3% followed by the employability of graduates with 16% weight and students mobility incoming and outgoing, each with 14.5% weight (MSMT, 2015).

Study fees are related only to admission procedures and need to be paid once per cycle. No tuition fees are paid by 'typical' higher public education students, provided that they complete their study programme in the regular timeframe. Students who study in second or further degree programmes have to pay fees (maximum CZK 2,819/academic year). Students of study programmes in a foreign language also have to pay tuition fees and no maximum limit is set by law. Tuition fees and other fees connected with the study at a private higher education institution fees are set out in its internal regulations. (EC, 2015)

Higher education in Slovakia

Higher education in the Slovak Republic (SR) is provided by higher educational institutions that have an exclusive right granted by law to provide and organise higher education. Fulfilment of accreditation conditions is assessed by the Accreditation Commission. Accreditation is granted by the minister of education based on the Accreditation Commission's statement. Higher education institutions may ask for study programme accreditation in any field of study. The Act on Higher Education distinguishes different types of higher education institutions. Regarding the system of funding and ownership, they are divided into public, state owned and private higher educational institutions. In addition, higher education may be also provided by foreign higher education institutions. In 2016 higher education in the Slovak Republic is provided by 20 public higher education institutions, 3 state higher education institutions, 12 private higher education institutions and 5 foreign higher education institutions (MŠVVŠ SR, 2016).

Public HEI is an autonomous institution that establishes and repeals the law. The state-owned higher education institutions are police, military and healthcare higher education institutions. The private higher education institutions are non-profit-making organisations offering generally useful services or limited liable companies which were founded with the purpose of providing education and research. The State consent for operation as a private higher education institution is granted by the Government of the SR. The Accreditation Commission pronounces on the request for giving the consent. Foreign higher education institutions provide higher education in the Slovak Republic in compliance with the legislature of their home country based on the authorisation granted by the Ministry of Education, Science, Research and Sport of the Slovak Republic. Rights and obligations of a foreign higher education institution's students are not governed by the Act on higher education but by the legislature of the institution's home country (Eurydice-SR, 2016).

In agreement with the Higher Education Act all higher education institutions provide the Bachelor study programmes. The professional higher education institutions provide the Bachelor's study programmes only. The professional higher education institutions are oriented particularly on the applied research. In case of university

higher education institutions the primary orientation is at basic research and emphasis is laid on doctoral study programmes (Eurydice-SR, 2016)

The main sources of funding for public and state higher education institutions are subsidies from the state budget, subject to a special regulation. A public higher education institutions use also other sources to cover expenditure necessary for their activity. The ministry provides subsidies to a public higher education institution for the implementation of accredited study programmes, research, development or artistic activities, the development of higher education institutions and for the social support of students. The revenues of a public higher education institution include a subsidy from the state budget, tuition fees, charges associated with the study, revenues from further education, proceeds of the property and of the intellectual property, revenues   from gifts from natural persons and legal entities and proceeds of the business activity and other revenues, if permitted by the law.

Private higher education institutions secure financing for their educational, research, development, artistic and other creative activities themselves. The ministry provides private higher education institutions with subsidies for social support of students. The private higher education institutions may be also granted a subsidy for its activity from the state budget but actually they receive only the funds for covering statutory claims of the students.

Students in the Slovak Republic pay certain fees and tuition in the cases defined by law. A public higher education institution may require candidates for study to pay fees for the material provision for the admission procedure. All students pay registration fees (from 10 to 100 Euros per academic year) and administrative operations fees. Full-time students of a public higher education institution that have not exceeded the standard length of study, as prescribed for a study programme, do not pay tuition fees. Students who simultaneously study two or more study programmes or who exceed the standard length of a public higher education institution study programme have to pay the annual tuition fees. Tuition can be a maximum of 1,650 EUR per academic year. Part-time higher education students have to pay annual tuition fees for every year of their study. Tuition fees and fees connected with the study at a private higher education institution are defined by the private higher education institution in its internal regulations.

Higher education in Austria

The system of higher education in Austria consists of universities, which represent traditional and the largest sector, universities of applied sciences (Fachhochschulen, FH) introduced in 1994 and university colleges of teacher education (Pädagogische Hochschulen) introduced in 2007. Higher education in Austria is provided by 22 public and 12 private universities, 21 universities of applied sciences, 14 university colleges of teacher education and three private teacher training courses. (BMWFW, 2016).

Universities are state-maintained higher-education institutions at the highest academic or artistic level which run bachelor's, master's, diploma and doctoral programs. Universities are tasked with promoting academic research and teaching, as well as the advancement and appreciation of the arts. These educational institutions under public law serve the acquisition of scientific and artistic abilities and qualifications.

Universities of applied sciences are entrusted with the task of offering study courses at university level which provide a scientifically founded professional and vocational education. They are to ensure practice-oriented education on the basis of the respective professional field, taking account of professional flexibility. They are provided as bachelor programs, master programs, as well as diploma programs, and include a period of practical training. Universities of Applied Sciences degree programs may be provided by the federal authorities and other legal entities under public and private law. The programmes are offered on a broader regional basis than the university programmes. Programmes include: Arts and Design; Business; Cultural Studies and Social Sciences; Police and Military Studies; Health Studies; Natural Sciences; and Engineering. (Eurydice, 2015).

The public universities are funded by the federation by global budgets that are fixed for three years in advance. The global budget consists of the basic budget and the higher education area structural funds. The basic budget is to be negotiated under the performance agreements concluded between the individual university and the Federal Ministry of Science, Research and Economy. The distribution of the higher education area structural funds is based on quality, quantity and performance-related indicators. The indicators take account of teaching, research and development, the advancement and appreciation of arts and social objectives. The main part of the higher education area structural funds is allotted on the basis of numbers of exam-based programs/active students and degrees conferred.

Universities of applied sciences are institutions under private law. For the whole sector, a development and funding plan is decided upon between the Austrian federation, states and the Fachhochschul Council. The negotiations are based on calculated student places. The public funding is limited to 90% of the full cost; the remaining part is to be covered by local authorities and business sponsors. This system of mixed funding is based

on the standard cost system. The Federal Government bears the costs per study place, provided that the catalogue of established criteria is complied with. The Austrian Science Council (Österreichischer Wissenschaftsrat) (2012) lists four groups of courses and unit costs per student place where the costs are between 6,510 and 7,940 EUR for admitted student. Costs for buildings, investments and a part of the running costs are borne by the provider of the Universities of Applied Sciences degree programme (usually the governments of the federal provinces, regional and supra-regional territorial authorities or other public and private institutions assume part of the costs). The professional higher education sector is also predominantly government-funded - this part varies between 60 and 70 % of the total expenditure, regional sources vary between 22 and 36 % of the total expenditure. Each federal province (Land) or regional authority use different funding system – global funding independent of the number of students (eg. Upper Austria - Oberösterreich) or on the contrary, funding according the number of students (eg. Wien, Lower Austria and Tyrol). (BMWFW, 2015).

There are no tuition fees for university students in Austria but providers of universities of applied sciences are entitled to charge fees up to the maximum amount of EUR 363.36 per semester.

RESULTS AND DISCUSSION

The situation in higher education sector can be viewed and compared according to the various aspects. In this article the comparison based on the statistical data was selected. As it was written before all three countries has similar historical base that influence also the development of the higher education system. When talking about the number of HEIs in the Czech Republic in connection with the state budget it is sometimes said that the number of these institutions is very high. But when we take into account the number of inhabitants and compare it with other countries it is not possible to say that the number of the HEIs in the Czech Republic exceeds the usual average. 70 HEIs per 10.5 million of inhabitants in the Czech Republic mean 150 thousands of inhabitants per 1 HEI on average. In Slovakia the average is 135 thousands of inhabitants (40 HEIs per 5.4 millions of inhabitants) and in Austria it is about 118 thousands of inhabitants per 1 HEI (72 HEIs per 8.5 millions of inhabitants). On the other hand the higher education is important for the development of the country – and from this point of view we may conclude that the highest percentage of population studied at HEIs was (in 2014) in Austria (Table 1). Next big difference is in the separation between the public and private HEIs. In all three countries the number of public institutions outweighs the number of the private ones but the percentage of the students studied at the public HEIs in the Czech Republic is the highest although the number of public HEIs represents nearly half of the number of the private ones in this country. The reason lies in the tuition fees paid at the private HEIs and also in the fact that the public HEIs have higher credit and trust than the public ones. Other big difference can be seen in the percentage of students studied full time or part time. According to the Eurostat (2014) there is no part time study in Austria and so all the students study full time. On the other hand nearly 1/3 of the students in tertiary education in Slovakia study part time in comparison with only 4% in the Czech Republic. The same trend we see in Table 2 in % of students at Bachelor and Master programmes of study studied part time. A detailed analysis of reasons for this difference will be the subject of another upcoming article.

The last column in Table 1 is connected with the academic staff. In the Czech Republic in relation to the expenditures on tertiary education we often hear that there is a lot of academicians at the Czech HEIs. Data taken from Eurostat (2014) do not confirm this speculation as in other two countries the number of academic staff is higher with respect to the number of students. Except of the differences in the full-time and part-time studies Table 2 shows the difference among the distribution of tertiary students into the different study levels. While in the Czech Republic and Slovakia most of the tertiary students study at the bachelor level (and usually only about half of them continue in the master study) the rate of the bachelor and master study in Austria is more balanced but in this country more students study other types of tertiary education (including training courses or doctoral study).

2014	students enrolled in tertiary education							
	number of students	% of population	% of active popul.	% at public HEIs	% at private HEIs	% part time	% full time	number of students per member of academic staff
Austria	421225	**4.94**	**7.33**	83.54	**16.46**	0.00	**100.00**	15
Czech Republic	418624	3.90	5.77	**87.72**	12.28	4.08	95.92	**21.9**
Slovakia	197854	3.63	5.09	83.05	**16.95**	**28.88**	71.12	13.8

Table 1: Comparison of percentages of students enrolled in tertiary education in selected countries. Source: Eurostat 2014

2014	students enrolled in tertiary education							
	% Bc	% Bc public	% Bc private	% Bc part time public	% Master	% Master public	% Master private	% Master part time public
Austria	42.59	78.42	21.58	**0.00**	33.16	87.95	12.05	**0.00**
Czech Republic	**61.23**	84.92	15.08	**96.41**	32.54	90.83	9.17	**95.71**
Slovakia	**57.19**	81.92	18,08	**51.10**	36.25	83.78	16.22	**60.04**

Table 2: Comparison of percentages of students enrolled in tertiary education in Bc. or Master type of study in selected countries. Source: Eurostat 2014

The situation with the expenditures on education was completely different during the years 2001-2004 (Figure 1) when the % of total government expenditures on education went down in Austria, up in Slovakia and up and down in the Czech Republic. Since that the trends in all three countries are similar. When the linear regression line is used to fit the trend the slope for Austria and for the Czech Republic is positive (Austria 0.02, CR 0.09) but in Slovakia it is nearly fixed (-0.001) for the period 2001-2012. The government expenditures on education as % of GDP have the similar trends in all three countries. Although nearly all years the percentage goes down in Austria the linear regression line has positive slope (0.015) but it is smaller than the one for the Czech Republic (0.038). The fall during the period 2003-2008 in Slovakia causes that the trend for the whole selected period in this country is negative (slope -0.013). The data show that the changes in expenditures on education are not influences so much by the economic crisis but more by the policy of every government. The situation seems to be better in Austria where the percentage is the highest.
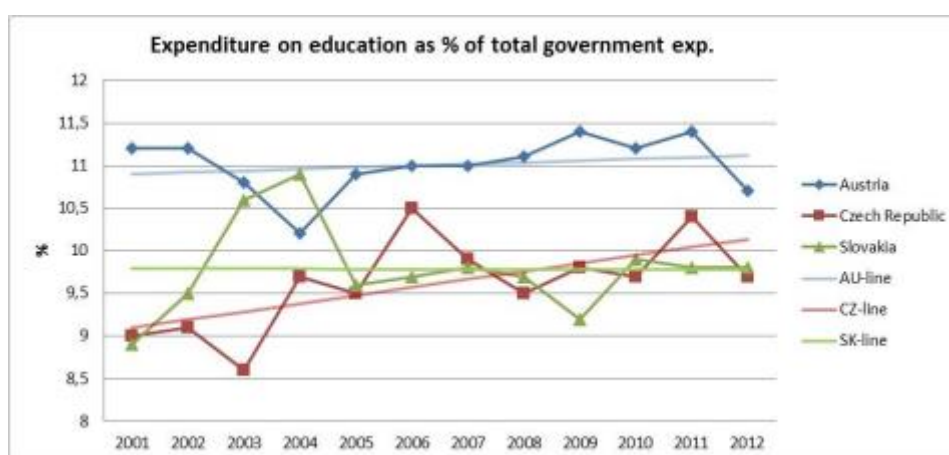

Figure 1 – Trends of the expenditures on education as % of total government expenditures (Source: Worldbank, 2014)
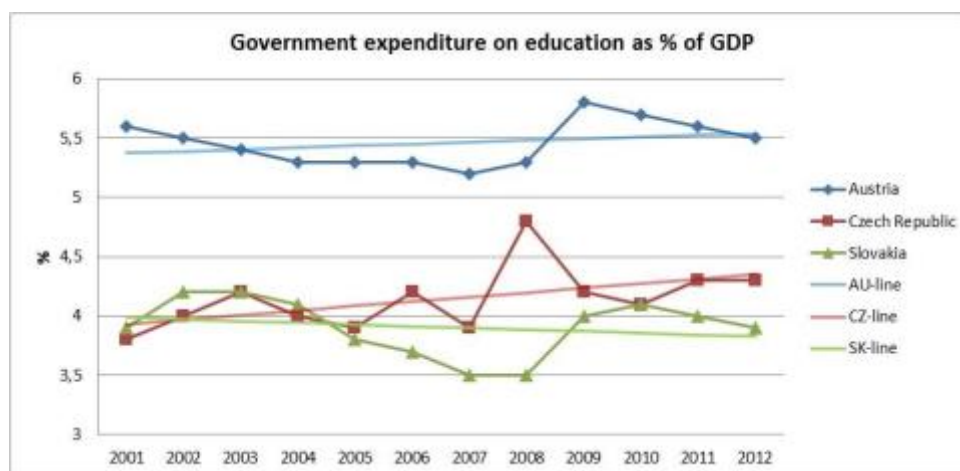
Figure 2 – Trends of the government expenditures on education as % of GDP (Source: Worldbank, 2014)

The description is completely different when we see the trends of the government expenditures per tertiary student as % of GDP per capita (Figure 3). In all three countries the linear regression lines have negative slopes. The main reason for this was probably the rising number of students in the tertiary education. Again the best values were reached in Austria. All these data show us that especially in the Czech Republic and Slovakia the situation with the expenditures on education was improving during the years but still it did not reach the Austrian levels. Although all governments usually said that education belongs to the main priorities, data about the expenditures on education and tertiary education did not confirm these declarations.

The last comparison is aimed at the distribution of tertiary students by field of study (Figure 4). In all three countries one third of students was aimed at the social sciences, business and law. The second place was different – whereas in Austria and in the Czech Republic the second biggest group of tertiary students studied in the field of engineering, manufacturing and construction (in Austria nearly 19 % of students, in CR almost 13 %), in Slovakia the second largest field of study was health and welfare (almost 19 % of tertiary students). This is also very interesting fact that cannot be easily explained without knowledge about the Slovak conditions and it should be a part of another study.
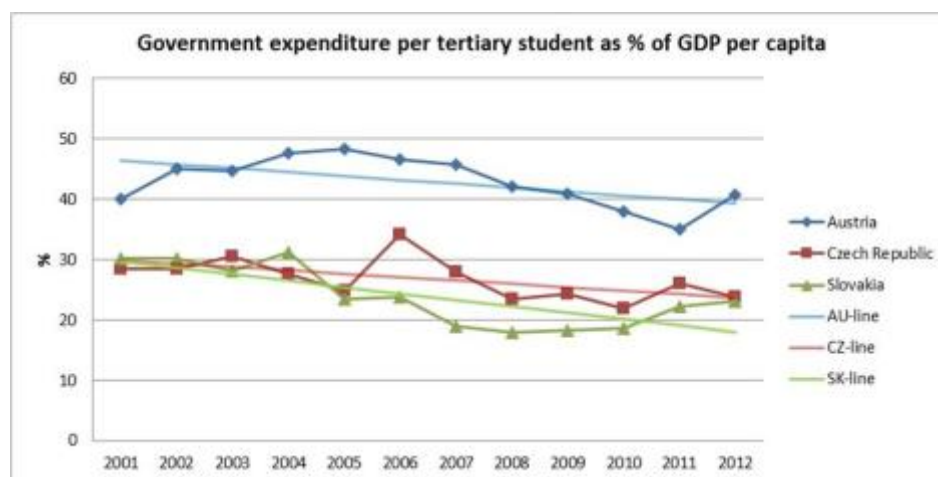

Figure 3 – Trends of the government expenditures per tertiary student as % of GDP per capita (Source: Worldbank, 2014)
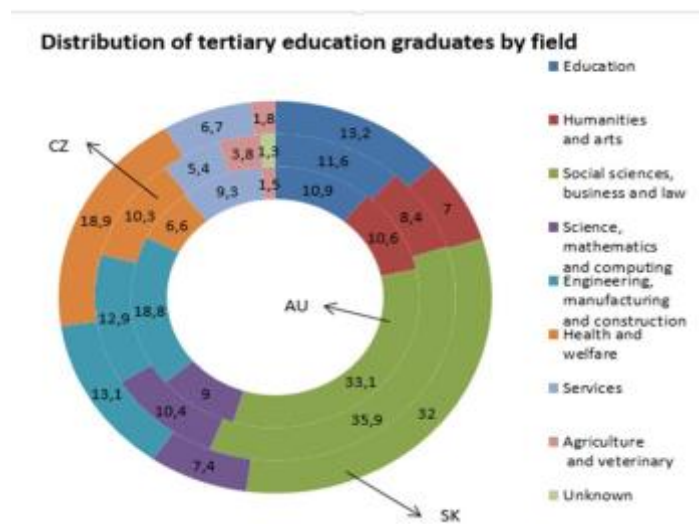
Figure 4 – Distribution of tertiary education by field of study (Source: Eurostat, 2014)

CONCLUSION

The main aim of this paper was the comparison of higher education in the Czech Republic, Slovakia and Austria. Each country has its own specific rules and different conditions connected with the tertiary education. The main differences can be summarized by these facts:

- ▶ Expenditures on education were rising more in the Czech Republic but they are still lower than in Austria.
- ▶ Expenditures per tertiary student were falling down in all countries.
- ▶ Austria had the highest % of population at HEIs and no part-time study.
- ▶ Czech Republic had the highest % of students at public HEIs and high number of students per 1 academician.
- ▶ Slovakia had the highest % of part time students at private HEIs and the highest % of students studied health and welfare.

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COMPARISON ON THE PERCEPTION ON THE DIRECTION OF EDUCATION COMMUNITIES IN KOREA ACCORDING TO FACTORS RELATED TO SPECIAL EDUCATORS

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ABSTRACT

The objectives of this research are significant in that this research derives the perception of special educators on the direction that education communities must prioritize in order to form warm education communities. In order to achieve this, a survey was conducted against a total of 312 special educators that works as teachers at special education schools and teachers that worked in the special education departments of general schools on 5 types of directions that education communities must implement in order to form warm education communities. IBM SPSS Statistics 23 was used to analyze the collected data. First, in order to examine the demographic characteristics of the educators surveyed, frequency analysis was conducted. Second, the analysis on the direction of education communities that special education teachers considered to be most important to form a warm education communities was conducted by teacher experience and type of education institute they worked for. The results of the research confirm that for all factors related to educator experience and school affiliation, the direction of education communities perceived by special educators considered the pairs of objectives vs methods, group oriented-ness vs individual oriented-ness, social community vs individual freedom, care vs practicality and humanity vs work oriented-ness to be equally important. Through this it can be considered that in order to form warm education communities, instead of leaning towards a particular direction, the management of classes and all general tasks of a school must be conducted while balancing each of the factors to be appropriate for the given time and situation.

INTRODUCTION

Within the school, educators must take on the role of an educator, a teacher of curriculum, a leader of personality education and manager of education curriculum etc.(Chung Chung-Chin, 2002). and also serve the critical role in establishing favorable relationships between the school and the student's families, fluid communication with the administrative department and even conducting general affairs etc. It is also reported that as the main agent in education communities, the educator must have the highest level of perception in regards to communities and also related abilities.(Won Deok-Jae, 2015).

Recently there has been abundant research in the area of examining the concepts and influencing factors needed to form warm education communities against the main stakeholders of education communities, which include general educators, special educators and students etc. (Cho Yoon-Jung, 2015; Hwang Soon-Young et al., 2015; Lee Sang-Soo et al., 2015; Park Han-Sook et al., 2015; Park Han-Sook, Song Yeon-Joo & Lee Sang-Soo, 2015). But in order for these influencing factors to operate in the same direction for each of the education community stakeholders, there is a need to examine the current direction that an education community is headed in. Therefore through questions that examine the direction of education communities, this research attempted to derive the perceptions according to the factors related to special educators.

METHOD

Subject of study

The research subjects were special educators affiliated with special education schools or special education programs of general education schools in the Seoul, Busan, Ulsan and South Gyeongsang regions. A total of 350 special educators responded to the survey, and excluding 38 surveys that were filled out incompletely or inappropriately, a total of 312 surveys were reflected in the final analysis. The detailed demographical characteristics of special educators that participated in this research are shown in <Table 1>.

Table 1: Characteristics of the special teachers surveyed

Division		N	%
Career of teachers	0-10 years	208	66.7
	11-20 years	65	20.8
	over 21 years	39	12.5
Affiliated school	special schools	229	73.4
	special classes	83	26.6
Total		312	100

A research tool

By analyzing previous research on education communities, this research developed survey questions with the objective of deducing the 5 types of directions of education communities. During the development of the survey, 10 education and special education experts validated and verified the appropriateness of the survey design. The survey included indicating the teaching experience and school affiliation of the special educator and choosing an appropriate direction for education communities to take. The 5 direction pairs of objectives vs methods, group oriented-ness vs individual oriented-ness, social community vs individual freedom, care vs practicality and humanity vs work oriented-ness were derived.

Data analysis

IBM SPSS Statistics 23 was used to analyze the collected data. First, in oder to examine the demographic characteristics of the educators surveyed, frequency analysis was conducted. Second, the analysis on the direction of education communities that special education teachers considered to be most important to form a warm education communities was conducted by teacher experience and type of education institute they worked for.

RESULTS

Table 2: The direction of education communities according to teacher career

Factors	No.	0-10 years		11-20 years		over 21 years		Total	
		N	%	N	%	N	%	N	%
objectives vs methods	objective	37	17.8	13	20.0	5	12.8	55	17.6
	methods	43	20.7	11	16.9	5	12.8	59	18.9
	Equality	128	61.5	41	63.1	29	74.4	198	63.5
group oriented-ness vs individual oriented-ness	group oriented-ness	33	15.9	12	18.5	8	20.5	53	17.0
	individual oriented-ness	37	17.8	6	9.2	6	15.4	49	15.7
	Equality	138	66.3	47	72.3	25	64.1	210	67.3
social community vs individual freedom	social community	43	20.7	15	23.1	11	28.2	69	22.1
	individual freedom	44	21.2	8	12.3	5	12.8	57	18.3
	Equality	121	58.2	42	64.6	23	59.0	186	59.6
care VS practicality	care	44	21.2	15	23.1	8	20.5	67	21.5
	practicality	61	29.3	21	32.3	11	28.2	93	29.8
	Equality	103	49.5	29	44.6	20	51.3	152	48.7
humanity vs	humanity	62	29.8	17	26.2	15	38.5	94	30.1

work oriented-ness	work oriented-ness	25	12.0	8	12.3	1	2.6	34	10.9
	Equality	121	58.2	40	61.5	23	59.0	184	59.0
Total		208	100	65	100	39	100	312	100

Table 3: The direction of education communities according to affiliated school

Factors	No.	Special schools		Special classes		Total	
		N	%	N	%	N	%
objectives vs methods	objective	38	16.6	17	20.5	55	17.6
	methods	48	21.0	11	13.3	59	18.9
	Equality	143	62.4	55	66.3	198	63.5
group oriented-ness vs individual oriented-ness	group oriented-ness	39	17.0	14	16.9	53	17.0
	individual oriented-ness	41	17.9	8	9.6	49	15.7
	Equality	149	65.1	61	73.5	210	67.3
social community vs individual freedom	social community	54	23.6	15	18.1	69	22.1
	individual freedom	43	18.8	14	16.9	57	18.3
	Equality	132	57.6	54	65.1	186	59.6
care VS practicality	care	48	21.0	19	22.9	67	21.5
	practicality	80	34.9	13	15.7	93	29.8
	Equality	101	44.1	51	61.4	152	48.7
humanity vs work oriented-ness	humanity	74	32.3	20	24.1	94	30.1
	work oriented-ness	28	12.2	6	7.5	34	10.9
	Equality	127	55.5	57	68.7	184	59.0
Total		229	100	83	100	312	100

CONCLUSIONS

The results of the research confirm that for all factors related to educator experience and school affiliation, the direction of education communities perceived by special educators considered the pairs of objectives vs methods, group oriented-ness vs individual oriented-ness, social community vs individual freedom, care vs practicality and humanity vs work oriented-ness to be equally important. Through this it can be considered that in order to form warm education communities, instead of leaning towards a particular direction, the management of classes and all general tasks of a school must be conducted while balancing each of the factors to be appropriate for the given time and situation.

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COMPUTER SCIENCE STUDENTS' ATTITUDES

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ABSTRACT

The high attrition rate in informatics is alarming. We tested first year students and found that they start their tertiary studies with a low level of computational thinking. We provide details of the attitudes of students towards informatics and their expectations as regards computer education. We found that a very low number of students recognized that computer sciences require high level algorithmic skills and select informatics as their major to learn programming. Consequently, the students' attitudes and their expectations from previous studies and their previous environment explain, in part, the high attrition rate experienced in these subjects.

INTRODUCTION

It is well-known that tertiary studies and courses in informatics experience an extremely high attrition rate. To find some explanation for this failure we have launched the Testing Algorithmic and Application Skills project (TAaAS). First year students of informatics have been tested within the framework of this project in a test which focuses on the students' algorithmic skills, and their ability to transfer knowledge between different computer problem solving environments immediately after leaving secondary education.

In our previous analyses, we have found that students of informatics start their tertiary education with a low level of computational thinking (Csernoch et al. 2015; Csernoch & Biró 2016), most of them not being able to recognize algorithms in different environments (Csernoch 2011, 2014, 2015; Biró et al, 2015a, 2015b, 2016), and generally preferring low mathability problem solving approaches (Baranyi & Gilányi, 2013; Biró & Csernoch, 2013, 2015a, 2015b).

To find an explanation for students' underperformance, we have hypothesized that the self-assessment and attitude section of the TAaAS project would provide additional useful information. Among various questions dealing with students' computer activities, we collected (S1) their results in the school leaving exams (SLE), if these were available, and (S2) their self-assessment values when answering the question "How do you evaluate your knowledge in programming? (0%=I do not know it at all, 100%=I know it very well)". In the attitude section, the students were asked (A1) about their selection of, and motivation towards, their major subject, (A2) about their future plans, (A3) about what expectations they have of the university/college, and (A4) about what informatics means for them.

In the present paper we provide the details regarding students at the Faculty of Informatics of the University of Debrecen, Hungary who started their studies in the 2014/2015 academic year. The faculty runs three major courses in informatics:

- – Software Engineering (SOE),
- – System Engineering (SYE),
- – Business Information Management (BIM)

In Hungary, students are accepted into tertiary education based on their high school and/or school leaving exam results at intermediate and/or advanced level. Without going into any further details of the method of acceptance (SLE, 2016), we must note that it is not compulsory for tertiary studies in informatics to take the school leaving exam in informatics [Table 1, columns No data]. On the other hand, from our point of view the fact that at intermediate level only application tasks are presented, while at advanced level more demanding application tasks along with a complex programming task have to be solved, plays a crucial role. Taking the school leaving exam in mathematics is compulsory, but again, students have a choice when selecting the level of the exam [Table 2].

SCHOOL LEAVING EXAMS (SLE)

In spite of the fact that informatics is not a compulsory subject in the school leaving exams, most of the students at the faculty have taken it. In terms of the number of students participating in the informatics SLE there is not much difference between the three groups at intermediate level. However, at advanced level, where a programming task is included, 40%, 17%, and 6% of the SOE, SYE, and BIM students took the exam,

respectively [Table 1, columns N(%)]. Furthermore, a significant difference was found in the three groups between those students who took the SLE in informatics at intermediate and at advanced level (p<0.001, Pearson's χ^2 test).

Informatics		Intermediate level			Advanced level			No data	
Course	Students	N	N (%)	AR	N	N (%)	AR	N	N (%)
SOE	117	65	56%	80%	47	40%	67%	5	4%
SYE	89	62	70%	78%	15	17%	65%	12	13%
BIM	86	56	65%	74%	6	7%	54%	24	28%

Table 1: The number of students taking the school leaving exams in informatics and their average results (AR)

In mathematics, which is a compulsory subject, most of the students took the intermediate exam with similar results in the three groups, and both at intermediate and advanced levels significant differences were found among the results [Table 2, columns AR] achieved by the three groups (p=0.001, p=0.040). At an advanced level, the small number of students does not allow us to draw consequences, but the tendency is similar in the two subjects, considering the number of students, while the results of the SOE students are much higher than those of the other two groups [Table 2].

Mathematics		Intermediate level		Advanced level		No data
Course	Students	N	AR	N	AR	N
SOE	117	104	76%	9	83%	4
SYE	89	78	70%	6	67%	5
BIM	86	77	68%	6	61%	3

Table 2: The number of students taking the school leaving exams in mathematics and their average results (AR)

RESULTS
Self-assessment
In the self-assessment section of the TAaAS project the students were asked the question "How do you evaluate your knowledge in programming? (0%=I do not know it at all, 100%=I know it very well)". In the informatics section of the TAaAS project these self-assessment values were compared to their results in elementary algorithms presented in different traditional and non-traditional programming environments (Csernoch & Biró, 2015a, 2015b, 2015c, 2015d, 2015e).

	<50%		≥50%		No data
Course	N	%	N	%	N
SOE	53	45%	63	54%	1
SYE	51	57%	31	35%	7
BIM	70	81%	15	17%	1

Table 3: The students' self-assessment of their programming knowledge

The students' self-assessment values of their knowledge in programming provide us some guidance in terms of their awareness of the subject. However, we must note here that our previous analyses revealed that these self-assessment values show a high level of overconfidence (Biró & Csernoch, 2013, 2014; Csernoch & Biró, 2013, 2014a, 2014b; Csernoch et al. 2015). The comparison of the number of students who took the advanced level SLE in informatics and their self-assessment values further strengthen this discrepancy. However, the analyses of these values are beyond the scope of this paper, and similar to Eurostat (Eurostat, 2016), we accept them as they are for our immediate purposes.

Being aware of the possible discrepancy between self-assessment values and the real knowledge, Table 3 and Fig. 1 clearly show that students start their studies in informatics with a low level of programming knowledge. Even on the most programming-oriented course (SOE), around 50% of the students declared that their knowledge was below 60%. The extremely high number of students in the BIM group who do not have any programming knowledge is alarming [Table 3 and Fig. 1].

These self-assessment values clearly show that even though informatics is a compulsory subject in elementary and secondary education (Curricula, 2013), even those students who selected informatics as their major are not sure of their programming knowledge. Our previous results showed that students generally use low mathability problem solving approaches which allow them to achieve high scores in the intermediate school leaving exam but do not lead to procedural problem solving (Pólya, 1954; Knuth, 1997, 2012). This is despite the fact that in the last two decades several non-traditional programming tools have appeared which serve different interest groups (Soloway, 1993; Csernoch & Biró, 2015b, 2015c).
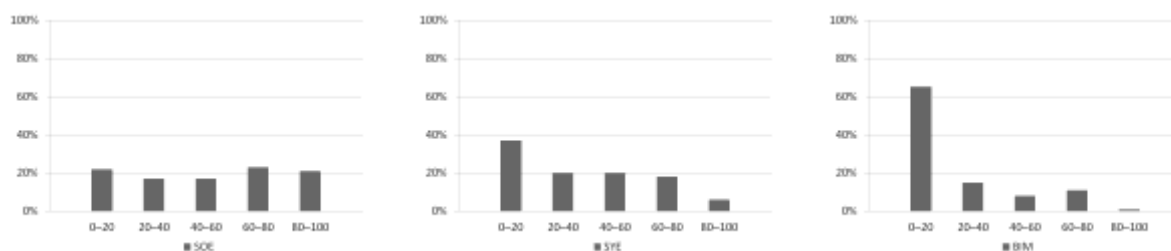
Fig. 1: The relative frequency of students' self-assessment values

In the next phase of the TAaAS test we were interested to see the students' motivation for selecting informatics as their major by asking the question "Why did you choose this course?" The following options were offered for the students to select:

- I decided on my own, because I like Informatics and I plan to use my qualification (MOD = "my own decision").
- On the advice of friends and family (F&F = "friend and family").
- I was not good enough for any other courses (NGE = "not good enough").
- Other.

Most of the students selected informatics on their own, regardless of their self-assessment programming values. What could be their expectations and their motivation, if they are not aware that informatics requires high level computational thinking, algorithmic, and programming skills?

	MOD		F&F		NGE	
	N	%	N	%	N	%
SOE	108	92%	7	6%	0	0%
SYE	85	96%	8	9%	1	1%
BIM	57	66%	21	24%	2	2%

Table 4: The students' motivation for selecting informatics as their major

Further analysis revealed that significant differences were found ($p<0.001$, Pearson's χ^2 test) between the three groups in their motivation for selecting informatics as their major. Most of the SOE and SYE students decided on their own (MOD), while 24.4% of the BIM students declared that they started their course in informatics, because friends and family (F&F) advised them to do so. Only a very low percentage of students declared (without any significant difference between the groups, $p=0.266$) that they started their studies in informatics because they were not accepted on any other courses [Table 4 and Fig. 2].

Fig. 2: The students' motivation in selecting informatics as their major

With the question "Which specialties of Informatics would you choose after finishing your tertiary education?", we intended to test the students' choice of career path within informatics if they finished their tertiary studies (Fig. 3). In this respect, significant differences were found between the groups in the following job opportunities ($p<0.001$: programmer, researcher, database administrator, building/maintaining networks, supervisor, database

management, and data mining, while there was no difference found between becoming a teacher and a web developer (p=0.388). The SOE students clearly declared their intention/dream of becoming software developers, programmers. In the other two groups a relatively low number of students start their studies with this intention. In the SYE group students prefer jobs involving building and maintaining networks and web development (Fig. 3). In the BIM group jobs related to data management are the most popular. These selections are echoed in the students' choice of courses and special subjects within informatics.

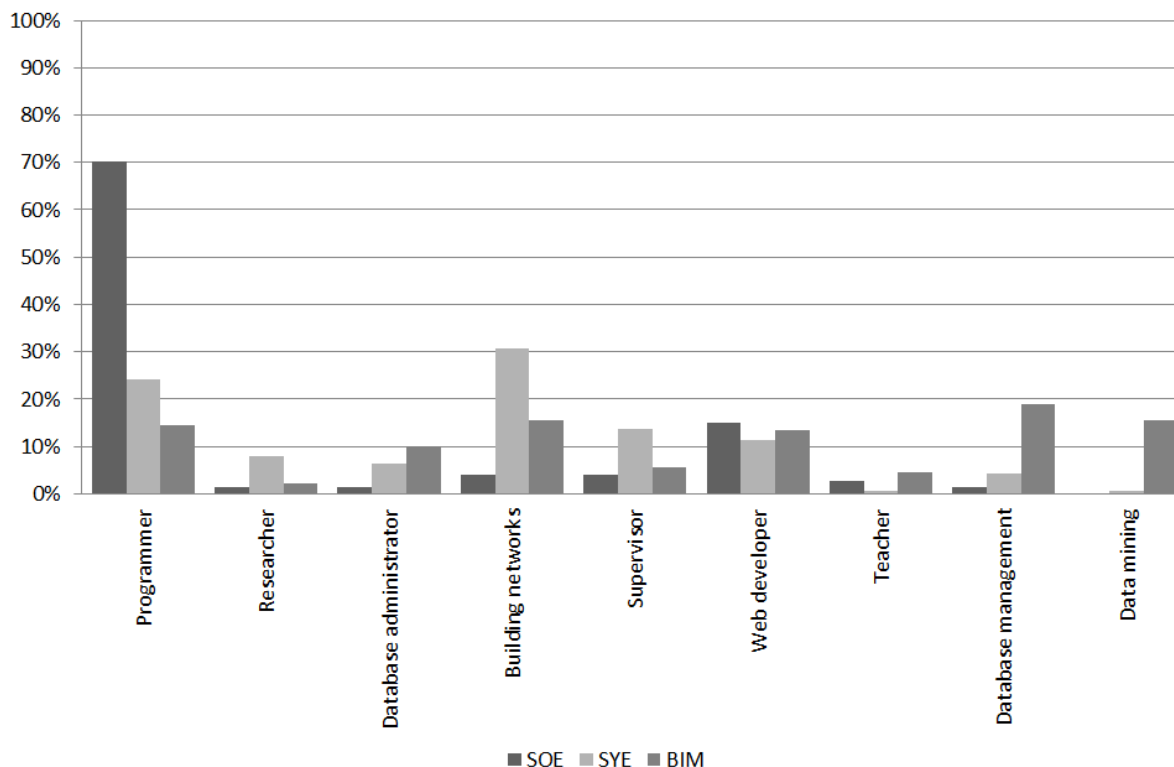**Fig. 3:** Students' career path intentions at the beginning of their studies in informatics

It was also found that there is a significant difference between those students whose self-assessment values in programming were high and low – regardless of their courses – when selecting jobs in programming (programmer) (Fig. 1 and Fig. 3). Those students who started their tertiary education with some knowledge of programming wanted to become a programmer, unlike those who arrived without any background knowledge in the field. In this case, it was not the chosen special course within informatics, but the students' programming knowledge which guided them in their choice.

With the question "What expectations do you have of the university/college?" our purpose was to clarify the students' expectations of their tertiary studies/institutes/courses. We wanted to see the difference between the three courses in terms of whether the students claimed that they were good/not good in programming. In this question multiple answers were accepted, so the number of responses (163, 133, and 125 in the SOE, SYE, and BIM groups, respectively) is higher than the number of participating students [Table 1].

Among the students' answers the most popular were good jobs – usually with a high salary –, gaining knowledge, an acceptable basic course, and getting a degree.

In comparing the three groups, we found significant differences in terms of knowledge, job, and course. For the SOE students the most important thing was a job and gaining knowledge in their basic course, while for the BIM students gaining knowledge had the priority and a job and basic course were ranked equal second. The SYE students' selections fall between the other two groups in these categories. A high quality course is also mentioned by some of the SOE students, along with learning opportunities, but neither the SYE nor the BIM students find these two aspects important. Consequently, the BIM students wanted to gain knowledge without learning too much, while 10% of the SOE responses showed that they are ready to study. We must also draw attention to those students who have no expectations (9%, 8%, and 3% in the SOE, SYE, and BIM groups, respectively).

Only a very few students mentioned that programming and developing their algorithmic skills were expected in their courses [Table 5]. Students, in general, do not expect tertiary informatics courses to teach them programming. The question, therefore, is why programming and developing algorithmic skills do not have a high priority.

Fig. 4: The number of students answering the question "What expectations do you have of the university/college?"

	Programming			Gaining knowledge		
	N	<50%	≥50%	N	<50%	≥50%
SOE	11	4	7	28	15	13
SYE	6	2	4	28	12	16
BIM	0	0	0	37	30	7

Table 5: The number of students who mentioned programming, developing algorithmic skills and gaining knowledge among their expectations

To find some explanation for the students' expectations, we analyzed their answers to the question "What does Informatics mean for you?" Again, multiple answers were accepted, and the numbers of answers were 147, 118, and 106 in the SOE, SYE, and BIM groups, respectively. Similar to their expectations, most of the students declared that for them informatics represents a job and a future – set {job, future}. The second largest group is made up of those for whom it is a hobby, an entertainment and is interesting; I am interested, I like it – set {hobby, entertainment}.

Fig. 5: The number of students answering the question "What does Informatics mean for you?"

When comparing the three groups, we found that there is significant difference between them in only two sets; the set {hobby, entertainment} and the set {informatics make life easier, more convenient} categories (p=0.007, p=0.012, respectively). The {hobby, entertainment} is a robust set compared to the {informatics make life easier, more convenient} but the differences noticeable among them clearly show the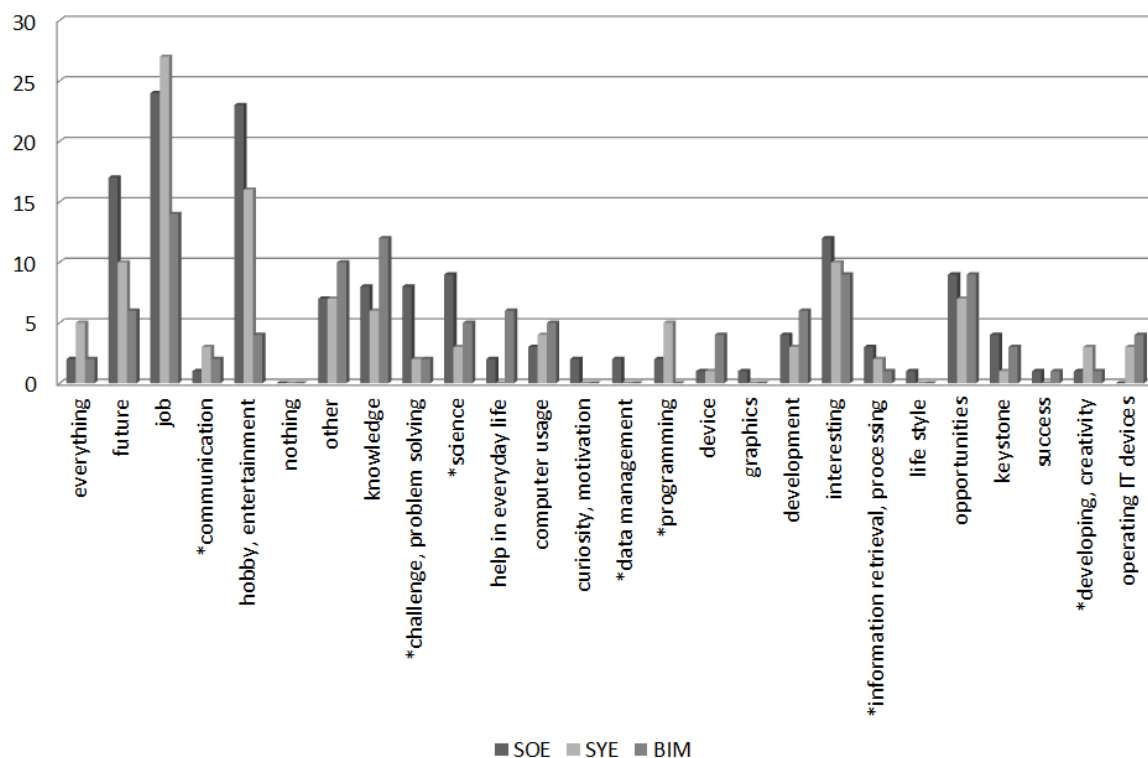 students' orientation. The SOE students consider informatics as {hobby, entertainment} more than the other groups, while the BIM students see informatics from a practical point of view. In the other categories there was no difference found between the three groups. There is no direct link between the special subjects offered on the courses and the students' view of informatics. Consequently, the self-assessment programming values – programming knowledge –, which were the highest in the SOE group and lowest in the BIM group [Table 3 and Fig. 1], do not have much influence on the students' views. We can form several hypotheses from these figures: (1) programming does not shape the students' way of thinking, (2) the students' programming skills are not necessarily related to high level computational thinking, which relies heavily on the concepts fundamental to computer science (Wing, 2006) (3) the self-assessment values do not represent the students' real level of programming knowledge and require a second investigation, etc. Beyond this, we found that the students used so many categories that this could mislead us in our conclusions.

Because of the great number of categories named by the students, we used Hromkovič's definition of informatics to form two groups of these minor categories: (1) according to the definition (D, marked by * in Fig. 5) and (2) not matching the definition (ND).

In his definition, Hromkovič answers the question "Was ist Informatik?" Informatik ist die Wissenshaft der algorithmischen Darstellung, Verarbeitung, Speicherung und Übertragung von Information. (Hromkovič, 2009, 2014)

Computer science is the science of algorithmic representation, processing, storage and transmission of information.
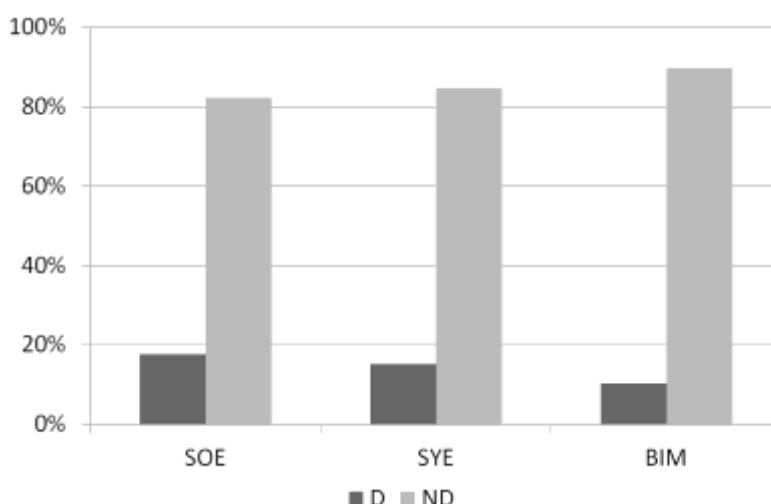
Fig. 6: Answers to the question "What does Informatics mean for you?" matching / not matching the definition (D/ND)

The two groups – matching and not matching the definition – clearly show that the first year students of informatics have a different image of informatics than the wildly accepted one. The students do not know, or are not able to express, what informatics is. Based on this survey, for most of the students studying informatics the subject is governed by unrecognized forces, and they do not realize that officially it is they who should do the governing.

CONCLUSIONS

The self-assessment and attitude tests of the Testing Algorithmic and Application Skills project revealed that the IT experts of the not too far distant future start their studies at the faculty of informatics with a high score achieved in the intermediate level of the school leaving exam in informatics. However, they arrive at the institute with a much lower level of programming skills, which is expressed in the self-assessment values, but further emphasized in their choice of the advanced level school leaving exam. Except for the SOE students, only a very low percentage of students select programming as their school leaving subject, and their results are not high enough to explain their choice of courses.

Further analyzing the students' test results, it was found that they do not really know what informatics is, and realizing this, it is not surprising that their expectations of the institute do not match the institute's expectations as regards them. The attitude test of the TAaAS project revealed that the students' misconception is one of the sources of the high attrition rate experienced on the informatics courses.

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COMPUTERIZED ASSESSMENT OF THE ANNUAL GRADE POINTS OF SECONDARY SCHOOL SEVENTH GRADE STUDENTS IN THE COURSE OF ALGEBRA

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ABSTRACT

Development of a computerized assessment program of the annual grade points of secondary school 7th grade students at Azerbaijan in the course of algebra was considered within the scope of this study. This computer program was developed in order to prevent the occurrence of iniquities during the calculation of year-end grade point averages of all students of all grades.   The program was written in the programming language of Microsoft Visual Basic 6.0. The questions presented to students by this computer program were selected from their Algebra 7 textbook which they had used along the year. By this computer program, questions from among the questions of algebra course -that would determine the knowledge level of 7th grade students- were selected and they were asked to students again within the program, and the annual grade point averages of students could be clearly calculated by high precision as per the provided answers.

Key Words: computer program, algebra, education, student.

INTRODUCTION

The use of computers in education provides advantages for both the students and the teachers. As the use and management of computer is completely student based, it provides opportunities for the implementation of modern education model. By means of special education methods and techniques designed for the students, the students are entering the work environment in a short while through exercises, implementations, calculations and reviews, and instant feedback is able to received when required. And computers are providing significant ease for obtaining plans and programs required for the teachers. The visuals, presentations and documentaries –prepared to attract the attention of students during in class activities- are being prepared much more easily under computer environment, and they arouse the interest of the students much more. Computer has a very big role in preparing strong educational material that has a sense of humor to help students better understand the material and increase their performances during the lesson. And computers also contribute in gathering and relating the associated subjects under different disciplines (mathematics, science, social etc). The technical equipments required in measuring and assessing the knowledge of students are significantly being met by means of the computers [1].

As per the researches performed by Alisah Hizal (1989), it is being accepted by 89.3% of the teachers from all branches that the most significant effect of the Computer-Aided Education (CAE) on the students may be contribution in the improvement of their researching skills [2].

Asan (2002) had examined the attitudes of teacher candidates studying in science and social fields towards computer. The findings of the research had generally revealed that the teacher candidates deem the computer as positive and that they feel comfortable before the computer. While the attitudes of science teaching students –who had not got computer course before- were more positive compared to Social Studies students, it was revealed that the department had no significant effect among students getting computer course. Gender difference was not

observed in attitudes towards computer. The results had revealed that the computer experience positively effects the attitude score [3].

Celik and Bindak (2005) had examined the attitudes of teachers –working at elementary schools- towards computer as per various variables. As the result of the practice, it was determined that the attitudes of teachers towards computer don't show difference as per gender, branch and settlement where it is being worked. In addition, it was determined that the positive attitudes towards computer of teachers having a computer are significantly higher compared to teachers not having a computer. Moreover, positive and significant relations were found among computer self-sufficiency and computer usage frequency and positive attitudes towards computer [4].

CAE is a teaching method in which computer is being used as an environment where education occurs, that strengthens the teaching process and motivation of the student, that can be used by the student as per his learning speed and that is formed by the combination of self learning principles with computer technology [5].

CAE can be defined as activities in which the students interact with the courses being programmed on the computer during the education process and in which the teacher undertakes the role of guide and the computer undertakes the role of environment. According to another definition, the communication of educational contents or activities through computer is called "Computer-Aided Education" [6].

Erkan (2004) had examined the attitudes of 164 pre-school education teachers towards computer. As the result of the study, it was observed that the attitudes of kindergarten teachers towards computer is positive, that the young teachers have more positive attitudes compared to old teachers, that the ones having computer experience has more positive attitude, and that there is no difference in respect of attitude among the ones who have a computer at home and the ones who don't have one [7].
Feurzeig and Lawler (1987) had also specified that mini worlds are educationally beneficial environments due to covering understandable examples and due to having a good potential for creativeness [8, 9]. By the use of computer in education environment, students' more time consumption with the computer intended for education carries many costly experiments and observations etc to the class by low costs. Computer, that also ensures motivation of the students for the course, should be available at all our classrooms as an attractive material [10, 11].

Kilicoglu and Altun (2002) had developed a scale in order to determine the attitudes of secondary school students towards computer-aided education. The reliability of the scale –which had been applied on 1303 students in total- was found as 0.92. As the result of the factor analysis of scale, adoption, bias and resistance dimensions were revealed. The scale was prepared in the form of 5 point Likert [12]. In most of the studies on CAE, it is being observed that there are no large differences in between traditional education method and CAE method [13]. According to Paper (1993), computers are perfect tools for creating mini worlds, and this fact may assist in transforming the complex education process to a more natural process [14].

The animations that make the modern computer applications more valuable improve the data sets and assist them to be better examined and understood [15]. When compared with limited number of static pictures presented by the textbooks, the animations are able to make the information patterns, their variables and objects more interesting for the student. The animations are able to be very successful in attracting the attention of the student, in directing his interest to the subject and in motivating for studying [16].

Traditional management and games being played are being transmitted to computer environment and being put into the service of individuals. By the opportunities of animation and simulation, new games also take place as a sub-branch in the field of computer. Thus, the properties and requirements of simulations are also valid for the games. As new information can be learned by the computer games, reinforcing the learned subjects through entertaining mechanisms or exercises is also possible. As in the other CAE software, educational computer games may be used in order to reach the objectives included in the curriculum of the course [17].

Now, the use of computers at any place and time is in subject. Computer related teaching materials and resources will continue to be powerful. On this subject, the cost of communication and access to internet is gradually decreasing. Thus, larger masses will find the opportunity to benefit from more CAE [18, 19]. As the result of the literature review made, the use of computer mostly for the education of students was revealed. In this study, the use of computer in assessing the knowledge level of students in a precise and clear manner was intended.

MATERIALS AND METHODS
Computer programs that are developed for education are resources which can be benefited easily in subjects that cannot be understood, in practical studies, implementations, calculations, course reviews and presentations, and by which instant feedback can be received [20, 21].

The students may use either alone or in groups the search engines and virtual libraries on the internet in developing projects and in making researches. In such studies, the students can also contact not just with ones within their own class but with the students in other schools, and they may develop projects together. The students may send the products they prepare to each other as files, and they may perform discussions [22, 23, 24].

In secondary school, it is required to determine the year-end grade point averages of students by the end of each academic year. During determination of year-end grade point averages of students, loss of right is possible to occur. This program was developed in order to calculate more precisely the year-end grade point averages of students. This program was realized under Visual BASIC 6 programming system, the students were again subject to a short examination and their year-end grade point averages were determined.

The questions included in the examination of the program were selected from the subjects discussed by the students within the year. 12 questions in total were selected in order to not to make the students tired. The questions were numbered from one to twelve, and the points of the questions within the textbook were indicated within a parenthesis near the numbers. i.e. (D-60, D-81). The letter D represent the first letter of the textbook, and the numbers 60 and 81 represent the question numbers in the Algebra 7 textbook. In the computer program, no information was provided to the students on this issue. In case objection of the students, the required explanation was being provided and it is informed to them that they could control the questions.

If the grade points that the students got in the fall and spring periods are in the form of 3 and 4 or 4 and 5 respectively on the 5 point system, then the teachers are able to assign the grade of fall term or spring term as the year-end grade. As there are no fractional grade points in the system, the teacher is obliged to prefer the grade point one of these two terms. While the provision of high grade point is in favor of the student, provision of low grade point will be against the student.

Figure 1. First page of "Algebra 7" program

Figure 2. Second page of "Algebra 7" program

The thing intended by this program is provision of the year-end grade point of the student as per his real level.
When this "Algebra-7" named program is opened, the view of the first page is as in Figure 1. The name of the program is written in Azerbaijani on the top of the page. The names of the programmers are included in the following line. There is the start to examination box (symbol) in the right hand corner below that column. When it is clicked on start to examination box, the second page shown in Figure 2 is opened.

Figure 3. The answers -for the first 3 questions- of Abbasov Adil who is being examined by the "Algebra 7" program

Figure 4. Fourth page of "Algebra 7" program

This page welcomes the students to be subjected to examination by the message of "Welcome". It tells him to enter his ID information in relevant fields and to prepare his paper and pencil.   And then the first question is displayed by the code 1.(D-60). After solving the question, it is requested for him to mark the correct choice. After the student marks the choice that he thinks to be true, the remaining choices are removed from the screen. Thus, the opportunity to mark a second choice is not provided. And then it is passed on to answering the 2nd and 3rd questions. After the 3rd question, the student may learn how many questions he had answered correct for the first three questions by clicking on the number of true and false answer boxes.

Figure 5. Fifth page of "Algebra 7" program

Figure 6. Last page of "Algebra 7" program

The transformation of the 2nd page of the program is shown in Figure 2. As seen in Figure 3, the student named Abbasov Adil had marked the choice "3" for question 1", "X=0.75"for question 2 and "5.5" for question 3. As the result of the assessment, it was observed that the number of correct answers was 1 and of false answers was 2.

And then the student may continue with the examination by clicking on the long box at the end of the page. If the student wants to continue the examination, the fourth page of the program is displayed (Figure 4). The 4., 5., 6. and 7. questions of the exam are displayed on this page. The student, after answering the questions on that page, continues with the exam by clicking on the box at the end of the page. The 8., 9., 10. and 11. questions are available on the newly opened page (Figure 5). And after also answering these questions, the student passes on to the next page by clicking on the box at the end of the page (Figure 6). Just the question 12 is available on this page. After answering that question, the student may see whether he had answered the question correct or false (the answers provided for the questions can not be changed later on).
By clicking on the box below, the student may see the number of correct and false answers for the whole exam, and he can see the year-end grade point average by clicking on the next box.

If the student had answered more than fifty percent of the questions as correct, the program determines the grade point of the student as the higher grade point. If the student had answered less than fifty percent of the questions as correct, the program determines the grade point of the student as the lower grade point.
And then, the student closes the program by clicking on the box at the end of the page.
The questions in the program are being changed for each grade and in each year.

RESULTS AND DISCUSSION
For the operation of the program that is written in any programming language, it is required for the interpreter of the program to be uploaded on the computer in advance. Besides, it is possible to compile and use on the computer the programs that had been prepared in new programming systems. For this, after the least variant of the newly prepared computer program becomes ready, it is required to install its package. During compilation of package, all commands in the program that are formed and all modules set to the program combine, and automatically collected in a file. The Setup program of these is also automatically included in the file. By the assistance of this, this package may be installed and operated on the required computer and operating system.

As the aforementioned facilities are under VISUAL BASIC 6.0, its package form is taken after formation of the last version of Algebra 7 program. It is possible to run this package form at required communication system on which the VISUAL BASIC 6.0 programming system is not written in advance. Thus, this package may be carried to required communication system as being copied on disc or flash card.

The developed computer program had enabled the well studying of seventh grade students and fair calculation of their grade points in algebra. While there were 10-12 unsuccessful students in each classroom before the use of this

program, this number had decreased to 2-3 in each classroom after the usage of "Algebra 7" program in secondary schools. The students, who saw that they had no other change than studying, had worked well along the year, and had been successful in the examinations. After the exams, the "Algebra 7" program was copied on CDs and sent to all the secondary schools of Azerbaijan.

CONCLUSION

Many problems had been removed automatically as the result of running this program at secondary schools of Azerbaijan. The students, who were always studying but always getting low grade points, had gained their higher grade points by the assistance of this program. And also the student, who had got high grade points due to being the relative of the teacher, had got lower grade points after being tested by this computer program. Now this program is being used at secondary schools of Azerbaijan in order to clearly determine the annual grade points of students in the course of algebra. All students had informed their satisfaction about this program.

ACKNOWLEDGEMENTS

We acknowledge to secondary school mathematics teachers and principals who assisted us in testing this program - that we had developed- at secondary schools and who had provided valuable affairs.

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CONFIRMATORY FACTOR ANALYSIS OF THE KA-SI EMPATHIC TENDENCY SCALE ADOLESCENT FORM IN RELIGIOUS HIGH SCHOOL STUDENTS

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ABSTRACT
The KA-SI empathic tendency scale adolescent form (Kaya & Siyez, 2010) was developed to evaluate the emotional and cognitive empathic tendency levels of adolescents in the context of Turkish culture. Although frequently used to measure empathic tendency in Turkey, the factor structure of this scale and competing models are rarely examined in specific populations, such as religious high school students. Thus, the purpose of this study was to examine the structural validity of this scale in Imam and Preacher Training high school students using confirmatory factor analysis (CFA). Participants included 268 (156 males, 112 females) students who completed this instrument as part of a study related to the correlates of empathic tendency. Students' responses to the KA-SI empathic tendency scale adolescent form were subjected to CFA using Mplus. Three competing models were tested in this study: the one factor model, two orthogonal factor model, and theoretically suggested two correlated factor model. Taking into account the ordinal nature of scale, mean, and variance, the adjusted weighted least squares (WLSMV) method was used to estimate model. CFA results showed that the two correlated factor model showed excellent fit to data (Root Mean Square Error of Approximation (RMSEA): .047, Comparative Fit Index (CFI): .976, Tucker-Lewis Index (TLI): .972, Weighted Root Mean Square Residual (WRMR): .840). Thus, the KA-SI empathic tendency scale adolescent form may be used to investigate the empathic tendency of religious high school students. Future studies should examine the convergent, divergent, and predictive validity of this scale in different samples.

INTRODUCTION
The KA-SI empathic tendency scale adolescent form (KA-SIA) is one of the most widely used adolescents' individual difference measures of empathic ability in Turkish psychology literature (Kaya & Siyez, 2010). However, since its development, its factor structure has rarely been examined in different adolescent populations, such as religious high school students. This is concerning because the proposed factor structure may not be the same in different schools, and comparing the KA-SIA scores in different schools may lead to erroneous conclusions without having consistent relationships between observed KA-SIA items and related latent variables (Horn & Mcardle, 1992).

The KA-SI empathic tendency scale consists of two separate scales to measure empathic ability in children and adolescents. While the KA-SI empathic tendency scale for children consists of 13 items, the KA-SIA consists of 17 items. Both scales for children and adolescents measure empathic ability in terms of cognitive and emotional dimensions. The cognitive dimension measures to what extent a person is able to understand another's feelings either through complex perception processes or simple observations. The affective dimension measures the extent of a person's ability to vicariously experience another's emotions (Kaya & Siyez, 2010). In the initial development of the scales, researchers examined their factor structure using exploratory and confirmatory factor analysis and reported evidence for the scales' construct validity and reliability. Specifically, KA-SIA demonstrated a two factor structure using exploratory factor analysis (EFA) in an adolescent student sample from grade 6 to 12. The emotional empathy subscale was composed of 10 items and explained total variance was 33.23%. The emotional empathy subscale factor loadings based on EFA ranged between .49 and .66. On the other hand, the cognitive empathy subscale consisted of 7 items, the explained total variance was 10.35%, and factor loadings based on EFA ranged between .56 and .76. Confirmatory factor analysis (CFA) using maximum likelihood estimate also supported the two correlated factor structure in a cross-validation sample (χ^2/df: 2.12 RMSEA: .02, CFA: .96, SRMR: .03). Cronbach alpha internal consistency reliability estimates for KA-SIA were also good: .82 for the cognitive and emotional empathy subscales, and .87 for the total scale in this adolescent sample. The one week stability coefficient or test-retest reliability was also good ranging from .69 (cognitive empathy scores) to .75 (total scale scores).

Although the researchers found evidence for construct validity for KA-SIA, they did not examine alternative models or compare its relative fit to competing models. CFA is a multivariate statistical analysis in which researchers specify a hypothesized model and examine its ability based on a hypothesized model's fit to the data

(Brown, 2015). In a typical CFA, firstly, researchers construct a measurement model, which associates observed variables with latent factors that is specified and estimated. Secondly, the measurement model's ability to observe data is evaluated with goodness of fit indexes. Thus, CFA is an appropriate tool for comparing values obtained from competing models. Furthermore, data employed in normal theory estimators, such as maximum likelihood estimate as used by KA-SIA developers (Kaya & Siyez, 2010), requires two obvious assumptions. Firstly, data must include continuous variables. Although this assumption is obviously violated when using ordered-categorical Likert-type response scales (Finney & DiStefano, 2013), the treating of categorical Likert-type response scale items as continuous is usually not problematic when the response categories have at least five response options (Beauducel & Herzberg, 2006; Rhemtulla et al., 2012). However, this is not the case for KA-SIA as it only contains four response categories. Moreover, evidence suggests that the application of such an estimation method for categorical data, especially when the response categories have fewer than five responses, as in the case of KA-SIA, will give biased, inaccurate, and poorer parameter estimates (Beauducel & Herzberg, 2006; Finney &DiStefano, 2013; Rhemtulla et al., 2012). Secondly, the use of normal theory estimators, such as maximum likelihood estimate, also requires data come from a multivariate normal distribution (Finney & DiStefano, 2013). However, data in the social sciences do not often follow a multivariate normal distribution (Finney & DiStefano, 2013). Thus, using the mean and variance adjusted weighted least squares (WLSMV) estimation method may be more realistic in this case. The purpose of this study was to examine the factor structure of KA-SIA in Imam and Preacher Training high school students using confirmatory factor analysis. It was hypothesized that when models estimated taking into account the use of ordered-categorical variables, KA-SIA will have a good fit to two oblique factor model as suggested by Kaya and Siyez (2010) in this religious high school student sample.

METHOD
Participants
Data come from a previously published study that examined the sociodemographic differences in empathic tendency in religious high school students in Turkey (Şahin, Ersanlı, Kumcağız, Barut, & Ak, 2014). Participants included 268 (156 males, 112 females) religious high school students selected using convenience sampling. There were 113 (42%) students in freshmen year, 63 (24%) in sophomore year, 33 (12%) in junior year, and 59(22%) in senior year. More detailed information about the sociodemographic characteristics of the students are found in Table 1 in the original study (Şahin et al., 2014).

Measures
Demographics. A personal information form was used to collect information about the students' backgrounds in the original study. They answered questions about their sex, grade level, perceived happiness level, and most lived place.
KA-SI Empathic Tendency Scale Adolescent Form (KA-SIA). Participants' empathic ability was measured by KA-SIA in the original study. More detailed information about the psychometric characteristics of KA-SIA are given in the Introduction. Participants provided their answers on a four-point scale ranging from *Totally disagree* (1) to *Totally agree* (4). Scores ranged from 10 to 40 on the emotional empathy subscale, 7 to 28 on the cognitive empathy subscale, and 17 to 68 on KA-SIA. Higher scores reflect a higher level of empathic tendency. The reported internal consistency coefficient in the original study (Şahin et al., 2014) was.82 for cognitive empathy scores, .83 for emotional empathy scores, and .89 for total scores. A typical sample item from the cognitive empathy subscale is "I can carefully listen to people for a long time in front of me." A typical sample item from the emotional empathy scale is "When I see someone suffering in front of me, I feel the same pain."

Procedure
After the consent of Merzifon Imam and Preacher Training High School administration, students completed this instrument, in the presence of a school teacher during their regular class hours. Written informed consent was also obtained from students, who received information about voluntary participation, confidentiality, and the right of withdrawal in the original study. Students completed the questionnaire in approximately 25 minutes (Şahin et al., 2014).

Statistical Analysis
The main purpose of this article was to examine the fit to alternative models using responses of religious high school students on KA-SIA. Thus, a series of CFAs were conducted to determine alternative models' fit to the observed data. All CFAs were estimated with Mplus 7.0 (Muthén & Muthén, 2012) using WLSMV estimator, taking into account the use of ordered-categorical variables, especially involving fewer than five response categories (e.g. Likert-type scales) in this study (Beauducel & Herzberg, 2006; Rhemtulla, Brosseau-Liard, & Savalei, 2012). Three competing models were tested using the WLSMV estimation method and the input was a polychoric correlation matrix pertaining to KA-SIA items. The three models tested were the one factor model (Model 1: All cognitive and emotional empathy subscale items loaded on a single latent factor), two orthogonal

factor model (Model 2: Cognitive and emotional empathy subscale items loaded on corresponding subscales, but the correlation between the two latent factors was fixed at zero), two oblique factor model (Model 3: Cognitive and emotional empathy subscale items loaded on corresponding subscales and correlation between the two latent factors was permitted). The two oblique factor model was also suggested by Kaya and Siyez (2010).

Assessments of model fit were based on multiple goodness of fit statistics (Hu & Bentler, 1999; Marsh, Balla, & McDonald, 1988): the adjusted Chi-Square (χ^2/df), Root Mean Square Error of Approximation (RMSEA), the 90% confidence interval of the RMSEA, Comparative Fit Index (CFI), Tucker-Lewis Index, Weighted Root Mean Square Residual (WRMR). Values lower than 5 but higher than 3 indicate adequate model fit for χ^2/df and values smaller than 3 typically indicate excellent fit. Values smaller than .08 or .06 for the RMSEA respectively indicate adequate and excellent model fit. Values greater than .90 and .95 for the CFI and TLI indicate adequate and excellent model fit respectively. Lastly, values lower than.90 indicate excellent model fit for WRMR and close to 1 represent adequate model fit (Byrne, 2013; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999; Marsh et al., 1988; McDonald & Marsh, 1990; Schreiber, Nora, Stage, Barlow, & King, 2006).

RESULTS

A series of CFA were conducted to examine competing models' fit to responses to KA-SIA items. Goodness of fit indices for competing models is shown in Table 1.

Table 1: Goodness of fit indices for competing models

Model	χ^2	df	χ^2/df	CFI	TLI	RMSEA	90 % CI	WRMR
Model 1	285.165	119	2.39	.942	.933	.072	.061-.083	1.086
Model 2	1527.547	119	12.84	.505	.435	.210	.201-.220	3.467
Model 3	186.512	118	1.58	.976	.972	.047	.033-.059	.84

As seen in Table 1, the goodness of fit values for two orthogonal factor models (Model 2)were χ^2 (df = 119) = 1527.547, $p<$ .001; RMSEA = .21090% CI [.201-220]; CFI = .505;TLI: .435, and WRMR: 3.467. For the one factor model (Model 1), the fit indices were χ^2 (df = 119) = 285.165, $p<$ .001; RMSEA = .072 90% CI [.061-.083]; CFI = .942; TLI: .933, and WRMR: 1.086. For the two correlated factor model (Model 3), the fit indices were χ^2 (df = 118) = 118.512, $p<$ .001; RMSEA = .047 90% CI [.033-.059]; CFI = .976; TLI: .972, and WRMR: .84. These finding indicate poor support for the two orthogonal factor model, adequate support for the one factor model, except for WRMR, and excellent support for the theoretically suggested two correlated factor model. Figure 1 shows factor loadings and latent factor correlations in the KA-SIA scale.

Figure 1: Two correlated factor model

As seen in Figure 1, emotional empathy subscale factor loadings based on CFA ranged from .49 to .80; whereas cognitive empathy subscale factor loadings ranged from .53 to .76. The correlation with the latent factor was also very high ($r= .78$) indicating a general second order empathic ability latent variable.

DISCUSSION

This study examined the three competing models (one general factor model, two orthogonal factor model, and two correlated factor model) to test the underlying factor structure for KA-SIA items. The results of this study indicated no support for the two orthogonal factor model. There was adequate support for the one factor model, and excellent support for the two correlated factor model. In the two correlated factor model, all items with salient loadings ranged from .49 to .80. While the results have shown that the KA-SIA two correlated factor model is better than the one general factor model, it has also been revealed that either the total scores or subscale scores for KA-SIA can be used for practical purposes, such as determining adolescents' empathic ability. Because, study results have also shown adequate fit for the one factor model.

The study results are in line with a previous study using KASIA items as a continuous scale and performing appropriate statistical analysis using EFA and CFA (Kaya & Siyez, 2010). However, unlike previous studies that treated KASIA items as continuous and applied an estimation procedure suitable to such scores, this study treated KASIA items as ordinal and estimated model parameters appropriate for ordinal items as previous studies have shown biased and poorer parameter estimates when response categories fewer than five (Beauducel & Herzberg, 2006; Finney & DiStefano, 2013; Rhemtulla et al., 2012). However, consistent with previous research (Kaya & Siyez, 2010), this study also found support for the two correlated factor model.

There are some limitations in this study. Firstly, this study used a limited number of religious high school students to test the factor structure of KA-SIA. Thus, it is uncertain if the findings can be generalized to other high school students. Future studies should examine a more representative sample of high school students. Secondly, this study only examined the construct validity of the KA-SIA scale. Future studies should examine the convergent, divergent, and predictive validity of this scale in different samples. Consequently, the KA-SI empathic tendency scale adolescent form may be used to investigate the empathic tendency of religious high school students.

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CONTEXTUALIZED SCIENCE TEACHING: THE CONTRIBUTION OF PHOTOGRAPHS INCLUDED IN SCHOOL SCIENCE TEXTBOOKS

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ABSTRACT

Contextualized science teaching has to do with approaching themes from everyday settings that are relevant to students and making explicit the interrelationship between science and everyday life. Textbooks play an important role in the teaching and learning processes because they are a major source of information in teaching a particular subject. Therefore, textbooks should give a meaningful contribution to contextualized teaching, namely through good quality visual information (including photographs and photograph related visual tools), adapted to the target students' characteristics. Thus, the objective of this paper is to compare photographs included in 8th and 11th grade textbooks, by three different publishers, between them and in terms of their potential to contribute to contextualized science teaching. Results indicate that the use of photographs is hardly guided by context-based science teaching principles and does not differ too much between the two grade levels. Therefore, teachers should carefully analyse textbooks before selecting the ones to be assigned in their school and when using a textbook they should explicitly deal with the possible weaknesses and the benefits of the visual material as well as with the way it is or can be used for the sake of contextualized science teaching.

INTRODUCTION

Contextualized science teaching

Nowadays, it is a matter of general consensus that science is to be taught in schools, to every student, at least for a few years (Holbrook, 2010; European Commission, 2015). This may be seen as a way of democratizing science because it enables students' access to scientific know ledge whatever the students' economics, social and cultural status. However, to acknowledge democracy in schools does not mean to teach the same content to everybody through the same approach. Rather, it requires teaching it differently to match different interests and competences so that every student can perceive the usefulness of the content and grasp it at a good level of understanding.

Besides, it is commonly agreed that science education should train students to be active and responsible citizens, able to take decisions about socio-scientific issues that emerge in their actual (Martins, 2011) or future environments. However, students' interest towards science is not only low (Gilbert, 2006; Fensham, 2009), but it also decreases throughout school levels (Osborne, Simon, & Collins, 2003; Jenkins & Nelson, 2005; Gilbert, 2006; Rannikmäe, Teppo, & Holbrook, 2010). This may be partly explained by the fact that science is shown as a collection of independent and decontextualized facts without any relationship with students' everyday life (Gilbert, 2006). To counteract this, science teachers' actions should be guided by the relevance of science knowledge principles both when they select what to teach and when they choose the best approaches to teach it. Hence, as all students are obliged to learn science for a few years in school, then teachers' biggest challenge is to make students perceive the relevance of science for modern society's daily life as well as for professional science and technology careers (Holbrook, 2010; European Commission, 2015).

It has been argued (Fensham, 2009; Lavonen & Laaksonen, 2009; King, 2012) that teaching contextualized science may promote students' interest towards science as it is a way of making the relevance of scientific knowledge explicit for the students. Although some research studies seem to lack methodological rigour (Taasoobshirazi & Carr, 2008), there is some evidence that contextualized science teaching may favour students' learning of science (Bennett & Lubben, 2006; Bellocchi, King, & Ritchie, 2016). However, it should be stressed

that there are several possible ways of putting contextualized teaching into practice (De Jong, 2006; Gilbert, 2006) and that research studies hardly describe the pedagogical model that was used (Ültay & Ültay, 2014). Nevertheless, theoretical models as well as approaches used to contextualize science teaching acknowledge the establishment of a link between science and daily life environments.

Gilbert (2006) argues for contextualized teaching but he states that it is not easy to define the concept of context. Thus, he acknowledges Duranti and Goodwin's idea of context as a focal event embedded in its cultural setting. De Jong (2006) adds that contexts can be described as practices that help students to give meaning to activities and that they can be classified by looking at the domain of origin. Therefore,

> "a context-based approach is when the 'context' or 'application of the chemistry to a real-world situation' is central to the teaching of the chemistry. In such a way, the chemical concepts are taught on a 'need-to-know' basis; that is, when the students require the concepts to understand further the real-world application." (King, 2012, p.53).

According to De Jong (2006), contexts can be taken from several domains, having diverse educational advantages, as follows: the personal domain: contributes to the personal development of students by connecting science with their personal lives; the social and society domain: contributes to prepare students for their roles as responsible citizens by clarifying science and its role in social issues; the professional practice domain: prepares students for their coming role as professional workers in public or private areas; the scientific and technological: contributes to the development of scientific and technological literacy of students.

Hence, an educational valuable context should fit the following criteria: capture students' interest even though it can be real or simulated; foster the student-teacher interaction as this is required to promote learning; be appropriate to introducing the language and concepts to be learned as this is the goal of science teaching; promote the use of students' previous knowledge (Gilbert, 2006) so that it can be reconstructed if required or developed and integrated into meaningful conceptual networks. As De Jong (2006) points out, concepts are related to contexts in a one to one way and also in multiple ways, as a context relates to many concepts but a concept meaning may vary from one context to the other. Thus, contexts interfere with the language as they determine the meaning of concept labels that is, the meaning of words (Gilbert, 2006; King, 2012).

Besides, the relationship between contexts and concepts has implications on their presentation on teaching (De Jong, 2006) and on the level of activity it require from students. In fact, contexts can be used in a somehow traditional way or within the scope of a modern approach. The former happens if contexts are presented: as illustrations of concepts that already have been taught; to offer the possibility to students of applying their knowledge of a concept. According to the author, "this can lead to the transformation of the existing meaning of a concept or to the addition of a new meaning to the concept." (De Jong, 2006, p.217). The latter (modern approaches) includes cases in which: contexts are presented as the starting point or rationale for teaching concepts; contexts not only have an orienting function, but can also enhance motivation for learning new concepts. Combinations of traditional and modern ways of using contexts are also possible.

There is a point that is worth emphasizing that is that context-based science should begin with a real-world application for which the scientific explanations are provided (King, 2012) so that students can understand real-world contexts that are relevant to their lives and perceive the relevance of science (Roberts, 2007). Thus, as King (2012) argues, context-based science brings close together two worlds - the students' community world and the science world – whose borders may be vanished if a sociocultural approach to classroom science teaching is acknowledged. However, if contexts are to successfully help bridging the gap between meanings of topics in a context setting and meanings in a science setting, an important condition has to be fulfilled that is a careful selection of contexts (De Jong, 2006). A consequence of this is that if science textbooks are to adopt a contextualized approach and to facilitate teachers' challenging task of helping students' to bridge the two worlds referred to above, then they should select, introduce and use contexts with a lot of care.

Textbook Photographs as facilitators of contextualized science learning

School textbooks are primarily targeted to students and they should be designed to support students' learning as prescribed into the official curriculum. This may be the reason why there are no specific guidelines for science textbook authors of any European country (Eurydice, 2011). Thus, school textbook authors should appropriately reinterpret the curriculum so that they can write textbooks that contribute to minimizing the usual expected gap between the prescribed and the implemented curriculum. However, as textbooks are human enterprises they should not be expected to be perfect (Leite, 2002a) and therefore the existence of an assigned textbook does not release teachers from making their own interpretation of the curriculum and confronting it with the one assumed

by textbook authors, in order to find out whether or not a given textbook fully follows the curriculum or to identify which parts of it need special attention.

Research focusing on textbooks has reported several problems that concur towards limited textbook quality. In fact, there is some evidence that textbooks are very conservative (Bungum, 2013) with regard to both the content presented and the teaching approach they adopt to approach it. As a matter of fact, they hardly follow curriculum changes (Moreira, 2003; Valanides, Papageorgiou, & Rigas, 2013), especially when the new curriculum recommendations are innovative. Besides, textbooks may either promote or impair students' learning, depending on their scientific, pedagogical and language quality. Unfortunately, research dealing with several countries textbooks has highlighted some scientific (Leite, 1999; Çobanoglu, Sahin, & Karakaya, 2009; King, 2013; Dourado & Matos, 2014; Marques, 2014) and historical (Leite, 2002b; Antunes, 2012; Tavares, 2012; Niaz & Costu, 2013) inaccuracies, some inappropriate learning activities (Leite, 2006; Morris, Masnick, Baker, & Junglen, 2015; Aldahmash, Mansour, Alshamrani, & Almohi, 2016) and several problems related to language, including readability (Muspratt & Freebody, 2013; Morgado, Otero, Vaz-Rebelo, Sanjosé, & Caldeira, 2014), questioning (Park, 2005; Leite et al., 2013; Skoumios & Diakos, 2015) analogical reasoning (Orgill & Bodner, 2006; Orgill, 2013) and visual aids (Leite & Afonso, 2000; Cook, 2006; Kapıcı & Savascı-Açıkalınb, 2015; Dourado, Morgado, & Leite, 2015) among others.

Although textbooks are targeted to students, research has shown that they also influence teachers' teaching practices (Valanides, Papageorgiou, & Rigas, 2013) and therefore it can be argued that they have a double influence on students' learning. In fact, many teachers tend to ignore the curriculum and to replace it by the textbook. Then, if the textbook is not up to date, teachers' practices will not be consistent with the prescribed curriculum and/or with the state of the art of the subject they teach. This may happen with regard to context-based approaches, which may be fostered or impaired by the way textbooks reinterpret the curriculum. These approaches may be based on verbal and numerical text as well as on visual information (Anagnostopoulou, Hatzinikita, & Christidou, 2012) that facilitate the presentation of abstract concepts with concrete depictions and help to link science and everyday life.

It seems that teachers prefer high visual-content books to traditionally formatted textbooks (Slough & McTigue, 2013). This preference may have to do with the fact that visual information may inspire students' curiosity (Tufekcic, 2012) and promote science learning (Cook, 2008) especially when abstract concepts are at stake (De Jong, 2006) and students are young. Besides, in the modern pedagogical educational reality, textbooks have to compete with strong rivals, with high levels of visual, dynamics and interactive information, like the internet and e-books. Even though students seem to prefer printed textbooks (Woody, Daniel, & Baker, 2010), in an attempt to capture their attention to textbooks, textbooks authors and publishers launch on the market colourful and beautiful visual aids often at the expense of an accurate explanation of the central ideas of the content under question (Koppal & Caldwell, 2004; Lee, 2010). However, "The illustrations should additionally enrich the textual parts of a textbook, which is only possible when they are designed to emphasise something and not inserted just for the sake of being there [because] proper illustration is one of the key factors having the students accept/reject a textbook." (Tufekcic, 2012, p.121). Unfortunately, this is not always the case (Lee, 2010).

In most educational systems (including the Portuguese one) teachers can choose the textbook to be assigned from an approved list drawn up by the ministry of education (Eurydice, 2011) and they may tend to overvalue the visual content over the other textbook selection criteria. The result of this action may be an undesirable one, unless teachers have visual training in the subject area they teach and textbook authors use good quality visual material with parsimony and accuracy.

Textbooks may include several types of visual aids including photographs, drawings, textboxes, flow charts, tables, and other (Slough & McTigue, 2013) even though photographs seem to be the most frequent (Pozzer & Roth, 2003; Lee, 2010; Kim, Kong, & Lim, 2011). Photographs or drawings like photographs offer realistic representations (Lee, 2010; Devetak & Vogrinc, 2013) that may facilitate the connection between King's (2012) two worlds: the science world and the students' community everyday world, which includes other components (e.g.: social) behind the physical and natural ones. They may invite the learner into sciences by exhibiting how modern scientists work and by referring to the relevance of science (Bungum, 2013). However, the students' ability to interpret visual material depends on their prior experiences (Kearsey & Turner, 1999; Lee, 2010; Pozzer & Roth, 2005) with the content under question.

In some contexts a real photograph may be better than a thousand words; in other context they may be less useful or even confusing as they simultaneously "lack determinacy and exhibit an excess of meaning." (Pozzer & Roth, 2005, p.219). Thus, students may interpret the photograph based on what they think is there rather than on what

is really there. "Photographs are culturally situated and consequently convey different meanings to different viewers based on personal life experiences, knowledge, and perspectives. Photographs, like words, are both encoded and decoded with meaning." (Moran & Tegano, 2005, p.3). Hence, it should be noted that the photograph background may allow the reader to distinguish the relevant details in the photographs (Pozzer & Roth, 2005). The point is that some textbooks include photographs with decontextualized entities (Dourado, Morgado, & Leite, 2015) which may hardly be interpreted according to textbook authors' intention. The printing quality of the photograph, its (in)compatibility with the text elements, and the captions that accompany it may also diminish photographs educational value (Çobanoglua, Sahinb, & Karakaya, 2009).

Also, photographs are instantaneous and therefore they can hardly show dynamic processes. However, there is some empirical evidence that readers make inferences based on their previous experience and knowledge and therefore do not differentiate between what they can see and what they may think, have heard, or believe (Pozzer, & Roth, 2005), they can see the "right" process in a photograph if they are used to it. Otherwise, they can activate inappropriate ideas and interpret photographs in unanticipated ways. Given that students react to different pictures in different ways, it is important that textbook writers and science teachers are aware of how different kinds of images can invite students into science by addressing their various roles (Bungum, 2013) and possible interpretations.

OBJECTIVE

Textbooks play an important role in the teaching and learning processes because they are still being used as a major source of information in teaching a particular subject (Khine, 2013). Therefore, the quality and accuracy of their content is crucial for their educational effectiveness. Thus, they should give a meaningful contribution to contextualized teaching, namely through visual information (including photographs and photograph related visual tools), adapted to the target students' characteristics. Thus, the objective of this paper is to compare photographs included in 8th and 11th grade textbooks between them and in terms of their potential to contribute to contextualized science teaching. The findings will give insights on whether "photographs are planned to enrich the textual parts of a textbook or whether they were inserted just for the sake of being there." (Tufekcic, 2012, p.121) for decorative purposes.

THE STUDY

To attain the objectives of this study, three 8th grade Physical Sciences textbooks (TB1 to TB3) and three 11th grade Physics and Chemistry textbooks (TB4 to TB6) were content analysed. These textbooks form three pairs, based on the publisher, as there is a book by each publisher in each grade level. It should be noted that these grade levels belong to different school levels as follows: 8th grade belongs to the third cycle which is the final cycle of basic education where science is taught to all students; 11th grade belongs to secondary school level, which is compulsory even though students can choose to take science or not. Thus, TB1 and TB4 are by the one publisher (P1), TB2 and TB5 are by another publisher (P2) and TB3 and TB6 are by a third publisher (P3). A sample with these characteristics enables comparisons to be made between editors and between the two school levels in order to find out whether or not publishers deal with photographs differently in the two school levels. The textbooks analysed were assigned in Portuguese schools in the academic year of 2015/16.

The analysis concentrated on the teaching units that are related to Chemical Reactions, as this is an issue that has a strong relationship with the daily life settings which may facilitate the job to those that want to use a contextualization approach. Thus the teaching units are: Chemical reactions – 8th grade; Chemistry and industry and From Atmosphere to Ocean – 11th grade. They include not only the concept and ways of representing of Chemical Reactions but also themes like acid-base reactions, precipitation reactions, redox reactions and chemical kinetics.

Photographs, realistic schemes (drawings that look like photographs) and photographs combined with other elements (e.g.: graphs) that are included in the teaching units referred to above were selected and analysed. Despite their differences, all of these graphical elements will be addressed from now on as photographs, as it was done in a previous study (Dourado, Morgado, & Leite, 2015),

The analysis concentrated on several dimensions previously identified by Devetak and Vogrinc (2013) and partly used in Dourado, Morgado, and Leite (2015). These dimensions are the following: number of photographs; types of photographs; location of the photographs; role of the photographs; caption of the photographs; relationship of the photographs integrated along the text with the text itself, contextualization of the entities photographed.

For each dimension of analysis, a set of categories based on the one used by Dourado, Morgado, and Leite (2015) was adopted. The categories will be introduced in the next section. To improve reliability of the analysis,

photographs were classified on this set of dimensions and respective categories by two of the authors separately. The provisional results obtained were compared and discrepant results were discussed by the three authors so that a consensual classification was reached.

FINDINGS

Number and type of photographs

Results indicate that the absolute number of photographs diminishes from 8th to 11th grade in all textbooks but those by P2 (that is TB2 and TB5) and that the number of photographs per page diminishes from 8th to 11th grade whatever the publisher and textbook. Textbooks by P2 are those that have fewer photographs per page in the 8th grade and more photographs per page in the 11th grade (table 1). Even though this result may seem a bit surprising, there is also a reduction in the number of photographs per page from 8th to 11th grade. Thus, even though all publishers reduce the number of photographs per page, from 8th to 11th grade, the publishers whose textbooks have larger absolute numbers of photographs are the ones that reduce most the number of photographs per page, from 8th to 11th grade. Anyway, these results suggest that all the textbook publishers follow a similar pattern that may be due to a conscious and planed editorial option that is: as the grade level increases, the number of photographs per page should decrease because students get older and do not need too much extrinsic motivation or too many facilitating elements.

Table 1: Number of photographs per textbook and page

Grade Level	Textbook	Number of Photographs	Number of Pages	Photos/Page
8th	TB1	292	106	2,75
	TB2	194	88	2,2
	TB3	254	86	2,95
11th	TB4	195	239	0,81
	TB5	265	184	1,44
	TB6	121	202	0,60

The large number of photographs per page included in 8th grade textbooks is consistent with the results obtained in other studies (Dimopaulos, Koulaidis, & Sklaveniti, 2003; Pozzer & Roth, 2003; Kim, Kong, & Lim, 2011; Kapıcı & Savascı-Açıkalınb, 2015) dealing with textbooks from diverse countries and school levels. However, López-Manjón and Postigo (2014) found that Spanish primary school Biology textbooks include fewer photographs per page (around 1,4) which is a result that compares better to the number of photographs per page obtained with 11th grade textbooks. Besides, the number of photographs per page in lower than the one obtained for Portuguese 8th grade textbooks on the theme 'Resources Sustainable Management' (Dourado, Morgado, & Leite, 2015) probably because the latter theme focuses more on nature and daily and professional life. Nevertheless, it should be noted that using many photographs is not necessarily a good thing. In fact too many photographs per page may not only conflict with scientific accuracy (Lee, 2010), make the page too colourful and confusing for the students, and increase the price and/or the length of the textbook, and make the non-interesting photographs to override the educationally valuable ones.

Excluding textbooks TB4 and TB6, all textbooks include the three types of photographs (table 2) considered for the purpose of this study and included them in the textbook sections selected to be analysed, as it was found in previous study (Dourado, Morgado, & Leite, 2015) focusing in 8th grade textbooks. However, drawing-like photographs (that is drawings that look like photographs) are the less frequent type of photographs in the 8th grade (excluding TB1) as well as in the 11th grade textbooks. Besides, the percentage of real photographs increases from 8th to 11th grade in textbooks by publishers P2 and P3 and it decreases a bit in textbooks by P1. An explanation for the result regarding P2 and P3 may be based on the idea that real photographs contain educationally relevant elements mixed with irrelevant ones and that the latter may make learning harder for young students. In fact, young students may find it difficult to separate the relevant from the irrelevant elements of a photograph (Pozzer & Roth, 2003) and if it is so, they consequently would hardly be able to take profit form the photograph.

Table 2: Types of photographs used by the textbooks when dealing with the theme (%)

Type of photographs	8th grade			11th grade		
	TB1 (n=292)	TB2 (n=194)	TB3 (n=254)	TB4 (n=195)	TB5 (n=265)	TB6 (n=121)
Real photographs	67,8	39,2	37,0	55,4	57,7	80,2
Drawing-like photographs	23,3	5,7	8,3	0,0	0,8	0,0
Photographs combined with other graphic and/or verbal elements	8,9	55,1	54,7	44,6	41,5	19,8

In addition, two publishers (P2 and P3) tend to use photographs combined with other graphical elements (e.g., graphs) in the lower school level more than they do in the higher one. One explanation for this result may be anchored on textbook authors' belief that by doing so they can foster the relationship between science knowledge, (represented, for example, by graphs), and everyday life (represented, for example, by photographs). Other authors (López-Manjón & Postigo, 2014) found photographs combined with other verbal and pictorial elements in percentages similar to those obtained in the present study. However, Dourado, Morgado, and Leite (2015) found percentages a bit lower with 8th grade textbooks even though in a different theme. The point that deserves attention is that some visual elements like graphic are very demanding for students and they may become even more demanding when combined with photographs.

Location of the photographs
Textbooks analysed include photographs in different places (table 3) but some of them do not include photographs in the all the places considered for the purpose of this analysis. Besides, excluding TB1 and TB5, more than half of the photographs are integrated into the text throughout the presentation of the content. Anyway, in those two textbooks, the percentages of photographs integrated into the text are about 45% of all the photographs they include in the units analysed. Hence, these results indicate that textbook authors worry about integrating illustrations of the content into the text, to make it either more understandable/easy to grasp for the students or more appealing to them.

Table 3: Location of the photographs used by the textbooks when dealing with the theme (%)

Location of the photographs	8th grade			11th grade		
	TB1 (n=292)	TB2 (n=194)	TB3 (n=254)	TB4 (n=195)	TB 5 (n=265)	TB6 (n=121)
Presented at the beginning of the chapter and sub-chapter	1,3	3,6	1,2	9,8	0,0	8,3
Integrated into the text that introduces the content	44,2	62,9	53,1	62,1	45,7	79,3
Integrated into the activities	15,1	20,6	45,7	19,0	44,9	0,0
Apart from the text, into Curiosity boxes	2,4	12,9	0,0	5,1	9,4	0,0
Presented at the end of the chapter	0,7	0,0	0,0	0,0	0,0	12,4
Used as a page background	36,3	0,0	0,0	4,0	0,0	0,0

In all but TB6 some photographs are associated to learning activities. Textbooks 3 and 5 are the ones that use larger percentages of photographs in this way. This way of using photographs suggests that textbook authors worry about making the activities easier to understand by the students.

Excluding TB5, all the textbooks analysed show photographs at the entrance page of the chapters or subchapters. However, the percentages of photographs are small when compared with the total number of photographs included in the teaching units analysed. Nevertheless, this result is not surprising because the number of sub-units dealing with issues considered in this paper is small and so is the number of entrance pages. Also, textbooks by all publishers but P3 show photographs in a small box placed at the margin of the page. This location of photographs seems to intend to call students' attention and raise their interest for additional information on the content developed in the main text of the page. As TB3 and TB6 do not use photographs in this way, it can be hypothesised that it is not due to a planned choice of the authors but rather to an editorial decision of the publisher. The use of photographs as a background of the page may also be an editorial decision of P1. Photographs used in this way are more frequent in the 8th (TB1) than in the 11th grade (TB4) probably because of a belief in that it is more important to try to catch more 8th graders' than 11th graders'' attention. Only two textbooks (TB1 and TB6) use photographs at the end of the chapter and the percentages of photographs used in this way is very low, especially in TB1.

In what concerns the two most frequent ways of using photographs, these results compare to those of a previous

study (Dourado, Morgado, & Leite, 2015) even though photographs at the end of the chapter and as a page background had not been found in the former study. However, Pozzer and Roth (2003) also found that a small number of photographs that appeared at the beginning of a unit, chapter, or section of text without being explicitly related to it.

Role of the photographs
The analysis of the integration of the photographs in the textbooks suggests that they are intended to play diverse roles (table 4), ranging from students' motivation to learn, content illustration, and activities content complement/illustration to providing a background image to beautifying the textbook page. All the textbooks include photographs aiming at motivating students to learn. Those photographs are presented at the unit or sub-unit opening page (excluding TB5) or closing pages (only in TB1 and TB6).

The photographs that aim at complement and/or illustrate the text are included along it. From 8th to 11th grade, two publishers (P1 and P3) increase the number of photographs that seem to play this role. All textbooks but those by P3 include photos in small boxes aside the main text. These photographs aim at adding information to the main text usually with a non-compulsory or curiosity character. Some of them have to do with historical pictorial information (e.g.: scientists' photographs).

All but one textbook (TB6) integrate photographs in both laboratory activities and knowledge use (mainly paper and pencil exercises or problems) activities as a way of illustrating what is mentioned in the text of the activity (e.g., mentioning a burette, showing a burette) or of complementing it, either in the laboratory activities (e.g.: showing an *apparatus* necessary to carry out some laboratory procedure) or in the paper and pencil (e.g.: showing a photographs of what is mentioned in the exercise/problem to ask questions about it) context. However, the percentages of photographs used with these purposes are quite low except for textbooks by P3 that integrates over one third of their photographs in knowledge use activities. One of the publishers includes photographs as textbook page background even though the percentage of photographs in these conditions reduces from 8th to 11th grade.

Table 4: Role of the photographs used by the textbooks when dealing with the theme (%)

Role of the photographs		8th grade			11th grade		
		TB1 (n=292)	TB2 (n=194)	TB3 (n=254)	TB4 (n=195)	TB5 (n=265)	TB6 (n=121)
Motivation to learn		2,0	3,6	1,2	9,8	0,0	20,7
Curiosity towards content		2,4	12,9	0,0	5,1	9,4	0,0
Text content illustration		44,2	62,9	53,1	62,1	45,7	79,3
Activities content complement/illustration	laboratory activities	3,4	13,4	11,1	11,8	10,9	0,0
	knowledge use activities	11,7	7,2	34,6	7,2	34,0	0,0
Page background		36,3	0,0	0,0	4,0	0,0	0,0

These roles of photographs were found in previous studies carried ou with natural sciences (Dourado, Morgado, & Leite, 2015) as well as with Biology (Pozzer & Roth, 2003) textbooks even though in the latter case they were named differently.

Captions of the photographs
Data given in table 5 show that most of the photographs include in two (TB1 and TB3) of the three 8th grade textbooks do not have a caption. Also, more than 40% of the photographs included in two (TB4 and TB5) of the three 11th grade textbooks do not include captions either. The absence of a caption in photographs included in textbooks was found in previous studies (Dourado, Morgado, & Leite, 2015; Kapıcı & Savascı-Açıkalınb, 2015) and it could be argued that it may give students freedom to interpret the meaning of the photograph. However, it can also be argued that it may cause trouble to students (Kapıcı & Savascı-Açıkalınb, 2015), leading them to do unintended or unanticipated interpretations, especially in the lower school levels.

Table 5: Caption of the photographs used by the textbooks when dealing with the theme (%)

Caption of the photographs		8th grade			11th grade		
		TB1 (n=292)	TB2 (n=194)	TB3 (n=254)	TB4 (n=195)	TB5 (n=265)	TB6 (n=121)
Caption	Appropriately matches the content of the photo	2,1	38,1	5,9	7,7	25,7	52,1
	Makes some explanatory comments on what is shown in the photo	32,2	4,6	9,8	30,3	12,1	30,6
	Does not match the content of the photo	1,0	36,7	5,5	5,1	17,3	5,8
Replaced by an explanation focusing on page content and ignoring the photo content		2,4	1,0	2,8	14,3	0,4	2,4
No caption		62,3	19,6	76,0	42,6	44,5	9,1

Besides, when captions are provided, some of them do not give a contribution to make it explicit the content of the photograph. In fact, there are cases in which the caption presents comments related with elements that are shown in the photograph instead of comments to the photograph itself. This happens with about one third of the photographs included in TB1, TB4 and TB6. There are also cases in which the caption does not match the content of the photograph. This happens with about one third of the photographs included in TB2. These mismatches may make students feel confused and/or develop alternative conceptions (Devetak & Vogrinc, 2013). Finally, all the textbooks analysed included photographs in which the caption is replaced by an explanation. The number of photographs in this circumstances increases from 8th to 11th grade in textbooks by P1 and is kept approximately constant in the other textbooks. In the overall, the findings relative to captions compare to those obtained by Dourado, Morgado, and Leite (2015), with 8th grade Portuguese textbooks, and by Pozzer and Roth (2003), with Brazilian textbooks.

Exploration of the photographs integrated into the text
Photographs that are integrated along the text were analysed in order to find out whether or not they are explored with the aim of illustrating and complementing the content that is being presented. Table 6 shows that the majority of the photographs are related with the content being presented. However, textbooks by P3 are the only ones that make an explicit relationship between the text and the photographs, either in a considerable amount of (TB3) or in all the photographs (TB6) that they integrate into the text. The result obtained with TB3 compares to the one obtained by Kapıcı and Savascı-Açıkalınb (2015) with Turkish 8th grade chemistry textbooks. Pozzer and Roth (2005) stated that the main text is an important resource in helping readers to interpret photographs. Thus, a good relatedness of photograph's and text would make the task of interpreting photographs much easier and accurate for the reader, namely for the students.

Photographs that are not related to the content being presented seem to intend to add new (different) information or to provide a background of the page to beautify it. This way of using photographs, that was also found by Dourado, Morgado, and Leite (2015) and by Kapıcı and Savascı-Açıkalınb (2015), may have selling purposes (Cook, 2008) and are dispensable (Perales, 2008) from an educational point of view. In fact, they may hardly facilitate or enhance students' learning because, as Pozzer and Roth (2004) argue, it is difficult for students to correctly interpret them.

Table 6: Relationship of the photographs integrated along the text with the text itself (%)

Relationship of the photographs with the content		8th grade			11th grade		
		TB1 (n=129)	TB2 (n=122)	TB3 (n=135)	TB4 (n=121)	TB5 (n=121)	TB6 (n=96)
Related to the content presented	Explicitly mentioned	0,0	0,0	43,0	0,0	0,0	100,0
	Not explicitly mentioned	98,4	100,0	56,3	74,4	95,0	0,0
Not related to the content presented nor explicitly mentioned	Simply add new information	1,6	0,0	0,7	23,1	5,0	0,0
	Work as a background to beautify the page	0,0	0,0	0,0	2,5	0,0	0,0

Contextualization of the entities shown in the photographs

Table 7 shows that, whatever the textbook, very few photographs show entities in a context or background. In addition, when a background is provides, in a few photographs there are not enough data to identify the type of context even though some of those photographs contain elements that may be meaningful for people holding a certain kind of previous knowledge and experience. However, if photographs are to complete the text, then they should be self-meaningful so that they could be interpreted by the students in the way textbook authors want them to be, that is according to the intention underlying the choice of a given photograph and the decision on where to locate it in the page.

Table 7: Contextualization of the entities shown in the photographs used by textbooks when dealing with the theme (%)

Contextualization	8th grade			11th grade		
	TB1	TB2	TB3	TB4	TB5	TB6
	(n=292)	(n=194)	(n=254)	(n=195)	(n=265)	(n=121)
Yes	12,7	8,8	11,0	14,8	9,4	23,1
No	79,8	75,2	84,6	74,4	79,2	58,7
Not enough data	7,5	16,0	4,4	10,8	12,2	18,2

The large percentages of photographs with non-contextualized entities (between about 59% and 85%) identified in the textbooks analysed raise the question of how those photographs are interpreted and whether such kind of photographs may play their intended roles or not and if not, whether or not they interfere negatively with students learning. In a previous study (Dourado, Morgado, & Leite, 2015), larger percentages of photographs were assumed as being contextualized at least in part because the category "not enough data" was not considered and some photographs that the authors, as experts in the area, could anticipate to they were related to were classified as contextualized. The inclusion of this category was supported by Pozzer and Roth (2005) argument on that the background of the photograph is needed if the reader is expected to make appropriate sense of the picture relevant elements. Thus, for instance, photographs showing fireworks that occupy the whole photograph space or showing lab glass material supported by fingers wearing gloves were classified in the category "not enough data". In the former case, the image shown could represent something else than a firework, for instance an anemone; in the latter case, the fingers with gloves can make people think about a laboratory context but in fact only people with a science background (not beginning science students) know it. Bearing in mind Lee's (2010) and Pozzer and Roth's (2005) results, they each student could interpret these photographs in its own way and then the photograph would not fulfil the textbook's authors aims.

The contextualized entities focused on the photographs are concrete entities or processes (table 8). It should be noted that the photographs focusing on processes show only one take of the phenomena, that is they offer a static picture of it and therefore they are not elucidative about the dynamism of phenomenon which would be an important information for students that are not familiar with it. As it was mentioned above, people can see in the photographs what they want to see (Pozzer & Roth, 2005) but they will not probably be creative enough to correctly imagine how a new (to them) science phenomenon evolves unless they are already familiar with it. Then, this type of photographs has a limited illustrative value. From 8th to 11th grade, the percentage of photographs focusing on concrete objects decreases in textbooks by P1 and P3 but somehow surprisingly it increases in textbooks by P2. As it is widely accepted, as students get older they need less contact with concrete objects. Thus, P2 option seems to be consistent with Tufekcic's (2012) idea that photographs are included in the textbooks just to be there.

These results compare to those previously obtained with Portuguese 8th grade textbooks (Dourado, Morgado, & Leite, 2015) in which photographs showing contextualized concrete entities and processes were found. However, simply including photographs of entities or processes does not add to students' understanding of the science content that is being approached and does not play a meaningful role in students' interpretation of photographs. Therefore, most of them would be dispensable (Perales, 2008) even though they may be worked out in the classroom in a more interesting way.

Table 8: Nature of the entities that are contextualized (%)

Nature of the entities	8th grade			11th grade		
	TB1 (n=37)	TB2 (n=17)	TB3 (n=88)	TB4 (n=29)	TB5 (n=25)	TB6 (n=28)
Concrete entities	56,8	29,4	64,3	31,0	56,0	21,4
Processes	43,2	70,6	35,7	69,0	44,0	78,6

Photographs that show contextualized entities concentrate on people, objects, places and animals (table 9), being places and objects usually the most frequent, as expected based on Dourado, Morgado, and Leite (2015). From 8th to 11th grade, the percentages of photographs showing places (e.g., beach, mountain, etc.) increase in the textbooks by publishers P1 and P3. The opposite happen with P2 but this variation has to be interpreted with caution because the number of photographs showing contextualized entities is very low, especially in the 8th grade textbooks. text.

Table 9: Types of concrete entities that are contextualized (%)

Types of concrete entities	8th grade			11th grade		
	TB1 (n=21)	TB2 (n=5)	TB3 (n=18)	TB4 (n=9)	TB5 (n=14)	TB6 (n=6)
People	23,8	20,0	16,6	11,1	21,4	33,3
Objects	52,4	0,0	27,8	33,3	21,4	0,0
Places	23,8	60,0	55,6	55,6	50,0	66,7
Animals	0,0	20,0	0,0	0,0	7,1	0,0

Percentages of photographs showing animals in a background are very low probably due to the nature of the science content. Photographs that concentrate on people in a setting are more frequent then those with animals. This result may be to the fact that the theme under analysis has a rich history and that textbooks include pictures from several scientists when developing it. However, as it was discussed elsewhere (Leite, 2002), the content of such pictures may fulfil some students curiosity about how the scientists of the past were used to look like but it adds very little to the content presented in the

Even though the number of photographs showing contextualized processes relative to matter transformation is very low (table 8), table 10 indicates that in the 8th grade textbooks, most of these photographs show the transformation of substances in daily life settings (e.g., dynamite explosions, rockets launch, rust in gates, boats, etc.), statues corrosion, acid rain forest destruction, etc. These percentages decrease from 8th to 11th grade and, as a consequence of this, the percentages of photographs showing industry processes increase. This may be due to the nature of the content that textbooks are dealing with, as in 11th grade they have to approach, for instance, the industry process of ammoniac production. A few textbooks also include photographs that try to show processes associated with human basic needs fulfilment, like eating and drinking. However, showing a person drinking water or juice is not showing a transformation of matter process. In fact these will start after drinks or food are ingested, include a variety of transformations and cannot be seen at naked eye. Maybe authors just want them to serve as a basis for students to think about chemical reactions.

Table 10: Settings in which the processes that are contextualized take place (%)

Settings	8th grade			11th grade		
	TB1 (n=16)	TB2 (n=12)	TB3 (n=10)	TB4 (n=20)	TB5 (n=11)	TB6 (n=22)
Industry	18,8	25,0	20,0	50,0	45,5	45,5
Daily life	62,4	58,3	80,0	40,0	54,5	40,9
Personal needs	18,8	16,7	0,0	10,0	0,0	13,6

However, it should be noted that photographs that try to show a process are not dynamic and do not represent several phases/moments of the phenomenon; rather, they just show a take of it. Therefore, it may happen that photographs are more helpful for students to learn about labelling structures and describing the phases of a process, than to learn about the overall process as a whole (Cook, 2008).

As shown in table 11, few photographs show entities contextualized in indoor surroundings. These surroundings are home or (school, research or industry) laboratory environments. However, the content of the photographs and the background of the entities photographed do not contribute too much to help students to perceive, for instance,

the domestic and the industrial applications of chemical reactions.

Table 11: Types of spaces surrounding the contextualized entities (%)

Types of spaces	8th grade			11th grade		
	TB1 (n=37)	TB2 (n=17)	TB3 (n=28)	TB4 (n=29)	TB5 (n=25)	TB6 (n=28)
Indoors	16,2	0,0	10,7	3,4	8,0	14,3
Outdoors	83,8	100,0	89,3	96,6	92,0	85,7

The outdoor surroundings used in the textbook photographs are quite diverse but in some cases they show open spaces that can hardly be characterized (table 12) because they either are quite narrow or are too homogeneous (e.g., a grass field) for the (geographic, geological, urbanistic, etc.) characteristics of the space that surrounds the entity to be identified. Textbooks by P2 are the ones that include more photographs in this category that adopt a way of contextualization which is poor.

There are many chemical reactions that take places in open spaces and many types of open spaces are considered by the textbooks. However, chemical reactions cannot be seen at naked eye. Only indirect evidences of a chemical reaction can be observed. Thus, the nature of the open spaces depends on the chemical reaction specific topic to be addressed, that is on the place a given chemical reaction occurs and the entities that are associated with it. For instance, a photograph of a beach relates to an open space where it is known that the sun fosters chemical reactions on people's bodies despite the fact that those reactions cannot be directly observed. Therefore, a question should be raised: what are the educational added value and the motivating power of such photograph? Does it really facilitate students' learning task or does it distract them? Does it show something that they do not know and that they are expected to know?

Table 12: Nature of the open spaces in which contextualized entities are shown (%)

Nature of the open spaces	8th grade			11th grade		
	TB1 (n=31)	TB2 (n=17)	TB3 (n=25)	TB4 (n=28)	TB5 (n=23)	TB6 (n=24)
Mountain	12,9	17,5	12,0	25,0	21,7	29,2
Field	3,2	11,8	8,0	3,6	8,7	16,6
Beach	16,1	5,9	0,0	3,6	8,7	8,3
River and Ocean	12,9	5,9	24,0	14,3	26,2	4,2
Sky	12,9	11,8	12,0	0,0	0,0	0,0
Caves	3,2	11,8	8,0	3,6	4,3	4,2
Roads	12,9	0,0	8,0	7,1	0,0	0,0
Urban areas	6,5	5,9	4,0	7,1	4,3	8,3
Ill-defined	19,4	29,4	24,0	35,7	26,1	29,2

CONCLUSIONS

The objective of this paper is to compare photographs included in 8th and 11th grade textbooks, by three different publishers, between them and in terms of their potential to contribute to contextualized science teaching. Three textbooks for each grade level and by three different publishers were analysed with regard to the way they deal with photographs (or photograph related visual material). Research findings seem to indicate that, in the overall, the use of photographs does not differ too much among textbooks and between grade levels and is hardly guided by context-based science teaching principles and that it does not differ too much between the two grade levels textbooks. In the overall, the results compare to those reported by other authors with regard to the use and inferred purpose of the photographs, as well as with the approach to contextualizing the entities that are photographed.

Some small differences were noted between publishers with P2 seeming to have less planned criteria to using photographs in the two school levels. However, this paper focuses on a part of the textbooks from which cannot be inferred the way photographs are used in the rest of the textbook. Therefore more research in needed in order to identify the features of photographs use in the different textbooks and by the diverse authors and publishers. This research that would require a interviews to be conducted with people in charge of publications as well with textbook author, would give some insight on the way photographs and other visual material are planned and used in science textbooks.

Even though further study is needed to address important issues related to the pedagogical potential of the

photographs included in textbooks (Pozzer & Roth, 2003), the findings of the research reported in this paper have several educational implications, being the first of them for textbook authors and publishers: they should appropriately select and integrate the different visual tools in their textbooks so that those tools may in fact assist students in making sense of what they are expected to learn.

Besides, these findings put some pressure on teachers as they should be able to pay attention to the possible weaknesses and strengths of photographs (Kapıcı & Savascı-Açıkalınb, 2015) included in students' textbooks and to be sure that their students understand the 'codes of representation' (Gilbert & Afonso, 2014) that might be used in those photographs, in order to find the best ways to succeed in leading photographs to effectively become bridging tools between science content and everyday life. This bridge building process is at the heart of student-centred contextualized science education approaches.

However, the acknowledgment of this idea may raise another concern that has to do with teachers' training for contextualized science teaching approaches. As Ültay and Ültay (2014) pointed out, "because the teachers are the implementers of the approach, their views, perceptions and involvement should be regarded as important and their professional development should be examined. If needed, in-service education should be given." (p.215), especially if the more modern contextualizing approaches are to be adopted. These are more demanding for teachers as they may require many of them to move away from teacher- and canonical science- centred to student-centred and daily life-based approaches.

ACKNOWLEDGEMENTS

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CONTRIBUTION OF VISUAL THINKING ON LINEAR DEVELOPMENT OF PRESCHOOL CHILDREN GROUP IN VISUAL ARTS EDUCATION LESSONS

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ABSTRACT

This research is prepared in order to uncover imagination and creativity of 5 years old children's art education, by creating their own thoughts through visual symbols. Describing the subject, children's visual, sensory, tactile sensations have been addressed and their identification with the issue has been provided by paying attention to children's intelligence types. By the methods used in the end, each child will be formed in the minds of different visual ideas from each other, it is provided for transferring the material to create their own icons.

This study was conducted with 15 randomly selected children who attend kindergarten from age 5 in the Münevver Şefik Fergar Primary School which located in Kadıköy district of Istanbul in the academic year 2014-2015. In the study; case study method of qualitative research methods and participating observation technique was applied. The study documented with photographs, notes were taken by making observations.

INTRUDUCTION

As the art is a means of self-expression, it is important for early childhood kids for self-knowledge, development of motor skills, socialization and expression of feelings. Child who deals with the whichever branch of the art, creative solution methods that he/she find in a freedom media are guide to self-recognition and gained sense of self-confidence is the starting point of communication with the environment. Arts events in which the child, create his/her thinking and self-description language. Artistic activities cause to gain experience for the child in the process. At the end of this experience, child starts pouring visual icons on to material by creating his/her own creative ideas. At that moment, the child was given the artistic product and was told himself/herself unconsciously putting out the specificity. Specific forms of expression that reveals a symbolic expression of children are the manifestation of their inner world. This symbolic expression occurs through our sense organs from external stimuli. These objects which perceived by our brain become meaningful by interpreting. Through psychological, sensual and knowledge, etc. effects in us, the meaningful things for us come to life and picturified in our mind. The meaningful objects which become as image evoke other free images which previously experienced subconsciously and examined by the rational mind. At the end of this examine, meet with other data created in the mind of the person. The resulting mental activity creates visual thinking; this thinking is different in everyone. They create their own visual icon which they create images in their minds, by mobilizing discovery starts with sense of seeing, touching, tasting, hearing and smelling and by pouring the material. Thus begins the creative thinking in children with visual thinking.

In preschool education various activities shall be involved to support the process which begins with the visual perception with the senses, then ongoing process of creative thinking with visual thinking. At the beginning of this event art activities shall be involved which will enrich visual perception. This study covers a sample of a qualitatively experimental research which has been done to reveal visual icons and creative thinking in the art training of pre-childhood period.

PROBLEM

The activities of pre-school education in Turkey aim at developing children's motor skills in early childhood. But this training program, is not enough for children to form their own visual symbols, is not supportive in the linear development. Therefore, the lack of activities for children to form their own visual icon and avoid creative thinking has been seen as problem.

AIM

It is aimed to make an experimental study example to create their own visual icons by visual thinking method in art education lessons of children in preschool and to reveal creative thinking.

SAMPLE AND LIMITATIONS

This study was conducted with 15 randomly selected children who attend kindergarten from age 5 in the Münevver Şefik Fergar Primary School which located in Kadıköy district of Istanbul in the academic year 2014-2015.

METHOD

In this study; case study method of qualitative research methods and participating observation technique was applied. This study was an experimental study. "Experimental methods are methods that will provide solutions to problems that might exist in the future." (Arıkan, 1995, p.83) The study documented with photographs, notes were taken by making observations. This observation technique is one of the technical features of the behavior of individuals used to investigate "within the natural if necessary environment" (Akgül, 2005). Participating in observation, observer, acts as one of them is associated with the observed; ideally, also is not known as its observer (Karasar, 2005). Case study is a research strategy rather than a method. This broad strategy and a lot of different methods used in research and order them or qualitative (words) or quantitative (numbers) or both. However, case studies are based on the more qualitative data. In this method, data collection methods can be observation, interviews and questionnaires. (Donusumkonagi.net 2014, 20 April). It is performed in a natural environment such as a classroom, a neighborhood, an organization and it is aimed at a holistic review of the work environment or the subject of the events (Yıldırım and Şimşek, 2005, 77). Therefore, it is one of the appropriate methods for related research with qualitative research methods aimed at detection and experimental visual art education.

Visual arts education consists of a process and resulting product at the end of this process. So the creative research process is important as a result. (Kırışoğlu, 2009: 154) This research was conducted in classes and garden setting. To inform visually video, photo used, provided permanence and interpretation of the information by using of the question and answer method is in the pre-test. It is provided that to tell the subject by body language by using drama method and empathize with the tree. By bringing a variety of tree branches into the classroom environment it is provided to touch and smell and discussed the differences between them. As final test, wearing leaves game to the tree is played by students, the information was repeated. By going out the school garden, the trees are examined and talk about them. After the children's mind fully formed concept of the tree, they was asked to work with different materials to create their own tree icon appeared on the cardboard and the tree forest was created by bringing together. All study prepared by assuming that limited attention periods limits for 20 minutes for 5 year old children and study is spread over a day. In the study of children's answers were recorded, practices were photographed.

FINDINGS AND COMMENTS

Rudolf Arnheim, "seeing and hearing is the perfect environment to use intelligence. Visual perception is essential to think of the mind. Thinking that occurs with seeing the first time, almost argue that thinking is structurally linked to our sense of sight to the extent pictorial"(Arnhem, 2015).

İnci San says that "The icons which are used in creation of children are signs that they are adopted what they see, hear, taste, know, touch, think and talk about. An icon is full of sensation, meanings and connotations for kids and it is important to think in terms of processes. Because symbols are the instruments representing the child's world as simple and straightforward." (San, 1977, p.83)

For the formation of these icons, early childhood period was addressed in this study. To develop of children's creativity and to be able to create their own tree icon, the situation of gradually decreasing tree in the world were discussed in case study. How to grow the trees, affects of the seasons on trees affects of the changes of world on trees, tree species, changes of trees adhering to any specification and requirements of the tree were described by showing videos and photos. The following questions are asked verbally for pre-event test after the sample as perceived by the children selected the tree of life and the threats that face. Thus, children will create different visual in mind, by integrated the new image of the tree is created in the image of trees by past experiences in mind.

"How does tree come to the world?" First child replied "falling seeds from the trees grow into the soil, and there grow again" he replied. The second one said "they need land, water and sun to grow". The third child replied "they cannot grow without eating like us teacher". An important detail that they realize that trees are alive like us. Another child replied "trees need a long time to grow my teachers".

Branches plucked from trees with flower, leaves and fruit are distributed to children. By the help of photos and examples the general image of broad-leaved and coniferous trees, stems, leaves and fruit structure features were introduced. In order to ensure that; children's perceptions of their past differences, touching and sniffing of these examples was asked. After this examination "What features do trees have, do you think?" one of the children replied to the question "roots, branches, leaves". Other friends agreed to child. Another one replied "they have flowers, my teacher". Then another child said that "There are some fruit trees, plum and cherry trees in the garden of my grandfather, we have plucked and eaten the fruit with my father". By saying "Teacher, there is a tree without leaves, fruits and flowers in our site's garden, only has branches" child pointed out a different side. Together discuss about why this tree doesn't have leaves and fruits. It is tried to explain because of not feeding enough and deciduous according to season. Another child said that "the leaves of the trees are different, teacher, the leaves of the willow tree and pine leaves are different, I saw in the park", they realized trees might be different. Another child, " the color of the leaves of the trees in the pictures and we have seen now very dissimilar, teacher, there are yellow, red, green and coffee colored dried ones"; they realized that their colors not only green and vary according to the seasons. Characteristics of the tree with question-answer method were made taking into account the characteristics of their development. Children what they see in the pictures they studied, they kept their hands, and make comparisons between the tree branches in their hands, combining images taken their own lives. They distinguished plum, cherry trees due to fruits, the pine tree due to leaves, linden tree due to smell. They have difficulty in finding the linden trees, so they were allowed to remember the question and answer method.

For the question "What are the benefits of trees?" a few children answered as "they allows us and the world to take breath away" as they have watched in the video. A child replied "animals are used as homes, my teacher", and the when asked "Which trees can house the animals?" a few children replied as "birds". Another kid said that "I saw the cartoon, foxes have nest in the tree, my teacher"

another one said that "squirrels and insects also live in the trees". When I repeat the question "Well, what else do the trees do?" they share what they see in the video, they answers as they protect from floods, landslides and the affects of the sun. A child in the world that provides water to the trees he avoids teacher drought, "he observed that children be recognized by the key points. A child said "the trees provide water to the world, my teacher, they prevent the drought" it is observed that children be recognized by the key points.

To the question "What do you think that cause danger to the trees?", they gave answers; made constructions, opened roads, air pollution, factories, extreme temperatures. By the effect of the watched video they comprehend how precious creatures. So it is emphasized that it is not just the trees, and other creatures about the tree will be in danger of their lives. These were allowed to 20-minutes for question and answer method.

To identify with the object tree, it was done a drama on the adventure of the tree in class. Children who establishing empathy with the tree in the drama obey to the instruction in the adventure of tree buds to tree. When they asked to be a tree with their bodies "which tree are you? question is asked. Some of them prefer to be pine doesn't defoliate, some of them chose to be tree of their favorite fruits. To feel that tree is alive, question asked appropriate to the season's characteristics, the drama continued guidelines.

Children were asked to answer the questions the way they feel. The student who becomes pine tree said that "my teacher, I feel lonely; I am only one who has leaves". The other one said that "teacher, I feel naked", and the other replied "because of I don't have leaves, no birds land on me". Kids said in summer usually "it is very hot, we are thirsty and sweating". One of them said, "I'm going to be shadow who escape from the sun, my teacher, now there are birds on my branches and ants on my body, I'm not alone, my teacher". They stated that, in autumn they are upset because of yellowing and defoliation and they are happy because of blooming and foliation of the branches. In drama, it has seen that children integrate the concept of tree and visual images about trees was occurred on the minds.

For fun in the classroom class was divided into two groups for "who wants to be a tree?" game. Prepared leaves shaped cardboards were distributed into two groups, children of two groups try to put the leaves on their friend who want to become tree and a final test is done with a sentence that said about the tree. The group who finished plugging the artificial leaves into their friend won the competition. Child who becomes tree created a beautiful image with colorful leaves, children, wanted to take pictures with him eagerly.

It has been observed that children enjoy activities such as drama, play, racing related to the theme and they have participated in activities competing with each other. In the following process they exited in the garden to examine the trees more closely and recognize touch. In the kindergarten garden it has been talked about trees with individual students. They enjoyed a lot in the garden; by sniffing trees and tapping trees to realize that there are different characteristics from each other and allowing them to verbal expression. Especially when they see ants browsing on trees, they carefully examined curiously observed the movements of ants.

Then, children gathered in the garden to make a picture of their tree. When the application is launched, the theme of which was seen easily grasp, thanks to their knowledge they were able to create their own tree image with materials of their own choice. They create a forest view by cutting their tree pictures with scissors, sticking on a large piece of paper. The children were very happy to work outdoors and have created a rich forest of tree species. After work each child joyfully told her/him friends her/him own tree image.

At the result of the lesson which is processed by methods that appeal to all the senses to create images in the minds of the children, children's visual, auditory and tactile senses have been addressed, it has been seen that imagination effects creative thinking.

Children created their own visual tree symbol successfully and were found to be different from all the trees of the icon. The sensations received through visual perception, when you meet with other data created in the mind of the person consists of mental activity, create visual thinking thoughts that are different in everyone. As a result of this study, it has been observed that reflection of visual ideas of developing visual instruments due to children's cognitive, physical, emotional development is returns to icons

CONCLUSIONS AND RECOMMENDATIONS
At the end of the study tree icons that reveal the children are different from each other. In this process, the transition from the tree symbol of their visual ideas, so that they enjoy the experience of learning through one to one, those who have learned it is more permanent. It has been seen that to appeal to the five senses is needed to create children's own icons in art education lessons. They can express acquired experience through art, it has been recognized that this study helps to develop self-confidence and creative thinking. To improve visual perception in children and to create visual ideas, starting in kindergarten, the methods should be used that will appeal to the five senses organ in art education classes. Teachers should guide the implementation process with children; children should be given the opportunity to express themselves in a free environment.

As a result, children learn perception of the surrounding trees by amusing with experimental approach by drama, play. The learning process has reached their goal and was able to express subjectively the children's creative attitude. Case study method can be used in all age groups; it is experimental and applicable in art education classes revealed for creativity and intellectual skills.

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CONTRIBUTIONS OF DIFFERENTIAL CALCULUS IN THE UNDERSTANDING OF FINANCIAL FORMULAS THROUGH AN INTERACTIVE LEARNING OBJECT

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ABSTRACT

The purpose of this article is to show through an interactive learning object (ILO) and the use of mathematical software GeoGebra how differential calculus can contribute as a principal basis for the understanding of financial formulas. To realize this, an ILO was developed, where the financial formulas are applied like: the present value, the net present value and the internal rate of return, used in the assessment of investment alternatives. These formulations are interpreted with the basis of differential calculus, where in a Cartesian plane are defined the variables and which parameters will be windows in the ILO.

Keywords: differential calculus, interactive usage of ICT, financial formulas, interactive learning objet, learning and teaching.

INTRODUCTION

Information and Communication Technologies (ICTs) are fundamental in knowledge transmission because promote the improvement of learning strategies of students, their skills by know-how learning. The virtual tools as software GeoGebra allow the interaction and exploration of users, and help teachers and students to understand and argue in a practical and constructive way the academic contents immerse in real problems.

The impacts for the use of ICTs and virtual tools on some undergraduate curses could be positive, facilitating the integration of theoretical knowledge and the practical use. An example of this, is the application on Differential Calculus subject, which contain a series of mathematical concepts which can be applied to understand and resolve real world problems as concept of derivative. The purpose of this paper is showing how through the use of derivative is possible to make management decisions.

The added value in this pedagogical strategy is when the parameters are varying, the graphic immediately change allowing new deductions, because when the student interacts with the graphic and the formulation, he will be conduce to understand new concepts in a logical way, building a significant learning from a financial theory and differential calculus basis and the proper interaction and understanding. Furthermore, with this methodology, the teacher will motivate to their students to correlate the differential calculus and financial mathematic concepts through the free software GeoGebra and reach a better teaching in this issue.

INTERACTIVE LEARNING OBJECT

With the technological advances, new learning virtual environments or on-line pedagogical environments have arisen, promoting the knowledge transmission tools development. These tools are named Learning Objects (LOs) (Poveda, 2011; Organista, 2010). The appearance of those objects through Internet as one of the pillars of knowledge (Roig, 2005) have significantly contributed to the evolution of knowledge transmission (Poveda, 2011). These new learning environments allow students assuming a more active role, since they are not just receptors of information as occur in traditional classes (Duran, Maside, Rodeiro & Cantorna, 2015). As well as, these environments allow in many educational situations the personal contact, the interchange and participation of members of a group (Macías, 2007).

Many authors have written about this issue and have tried to define the Learning Objects. However, there are not a general and specific definition about this term. A piece of interactive software as structure of three components is a proposal of original conception of learning objects, these components are: educational purpose, institutional subjects required for that purpose, and an assessment to identify the level of learners' progress who used the object (Barritt y Alderman, 2004).

Learning Object (LO) was defined by authors as Mason, Weller and Pegler (2003) as "a digital material piece of learning that addresses to a specific issue and has the potential of being reusable in different context". On the other hand, one of principal promoters of learning object concept was David Wiley (2000). He suggested that LO is "any digital resource that can be reusable as learning support" (Peñalosa & Landa, 2008). The definition given by Barritt and Alderman: "a learning object is an independent collection of content and media elements, a learning approach (interactivity, learning architecture, context) and meta-data (employers, storage and searching)" (Marzal, Calzada & Ruvalcaba, 2015). Other definition suggested by JORUM Project (2004): "a learning object is any resource that can be reusable to facilitate the learning and teaching, and has been described using meta-data" (Peñalosa & Landa, 2008).

It observes, there are many suggested definitions by different authors about Learning Object. However, they do not extract some of fundamental characteristics of LO concept, these characteristics of a learning object (LO) are: 1) has educational content which is more easy to teach, 2) meta-data are included, 3) uses a learning environment, 4) can have different levels of complexity and 5) has to be reusable (Peñalosa- & Landa, 2008). Regarding the LO properties, RAID acronym used (Reusability, Accessibility, Interoperability y Durability), in which didactic purpose or institutional design, digital and multimedia character and interactivity are added (Marzal, Calzada & Ruvalcaba, 2015).

That is how Interactive Learning Object can play an important role in virtual education, being a digital support resource, integrated into a HTLM web site of educational purpose that can be reusable in different learning sessions (Poveda, 2011). In this sense, the fundamental idea behind a learning object is that pedagogical designer can build little curricula components that can be reusable in other sessions with different learning context (Roig, 2005). These characteristics make diverse the ways to transmit knowledge and facilitate the educational process through text, video, images, animations, exercises and self-evaluation questionnaires, puzzle exercises, lab simulations, graphs, and others (Poveda, 2011).

It is important to denote that Learning Object is more than e-learning world. Developing educational contents based on LO bring a new way of learning, and allow the creation of on-line training programs with a high potential of flexibility and personalization, which make possible accomplishing more specific purposes and where participants' needs can be adapted. Those objects or units can be incorporated in any type of format (printed, web, media, word, etc.) according the class needs, and besides additional elements (González, 2005).

The learning theory was defined as a social construction process by the interaction between teacher, students, and the resources given by teacher in this process, all are fundamental to the content appropriation (Álvarez & Guasch, 2006). In this order of ideas, interactivity on the virtual object has been positioned as a relevant factor, since this make reference that a LO does not have only the content before exposed, but also has some type of element that allows register the progress and the different interactions made on concrete content unit by students. Interactivity can be defined from exercises, simulations, questionnaires, diagrams, graphics, slides, tables, exams, experiments, etc. development. In this case, it can be classified the following types of learning objects according the interactivity (González, 2005):

- Active: student interact sending data to a resource (example: test or exercises).
- Exposition: the resource sends student information (example: exposition of an issue)

- Mixed: combination of later ones.

Compiling Information before exposed, to accomplish a good exploitation of Interactive Learning Object and achieve its educational purpose, the following particular aspects have to be considered in LO conception: pedagogical, technological and human-computer interaction characteristics as a result of considering an educational and software product simultaneously. In this way, three dimensions of these characteristics are identified (figure 1) (Silva, Ponce & Villalpando, 2012).

Figure 1. Learning objects' dimensions.
Source: (Silva, Ponce & Villalpando, 2012).

- Pedagogical dimension: the LOs have an educational purpose that allow establishing logical sequences to achieve the learning and teaching process effectiveness, also promote the construction and diffusion of knowledge.

- Technological dimension: the LOs are resources or digital units and can be addressed for software engineering area as a result of being considered as a software product. Facilitate the interchange between diverse platforms and systems, the reuse and scalability in educational environments. The principal characteristics are: re-usability, interoperability, accessibility,portability, flexibility and gradualness.

-Human-computer interaction dimension: as a digital resource has to be accomplish with certain criteria that makes attractive to a learner, to be incorporated in the interactive dynamic of student.

One of the areas which technological educational resources are relevant is accounting. How teaching accounting sciences is highlighted, and this requiring innovative alternative methodologies that allow a great dynamism into students learning process, encouraging their autonomy with the purpose of promoting a great understanding and appropriation of class accounting topics. In this sense, the use of Information and Communication Technologies ICTs as educational purpose has become a dynamic and interactive alternative that allows application of knowledge and encourage the feedback in accounting, finances and other areas or knowledge learning process (Gaviria, Arango & Valencia, 2015).

The use of digital tools through a learning method with virtual learning object has a pedagogical purpose to providing students a conceptual and practical instrument to interpret corporative accounting and other financial aspects. The implementation of methodology before exposed increase a great interest and motivation in students to accounting sciences learning. This attitude facilitates the understanding of mathematical equations of financial area, since these acquired knowledge in classroom are easier to learn because of experimentation and/or simulation (Gaviria, Arango & Valencia, 2015).

In this regard, teacher in the social, cognitive and academic training process has to define the methods of teaching-learning, where theory and practice simultaneously are worked by students, in order to improve their educational process (Gaviria, Arango & Valencia, 2015). It is necessary searching new mechanisms and creative and innovative ways of teaching for students, as a purpose of dynamism and making effective the teaching-learning process (Cabañas & León, 2012).

METHODOLOGY
1. Basic concepts. In Financial Mathematics exist very important concepts that have to remember to develop this Interactive Learning Object:

The Net Present Value represents in present Colombian peso all present and future cash inflows and cash outflows that support an investment project. That means, the result of all projected cash-flows generated by an investment or a project discounted by a discount rate or cost of capital less investment value. If the result is positive, the project is viable, if does not, the project does not add value to the company (Rosero, 2005).

The Internal Rate of Return IRR is the rate which the investment is equal to present value of incomes and expenditures or the present value is zero. Also, IRR explains the true rate which measures the profitability of the invested capital in a particular business, where all cash flows are equal to zero (0).

2. Problem situation: a problem situation is set out in order to make the ILO design. This problem situation has an investor that desires starting a project with an investment. Cash flow by periods and discount rate have been estimated for the investor. Net present value has to be evaluated to know if the project in viable.

3. Construction of ILO with GeoGebra: in the GeoGebra software curves as a result of formula of "Net Present Values (NPV)" and "Present Value (PV)" are designed:

$$NPV = -I + \frac{C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} \cdots + \frac{C_n}{(1+r)^n} \qquad (1)$$

$$PV = \frac{C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} \cdots + \frac{C_n}{(1+r)^n} \qquad (2)$$

The "Net Present Value (NPV)" and the "Present Value (PV)" are ordinate axis (dependent variable) measured in Monetary Units (MU), while the discount rate "r" is the abscissa axis (independent variable). The cash flows: $C_1, C_2, C_3, \dots, C_n$, and the initial investment "I" are parameters of windows' software where we can change them according our problem situation. When parameter are changed intermediately the curve are transformed.

The ILO was designed for a maximum of 10 cash flow.
In figure 2 is observed both formula, where $"(1+i)^n"$ is independent variable "r", in the denominator and always is positive and increases. It produces a decrease exponential function.

RESULTS
If before equations are subtracted, it obtains:

$$(2) - (1) = PV - NPV = I \qquad (3)$$

But the Internal Rate of Return (IRR) is a result of the Net Present Value intercepts the abscesses axis (the discount rate "r"). In other words, in the IRR, the NPV=0.
If NPV=0 in (3): I=PV.

In figure 2, it can observe that the vertical difference between two curves always is "I"

As NPV involves the rate opportunity fund investor, the interest rate for calculating it have to be clarified.

In this sense, If:
NPV<0: Starting the project (investment) would subtract value from the company, and the investment are not recovered at 100%.
NPV=0: The investment would neither add nor subtract value from the company
VAN>0: Starting the project (investment) would add value to the company, and the investment are recovered at 100%

Fig. 2. Graphic of Net Present Value and Present Value Vs. Discount rate (example 1)

$$NPV = PVincomes - PVexpenditures$$

$$NPV = PVincomes - PVexpenditures = \frac{C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} ... + \frac{C_n}{(1+r)^n} - I$$

If on ILO windows are variating the cash flow, discount rate and the initial investment; the graphic immediately will change:

Fig. 3. Graphic of Net Present Value and Present Value Vs. Discount rate (example 2)

If in the example 2 increases the initial investment of 80 MU. As is showed in the example 3, 100 MU (it closed to the sum of cash flows 130 MU). It can observe in figure 4 how discount rate in NPV are closed to IRR.

Fig. 4. Graphic of Net Present Value and Present Value Vs. Discount rate (example 3)

RESULTS AND DISCUSSIONS.

Generally, Financial Mathematics are taught in a non-proper way, where a formula is demonstrated and may be can be applied, but when a formula is designed in a software by an Interactive Learning Object, the student begins cognitively to compare the mathematical concepts when observes the curve with the acquired class concepts, since he varies the parameter of the curve, this are transformed in new questions and solutions.

Among the "active methodologies that contribute to development of abilities" are found the projects, which is characterized for applying different areas of knowledge, in a practical way, a proposal that allow resolving an applied problem. When the Interactive Learning Object is combined with this active methodology, makes the student find a logical and reasonable answer when he evaluates or formulates an investment over time. In case of make bad decisions in the assessment, lost a big amount of capital is taken as a risk.

The active methodology "project" and the Interactive Learning Object structure:

- A specific observation of a problem.
- The question formulation has resolve the situation, which are the internal return rate for the project is viable? ¿how is net present value?
- The initial proposal of a hypothesis can be corroborated trough a graphic and the numeric results as ILO sets out, compiling, analyzing and interpreting, to consolidate conclusions and showing results.
- Helps student to develop his autonomy and increases his ability in making decisions for business. (Pimienta, 2012, p. 132, 133)

CONCLUSIONS

The financial Mathematics oriented with Interactive Learning Objects and its graphics search for developing cognitive capabilities and abilities in making decisions on the student. Differential Calculus with ILO develop on student one methodological and didactic strategy according the performance of professional life needed.

By problem situations of real life, the student develops critical thought and generates creative and innovative solutions to live in society.With designed problem situations in an ILO, the student can develop his ability of analysis, resolving a variety of problems as a result of changing values of parameters on the software.

Here, it can see the heuristic part, where the student interact with the computer, changing the Differential Calculus and Financial Mathematics learning for logical reasoning that help him to make better decisions.

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CONTRIBUTIONS OF THE "THEME" COURSE IN FRENCH LEARNING AS A FOREIGN LANGUAGE: CASE OF THE DEPARTMENT OF FFL OF A TURKISH UNIVERSITY

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ABSTRACT

This research aims to lead a reflection on the course of "theme" (translation from turkish to french) into the programmes of FFL within the faculties of pedagogy. Through the analysis of the errors found during the course of theme, we shall wonder about the role of this course and its contribution to the optimization of the linguistic skills of the learners, the future FFL's teachers. It will center mainly on the translation of relative pronouns, by insisting on the errors concerning the choice and the place of the pronoun.

1. INTRODUCTION

The learning of a foreign language is an activity, which involves various factors: programs and teaching methods but also teachers and students, All the actors that must be considered for an optimal acquisition. Although the didactics offers general principles, the difficulties encountered in the learning of a foreign language vary mainly according to the learner, to its mother tongue, which constitutes a different linguistic system but also other languages learnt beforehand, in particular english in our case. The learning of FFL by turkish learners represents a domain impressionant by the number of researches which attempt to analyze the specific difficulties they encounters; It is impossible to us to quote all these researches and we shall select here only those who illustrate the difficulties of the Turkish learners and their possible origin with examples : in the constrastives studies (Topçu Tecelli et Özçelik 2007, Atan 2010,) but also at the level of the analysis of errors (Öztokat 1993, Demirtaş et Gümüş 2009), educational translation (Ünsal 2013), interference problems (Şavlı 2009, Aslım-Yetiş 2013). In the lineage of these studies, we chose to notice the attitude and consequently the performance of our learners at the level of the choice of the relative pronoun and its place in a sentence to be translated. Indeed, basing us on their previous knowledge and on the problems noticed during the grammar lesson of first year, it seemed interesting to notice if the same difficulties persisted at a more advanced level. We chose to evaluate the productions in terms of sentences to avoid the errors due to the coherence cohesion and to those who are imputed to the nature of texts. The final purpose of the analysis is to notice if the errors found are due to lack of practice during the translation or if they represent gaps at the level of the linguistic structures. Those are supposed to be acquired at the beginning of the program, partially in preparatory classroom but particularly in first year, which will allow us to reflect on the role and the contribution of the general translations courses and of the theme course in program of FFL and its importance for the evaluation of the grammatical experiences.

2. THEORICAL FRAMEWORKS

This research is based on two theorical framworks), worth namely error analyses and the educational translation.

2.1. Error Analyses

Any learning process requires an evaluation of the experiences and this one highlights inevitably the error which establishes one of the major concerns in the general education and that of the languages in particular; the error has for long not been considered as « negative, and synonym for failure of the students ot for teacher, that is as a mistake » (Cuq-Gruca 2005 : 389). So recommended in the CEFRL, this evolution in the approach in the error which is put at the heart of the teaching, testifies of a positive stand and of an effort of understanding. Indeed, to understand the status and the cause of an error represents for every teacher an opportunity control its view of the learning process (Porquier &Frauenfelder, 1980 : 30).

Corder (1980 : 9) mentioned two different approaches concerning the errors of the learners : the first one explaining the appearance of the error as « the rate of inappropriate educational techniques » and the second considering the error an inevitable fact.. These two approaches show various stages and states of mind by which the error evolved through the different teaching methods. The third attitude mentioned by Porquier and Frauenfelder concerning the possiblity of « See in the error a natural and necessary appearance of the processes of learning » (1980 : 29) reflect perfectly the current trend.

At the level of the distinction between error and mistakes and their respective names, there are so diverse approaches. The CEFR precise that « **The errors are caused by a deflection or a bad representation of the target skill. It is then about an adequacy of the skill and about the performance of the learner which developed rules different from standards of L2.** (2000 : 118)**. However, the mistake appears "When the learner is incapable to implement its skills, as it could be the case for a native speaker.** (2000: 118)**.** Corder (1980), establishes an opposition between non-systematic errors (Errors of performance - the mistake and systematic errors) and systematic error (errors involving skill) which according to him, reflects the "transition skill" of the learner. It would be possible to multiply the definitions but, as Porquier and Frauenfelder specify,

« A definition of the error and the options which ensue from it, depend on the point of view and on the attitude adopted » (1980 : 29).

So given that « all learning is a potential source of errors [and that] There is no learning without error because it would mean that the one who learns already knows everything» (Cuq et Gruca 2005 : 389). The analysis of the error thus represents an effective way by which the teacher can estimate the skills of the learner, The error revealing in a way a gap, a lack in the acquisition of the aimed linguistic skills. With the analysis of the nature of these errors, the teacher can then find there the causes and consequently remedy it. It is at this level that comes the notion of "intermediate systems" according to the terminology of Porquier or of "transitional systems" according to to Corder, or more commomly cross-language (Selinker), which in the dictionary of didactics is defined as " the specific nature and the structure of the system of a target language interiorized by a learner at a given stage. This system is characterized by features of the target language and the features of the source language (mother tongue or other acquired languages later or simultaneously). » (2003 : 139).
It is exactly to this level of the evaluation of the acquired knowledge that the translation appears as an effective tool for the evaluation of the acquisition of the linguistic structures.

2.2. The educational translation

Before the era of the modern methods, the translation and the grammar constituted for a long time the core of the language learning and in this sense it has showed itself little effective, especially for the modern language learning. Indeed, the systematic use of the mother tongue represents certain risk in the acquisition of the linguistic structures of the target language. The risk is higher during the early days of the learning when it disrupts the acquisition of the code of the foreign language by preventing the learner from thinking in the language, which he learns. The translation, in the didactics of the languages can be handled differently, as an educational translation, as a tool of skills evaluation.

Elisabeth Lavault specifies that in the case of the educational translation « The translation is a tool used within the framework of the didactics of the languages. It is not the purpose but the way, because what matters, it is not the meaning, which the text provides but the act to translate and the various functions which it, performs: Acquisition of the language, the improvement, the comparison, the control … It is rather about transcoding than about translation. » Karla Déjean le Féal (1987 : 119) also notes that the educational translation is different from the professional translation and she specifies that « The first one is supposed to be a way of control in didactics of the languages. Contrary to the second, we do not assign it a communicative function, but linguistics function because it is intended to reveal if the students understood one or several meanings of the words and the studied structures. » (1987 : 107)   Karla Déjean le Féal also notes « Although this exercise is called « translation » should not be (…) indicated by this term, because it does not consist, most of the time, of the réexpression of the meaning of the original statement – the only operation which can deserve to be called "translation" - but in a code switching » (1987 : 107). As pointed out by Karla Déjean le Féal, it'is exactly this " practice of switching " according to Lavault « the transcoding » wich constitutes the central criticism, since that it risks to give the student an « inappropriate perception of a perfect isomorphism of the languages » which according to Déjean le Féal constitutes an obstacle to the « language skills development » (1987 : 108).

However, in spite of criticized points the transposition of a source language towards a target language or vice versa requires a certain competence in both systems in question. In this sense, it represents an interesting activity which allows the student a certain reflection on its capacity to use its experiences and his knowledge.

3.   METHODOLOGY

3.1. Univers de la recherche

The participants of the researches are 40 Turkish students in the third year of license in the department of didactics of the FFL. We are in an endolingue situation: These learners are Turkish thus have the same mother tongue. They also have all a level at least B1 in English.

3.2 The corpus

The theme is a course dispensed in the sixth half-year, in the third year of the program of FFL; It is preceded by the course of version in the fifth half-year. The teaching is scheduled over 14 weeks of 3 sequences of 45 minutes. The final goal of the section being to form future French teachers, the course does not address theory of translation but is firstly built as a practicals during whom the students think about their linguistic skills.
The evaluation was carried out during the semester
A pre-test of ten sentences was applied the first course. It was realized without dictionary, the objective being to determine the general skills of the students, and to see how they react. The pre-test was not corrected in classe, It was estimated by the teacher to encircle better the major problems and the points on which it would be necessary to work during the course. During the courses, the learners worked not on sentences but on short texts (A paragraph of about ten lines). To ensure the validity of the evaluation, the same pre-test was applied last year. It is according to the results of this application that the sentences to be translated were retained.

A second test was realized after nine sessions of course, the same sentences were reused but this time the use of the dictionary was authorized. Eight sentences of the same kind were added in ten sentences of the pretest. This second test consist of an intermediate evaluation which aimed at noticing if the students after the course of theme had acquired a different behavior in the application of their knowledge.

The final test consists of copies of the examination of the end of half-year. This test consists of sixteen sentences; They are not exactly the same sentences as those of the pre-test and test of intermediate evaluation, but to allow the comparison, they contain similar linguistic structures with a relative pronoun.

4. DATA

Four tables below present the results obtained in three tests applied in the semester. The results are presented in term of percentage and indicate the rate of right answers concerning the choice and the place of the pronoun in the translated sentence:

Table 1 : Percentage of right answers concerning the choice and the placement of the pronoun "qui"

	Correct choice of the pronoun QUİ (%)	Correct positioning of the pronoun QUİ (%)
Pretest (diagnostic evaluation)	32,5	80
intermediate test (formative)	**89,1**	**95**
Post test (summative evaluation)	-	-

The results for the choice of the pronoun indicate a clear progress of right answers between the pretest and the intermediate test : the rate of right answers increases from 32.5 % to 89.1 %. As regards the positioning of the pronoun, we also notice an evolution,: 80 % in the pretest and 95 % in the intermediate test.

Table 2 : Percentage of right answers concerning the choice and the placement of the pronoun "que"

	Correct choice of the pronoun "que" (%)	Correct olacement of the pronoun "que" (%)
Pretest (diagnostic evaluation)	62,5	82,5
intermediate test (formative evaluation)	**82,5**	**80**
Post test (summative evaluation)	60	74,1

For the pronoun « que », we also notice a progress: for the choice of the pronoun the percentage of right answers between the pretest and the intermediate test, the rate of correct answers passes from 62.5 % to 82.5 %. As regards the placement of the pronoun, we notice a regression: 82.5 % in the pretest for 80 % in the intermediate test. The post test indicates, as well for the choice as the placement, a regression on which we shall comment in the analysis of the results.

Table 3 : Percentage of right answers concerning the choice and the placement of the pronoun "dont"

	Correct choice of the pronoun "dont" (%)	Correct positioning of the pronoun "dont" (%)
Pretest (diagnostic evaluation)	46,5	76
intermediate test (formative evaluation)	**73**	**93**
Post test (summative evaluation)	63	84

For the pronoun "dont", we also notice a clear progress and by the choice of the pronoun the percentage of right answers between the pretest and the intermediate test, the rate of correct answers passes from 46.5 % to

73%. As regards the placement of the pronoun "dont", we also notice a progress: 76 % in the pretest and 93 % in the intermediate test. The post test comment indicates, as well for the choice as the placement, a regression.

Table 4 : Percentage of right answers concerning the choice and the placement of the pronoun "où"

For the pronoun "où", the tendency does not change and we notice a clear progress by the choice of the pronoun. For the percentage of right answers between the pretest and the intermediate test, the rate just pass from 50.8 % to 75.9 %. As regards the placement of the pronoun, we notice a progress: 75.8 % in the pretest for 85.8 % in the intermediate test. The post test indicates, as well for the choice as the placement), a regression.

Table 5 : Progress fron pre-test to post test

	Progress regarding the choice of the pronouns from pre-test to post test (%)	Progress regarding the placement of the pronouns from pre-test to post test (%)
Qui	+56,6	+15
Que	-2,5	-8,4
Dont	+16,5	+8
où	+15	-3,3

	Correct choice of the pronoun "dont" (%)	Correct positioning of the pronoun "dont" (%)
Pretest (diagnostic evaluation)	50,8	75,8
intermediate test (formative evaluation)	**75,9**	**85,8**
Post test (summative evaluation)	65,8	72,5

The table 4 indicates the evolution of the percentages for four pronouns. We notice a general progress of the initial state to the final state at the end of semester. The pronoun "que" presents a 2.5 % regression for the choice of the pronoun and 8.4 % for the placement of the pronoun. It is also question of a 3.3 % regression in the placement of the pronoun "où".

5. RESULTS

The results observed in the tables testify in the whole of a certain progress at the level of the use of the pronouns, as well for the choice as for the placement. The results must be analyzed by stage and we shall consider at first the results and the changes arisen from the pretest and from the intermediate test. Indeed, the results in the intermediate test show for the pronouns a clear progress. This improvement is doubtless largely due to practical class performed in classroom. These works favored the re-use of these pronouns in diverse texts; this progress so shows the need for the students to update their knowledge. The subject of relative pronouns is one of subjects, which was widely exploited during the course of grammar in both first semester of the year of the program. The relatively low rate in the pretest indicates not generally gaps at the level of the theoretical knowledge but the difficulties putting into practice the acquired skills, the difficulty using the previous knowledge. The results of the tests prove that the activities in the classroom contribute to the updating of the knowledge of the learners, which set ccomscience of their interlanguage.

The second principal point to be raised is the decline observed in the results of the final test. This regression can be explained according to the nature of the test. Previous both tests came under a formative assessment, the last test was a part of the test of the end of semester, where from the anxiety of the learners towards this test. The evaluation in terms of notes thus established a negative factor in the representation of the knowledge. So it would have been necessary to avoid this obstacle to plan a formative assessment similar to that of the previous tests. However, it should be noted that the decline in question concerns the evolution between the intermediate test and the test comment. Indeed if we evaluates the evolution between the pretest and the test comment, we notice that there is a progress in the results for the pronouns "dont" et "où" but a slight regression for the pronoun "que".

As we have just specified it, the pronoun « que » is the only exception: 62.5 % in the pretest, 82.5 % in the intermediate test and 60 % in the post test, the regression observed in the post test being relatively important according to the intermediate test. The anxiety generated by the noted test is not the only explanation. It is also

important to take into accounts other factors, obstacles to be surmounted, as its mother tongue in which these pronouns do not exist, as a « separate unit in the sentence » (Öztokat 1993 : 73) but also the interference of English in which its use turns out to be optional.

All of our learners had for first foreign language English. In didactics of the foreign languages in particular in translation, the previous knowledge enter conflict with the new knowledge, the target language to be acquired. This cognitive conflict is schematized by Piaget in the following way and adapted in didactics of the languages:

Figure 1 : concept of constructivism and previous knowledge conflict.

Thus, it is not necessary as a teacher to omit this significant point for the remédiation of this kind of errors which, according to Brousseau, are « *The effect of a previous knowledge which had its interest, its successes, but which now, shows itself false or simply inappropriate... As well in the functioning of teacher as in that of the student, the error is constructive of the meaning of the acquired knowledge ». (Brousseau 1976 : 71)*

6. PERSPECTIVES AND CONCLUSION

The course of theme showed itself as a beneficial activity for the learners and their teacher: the students expressed that these courses had allowed them an awareness of their current skills and their gaps on which they were able to (re)worked. As for the teacher, it is the satisfaction to notice the application of the theoretical taught knowledges the previous semester. Even if his systematic use remains to avoid in the courts especially at the beginning of the learning, this activity of translation however turns out to be effective for the control and the evaluation of the grammatical experiences. It is gratifying to notice that the errors are more imputed to the lack of practice than severe gaps at the level of the acquisition of the linguistic structures. Given that the contribution of the course of general translation and the course of theme is undeniable, it would be important in program of FFL to increase the hours of classes, or, if the teaching program allows it, to establish other optional courses concerning the translation; which would allow the teachers to reflect about their interlanguage and to develop their language skill.

This analysis was limited to the choice and to the positioning of the pronoun in the sentence; it would be interesting within the framework of another qualitative study to widen the context and to integrate other linguistic problems. We specified that the evolution at the choice level and at the placement level of the pronoun is remarkable but this one remains partial. In all analyzed productions remain problems concerning the linguistic skills. Indeed, certain errors arise systematically, for example, those at the morphological level, the errors concerning the agreements. Even if they do not influence directly on semantics of the sentence which remains understandable, these errors are difficult to accept at the level of the accuracy and of correction grammatical expected from an advanced student, which is dedicated to become a French teacher one year later. A general classification would allow a wider prospect of the frequent errors to see again and to correct.

Our final comment involves the evaluation. The allocation of notes with a punctual evaluation is inevitable in all the schools of any levels but it should be forgotten that even if this type of evaluation is compulsory, nothing prevents the teacher during the semester to set up a continuous evaluation which highlights the current situation of the knowledge of the learners and the formative assessment which allows them to evolve and thus to progress. The practice of this type of evaluation by the teacher favors an awareness at the learner who gets used to selfevaluate.

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COURSE SUPERVISIONS CARRIED OUT BY EDUCATIONAL INSPECTORS AND SCHOOL MANAGERS

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ABSTRACT
The purpose of this study is to determine the superior and inferior features of course supervisions carried out by educational inspectors and school managers in formal primary schools. The study was conducted with qualitative research method and the participants consisted of 8 primary school managers and 22 teachers working in Kadınhanı, Sarayönü, Selçuklu and Yunak districts of Konya in 2015-2016 academic year. According to the results, school managers and teachers think that course supervision carried out by educational inspectors is superior in terms of "objectivity" and is inferior in terms of "being short-term". It is found that course supervision carried out by school managers is superior in terms of "continuity and closeness" and is inferior in terms of "insufficient information and experience", "personal relationships" and "subjectivity". The managers think that course supervisions should be conducted respectively by school managers, inspectors, parents and students. However, the teachers believe that the course cupervisions should be conducted respectively by school managers, students, branch teachers, parents and inspectors. Some of the teachers stated that conducting course supervisions in order to evaluate the teachers is not necessary. Suggestions were made based on these results.
Key words: Course supervision, supervision, educational inspector, school manager.

INTRODUCTION
People established organisations and assigned them to reach goals which they couldn't achieve by their own skills and abilities. Therefore achievements of the organisations became that of the founders. Surviving and working effectively and productively is only possible for organisations with their self-coordination of current changes and developments. Effectiveness or productivity; modernity or backwardness; necessity of cathcing the era for an organisation are all a subject of Supervision. Therefore, there is always a supervision system in all of the organisations and its an administrative and organisational necessity (Aydin, 2014). Analyzing what is achieved by how and to what extend is needed in order to designate such subjects that determining to what extent or how good practices of educational institutions carried out; whether the process was operated as required; whether the object was achieved or not; to what extent it was achieved or wasn't achieved. An effective supervision system is required for effective and productive evaluating of quantitive components such as quality of the educational institution, achievement rate of students, evaluating learning experience and performance of the students as well as qualitative components such as teaching methods, learning events, materials, learning process, activities, content and options offered to students (Cavanaugh, 2002). Productivity and effectiveness are to be evaluated in order to determine the success of system of education. And this is possible by data which has been collected by administration through operating supervision system. During the process of supervision which is a fundamental element in determining quality of education, it is needed that to collect, evaluate, compare and interpret pertinent data in order to make decisions about institution and workmen (Göksoy, Yenipınar, Sağır, Ereş, Engin, 2011). Various definitions of supervision are present in literature. Supervision is the process of comprehending whether organisational behaviours complies with determined principles and rules in accordance with adopted goals (Aydın, 2014). According to Bursalıoğlu (2013), its possible to define supervision as behavior management for public interest. It is also defined as a wide service area whose goal is making suggestions to those concerned, contribute educational staff on their studies and education by guidance in order to supervise and evaluate the studies which is done and make them more productive (Taymaz, 2002).

Supervision process, which involves evaluating the performance which is done, comparing it with standarts and performing supervisory activities in order to correct deviations, is a three phase process (Robbins, Decenzo and Coulter, 2013). Supervision of Minsitry of National Education consists of comparing activities with objective, applicable, reliable criteria in the context of convenience, accuracy, regularity, productivity, economically, effectiveness in order to attain purposes, morals and goals determined in public bodies within the constitutional and legal framework; revealing the situation in accordance with universal and national principles, guidance to make up for deficiencies, making suggestions on change and development, detailed researching on operation of unit, gathering information, analyzing them, determining results of the analysis, defining problems occured in the results, finding a solution to that problems (MEB, 2015). Success of Turkish Education System is directly

relevant with that of schools. In our country, education supervision is the competence of Ministry of National Education with the Article 56 of National Education Basic Law regulation no 1739.

Supervision is a fundamental activity with regard to make studies of educational system operated in accordance with predetermined purposes such in other supervision systems. Supervisings, which are also conducted in providing effectiveness for schools having economic, political and social functions are carried out as institution and course supervision in our country (Taymaz, 2002). Supervision can be conducted before an activity starts, during an activity or after an activity. It is the function of administration involving monitoring the activities to prove that activities were performed as intended and if occurs; correcting significant deviations. The first, second and third are called respectively as feed forward, feedback and concurred supervision (Robbins, Decenzo ve Coulter, 2013).

Supervision is an administrative function containing monitoring activities and correcting significant deviations to provide completion of activities of organisation according as planned. Effectiveness of a supervision system depends on how it made easier to achieve goals. The most common kind of supervision depends on the feedback. Feedback is providing direct and clear information about performance depending on results of the activity conducted. Feedback supervision has two superior features. One of them is feedback which provides significant informations to managers about how their planing efforts are effective. Feedback which shows minor difference between standarts and the performance done, indicates that planning largely achieved its purpose. If deviation is at significant rate, manager can use that information to make new plans. And the second feature is that feedback may enhance motivation. People want to know how well they did their jobs and the feedback provides required information (Robbins, Docenzo, Coulter, 2013, Robins and Judge 2012). Feedback which reveals developments in accordance with purposes, is a performance improving factor because it express the difference between intended and conducted activitiy. But all kinds of feedbacks are not all equally effective. Feedback which make monitoring self-improvement possible is more motivating than the other that provided from another person (Ivancevich and McMahon, 1982). So not all kinds of feedbacks are strongly effective. Feedback creating by ourselves – self monitoring of staff in accordance with purpose- is more effective than the others that created by environment (Robbins ve Judge, 2012.

Attaining purposes, in other words, for defined purposes to be useful, feedback is required since by this way individuals can compare their performance with their purposes. To what extent the purposes have been attained? Feedbacks are needed to answer this question. It makes possible to attain purposes for members of organisation. Feedback is useful in two ways. First, it provides to individuals that to determine how they performed and it improves performance. Secondly, it makes possible to determine performance adjusments which requires improvement. For instance; a school carries out item analysis of an achievement test which was made obligatory by state and eliminates the faults occured (Lunenburg ve Ornstein, 2013). People do better when they got feedbacks about their progress on purposes. Since feedback provides analysis of differences between what they have done and what they want to do (Robbins ve Judge, 2012).

Course supervision, literally, means "supervision which is conducted during course process of teachers". Supervision means "Observing, analyzing and evaluating course activitiy of teachers who works as trainers in an educational institution" as to Taymaz (2002). Course supervision may be conducted to control or to guide. Course supervision carried out to guide aims to prevent possible deficiencies of teachers and improve training period, on the other hand, the other which is carried out to control aims to determine and to eliminate deficiencies of course supervision. School managers' role of supervision, which has been laid down in the Article 13 of Official Bulletin of Ministry of Natinal Education is: "To promote teachers to train in the fields relevant with their job and to take required measures to promote. To closely monitor, course activities and other activities of teachers." Taking teachers opinions on this supervision role, which was revitalized, of school managers may help to make up the deficiency of study in this field.

Purpose of this study is to determine the superior and inferior features of course supervisions carried out by educational inspectors and school managers in formal primary schools. It seeks answers to these questions:

1. What are inferior and superior features of supervisions carried out by educational inspectors according to school managers?
2. What are superior and inferior features of supervisions carried out by school managers according to school managers?

3. What are inferior and superior features of supervisions carried out by educational inspectors according to teachers?

4. What are superior and inferior features of supervisions carried out by school managers according to teachers?

5. Who must evaluate performances of teachers according to teachers and school managers?

METHODS

Research Model

Qualitative research model was employed in this study. This was thought to be favourable since the purpose is to probe a phenomenon in its own reality. Phenomenological method was adopted in this study. Phenomenological method is the central strategy of qualitative research (Mayring, 2000). The method focuses on phenomenons which is realized but there is no detailed and profound on it. (Yıldırım, Şimşek 2013).

Working group

The participants of this study were determined by purposive sampling and therefore maximum variation and criterion sampling methods. Purposive sampling makes situations, which is thougt to be information-rich, possible to probe (Büyüköztürk et al., 2012; Yıldırım and Şimşek, 2013). It was stipulated for participant school managers and also teachers that having minimum 5 years of experience and being supervised by educational inspectors. Thus it was considered that the degree of knowledge and awareness on research topic to be higher. Participants of this study were volunteers from four different districts of Konya province to provide diversity; 2 school managers from each districts and 5 teachers from each 2 disctricts, 6 teachers from each other 2 districts. Thus volunteers were consist of 8 primary school managers and 22 teachers working in Kadınhanı, Sarayönü, Selçuklu and Yunak districts of Konya. Details about participants were presented in Table 1.

Table 1: Personal details of school managers and teachers

		School Manager		Teacher	
Variables	**Subcategories**	**f**	**%**	**f**	**%**
Gender	Female	2	25,00	13	59,09
	Male	6	75,00	9	40,90
Education level	Bachelor	6	75,00	19	86,36
	Master	2	25,00	3	13,63
Length of service	6-10 years	2	25,00	8	36,36
	11-15 years	3	37,50	5	22,72
	16-20 years	2	25,00	7	31,81
	21 years or more	1	12,50	2	9,09

Acoording to Table 1, 25% of participants were females and 75% of them were males. %75 of school managers had bachelor degree and 25% of them had master degree. 25% of managers had 6-10 years, 37.50% of them had 11-15 years, 25% of them had 16-20 years and 12.50% of them had 21 years or more administrative experience and 25% of them, who had 6-10 years length of service, have minimum participating rate. 59.09% of participating teachers were females and 40.90% of them were males. %86.36 of teachers had bachelor degree and %13.63 of them had master degree. 36.36% of teachers had 6-10 years, 22.720% of them had 11-15 years, 31.18% of them had 16-20 years and 9.09% of them had 21 years or more teaching experience and 9.09% of them, who had 21 years or more length of service, had minimum participating rate.

Data collection tool

One of primary data collection tools in phenomenological researchs is interview (Yıldırım and Şimşek, 2013). Semi-structured interview questionnaire, which was developed by researchers, was used. Semi-structured interview technique provide self-expression to participants (Büyüköztürk et al. 2012). During preparation process of questionnaire; literature and legislation were reviewed, academicians, teachers and administrators who study in this field had interviewed and according to information, which was gathered from these ways, a question pool consisting of 6 questions were created. These questions broached to 2 school manager, 2 teacher and one academician and according to remarks of them necessary arrangements were done so an interview questionnaire consisting 5 questions were created with omitting one of the questions. Adequateness ensured by getting opinions of 2 school manager and 2 teachers out of working group and some conceptional arrangements were done so the questionnaire were finalized. Interviews were done by researcher himself. Questionnaire was examined by two different researchers, it was explained in detail that how this conclusion was reached and during interpreting process of data it was presented together with critical and comperative analyses.

Data analysis
Content analysis as qualitative data analysis technique was employed. Main activity conducted in this technique is: Setting and interpreting gathered similiar data pursuant to certain notions and themes for reader to comhrehend in a way which makes comphrehending easier (Yıldırım and Şimşek 2013; 259). For this purpose; permissions of teachers and school managers had received before the interview so their responses were recorded in written, when interview was done, records were read to them and their approval was received. To sensure confidentiality, participants were indicated as "SM" (for school manager) and "T" (for teacher) and each participant were numerated. Afterwards researcher conceptually coded with conducting content analysis to interview questionnaires and classified collected data pursuant to themes which were determined in accordance with literature, thus a content analysis which is proper in terms of qualitative research was tried to be conducted.

RESULTS
A- Opinions of school managers on course supervision carried out by educational inspectors
Considering Table 2, school managers expressed their opinions on superior features of course supervision carried out by educational inspectors by these means: 83.33% of them by "objectivity", 66.66% of them by "knowledge and transfering it" 66.66% of them by "sharing of good samples", 50% of them by "momentum and resilience in institution", 50% of them by "extrinsic supervision", 33.33% of them by "necessary", 33.33% of them by "career and merit", 33.33% of them by "external supervision", 33.33% of them by "analytical view", 16.66% of them by "improvement of administrators", 16.66% of them by "acquisition of teacher", 16.66% of them by "support to school manager", 16.66% of them by "being heeded". "objectivity", "knowledge and transfering it", "sharing of good samples" these were most specified views. This can be said about these three views that they are superior features of course supervision carried out by educational inspectors according to school managers.

Table 2: Opinions of school managers on course supervision carried out by educational inspectors

Theme	Definition	Codes	f	%
Superior	Superior features of course supervision carried out by educational inspectors	Objectivity	5	83,33
		Knowledge and transferring it	4	66,66
		Sharing of good samples	4	66,66
		Momentum and resilience in institution	3	50,00
		Extrinsic supervision	3	50,00
		Necessary	2	33,33
		Career and merit	2	33,33
		External supervision	2	33,33
		Analytical view	2	33,33
		Improvement of administrators	1	16,66
		Support to school manager	1	16,66
		Acquisition of teacher	1	16,66
		Being heeded	1	16,66
Inferior	Inferior features of course supervision carried out by educational inspectors	Being short-term	5	83,33
		Education of educational inspectors	2	33,33
		Personal attitudes of inspectors	2	33,33
		Fear and panic	2	33,33
		Immediate happenings	2	33,33
		Scorning	1	16,66
		Political views	1	16,66
		Momentary tendency of teachers to impress	1	16,66
		Prejudice	1	16,66

School managers expressed their opinions on inferior features of course supervision carried out by educational inspectors by these means: 83.33% of them by "being short-term", 33.33% of them by "education of educational inspectors", 33.33% of them by "personal attitudes of inspectors", 33.33% of them by "fear and panic", 33.33% of them by "immediate hapenings", 16.66% of them by "scorning", 16.66% of them by "political views", 16.66% of them by "momentary tendency of teachers to impress", 16.66% of them by "prejudice". This can be said that the most specified code "being short-term" is the most inferior feature of teacher supervision carried out by educational inspectors according to school managers. Some of the answers of participants in working group to the question of "What are superior features of supervisions carried out by educational inspectors?" are below:

"I think inspectors are in guiding, supporting position" (SM1). "Teacher sees what he don't before, gets himself up, after supervision carried by inspector" (SM3). "It prevents lethargy" (SM4). "Supervisions carried by inspectors are taken more seriously, readiness is cared much" (SM5).

Some of the answers of participants in working group to the question of "What are inferior features of supervisions carried out by educational inspectors?" are below:

"Teachers are believed to be supervised with the an hour of supervising" (SM2). "Teachers work well only before superivision carried out by inspectors and they may don't care the rest" (SM4). "Teachers may dread" (SM5).

B- Opinions of school managers on course supervision carried out by school managers

Considering Table 3, school managers expressed their opinions on superior features of course supervision carried out by school managers by these means: 87.5% of them by "continuity and closeness", 12.5% of them by "accelarating". "continuity and closeness" is the most specified superior feature of supervision carried out by school managers by school managers therefore we can say it's the most superior feature of this kind of supervision.

Table 3: Opinions of school managers on course supervision carried out by school managers

Theme	Definition	Codes	f	%
Superiority	Superior features of course supervision carried out by school managers	Continuity and closeness	7	87,50
		Accelarating	1	12,50
Inferiority	Inferior features of course supervision carried out by school managers	Inadequate knowledge and experience	4	50,00
		Personal relations	4	50,00
		Subjectivity	4	50,00
		Suppressing teachers	2	25,00
		Not suitable	1	12,50
		Lack of boards of appeal	1	12,50
		Ignoring manager	1	12,50
		Being in same status	1	12,50
		Discrimination	1	12,50

School managers expressed their opinions on inferior features of course supervision carried out by school managers by these means: 50.00% of them by "inadequate knowledge and experience", 50.00% of them by "personal relations", 50.00% of them by "subjectivity", 25.00% of them by "suppressing teachers", 12.50% of them by "lack of boards of appeal authority", 12.50% of them by "ingoring manager", 12.50% of them by "being in same status", 12.50% of them by "dicrimination". These are the most specified codes; "inadequate knowledge and experience", "personal relations" and "subjectivity". Therefore, this can be said that the "most inferior" features of supervision carried out by school managers according to school managers are "inadequate knowledge and experience", "personal relations" and "subjectivity. Some of the answers of participant school managers in working group to the question of "What are superior features of supervisions carried out by school managers?" are below:

"School managers collaborate longtime with teachers, therefore, they may evaluate better and objectively" (SM1). "If school manager supervise teachers, they keep their knowledge up to date perpetually" (SM2). "School manager immediately determines success and failure so he takes required precautions" (SM3).

Some of the answers of participant school managers in working group to the question of "What are inferior features of supervisions carried out by school managers?" are below:

"I don't think that school managers have adequate knowledge and experience on supervision" (SM3). "Perpetually collaborating may cause tolerance in evaluations" (SM4). "The most important problem is subjectivity of school managers. Even being member of union may cause problems" (SM5).

C- Opinions of teachers on course supervision carried out by educational inspectors

Considering Table 4, teachers expressed their opinions on superior features of course supervision carried out by educational inspectors by these means: 50% of them by "objectivity", 50% of them by "knowledge and transfering it", 4.54% of them by "necessary", 4.54% of them by "career and merit", 4.54% of them by "momentum and resilience", 4.54% of them by "support to school manager", 4.54% of them by "motivation". This can be said that the most superior feature of supervision carried out by ecuational inspectors according to teachers is "objectivity". Teachers expressed their opinions on inferior features of course supervision carried out by educational inspectors by these means: 100% of them by "being short-term", 18.18% of them by "being suppressed and panic", 9.09% of them by "scorning", 9.09% of them by "having different branches", 4.54% of them by "personal attitudes of inspectors", 4.54% of them by "inadequate self-improvement", 4.54% of them by "being nonstandard", 4.54% of them by "being rebuker". This can be said that the the most inferior feature of supervision carried out by ecuational inspectors according to teachers is "being short-term".

Some of the answers of participant teachers in working group to the question of "What are superior features of supervisions carried out by educational inspectors?" are below:

"It's a positive situation for teachers with regard to having required documents and contemporary knowledge" (T11). "Inspectors are informed of course field so they can eliminate deficiencies" (T15). "Evaluating in comfority with objective criteria" (T17). "They don't know teachers whom they supervise" (T15). "School administration and teachers are influence positively due to the fact that inspectors may supervise at any time" (T19)

Table 4: Opinions of teachers on course supervision carried out by educational inspectors

Theme	Definition	Codes	F	%
Superiority	Superior features of course supervision carried out by educational inspectors	Objectivity	11	50,00
		Knowledge and transfering it	2	9,09
		Necessary	1	4,54
		Career and merit	1	4,54
		Momentum and resilience	1	4,54
		Support to school manager	1	4,54
		Motivation	1	4,54
Inferiority	Inferior features of course supervision carried out by educational inspectors	Being short-term	22	100,00
		Suppressing and panic	4	18,18
		Scorning	2	9,09
		Subjectivity	2	9,09
		Having different branches	2	9,09
		Personal attitudes of inspectors	1	4,54
			1	4,54
		Inadequate selfimprovement	1	4,54
		Being nonstandard	1	4,54
		Being rebuker		

Some of the answers of participant teachers in working group to the question of "What are inferior features of supervisions carried out by educational inspectors?" are below:

"I occasionally witnessed that reaching an exact conclude about a class in one or two course periods is not a proper way of evaluating" (T11). "This may be regarded as negative that there is someone who tends to use subjective judgements, ideas and attitudes as evaluating tools." (T14). "It may not be possible to show their abilities in just 40 minutes for teachers. They may not be in the same mood during courses" (T15). "Negotiating with school managers before courses may make inspectors prejudiced" (T19).

D- Opinions of teachers on course supervision carried out by school managers

Considering Table 5, teachers expressed their opinions on superior features of course supervision carried out by educational inspectors by these means: 59.37% of them by "continuity", 12.05% of them by "comprehensive and effective", 9.37% of them by "interaction", 6.25% of them by "knowing well", 3.12% of them by "efficiency", 3.12% of them by "accelarating". This can be said that the most superior feature of supervision carried out by school managers according to teachers is "continuity". Teachers expressed their opinions on inferior features of

course supervision carried out by school managers by these means: 50% of them by "subjectivity", 46.87% of them by "having different branches", 37.50% of them by "inadequate knowledge and experience", 37.50% of them by "personal relations", 31.25% of them by "suppressing teacher", 25% of them by "political views". This can be said that inferior features of supervision carried out by school managers are "subjectivity", "having different branches", "inadequate knowledge and experience" and "personal relations".

Some of the answers of participant teachers in working group to the question of "What are superior features of supervisions carried out by school managers?" are below:

"School manager is able to recognize and analyze students and parents" (T8). "...it will minimise negations that supervisions carried out by one of our colleagues who we meet and talk everyday" (T11). "They may find opportunity to evaluate a whole year not a short period" (T12). "School managers knows better positive and negative characteristics of teachers" (T13). "They have a better knowledge about teachers than inspectors. They know school better. They may use opportunities and conditions better than them" (T6).

Table 5: Opinions of teachers on course supervision carried out by school managers

Theme	Definitions	Codes	F	%
Superiority	Superior features of course supervision carried out by school managers	Continuity	17	59,37
		Comprehensive and effective	4	12,5
		Interaction	3	9,37
		Knowing well	2	6,25
		Efficiency	1	3,12
		Accelarating	1	3,12
Inferiority	Inferior features of course supervision carried out by school managers	Subjectivity	13	50,00
		Having different branches	10	46,87
		Inadequate knowledge and experience	9	37,50
		Personal relations	9	37,50
		Suppressing teacher	7	31,25
		Political view	4	25,00
		Pressure and panic	2	6,25

Some of the answers of participant teachers in working group to the question of "What are inferior features of supervisions carried out by school managers?" are below:

"Some of the managers are demand too much things from teachers despite being inadequate" (T9). "Teachers may not freely communicate with students if course supervision is carried out perpetually" (T15). "It may be difficult to be objective for school managers who has personal issues with teachers" (T16) "I dont think that school managers have adequate knowledge and skills to supervise teachers" (T5).

E- Opinions of teachers and school managers on who or what should participate in evaluation process of teachers

Table 6: Opinions of teachers and school managers on participants of teacher supervision process

School manager	f	%	Teacher	f	%
School manager	6	75,00	School manager	9	40,90
Inspectors	6	75,00	Student	5	22,72
Parents	5	62,50	No need for supervision	5	22,72
Students	4	50,00	Branch teachers	5	22,72
Teachers	2	25,00	Parents	5	22,72
Branch teachers	1	12,50	Inspectors	4	18,18
			Teachers	3	13,63
			Self-evaluation	2	9,09
			Faculty members	2	9,09
			Depuy manager	1	4,54
			Success of students	1	4,54
			Electronic systems	1	4,54
			Team of experts	1	4,54

Considering Table 5, school managers expressed their opinions on who or what should participate in evaluation process of teachers by these means: 75% of them by "school manager", 75% of them by "inspectors", 62.50% of them by "students", 25% of them by "teachers", 12.50% of them by "branch teachers". This can be said that according to school managers course supervisions are respectively more favourable when they are carried out by inspectors, parents and students.

Teachers expressed their opinions on who or what should participate in evaluation process of teachers by these means: 40.90% of them by "school manager", 22.72% of them by "student", 22.72% of them "no need for supervision", 22.72% of them by "branch teachers", 22.72% of them by "parents", 18.18% of them by "inspectors", 13.63% of them by "teachers", 9.09% of them by "self-evaluation", 9.09% of them by "faculty members", 4.54% of them by "deputy manager", 4.54% of them by "success of students", 4.54% of them by "electronic systems", 4.54% of them by "team of experts". This can be said that teachers specified mostly that supervisions carried out by school managers.

CONCLUSION - DISCUSSION AND SUGGESTIONS

The purpose of this study was to determine superior and inferior features of supervisions carried out by school managers and educational inspectors according to school managers and teachers. Conclusions are:

1. School managers expressed their opinions on superior features of course supervision carried out by educational inspectors mostly with "objectivity", "knowledge and transferring it" and "sharing of good samples". Also participant teachers agree with that "objectivity" is the superior feature of supervisions carried out by educational inspectors. Therefore this can be said that according to teachers and school managers superior feature of supervisions carried out by educational inspectors is "objectivity". This can be regarded as main reason of the situation that appointment and training of educational inspectors and they can evaluate teachers more distantly and extrinsically than school managers do.

2. "being short-term" is the most inferior feature of course supervisions carried out by educational inspectors according to teachers and school managers. All of the teachers agree with this opinion while a great majority of school managers who are one of the two participants, agree. This conclusion is supported by results of researchs conducted by Akbaba (1997), Can ve Gündüz (2016), Yeşil ve Kış (2015). "being short-term" is common opinion of school managers and teachers on inferior feature of course supervision carried out by educational inspectors just as "objectivity" were on superior features of course supervision carried out by educational inspectors. Reorganizing short-term course supervisions which was defined as an inferior feature by school managers and teachers who have the most strategic position and value in education process, to make them adequate according to teachers and school managers may make a significant and effective contribution to education and schools in their process of attaining purposes.

3. According to results of the research, superior feature of course supervisions carried out by school managers is "continuity and closeness". Teachers also want course supervision to be carried out by school managers. Each of two participants have this common opinion. This conclusion is supported with results of the researchs conducted by Başol and Kaya (2009) and Altun B. (2004). Making legislative regulations relavant with "inadequate knowledge and experience", "personal relations", "subjectivity", "having different branches" fields which are expressed as inferior features of course supervision carried out by school managers by teachers may make this kind of supervision an effective way of attaining purposes of education.

4. School managers and teachers expressed their opinions on inferior features of course supervision carried out by school managers mostly with "objectivity", "inadequate knowledge and experience", "personal relations" and "subjectivity". Variability of appointment criteria of school managers and abolishing of factors which are providing objectivity and depending on such cases school managers are believed to be subjective, all or each of these three cases may be the reason for that inferior features. Teachers also express "having different branches" as an inferior feature. Main reason of this case may be that school managers are believed to be expert of only their branches and inadequate to supervise other branhces and with this teachers may be influenced negatively. Such precautions for preventing these inferior features to occur may be taken that determining appointment criteria of school managers and implementing them clearly, establishing a board of appeal for problems may arise during evaluations, creating opportunities for school administration and teachers to be trained in educational administration and supervision fields.

5. According to school managers course supervisions are respectively more favourable when they are carried out by inspectors, parents and students.

6. According to teachers course supervisions are respectively more favourable when they are carried out by school managers, students, branch teachers, parents and inspectors.

7. 22% of the participant teachers expressed that there is no need for supervision. This result complies with conclusions of Fırıncıoğlulları Bige, E. (2014), Topçu ve Aslan (2009). This result which determined through several researches may be evaluated by considering in new arrangements.

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CURRENT TRENDS IN SOCIAL MEDIA RESEARCH IN HIGHER EDUCATION: AN ANALYSIS OF MASTER THESES AND PH.D. DISSERTATIONS IN TURKEY

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ABSTRACT

This article provides the general profile of Master theses and Ph.D. dissertations focusing on Social Media in the Major Field of Communication Sciences in Turkey. In the scope of this study, all Master theses and Ph.D. dissertations that have been allowed to access in Council of Higher Education National Theses Center Database have been scanned with the key word "social media" under the major field of Communication Studies. Subsequently, 77 Master theses and 22 doctoral dissertations have been included into the study. For the purposes of the study, the authors chose to use content analysis to study empirical documentation. Within this context, each thesis and dissertation was categorized in terms of year of approval, authorship, institution affiliation, research topics, social media type, research design, sampling methods, data collection and data analysis methods.

INTRODUCTION

The recent explosion in the use of social media has drastically changed the different aspects of individuals' lives such as; interpersonal relations, psychological well-being, political participation, civic engagement, consuming behavior and so on. This transformation has inspired various scholars from different fields of studies and given rise to research interest concerning impacts, challenges and applications of social media (Kümpel et. al., 2015, p.1). Scholars have also endeavored to explain the term and have developed new theoretical perspectives and methodological approaches in relation to the topic (Khang et. al., 2012, p. 280). As a result of this accumulation in the social media research, a rich and comprehensive social media literature is available. However, the dynamic structure of the topic requires further studies to reveal uncovered issues and changes in relation to social media.

Development and design of new social media research is partly possible through grasping the existing research discussing the theories and field studies of social media. For this purpose, a number of reviews on existing research have been conducted in different countries.

Khang et. al. (2012) examined 436 peer-reviewed articles that investigated the topic of social media in seventeen journals in four disciplines (Advertising, Communication, Marketing and Public Relations) during the fourteen-year period of 1997–2010. Their study demonstrated that social media usage and attitudes towards social media is the most frequent (67.7%) research topic across the disciplines. Additionally, their study uncovered that the most frequently researched social media type was computer mediated group communication, online community/virtual group (34.2%), and quantitative methods (58.5%) were dominant across the disciplines.

Smiliarly, Robson (2013), conducted a content analysis research aiming to underline the gaps in social media research in Public Relations. Robson (2013) claims that most of the current studies focused on social media and the users of the media from the perspectives of practitioners. As Kümplel et. al. (2015) also implied in their later study, Robson (2013) underlines that most of the reviewed studies are geographically restricted. Another significant finding of the study is that there exists lack of theoretical applications based on scientific research. Finally, he argues that case studies and organizational ethnographies are inadequate in existing literature.
Wetzstein et. al. (2014) in the same vein investigated the articles analyzing the relation between social media and crisis communication. In the scope of their research 66 paper were reviewed in terms of topic, theory, geographical location and methodology. Findings of this research revealed that the use and emergence of social media in crisis communication has the largest proportion among the articles. Additionally, large number of research results are

coming from empirical research, and quantitative content analysis was most frequently used approach in the articles that are reviewed.

Another recent study addressing to social media research was conducted by Ngai and et. al. (2015). The scholars consolidated and analyzed a total of 46 articles on social media research including empirical studies spanning from 2002 to 2011. The study underlined that personal behavior theories, social behavior theories and mass communication theories were chosen to design the research in the articles. According to this study, organization orientation, social power, cultural differences, and impacts of social media, have not received sufficient research attention

In addition to these studies, Kümpel et. al. (2015), reviewed 461 scientific, peer-reviewed articles that examine the relationship between news sharing and social media in the period from 2004 to 2014. They found that the topic gained interest in 2010, and most of the studies' (%51) first authors are affiliated in US universities. Moreover, they revealed that majority of the articles are empirical and quantitative and diffusion of information and innovation is the most common theoretical approach among the studies. Another significant finding of the study is that social media output is mostly the primary object investigated in these articles.

In Turkish existing literature, it is noticed that just one review covering social media related research is available. This single research was conducted by Aydoğan (2005). In her study, she examined master theses and Ph. D. dissertations on new communication technologies approved between the years 1987 and 2003. Although her research is not directly related to social media, it gives some important clues about current research on social media. Consequently, more research is needed in Turkish social media literature to understand the current trends in Turkish social media research and to prevent accumulation of similar studies. This need is also crucial to shed light on distinctive features of Turkish social media research and to guide further researchers.

In Turkey, it is known that most of the scientific information is provided by higher education institutions. One of the responsibilities of these institutions is conducting scientific research to contribute social welfare and scientific development (as cited in Bakır, 2013, p. 1). Therefore, master theses and dissertations, which are vital for Turkish higher education system, are valuable information providers to delineate a retrospective path of social media research since they have a crucial function of creating, distributing and disseminating scientific information (Bozkurt et. al., 2015).

On this basis, this paper aims to provide a current profile of Turkish master theses and dissertations covering social media issues in the major field of Communication Sciences between the years 2010-2015. Toward this purpose the study is going to answer the following questions;

RQ1. What are the frequency and proportion of social media research in Turkish master theses and Ph.D. dissertations in the major field of Communication Sciences?
RQ2. What is the topical, theoretical and methodological status of social media research in Turkish master theses and Ph.D. dissertations in the major field of Communication Sciences?

THE STUDY

Method

Research Design

For the purposes of the study, content analysis was chosen to study empirical documentation. An inclusive definition of content analysis is offered by Holsti (1969) as, "any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (as cited in Stemler, 2001, p. 1). In other words, content analysis is conducted with the aim of grouping similar cases or data according to certain concepts and themes and then to organize and interpret the data systematically. Moreover, content analysis is widely preferrable for examining trends and patterns in documents (Stemler, 2001, p. 2.)

After an intensive literature review, in this research, Khang's and his friends (2013) framework was largely adopted to set categories and codes which were used in the content analysis of the theses and dissertations. Since the scope of Khang's study includes social media research in four disciplines; advertising, communication, marketing and public

relations, it covers all major fields of Communication Sciences in Turkish higher education institutions. Thus, Khang's and his friends (2013) framework fits the purposes of this study.

According to the chosen framework, in this study all master theses and dissertations were analyzed and coded based on the following; general information (publication year, authorship, institution affiliation), content of the theses and dissertations (research topics, social media type,), research tools employed (research methods, sampling methods, data collection and data analyses methods). Subsequently, frequencies and percentages are provided as a descriptive analysis.

Sample

In the scope of this study, all master theses and Ph.D. dissertations on social media that have been allowed to access in Council of Higher Education National Theses Center Database were reviewed for the years between 2010 and 2015. The timeframe for this study is limited to the years between 2010 and 2015 because it was noticed that social media research in Turkish Higher Education context accelerated during this period. Subsequently, 77 master theses and 22 Ph.D. dissertations have been included into the study. In the database, the key words "social media", "social network sites", "web 2.0", "sns", "social web", "online communities", "online platforms", and name of the popular social media sites e.g. "Facebook, twitter, Pinterest" were scanned in topic filter. These key words are predetermined on the basis of the social media definition "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and allow the creation and exchange of user generated content" (Kaplan and Haenlein, 2010, p. 61). Then, the researchers manually reviewed titles and abstracts of the theses and dissertations, and totally 77 theses and 22 dissertations were included in the final sample.

FINDINGS

This part of the study presents descriptive analysis of the categories in terms of frequencies and percentages.

Higher Education Instıtutions

In Table 1 distribution of theses and dissertations are seen according to institution affiliation. The research was carried out in the limitations of social media context and its components. In this scope, among 99 master theses and doctoral dissertations in total, Marmara University has the highest number (22) of theses and dissertations. 8 theses and dissertations are Anadolu University affiliated and 7 theses and dissertations are Kadir Has University affiliated. By considering the numbers, it may be assumed that Marmara University, Anadolu University and Kadir Has University are the top 3 universities conducting social media related theses and dissertations in Turkey. On the other hand, the number of post graduate students of major field of Communication Sciences may be higher in these institutions.

Table 1. Frequencies of theses and dissertations per institution

Institutions	f	%
Marmara University	**22**	**17,29**
Anadolu University	8	6,37
Kadir Has University	7	6,37
Ankara University	7	6,37
Bilgi University	5	4,95
İstanbul Ticaret University	4	3,64
Selçuk University	4	3,64
Gazi University	3	2,73
Ege University	3	2,73
İstanbul Kültür University	3	2,73
İstanbul University	3	2,73
Doğuş University	2	1,82
Başkent University	2	1,82

Fırat	2	1,82
Beykent	2	1,82
Maltepe	2	1,82
Yaşar	2	1,82
Süleyman Demirel	2	1,82
Akdeniz	2	1,82
Kocaeli	2	1,98
Galatasaray	1	0,99
Hacettepe	1	0,99
Atatürk	1	0,99
Koç	1	0,99
Bahçeşehir	1	0,99
İstanbul Teknik	1	0,99
Karadeniz Teknik	1	0,99
Erciyes	1	0,99
Boğaziçi	1	0,99
Sakarya	1	0,99
Ufuk	1	0,99
Yeditepe	1	0,99
Total	**99**	**100,0**

Year of Approval

In Figure 1 the number of theses and dissertations on social media related topics for the years between 2010 and 2015 is illustrated. The finding revealed that the largest proportion (24) of the social media related theses and dissertations are approved in 2012. It is seen that there is a homogeneous distribution of number of the theses and dissertations per year except 2012. To grasp the underlying reason of this exceptional situation, an in depth research is necessary in terms of social media issues in Turkey.

Figure 1. Frequencies of theses and dissertations per year

Research Topics

Social media is a multi-dimensional research area which indicates variety in terms of its function. In this paper, the classification of social media topics developed by Khang et. al. (2013) was taken as a reference and used to identify social media research topics in Turkish theses and dissertations. Subsequently, theses and dissertations were analyzed in 7 categories; "social media usage, perception, attitude towards social media", "impacts of social media", "political communication", "social media advertising issues", "social and political issues", "personal issues", "cultural issues". The categories "social and political issues", "personal issues" and "cultural issues" were classified into sub-categories to provide an in-depth profile of the research topics. In a detailed investigation it is observed that multiple topics were studied in some theses or dissertations. In such situations each topic was coded to the code book separately. Similar to previous research results by Khang et. al. (2013), findings of this study revealed that "social media usage, perception, attitude towards social media" is the most frequent social media research topic studied in theses and dissertations from 2010 to 2015.

Table 2. Frequency of social media topics studied in Turkish theses and dissertations from 2010 to 2015

Topics	f	%
Social media usage, perception, attitude towards social media	**33**	**26,4**
Impacts of social media	**12**	**9,6**
Social and political issues (digital activism)	10	8
Political communication	3	2,4
Social media advertising and PR issues	10	8
Social and political issues (democracy)	6	4,8
Social and political issues (virtual social communication)	12	9,6
Personal issues (self-presentation)	5	4
Personal issues (identity)	5	4
Social and political issues (hate speech)	3	2,4
Personal issues (privacy)	4	3,2
Social and political issues (fanaticism)	1	0,8
Social and political issues (anonymity)	1	0,8
Social and political issues (masculinity discourse)	1	0,8
Social and political issues (public space)	3	2,4
Cultural issues (historical heritage)	1	0,8
Cultural issues (cyber culture)	2	1,6
Social and political issues (social capital)	1	0,8
Social and political issues (violence)	1	0,8
Social and political issues (education)	1	0,8
Social and political issues (gender)	1	0,8
Cultural issues (alienation)	1	0,8
Personal issues (isolation)	2	1,6
Cultural issues (short movies)	1	0,8
Cultural issues (music)	1	0,8
Cultural issues (consumption culture)	1	0,8
Social and political issues (legal regulations)	1	0,8
Social and political issues (ideology)	1	0,8
Personal issues (self-disclosure)	1	0,8
Total	**125**	100

Social Media Types

Table 3 indicates the frequency of social media types studied in Turkish theses and dissertations from 2010 to 2015. As indicated in Table 3 the majority of the research (%51) preferred to study on Facebook as a social media type. Twitter is the second most frequent social media type (%12) which is focused among these studies. On the other hand, online communities, MMORG and multi-player online games are noticed as alternative social media types which are getting popular.

Table 3. Frequency of social media types studied in Turkish theses and dissertations from 2010 to 2015

Social Media Types	f	%
Facebook	32	51,61
Twitter	12	19,35
Online communities, MMORG and multi-player online games	8	12,90
Blog	3	4,84
Instagram	1	1,61
Foursquare	1	1,61
Facebook Place	1	1,61
Tumblr	1	1,61
YouTube	1	1,61
Forum, bulletin board system	2	3,22
Total	**62**	**100,0**

*one study may focus on more than one social media type

Research Design

Theses and dissertations were analyzed and categorized according to quantitative, qualitative, or mixed research designs for each year. As it is shown in Table 4 qualitative research is the most frequent method used in the theses and dissertations. It may be assumed that for social media research qualitative methods are more functional and efficient to reach in depth findings. It is seen that there is a tendency to apply mixed methods for more in depth research on social media.

Table 4. Use of research designs per year in theses and dissertations

Year	Qualitative	Quantitative	Mixed
2015	7	5	2
2014	9	4	0
2013	14	5	4
2012	12	8	5
2011	6	7	1
2010	8	2	3
Total	**56**	**31**	**12**

As it is illustrated in Table 5, in majority of the theses and dissertations that applied qualitative design, descriptive analysis is preferred most frequently (%43). Content analysis (%21) and discourse analysis (7,69) are following descriptive analysis.

Table 5. Frequencies of qualitative analysis used in theses and dissertations from 2010 to 2015

Qualitative	f	%
Descriptive analysis	**43**	**55,13**
Content analysis	21	26,92
Discourse analysis	6	7,69
Netnography	3	3,85
Case study	3	3,85
Semiotics	1	1,28
Data mining	1	1,28
Total	**78**	**100,0**

*one study may apply more than one analysis

In Table 6 frequency of quantitative tests and analysis are given. According to the findings descriptive analysis is the most frequent analysis (%50) that is preferred in the studies.

Table 6. Frequencies of quantitative tests and analysis used in theses and dissertations from 2010 to 2015

Quantitative	f	%
Descriptive Statistics	**87**	**50**
t-test	14	8,05
Factor analysis	13	7,47
Variance analysis (ANOVA, MANOVA, MANCOVA)	9	5,17
Mann Whitney U	9	5,17
Chi-square	8	4,60
Variability (standard deviation rate)	7	4,02
Correlation	7	4,02
Kruskal Wallis Test	7	4,02
Regression Analysis	4	2,30
Post Hoc	3	1,72
KMO test	2	1,15
Wilcoxon test	2	1,15
Barlett's test	1	0,57
Gini Coefficient	1	0,57
Total	**174**	**100,0**

*one study may apply more than one analysis

Sampling

In Table 7 frequencies of sampling methods are given. Researchers identified that in some of the theses and dissertations sampling method was not given. In such cases researchers examine whole body of the theses or dissertation and grasped the sampling method. Then, they coded on the code book. Additionally, in some of the theses and dissertations no universe or sample was given. It is noticed as a problematic point in the theses and dissertations. According to the research findings purposive sampling (%71) is most frequently preferred sampling method.

Table 7. Frequencies of sampling methods used in theses and dissertations from 2010 to 2015

Sampling	f	%
Purposive sampling	**41**	**71,93**
Random sampling	7	12,28
Snowball sampling	4	7,02
Stratified sampling	3	5,26
Quota sampling	2	3,51
Total	**57**	**100,00**

Data Collection

As it is seen in Table 8 the most frequent data collection method that is applied in the theses and dissertations is questionnaire (28,93). Interview (%20,66) and documents (%10,74) are following in order.

Table 8. Frequencies of data collection methods used in theses and dissertations from 2010 to 2015

Data collection methods	f	%
Questionnaire	35	28,93
Electronic documents (profile page, web page, social media content)	30	24,79
Interview	25	20,66
Documents	13	10,74
Observation	10	8.27
Scale	6	4,96
Photograph	2	1,65
Total	**121**	**100,0**

*one study may use more than one data collection tool

CONCLUSIONS

This study was carried out to identify research trends in social media in the major field of Communication Sciences in Turkish higher education institutions. In the scope of this study 99 master theses and doctoral dissertations in total are reviewed which were conducted between the years 2010 and 2015. Included sample were analyzed in terms of year of approval, authorship, institution affiliation, research topics, social media type, research design, research model, sampling methods, data collection and data analysis methods.

The findings of the study revealed that Marmara University is holding the largest proportion of the social media research related theses and dissertations. Although social media research topic is a dynamic and wide in scope topic, it is noticed that there is an accumulation on social media use, attitude and perception topic. Moreover, Facebook is the dominant social media type that is studied in this research area. Another important finding of the study demonstrated that qualitative research design is the most frequent research method that is applied in the theses and dissertations. It is assumed that qualitative research provides more in depth information in social media context.

Besides, descriptive analysis is the most preferred analysis technique both in qualitative and quantitative research design. Finally, purposive sampling and questionnaires are dominant among the theses and doctoral dissertations analyzed in the scope of this research.

On the other hand, some important points which should be improved are identified in the scope of this study. In most of the master theses many spelling and formatting mistakes are noticed. Furthermore, there is lack of research methodology, reliability test, and research questions in several theses and dissertations.

All in all, this study provides a general profile of social media research in Turkish theses and dissertations conducted from 2010 to 2015. It is revealed that there is an accumulation on similar topics although the research area is multilayered and very rich in context. Nearly all of the studies search on social media users; however, very few theses and dissertations approach the topic by considering the social media practitioners. Thus, there is a lacuna in this research topic. Finally, it is suggested to employ variety of research models to enrich research results to be able to examine research phenomena from different perspectives.

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CYNICISM IN ORGANIZATIONS AND PERSONAL STRESS PERCEPTION: A CORRELATIONAL SCREENING RESEARCH

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ABSTRACT

Nowadays, success appears as one of the quite poplar and ubiquitously looked for fundamental personal characteristics. In general, success is accepted as progress towards a desired result. Success motive is one of the essential causes that enables individuals pursue their objectives. It is observed that individuals with success desire and with need to satisfy this desire are easier to steer towards organizational purposes. In contrary to success, organizational cynicism term that expresses a negative attitude. In short, organizational cynicism term is defined as the negative attitude of individuals towards the organization and belief of individuals reflecting that the organization that the individuals work is far away from honesty. Organizational cynicism arises when individuals' fundamental expectations such as sincerity, justice, and honesty are not met. In this context, organizational cynicism is interpreted as a reaction from workers against organizational policies and applications. The main purpose of this research is revealing the relationship and the level of relationship between two fundamental terms that are organizational cynicism and personal success, and in this sense, bringing a point of view in the name of effectiveness to organizations. A qualitative way is followed and descriptive correlational screening model is used in this study. The universe of research consists only Uskudar district of Istanbul city. The working group of the research consist of middle schools in Yavuz Turk neighborhood in Uskudar district. Data that are obtained in this research are analyzed using R version 3.3.0 and SPSS version 21.00 programs and findings that are obtained are interpreted in a tabular form. Based on the data revealed as a result of this research, there is a significant but small negative relationship between personal success and organizational cynicism.
KEYWORDS: organization, cynicism, teacher, personal success.

INTRODUCTION

The fundamental logic of organization constitution is achieving pre-determined organizational purpose or purposes effectively. Increasing organizational effectiveness and achieving success are linked to many factors. Organization's management style, financial power, environment, and quality of participants are just among those many factors. One important propelling factor in a successful organization is quality of personnel. The continuity of the organization and achieving organizational goals are positively affected by the quality of the human resource of the organization. In this context, the success of the organization is in fact linked to the success of the individual. Personal success is defined as "depending on individual's ability and growth, the positive product of momentarily or actual actions" by Turkish Language Institution. When various success definitions are analyzed generally, the shared emphasis on progress towards desired result is observed. In the light of the definitions, in fact, success instinct is observed as an important effect creating compass that focuses individuals on purpose or purposes and defines individual's behaviors. Therefore, personal success is supposed to be a shared facet that is looked for in every personnel. Because, the success instinct is the main reason that makes individuals follow their purposes. Individuals, who want to be successful and want to satisfy success need, are easily directed towards organizational purposes (Kaya &Selçuk, 2007).

Another term that becomes prominent recently is organizational cynicism. The cynicism term takes its root around 500 B. C. from Ancient Greekphilosophical thought "cynic" word (Mantere&Martinsuo, 2001; Metzger, 2004). According to cynic philosophy, individuals reject every beliefs and norms that are determined by other people and live only based on natural norms. Hence, they are defined as cynic. Therefore, individuals who live by cynic philosophy are observed as problematic individuals because they do not follow social norms. Organizational cynicism term is defined by many people but the common ground of those definitions is the negative attitude of behaviors of the personnel towards the organization. The first research on organizational cynicism is conducted by Kanter and Mirvis in 1990s (James, 2005). Organizational cynicism is an existing situation in organizations, some organizations experience it rarely, and some other organizations experience it

quite frequently. In the same time, frequent organizational cynicism behaviors is an indicator of negativeness for the organization.

The main purpose of this research is revealing the relationship, significance, and direction of the relationship between two fundamental terms that are organizational cynicism and personal success.

METHODS

In the research among the quantitative research methods, relational descriptive survey model was used. The relational descriptive survey model is a research model describing a situation or an occured event as it is and indicating the relationship between the variables that cause this situation, their effect and degree (Kaya, Balay ve Göçen,2012). The research population constitutes Uskudar district of Istanbul province. The research of constitute the work group of secondary schools in the Üsküdar Yavuztürk neighborhood. According to demographic variables the distribution of participants who participated in this research is shown in table 1.

Table 1. Information on the sample of the research

	N	%
Gender		
Female	173	47,5
Male	191	52,5
Professional Seniority		
3 years and less	107	29,4
4-7 years	140	38,5
8-12 years	81	22,3
13 years and older	36	9,9
Age		
25 and less	53	14,6
25-36	239	65,7
36-45	72	19,8
Years Of Service In The School		
2 years and less	138	37,9
3-6 years	149	40,9
7-10 years	47	12,9
10 years and older	30	8,2
Branch		
Verbal Section	184	50,5
Numerical Section	180	49,5
Total	364	100,0

As an inventory of data collection, for organizational cynicism variable "Scale of Organizational Cynicism (OSO)" developed by Kalağan (2009) which has 3 extent and 12 subjects, for personal success "Scale of Personal Success (KBO) " developed by Erdoğan (2009) which has 4 extent and 14 subjects were used in the research. For the analysis of obtained data, R 3.2.4 (R Core Team, 2016) and SPSS 21,00 packaged softwares were used. The method of confirmatory factor analysis (CFA reference) *"cfa"* function which is defined in *"lavaan"* library version of 0.5-20 was used in the analysis of construct validity of the inventories (Rosseel, 2012). The suitability of the model to the data was determined by the analysis of compatibility values of Chi-square (Hu and Bentier, 1999), Comparative Fit Index (CFI) (Byrne, 1998; Kline, 2011), Tucker Lewis Index (TLI) and Root Mean Square of Approximation (RMSEA) (Byrne, 1998). Cronbach Alpha values were calculated for the calculation of reliability. Coefficient of pearson correlation was calculated and tabulated for the relation between variables.

RESULTS

The result of the fit index that is made regarding the validity of the research model related to the two variables "Organizational Cynicism " and "Personal Success " which are required to be determined in the research is given in table 2.

Table 2. The fit index results of the measurement model

Minimum Function Test Statistic	1521.108
Degrees of freedom	303
P-value (Chi-square)	.001

Comparative Fit Index (CFI)	.871
Tucker-Lewis Index (TLI)	.851
RMSEA	.058

According to the results shown in table 2, for the compatibility of the research model created for the variables we want to measure, the value of P-value (Chi-square) being .001 indicates that our model gave us a more significant result than zero. In addition to this, the value of Comparative Fit Index (CFI) come out to be .871 and the value of Tucker-Lewis Index (TLI) come out to be .851 and this states that both of the values show us a good fit as they are over .85. According to Hu and Bentler (1999), the more CFI and TFI values get .85 and higher the more it represents that the research is modelled so well. In addition to this, the value of RMSEA being .058 is also an indicator of the fit. According to Browne and Cudeck (199),if the value of RMSEA is .050 and lower, it represents that the fit increases. According to the statistics results that is made, it can be said that the research indicates a good fit.

The data obtained by making Confirmatory Factor Analysis (CFA) for the organizational cynicism and the personal success and the clauses which are the inventories used in the research is represented in table 3.

Table 3. The factor loads of the inventorys

Dimensions		λ
	Cognitive $(\rho = .907)$	
	OSO1	0,857
	OSO2	0,901
	OSO3	0,824
	OSO4	0,660
	OSO5	0,812
	Emotional $(\rho = .925)$	
	OSO6	0,859
Organizational Cynicism (OSO)	OSO7	0,923
	OSO8	0,840
	OSO9	0,851
	Behavioral $(\rho = .820)$	
	OSO10	0,786
	OSO11	0,825
	OSO12	0,705
	OSO13	0,593
	Be Ambitious And Achievement $(\rho = .720)$	
	KBO1	0,752
	KBO6	0,607
	KBO10	0,748
	KBO13	0,364
	Superiority and be Different $(\rho = .828)$	
	KBO2	0,821
Personal Success (KBO)	KBO5	0,662
	KBO8	0,765
	KBO11	0,701
	Focus $(\rho = .709)$	
	KBO4	0,656
	KBO9	0,692
	KBO14	0,631
	Take Personal Responsibility $(\rho = .747)$	
	KBO3	0,799
	KBO7	0,750
	KBO12	0,551

NOTE: For each extent, the results of the internal consistency index of Raykov Rho (ρ) are given inside

the parentheses.

According to the data in table 3, when the data related to CFA applied for the organizational cynicism and the personal success inventory is analyzed, it is seen that the factor load of each subject is (λ) .36 and higher. These values represent that they are sufficient with regard to the validity of the subjects. Looking at the values of Raykov Rho, it is seen that the extent of the extent *Cognitive* is .907, the extent *Emotional* is .925, the extent *Behavioral* is .820, the extent *Be Ambitious And Achievement* is .720, the extent *Superiority and be Different* is .828, the extent *Focus* is .709 and the extent *Take Personal Responsibility* is .747. According to Raykov (1997; 2004), it is accepted that the more the obtained results get .70 and higher, the more reliability and validity increases that much. These results indicate that inventory of the organizational cynicism and the personal success has the conditions for reliability and validity needed for the research.

For the relation between *Personal Success* and *Organizational Cynicism*, the correlations of the sub extent was calculated and represented in table 5.

<p align="center">Table 4. Correlation results</p>

<p align="center">*Perception of Personal Success*</p>

	Dimensions	General	Be Ambitious And Achievement	Superiority and be Different	Take Personal Responsibility	Focus
Organizational Cynicism	*General*	-.107[*]	-.082	-.123[*]	-.103[*]	-.071
	Cognitive	-.096	-.101	-.086	-.084	-.073
	Emotional	-.161[**]	-.140[**]	-.186[**]	-.149[**]	-.091
	Behavioral	.023	.068	-.005	.005	.009

Note: It is meaningful for * p≤ .050, ** p≤ .010 and *** p≤ .001.

According to the results in table 4, when the relation between Personal Success and Organizational Cynicism is analyzed it is seen that in a low-level ,negative and significant relation.

DISCUSSION AND CONCLUSION

Based on the data revealed as a result of this research, there is a significant but small negative relationship between personal success and organizational cynicism. In this sense, increase of organizational cynicism behaviors is associated with a decrease in personal success levels of the organization personnel. Kilic (2013) also concluded a negative, significant, and medium relationship between organizational cynicism and work satisfaction in his research. Since the work satisfaction and personal success terms are directly linked structure, the results that are obtained by Kilic (2013) supports findings from this research. Similar research findings are also revealed by Bryne and Hochwarter (2008).

Organizations are supposed to be successful and sustain their successful condition to be effective and efficient. Naus, Van Iterson, andRoe (2007) concluded in their research that the increase in organizational cynicism behaviors in an organization results in decreased autonomy and brash behaviors of individuals. Johnson and O'Leary-Kelly (2003) also concluded in their research that organizational cynicism creates psychological exhaustion in individuals and this exhaustion creates a negative effect on the performance of individuals.

In conclusion, private and public organizations make an effort to be efficient and effective. One of the important factor that provides organizational efficiency is properties of personnel. If an organization may increase the personal success motivation of the personnel, may also increase the organizational efficiency and effectiveness. Therefore, keeping cynic behaviors that harm organizational structure away allows organizations to get closer this purpose. Because, there is a negative significant relationship between organizational cynicism and personal success. Hence, it is quite important that person or people who have power to affect the organizational process, are supposed to perform required regulations.

ACKNOWLEDGEMENTS

Researchers, may further investigate the organizational cynicism construct in terms of its relationship and effects on other variables. In addition, quasi-experimental research may be conducted with this construct. Applicants may perform regulations that promote personal success; therefore, decrease the organizational cynicism behaviors.

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ÇOCUK GELİŞİMİ ÖĞRENCİLERİNİN SOSYAL DEĞERLERE İLİŞKİN GÖRÜŞLERİNİN BAZI DEĞİŞKENLER AÇISINDAN İNCELENMESİ

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ÖZET

Çocuk Gelişimi önlisans öğrencilerinin sahip oldukları bazı sosyal değerlerin çeşitli değişkenler açısından incelendiği bu araştırma bir ilişkisel tarama çalışmasıdır. Araştırmanın çalışma grubu Pamukkale Üniversitesi Kale Meslek Yüksekokulu Çocuk Gelişimi Programında öğrenim gören 104 kişiden oluşturulmuştur. Öğrencilerin sosyal değerlerinin belirlenmesinde Bolat (2013) tarafından geliştirilen, "Çok Boyutlu Sosyal Değerler Ölçeği" ve "Kişisel Bilgiler Formu" kullanılmıştır. Çalışma sonuçlarına göre Çocuk gelişimi önlisans öğrencilerinin aile değerlerinin ve bilimsel değerlerinin sınıf düzeyi, öğretim türü, anne eğitim düzeyi, baba eğitim düzeyi, sosyal medya kullanımı ve sivil topluma üyelik bakımından anlamlı şekilde farklılaşmadığı görülmüştür.

Anahtar Kelimeler: Çocuk Gelişimi Önlisans Öğrencileri, Sosyal Değerler, Mesleki Eğitim.

INVESTIGATION OF CHILD DEVELOPMENT PROGRAM STUDENTS' OPINIONS ABOUT SOCIAL VALUES IN TERMS OF SOME VARIABLES

ABSTRACT

The present research in which some social values of students at Two-Year Child Development Program are investigated in terms of various variables is a study designed according to relational screening model. The sample of the study consists of 104 students studying at Pamukkale University Kale Vocational School Child Development Program. The data of the study was gathered through "Multi-Dimensional Social Values Scale" developed by Bolat (2013) in order to determine students' social values and "Demographical Properties Survey" to reach personal details. The results of the study indicate that the family values and scientific values of students at two-year Child Development Program does not differ significantly in terms of class level, type of education, mother's educational background, father's educational background, the use of social media and being a member of non-governmental organizations.

Key Words: Students of Two-Year Child Development Program, Social Values, Vocational Education.

GİRİŞ

Bilgi ve iletişim teknolojilerindeki gelişmelerle toplumlar arasındaki sınırlar ortadan kalkmakta, farklı coğrafyaya, kültüre, dile mensup olan insanlar aynı yaşam alanını paylaşmak durumunda kalmaktadırlar. İşte bu noktada, bireyler arasında ortak anlaşma zemini oluşturan kavramlardan birisi "değer" olarak karşımıza çıkar (Karababa, 2014). Türk Dil Kurumu büyük sözlüğüne göre değer "Bir varlığın ruhsal, toplumsal, ahlaksal ya da güzellik yönünden taşıdığı düşünülen yüksek ya da yararlı nitelik" olarak tanımlanmaktadır (www.tdk.gov.tr). Başka bir tanımda değer "bir varlık olay ya da duruma atfedilen iyilik, önem, kullanışlılık veya kıymet derecesi ya da elle tutulamayan nitelik"tir (Arıkan, 2011: 8). Dilmaç'a (2007) göre ise değer, bir şeyin arzu edilebilir veya edilemez olduğu hakkındaki inanç olarak tanımlanmaktadır. Bunların yanında değerler eğitimi bağlamında ele alınan değer sözcüğü ise farklı bir anlam taşımaktadır. Aspin'e (2007) göre değer kavramı, insanların kabul ettiği, üzerinde anlaşmaya vardığı, kıymet verdiği, tercih ettiği, eğilim gösterdiği, önemli gördüğü ve eyleme döktüğü fikirler, alışkanlıklar, prensipler, kurallar, nesneler, ürünler, etkinlikler, uygulamalar, kurallar veya yargılardır (Aspin, 2007: 31-32).

Değer/değerler konusu hem felsefenin hem de sosyoloji alanlarının tartıştığı bir konu olmuştur. Özellikle son yıllarda sosyoloji alan çalışanları ve sosyal konularla uğraşan kişiler arasında üzerinde tartışmaların yapıldığı hiçbir konu belki de değerler konusu kadar tartışılmış değildir. Sosyal bilimciler çoğunlukla "sosyal değerlerin" hiçbir gerçekliğe sahip olmadığını, sosyal bilim çalışmalarının dışında psikoloji ve etik bir olgu olarak ele alınması gerektiğini vurgulasalar da, konu giderek farklı bir anlam kazanmaya başlamıştır. Bunun anlamı değerlerin önemli bir sosyal olgu olduğu gerçeğini ve dolayısıyla onun bilimsel olarak incelenmesini zorunlu kılmaya başlamıştır (Avcı, 2013: 819).

Değerler, bir toplumun varlığı, birliği işleyişi ve devamı açısından, toplumun büyük çoğunluğu tarafından kabul edilmiş ve onaylanmış temel ilkelerdir. İnsanın toplumun bir parçası ve toplumdaki eylemleri yerine getiren bir birey haline gelmesi toplumsal değerlerin aktarımıyla gerçekleşir. Bu şekilde, birey haline dönüşen insan, bir

yandan toplumun kültürünü taşıyarak toplumun varlığı ve işleyişine katkı sağlarken, diğer taraftan da onu şu veya bu şekilde biçimlendirir (Türkkahraman, 2003).

Sosyal değerler bir toplumda bireylerin karar vermelerine ve harekete geçmelerine öncülük eden varsayımlar, inançlar veya prensipler olarak düşünülebilir (www.australiancollaboration.com.au), Sosyal değerler toplum kültürünün önemli bir kısmını şekillendirir. Bu anlamda sosyal değerler toplumsal düzenin sürdürülmesinden sorumludurlar. Onlar toplumsal davranışlarımız için birer yol göstericidirler. Temel haklar, vatanseverlik, insan onuruna saygı, akılcılık, fedakar olmak, eşitlik, demokrasi gibi değerler toplumsal bağlamda davranışlarımıza birçok yolla rehberlik ederler (Mondal, 2015). Ayrıca dürüstlük, merhamet, nezaket, işbirliği, farklılıkları kabul edebilme, saygı vb. sosyal değerlerin de toplum içinde ve toplumun birer parçası olan insanlarda ve insan ilişkilerinde kilit roller oynadığını söylemek mümkündür (www.safeschoolshub.edu.au).

Mesleki eğitim veren kuruluşlar, bilgi ve beceri kadar, o mesleğe ilişkin değer ve tutumların ilk kazandırıldığı yerler olarak sosyal bilimcilerin ilgisini çekmektedir Öğrencilerin, ileride oynayacakları mesleki rollerini öğrenmeleri "erişkin sosyalleşmesi' bağlamında, sosyal yapıda ortaya çıkan sosyal rolleri meydana getiren değerler, tutumlar beceri ve davranış kalıplarının kazanılmasını içermektedir (Kasapoğlu, 1991).

Toplumların aydın kesimlerinin önemli bir bölümünü oluşturan üniversite gençliği, içinde yaşadıkları dünyanın bugünü ve yarınlarının şekillenmesinde yadsınamaz bir etkiye sahiptirler. Üniversite bağlamında aldıkları eğitimin kendilerinde oluşturduğu farkındalık ekseninde toplumu biçimlendiren etkin bir öğe olmalarından dolayı, sahip oldukları ya da olmaları gereken değerler, kendi toplumları ve insanlık adına oldukça büyük bir önem arz etmektedir. Bu noktadan hareketle, üniversite öğrencilerinin toplumsal olarak kabul görmüş değerlere sahip olmaları, arzulanan bir durum olarak düşünülebilir (Coşkun ve Yıldırım, 2009).

YÖNTEM

Çocuk Gelişimi Önlisans öğrencilerinin sahip oldukları bazı sosyal değerlerin çeşitli değişkenler açısından incelendiği bu araştırma ilişkisel tarama modelinin kullanıldığı bir araştırmadır. Tarama modelindeki bir araştırmada birden fazla özelliğe ilişkin veri toplanarak bunlar arasındaki ilişkiler sorgulanabilir. Bununla birlikte ilişkisel tarama türü araştırmalarda ortaya konan ilişki, iki değişkenden birinde gözlenen değişimin bir kısmının diğer değişkenden kaynaklanabileceğini göstermektedir (Can, 2014; Köklü ve Büyüköztürk, 2000).

Çalışma Grubu

Araştırmanın çalışma grubu Pamukkale Üniversitesi Kale Meslek Yüksekokulu Çocuk Gelişimi Programında öğrenim gören öğrencilerinden "Basit Tesadüfî Eleman Örnekleme" yoluyla belirlenen 104 kişiden oluşturulmuştur. Tablo 1' de çalışma grubuna ait kişisel bilgiler sunulmuştur.

Tablo 1: Çalışma grubuna ait kişisel bilgiler

		f	**%**
Öğretim Türü	Normal Öğretim	50	48
	İkinci Öğretim	54	52
Sınıf	Birinci Sınıf	53	51
	İkinci Sınıf	51	49
Anne Eğitim Düzeyi	İlkokul	81	79
	Ortaokul	12	11
	Lise	10	10
	Üniversite	-	-
Baba Eğitim Düzeyi	İlkokul	50	48
	Ortaokul	28	27
	Lise	20	19
	Üniversite	6	6
Sosyal Medya Kullanımı	Kullanıyor	73	70
	Kullanmıyor	31	30
Sivil Toplum Kuruluşu Üyeliği	Üyeliği var	42	40
	Üyeliği Yok	62	60
Toplam		104	100

Tablo 1 incelendiğinde çalışmaya katılan çocuk gelişimi öğrencilerinin öğretim türü ve sınıf düzeyleri bakımından neredeyse yarı yarıya dağılım gösterdikleri anlaşılmaktadır. Anne eğitim düzeyi bakımından 81 öğrencinin annesi ilkokul mezunu iken hiçbir anne üniversite mezunu değildir. Baba eğitim düzeyi bakımından ise öğrencilerin babalarından 50'si ilkokul olarak en kalabalık grubu ve 6'sı üniversite mezunu olarak en az grubu oluşturmaktadır. Sosyal medya kullanımı bakımından öğrencilerin 73'ü en az bir sosyal medya aracını kullanıyorken 31'i hiç kullanmadığını beyan etmiştir. Son olarak 62 öğrenci herhangi bir sivil toplum kuruluşuna üye değilken 42 öğrencinin en az bir sivil toplum kuruluşu üyeliği olduğu anlaşılmaktadır.

Veri Toplama Araçları

Öğrencilerin sosyal değerlerinin belirlenmesinde Bolat (2013) tarafından geliştirilen, "Çok Boyutlu Sosyal Değerler Ölçeği"; kişisel bilgilerinin belirlenmesinde ise "Demografik Bilgiler Formu" kullanılmıştır. "Çok Boyutlu Sosyal Değerler Ölçeği" kendi içinde altı alt boyuttan oluşmaktadır. Bunlar sırasıyla; aile değerleri, bilimsel değerler, çalışma değerleri, dini değerler, geleneksel değerler ve politik değerlerdir. Ölçeği meydana getiren alt boyutların güvenirlikleri ile ilgili hesaplanan Cronbach Alpha iç tutarlılık değerleri sırasıyla "0.71, 0.73, 0.78, 0.72, 0.70, 0.76" olarak hesaplanmıştır. Ölçek beşli likert yapıda oluşturulmuş olup, ölçeğe verilen cevaplar 1 ile 5 arasında değerlere sahiptir (Bolat, 2013). Bu çalışma kapsamında sadece aile değerleri ve bilimsel değerler alt ölçekleri kullanılmıştır. Bu alt ölçeklere ilişkin Cronbach Alpha değerleri ise, aile değerleri için "0.70", bilimsel değerler için "0.76" olarak hesaplanmıştır. Demografik bilgiler kapsamında öğrencilerden sınıf düzeyleri (birinci ya da ikinci sınıf), öğretim türleri (normal ya da ikinci öğretim), anne eğitim düzeyleri, baba eğitim düzeyleri, sosyal medya kullanma durumları ve herhangi bir sivil toplum kuruluşuna üye olup olmadıkları yönünde bilgi istenmiştir.

Veri Toplama ve Analiz Süreci

Çalışmaya ilişkin veriler 2015-2016 bahar yarıyılında çalışma grubuna dahil edilen öğrencilerden araştırmacı gözetiminde ve tek oturumda toplanmıştır. Araştırmacı çalışma grubuna çalışmanın amacını açıklamış ve veri toplama araçlarını dağıtarak doldurmalarını istemiştir. Yaklaşık 20 dakikalık bir sürede veri toplama işlemi tamamlanmıştır. Ardından veriler SPSS 16.0 programına yüklenmiştir. Öncelikle uygulanan her analiz puanı için normallik sınaması yapılmış ve Kolmogorov Smirnov puanları şu şekilde belirlenmiştir: Öğretim Türü $p = .000 < 0.01$; Sınıf Düzeyi $p = .000 < 0.01$; Anne Eğitim Düzeyi $p = .000 < 0.01$; Baba Eğitim Düzeyi $p = .000 < 0.01$; Sosyal Medya Kullanımı $p = .000 < 0.01$; Sivil Toplum Üyeliği $p = .000 < 0.01$; Aile Değerleri $p = .000 < 0.01$ ve Bilimsel Değerler $p = .000 < 0.01$. Bu bulgular eşliğinde verilerin normal dağılım göstermediği anlaşılmış ve verilerin analizinde İlişkisiz Örneklemler için T Testi'nin (Independent-Samples T Test) non-parametrik karşılığı olan Mann Whitney U testi ile Tek Yönlü Varyans Analizi'nin (One-Way Anova) non-parametrik karşılığı olan Kruskal-Wallis testinden yararlanılmıştır. Anlamlılık kontrolü için farklılıklar arası hata payı .01 olarak kabul edilmiştir.

BULGULAR

Çalışmanın bu kısmında katılımcıların aile değerlerinin ve bilimsel değerlerinin sınıf düzeyleri, öğretim türleri, anne eğitim düzeyleri, baba eğitim düzeyleri, sosyal medya kullanma durumları ve sivil toplum kuruluşuna üye olmaları bakımından anlamlı düzeyde farklılaşıp farklılaşmadığına bakılmıştır.

Tablo 2: Çocuk gelişimi öğrencilerinin öğretim türlerine göre aile değerlerine ilişkin Mann Whitney U testi sonuçları

Grup	N	Sıra Ortalaması	Sıra Toplamı	U	p
Normal Öğretim	50	50.42	2521	1246	-.691
İkinci Öğretim	54	54.43	2939		

Tablo 2 incelendiğinde çocuk gelişimi öğrencilerinin aile değerlerinin öğretim türleri bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 3: Çocuk gelişimi öğrencilerinin sınıf düzeylerine göre aile değerlerine ilişkin Mann Whitney U testi sonuçları

Grup	N	Sıra Ortalaması	Sıra Toplamı	U	p
Birinci Sınıf	53	52.25	2769	1338	-.090
İkinci Sınıf	51	52.76	2691		

Tablo 3 incelendiğinde çocuk gelişimi öğrencilerinin aile değerlerinin sınıf düzeyleri bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 4: Çocuk gelişimi öğrencilerinin anne eğitim düzeylerine göre aile değerlerine ilişkin Kruskal-Wallis testi sonuçları

Grup	N	Sıra Ortalaması	sd	χ 2	p
İlkokul	82	53.59	2	,579	.748
Ortaokul	12	49.71			
Lise	10	46.90			

Tablo 4 incelendiğinde çocuk gelişimi öğrencilerinin aile değerlerinin anne eğitim düzeyleri bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 5: Çocuk gelişimi öğrencilerinin baba eğitim düzeylerine göre aile değerlerine ilişkin Kruskal-Wallis testi sonuçları

Grup	N	Sıra Ortalaması	sd	χ 2	p
İlkokul	50	56.22	3	1.850	.604
Ortaokul	28	47.73			
Lise	20	49.05			
Üniversite	6	55.25			

Tablo 5 incelendiğinde çocuk gelişimi öğrencilerinin aile değerlerinin baba eğitim düzeyleri bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 6: Çocuk gelişimi öğrencilerinin sosyal medya kullanımlarına göre aile değerlerine ilişkin Mann Whitney U testi sonuçları

Grup	N	Sıra Ortalaması	Sıra Toplamı	U	p
Kullanıyor	73	51.08	3728.5	1027.5	.450
Kullanmıyor	31	55.85	1731.5		

Tablo 6 incelendiğinde çocuk gelişimi öğrencilerinin aile değerlerinin sosyal medya kullanımı bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 7: Çocuk gelişimi öğrencilerinin sivil toplum üyelik durumlarına göre aile değerlerine ilişkin Mann Whitney U testi sonuçları

Grup	N	Sıra Ortalaması	Sıra Toplamı	U	p
Üye	42	49.13	2063.5	1160.5	.338
Üye Değil	62	54.78	3396.5		

Tablo 7 incelendiğinde çocuk gelişimi öğrencilerinin aile değerlerinin sivil toplum kuruluşlarına üyelik bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 8: Çocuk gelişimi öğrencilerinin öğretim türlerine göre bilimsel değerlerine ilişkin Mann Whitney U testi sonuçları

Grup	N	Sıra Ortalaması	Sıra Toplamı	U	p
Normal Öğretim	50	55.67	2783.5	1191.5	.299
İkinci Öğretim	54	49.56	6676.5		

Tablo 8 incelendiğinde çocuk gelişimi öğrencilerinin bilimsel değerlerinin öğretim türleri bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 9: Çocuk gelişimi öğrencilerinin sınıf düzeylerine göre bilimsel değerlerine ilişkin Mann Whitney U testi sonuçları

Grup	N	Sıra Ortalaması	Sıra Toplamı	U	p
Birinci Sınıf	53	50.92	2698.5	1267.5	.582
İkinci Sınıf	51	54.15	2761.5		

Tablo 9 incelendiğinde çocuk gelişimi öğrencilerinin bilimsel değerlerinin sınıf düzeyleri bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 10: Çocuk gelişimi öğrencilerinin anne eğitim düzeylerine göre bilimsel değerlerine ilişkin Kruskal-Wallis testi sonuçları

Grup	N	Sıra Ortalaması	sd	χ 2	p
İlkokul	82	55.29	2	4.803	.091
Ortaokul	12	49.12			
Lise	10	33.70			

Tablo 10 incelendiğinde çocuk gelişimi öğrencilerinin bilimsel değerlerinin anne eğitim düzeyleri bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 11: Çocuk gelişimi öğrencilerinin baba eğitim düzeylerine göre bilimsel değerlerine ilişkin Kruskal-Wallis testi sonuçları

Grup	N	Sıra Ortalaması	sd	χ 2	p
İlkokul	50	58.62	3	9.511	.023
Ortaokul	28	48.45			
Lise	20	37.68			
Üniversite	6	69.83			

Tablo 11 incelendiğinde çocuk gelişimi öğrencilerinin bilimsel değerlerinin baba eğitim düzeyleri bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 12: Çocuk gelişimi öğrencilerinin sosyal medya kullanımlarına göre bilimsel değerlerine ilişkin Mann Whitney U testi sonuçları

Grup	N	Sıra Ortalaması	Sıra Toplamı	U	p
Kullanıyor	73	52.03	3798	1097	.805
Kullanmıyor	31	53.61	1662		

Tablo 12 incelendiğinde çocuk gelişimi öğrencilerinin bilimsel değerlerinin sosyal medya kullanımı bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

Tablo 13: Çocuk gelişimi öğrencilerinin sivil toplum üyelik durumlarına göre bilimsel değerlerine ilişkin Mann Whitney U testi sonuçları

Grup	N	Sıra Ortalaması	Sıra Toplamı	U	p
Üye	42	51.96	2182.5	1279.5	.881
Üye Değil	62	52.86	3277.5		

Tablo 13 incelendiğinde çocuk gelişimi öğrencilerinin bilimsel değerlerinin sivil toplum kuruluşlarına üyelik bakımından anlamlı düzeyde farklılaşmadığı anlaşılmaktadır (p>.01).

SONUÇLAR

Çocuk gelişimi önlisans öğrencilerinin aile değerlerinin ve bilimsel değerlerinin sınıf düzeyi, öğretim türü, anne eğitim düzeyi, baba eğitim düzeyi, sosyal medya kullanımı ve sivil topluma üyelik bakımından anlamlı şekilde farklılaşmadığı görülmüştür.

Keçeci-Kurt, Bolat ve Çermik (2014) tarafından yürütülen sosyal bilgiler öğretmenliği öğrencilerinin sosyal değerlerinin incelendiği çalışma sonuçlarına göre, katılımcıların sosyo-ekonomik düzeyleri (anne eğitim düzeyi baba eğitim düzeyi, aylık gelir, anne-baba evlilik durumu, kardeş sayısı) ile aile değerleri arasında anlamlı düzeyde fark bulamamış ancak bilimsel değerleri arasında anlamlı düzeyde fark olduğu sonucuna ulaşmışlardır. Keçeci-Kurt, Bolat ve Çermik (2014)'in bulguları, bu çalışmanın aile değerleri ile ilgili bulgularıyla örtüşmekte ancak bilimsel değerler ile ilgili bulgularıyla örtüşmemektedir. Ayrıca sosyo-ekonomik düzey ve sosyal değerler bağlamında yapılan bir doktora tez çalışmasında (Erkenekli, 2009), ailelerin sosyo-ekonomik düzey durumu ne olursa olsun, benzer eğitim sürecine maruz kalan öğrencilerin temel değerlerinde bir farklılık olmadığı sonucuna ulaşılmıştır. Erkenekli (2009)'nin bulguları bu çalışmanın bulgularıyla paralellik göstermektedir.

Bu çalışmada çocuk gelişimi önlisans öğrencilerinin aile ve bilimsel değerlerinin sosyal medya kullanım durumları açısından bir farklılık yaratıp yaratmadığı da incelenmiştir. Alav (2014)'ın gerçekleştirdiği ve sosyal medyanın birey ve toplumsal yapıya olan etkilerini incelediği çalışma sonuçlarına göre sosyal medyanın büyük bir etki gücüne sahip olarak görüldüğü ve toplumsal yapının tüm değerlerinin sosyal medyadan etkilendiği

vurgulanmıştır. Ancak bu çalışmada çocuk gelişimi öğrencilerinin gerek aile değerlerinin ve gerekse bilimsel değerlerinin sivil toplum kuruluşlarına üyelik durumlarına göre anlamlı düzeyde farklılaşmadığı sonucuna ulaşılmıştır.

Bu çalışmada ele alınan bir başka değişken çocuk gelişimi önlisans öğrencilerinin sivil toplum kuruluşlarına üyelik durumlarıdır. Bu anlamda öğrencilerin aile ve bilimsel değerlerinin sivil toplum kuruluşlarına üyelik durumları açısından bir farklılık yaratıp yaratmadığı ele alınmıştır. Erarslan ve Erdoğan (2015) üniversite öğrencilerinin sivil toplum kuruluşları ve değer ilişkisine dönük görüşlerini belirlemek amacıyla gerçekleştirdikleri çalışmada katılımcıların sivil toplum kuruluşlarının değer eğitimi sürecinde önemli bir yerinin olduğuna ilişkin görüş bildirdikleri bulgusuna ulaşmışlardır. Ancak bu çalışmada çocuk gelişimi öğrencilerinin gerek aile değerlerinin ve gerekse bilimsel değerlerinin sosyal medya kullanma durumlarına göre anlamlı düzeyde farklılaşmadığı görülmüştür.

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ÇOCUKLARIN OYUN SIRASINDAKİ DAVRANIŞ BİÇİMLERİNİN VE AKRAN İLETİŞİMLERİNİN CİNSİYETE DAYALI OLARAK İNCELENMESİ

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ÖZET
Araştırmanın amacı, 5-6 yaş grubu çocukların serbest oyunlar sırasındaki oyun davranış biçimlerinin ve akran iletişimlerinin cinsiyete dayalı olarak incelenmesidir. Çocuklar serbest oyunlar sırasında kırk iki gün boyunca gözlemlenmiştir. Bulgulara göre serbest oyunları sırasındaki oyun olmayan davranışlardan sınıfın dışında zaman geçirme, saldırganlık, itiş kakış, akranla konuşmanın cinsiyete göre farklılık gösterdiği belirlenmiştir. Serbest oyunlar sırasındaki yalnız oyun davranışlarından dramatik oyun davranışı ve kurallı oyun davranışlarının cinsiyete göre farklılık gösterdiği belirlenmiştir. Kız çocuklar yalnız başlarına hiç kurallı oyun oynamamışlardır. Grup oyun davranışlarından dramatik oyun davranışı ve işlevsel oyun davranışları cinsiyete göre farklılık göstermektedir. Kızların ve erkeklerin çoğunluğunun serbest oyunlar sırasında kendi cinsiyetindeki akranlarını tercih ettikleri belirlenmiştir.
Anahtar Kelimeler: Oyun, akran iletişimi, okul öncesi dönem, cinsiyet farklılıkları.

GENDER-BASED EXAMINATION OF CHILDREN'S BEHAVIOURAL PATTERNS AND PEER COMMUNICATIONS DURING PLAY

ABSTRACT
The purpose of the study is gender-based examination of 5-6 year old children's behavioural patterns and peer communications during free plays. The children were observed during free plays for forty two days. According to the results; spending time out of classroom, aggression, rough-and-tumble, talking with peer among out-of-play behaviours during free plays differed based on gender. Dramatic play behaviour and game behaviours among lonely play behaviours during free plays were determined to differ based on gender. Girls did not play any game by themselves. Dramatic play behaviour and functional play behaviours from group play behaviours differed based on gender. Most of girls and boys were determined to prefer peers in their own gender during free plays.
Key Words: Play, peer comunication, preschool period, gender differences.

GİRİŞ

Çocuklar, dünyaya uyum sağlama sürecinde, sürekli çevreleri ile etkileşim içerisindedirler ve bu etkileşimler ile yaşadıkları dünyayı tanımaya ve anlamaya başlarlar. Bireyin yaşantısında özellikle okul öncesi dönem, çocukların bedensel, zihinsel ve sosyal olarak öğrenmeye en açık oldukları kritik dönem olarak nitelendirilebilir. Karşılaştıkları her yeni duruma karşı ilgi ve merak duyan bu dönemdeki çocuklar, ilgilerini ve meraklarını karşılayacak deneyimlere ihtiyaç duyarlar. Tsao'ya (2002) göre çocuklar bilgi edinmeyi, bilgilerini yeni durumlarda kullanabilmeyi ve soyut düşünce yeteneklerini bizzat deneyim yaşayarak kazanırlar. Okul öncesi dönemde bu deneyimleme sürecinin önemli bir bölümü oyun yoluyla sağlanmaktadır. Çocuklar için bu kadar önem taşıyan oyun, çocuğun kendi isteği ile başlattığı, sürdürdüğü ve bitirdiği, ona keyif veren, tüm gelişim alanlarını destekleyen, hayatının en önemli parçalarından biridir (Çalışandemir, 2014).
Alan yazında, çocukların serbest oyunlarındaki tercihleri ile ilgili gözleme dayalı olarak yapılan ilk çalışmalarda, çoğunlukla sosyal katılımdaki hiyerarşinin nasıl olduğu üzerine odaklanıldığı görülmektedir. Bu dönemdeki

araştırmacılardan Parten (1932), okul öncesi dönem çocukları arasında sosyal katılımın yaş ile arttığını vurgulamıştır. Parten (1932), sosyal katılımı, birbirini izleyen altı kategoriye ayırarak tanımlamaktadır: Amaçsız davranış, izleyici davranış, yalnız oyun, paralel oyun, ilişkili oyun ve işbirlikli oyun şeklinde ifade edilmektedir. Bu dönemdeki, çocukların oyun davranışları ile ilgili bilgi veren bir diğer kaynak ise Piaget'nin çalışmalarıdır. Piaget (1962) çocukların oyun davranışlarını, çocukların bilişsel gelişimleri ile ilişkilendirmiş ve oyunu alıştırmalı oyun, sembolik oyun ve kurallı oyun olmak üzere üç grupta sınıflandırmıştır. Smilansky (1968), Piaget'den etkilenmiş ve onun kategorilerini detaylandırarak oyunu; işlevsel oyun, yapı oyunları, dramatik oyun ve kurallı oyun olmak üzere dört grupta incelemiştir (Akt; Rubin, 2001).

Rubin (2001), çocukların, sosyal ve bilişsel oyunlarını ve oyun olmayan davranışlarını belirlemeye yönelik gerçekleştirdiği çalışmasında, Parten'nin (1932) sosyal oyun ve Piaget'nin (1968) bilişsel oyun kategorilerini temel almıştır. Rubin (2001) sosyal oyunu üç kategoride ifade etmektedir: *Yalnız oyun:* Çocuk, diğer çocuklardan en az 1 metre uzaklıkta yalnız oynuyorsa, oyuncağı diğer çocukların oynadıklarından daha farklı kullanıyorsa, kendi etkinliğine odaklanmış ve diğer çocukların etkinliklerine odaklanmamakta ya da çok düşük düzeyde odaklanmaktaysa ve çocuk diğer çocuklarla etkileşime girmiyorsa bu oyun yalnız oyun olarak değerlendirilmektedir. *Paralel oyun:* Çocuklar birbirlerinden ortalama 1 metre uzaklıkta oynamaktaysa, kendi kendine oynarken, diğer çocukların oyunlarıyla da ilgiliyse ve o oyunlara dikkat etmekteyse bu oyun paralel oyun olarak isimlendirilmektedir. Paralel oyunda çocuklar, diğer çocukların oyunlarının farkındadırlar ve onlara benzer oyunlar oynarlar, onların konuşma şekillerini kendi oyunlarında da göstermektedirler. Diğer çocuklar ise, bu çocukların etkinlinlikleri ile ilgilenmezler. *Grup oyunu:* Çocuklar birlikte ortak bir amaç için oyun oynamaktadırlar. Bu oyunlar, bir şey inşa etme, dramatik oyunlar ya da kurallı oyunlar da olabilir. Grup oyunlarının, grup merkezli olması ayırt edici özelliğidir. Rubin (2001), bilişsel oyunu ise beş kategoride tanımlamaktadır: *İşlevsel oyun:* Çocuğun bir şeyler kurmasını, yapmasını ifade etmektedir. Bu oyun türü, nesnelerle temel motor hareketleri de kapsar. Tırmanma, su/kumu doldurup boşaltma, canlandırma amaçlı olmayan dans etme, şarkı söyleme, zil çalma, sandalyeden atlama, minderden atlama gibi, tekrar eden büyük kas etkinlikleri bu oyun türüne örnek olarak verilebilir. *Yapılandırmacı oyun*: Nesneleri kullanarak bir şeyler yapma, üretme, inşa etme gibi özellikle görselliğin ön plana çıktığı oyunları ifade eder. Örneğin, oyun hamuru ile oyun, su ve kumu bir arada kullanarak bir şey inşa etme gibi. İşlevsel oyun ve yapılandırmacı oyun arasındaki en temel fark, çocuğun oyun boyunca amacıdır. Yapılandırmacı oyunda, bir şeyin nasıl yapıldığını öğrenme söz konusudur. Araştırmadan farklıdır çünkü, çocuk zaten işin nasıl yapılacağını biliyordur. Okuma, yapılandırmacı oyun içerisinde kabul edilir. *Araştırma:* Çocuğun bir nesneyi elinde çevirerek incelemesi, çıkardığı sesi dinlemesi gibi nesnelerin özelliklerini, çalışma prensiplerini incelemesi araştırmayı ifade etmektedir. *Dramatik oyun:* Sembolik oyunlar, mış gibi yapmalar, taklitler dramatik oyun olarak değerlendirilmektedir. *Kurallı oyunlar:* Rekabetin de olduğu, kuralların belli olduğu ve oyuncular tarafından kabul edildiği oyunlardır. Çocukların sırayla basket atmaları bu oyun türüne örnek olarak verilebilir. Rubin (2001) Oyun Olmayan Davranışları da sekiz grupta açıklamaktadır: *Amaçsız davranış*: Çocuğun amaçsızca oturması ve boşluğa bakmasını ifade etmektedir. *İzleyici davranış*: Çocuk bir etkinliği izliyordur ancak etkinliğe katılmıyordur. Diğer çocuklara tavsiye verebilir, onlara gülebilir ancak etkinliğin bir parçası olmaması durumudur. *Geçiş:* Çocuğun bir etkinlikten diğerine geçişini ifade etmektedir. Bir etkinlik arama amaçlı odada dolaşmak, bir oyun kurmaya çalışmak, oyuncakları toplamak gibi işleri ifade etmektedir. *Etkin diyalog-konuşma:* Bir çocuğun diğer çocuğa sözel olarak bilgi aktarımını içermektedir. Paralel ve özel konuşma bu kategoride değerlendirilmez. Diyalog, çocuk başka bir çocukla konuşmaya ve diğer çocuğun bu konuşan çocuğu etkin bir şekilde dinlemesi ve göz teması kurmasını içermektedir. Akranlarla etkileşim, öğretmenle etkileşimden daha farklıdır. *Saldırganlık:* Oyunculuktan uzak, diğer çocuğa gösterilen, vurma, çarpma, tepme, tehdit etme gibi öfkeli davranışları içermektedir. *İtiş-kakış oyunu:* Oyunculuk içeren, oyunun özel bir halidir. Organize olayan bir şekilde sahte mücadeleler, etrafında koşuşturmalar bu oyun grubu içerisinde yeralmaktadır. *Gezinme-dolaşma:* İzleyici davranışa benzemektedir. Gezinme davranışında, çocuk bir etkinliği 1 metreden az bir mesafeden yakından izlemektedir. Ayrıca çocukta oyuna katılma istediği de görülmektedir. *Kaygılı davranış:* Ağlama, inleme, tırnak yeme, ayağını sallama, saçıyla oynama gibi davranışlar kaygının belirtisi olabilmektedir. Bu çocuklar annelerinden ayrılmak da istemeyebilirler (Rubin, 2001). Bu çalışmada, Rubin (2001) tarafından gerçekleştirilen sınıflandırma temel alınmıştır.

Araştırmanın amacı, okul öncesi dönem çocuklarının serbest oyunlar sırasındaki oyun davranış biçimlerinin ve akran iletişimlerinin cinsiyete dayalı olarak incelenmesidir.

Araştırmanın alt amaçları şu şekildedir:

- Okul öncesi dönem çocuklarının serbest oyunlarındaki oyun olmayan davranışları (sınıfın dışında zaman geçirme, geçiş, amaçsızca dolaşma, izleme, kaygılı davranış, yakından izleme, saldırganlık, itiş kakış, akranla konuşma) cinsiyetlere göre istatistiksel açıdan anlamlı farklılık göstermekte midir?

- Okul öncesi dönem çocuklarının serbest oyunlarındaki yalnız oyun davranışları (meşgul olma, yapılandırmacı, araştırmacı, işlevsel, dramatik ve kurallı oyunlar) cinsiyetlere göre istatistiksel açıdan anlamlı farklılık göstermekte midir?

- Okul öncesi dönem çocuklarının serbest oyunlarındaki grup oyun davranışları (meşgul olma, yapılandırmacı, araştırmacı, işlevsek, dramatik ve kurallı oyunlar) cinsiyetlere göre istatistiksel açıdan anlamlı farklılık göstermekte midir?
- Okul öncesi dönem çocuklarının serbest oyun sırasında cinsiyete göre akran tercihlerine ilişkin dağılımı nedir?

YÖNTEM
Çalışma grubu
Araştırmanın çalışma grubunu, Denizli ili Merkezefendi ve Pamukkale ilçelerindeki okul öncesi eğitim kurumlarına devam eden 120 çocuk (60 kız, 60 erkek) oluşturmuştur. Çocukların ay ortalaması, 62'dir (en az 50, en çok 69). Çocukların 84'ü (%70) bağımsız anaokullarına, 36'sı (%30) ilkokulların anasınıflarına devam etmiştir.

Veri Toplama Araçları
Oyun Gözlem Ölçeği: Rubin tarafından 2001'de revize edilen ölçme aracı, oyun gözlemine dayanmaktadır. Oyun Gözlem Ölçeği, çocukların serbest oyunları sırasındaki sosyal ve bilişsel oyunların ve oyun olmayan davranışların kodlanmasına dayanmaktadır. Ölçek, Parten'nın (1932) sosyal, Piaget'nin (1962) de bilişsel oyun hiyerarşisine dayanmaktadır. Bilişsel oyun kategorisinde, işlevsel, yapılandırmacı, araştırmacı, dramatik, kurallı oyunlar yer alırken; sosyal oyun kategorisinde ise yalnız, paralel ve grup oyunları yer almaktadır. Ölçekte, bilişsel oyun kategorisindeki bir oyun (örnek olarak araştırmacı oyun) üç sosyal oyun kategorisinde de yer almaktadır (yalnız oyun-araştırmacı, paralel oyun-araştırmacı, grup oyunu-araştırmacı gibi). Böylece her bir sosyal oyun kategorisindeki beş bilişsel oyun kategorisi ile toplamda on beş oyun davranışı yer almaktadır. Ölçek kapsamındaki oyun olmayan davranışlar kategorisinde ise amaçsız davranış, izleyici, akranlarıyla konuşma, geçiş, saldırganlık, itiş-kakış, sınıfın dışında gezinme, kaygılı davranış olmak üzere sekiz davranış yer almaktadır. Ölçek, seçilen bir çocuğun 10'ar saniyelik periyodlarla (bir dakikada 6 periyod olmak üzere) en az 15 dakika boyunca gözlenmesine dayanmaktadır. Bir dakikalık periyod içinde altı kez üst üste gözlem yapmak mümkün olamamaktadır. Çünkü 10 saniyelik periyodun sonunda, o sürede en çok ya da en baskın görülen oyun davranışın işaretlenmesi gerekmektedir. Bu kodlama 5 saniye ile 1,5 dakika arasındaki bir süre içinde gerçekleşebilmektedir. Ölçme aracının güvenirliği, gözlemciler arası güvenirlikle ortaya konulmuştur (Rubin, 2001). Bu çalışma kapsamında Türkçe'ye uyarlanmış olan ölçme aracının öncelikle çeviri işlemleri gerçekleştirilmiştir. Okul öncesi eğitim ve oyun konularında çalışmalar yürüten beş öğretim üyesi tarafından ölçek Türkçe'ye çevirilmiştir. Çeviriler biraraya getirilmiştir. Oluşturulan Türkçe formun tersine çevirisi yapılmış ve orijinal form ile tersine çeviri form karşılaştırılmıştır. İki form arasında anlam ve dil bilgisi açısından bir kelime dışında farklılığın olmadığı belirlenmiştir. Formla ilgili 5 çocuk ile pilot çalışma gerçekleştirilmiştir. İki araştırmacı her bir çocuğu beş gün boyunca toplam 15 dakika gözlemlemişlerdir. Pilot çalışmada, 5 çocuk için beş günde 75 dakika gözlem yapılmıştır. Pilot gözlemlerde gözlemleyiciler arası güvenirlik değeri %90 (kappa=.83, p<.01) olarak belirlenmiştir. Pilot çalışmanın ardından 48 çocuk ile ölçeğin gözlemciler arası güvenirliğini belirlemek için çalışma gerçekleştirilmiştir. İki araştırmacı 48 çocuğu toplamda 37 gün boyunca, her bir çocuğu 20 dakikadan toplamda 960 dakika gözlemlemişlerdir. İki araştırmacının gözlemleri sonucunda gözlemciler arası güvenirlik değeri %87 (kappa=.81, p<.01) olarak belirlenmiştir. Ayrıca yordayıcı geçerlik kapsamında Oyun Gözlem Ölçeği'ndeki oyun olan ve olmayan davranışlar ile Okul Öncesi Oyun Davranış Ölçeği'nin (Gülay-Ogelman, 2012) alt boyutları arasındaki korelasyonlar hesaplanmıştır. Bulgulara göre, oyun olmayan davranışlar kategorisinden geçiş davranışları (yeni bir etkinlikle ilgili hazırlıklar ve/veya bir etkinlikten diğerine geçme) ile yalnız pasif (r=.260, p<.01) ve yalnız aktif (r=.278, p<.01) arasında; amaçsızca dolaşma davranışı ile sessiz oyun (r=.348, p<.01) arasında; izleyici olma ile sessiz oyun (r=.442, p<.01); dramatik grup oyunu ile sosyal oyun (r=.244, p<.01); kaygılı davranış ile sessiz oyun (r=.223, p<.05) arasında olumlu yönde anlamlı düzeyde ilişkiler belirlenmiştir. İzleyici olma ile sosyal oyun (r=-.234, p<.05); akranla konuşma ile yalnız aktif oyun (r=-.239, p<.01); akranla konuşma ile yalnız pasif (r=-.211, p<.05); oyun sırasında akranlarının çocukla etkileşime girme düzeyi ile yalnız-pasif oyun (r=-.228, p<.05); diğer çocuklarla oyun sırasında etkileşime girme ile yalnız-pasif oyun (r=-.260, p<.01) arasında olumsuz yönde anlamlı düzeyde ilişkilerin olduğu ortaya çıkmıştır. Bu bulguların yordayıcı geçerliliği desteklediği söylenebilir.

Okul Öncesi Oyun Davranış Ölçeği: Ölçek, küçük çocukların oyunlar sırasında gösterdikleri bireysel davranışlarını öğretmen görüşlerine göre belirlemek amacıyla Robert J. Coplan ve Kenneth H. Rubin tarafından 1998'de geliştirilmiştir. Güvenirlik çalışmaları kapsamında tüm ölçeğin ve alt ölçeklerinin iç tutarlılık (Cronbach Alpha) katsayısı ve test tekrar-test güvenirlikleri hesaplanmıştır. Geçerlik kapsamında ise Türkçe formun kapsam geçerliği, madde analizi ve yapı geçerliği yapılmıştır. Yapı geçerliğinde, tüm ölçek ile alt ölçekler arasındaki korelasyonlar ve alt ölçekler arasındaki korelasyonlar belirlenmiştir. Kriter geçerliğinde çocuklara en çok hangi oyunu oynamayı sevdikleri, öğretmenlere ise çocukların en çok hangi oynamayı sevdikleri sorulmuştur. Çalışmanın bulguları, "Okul Öncesi Oyun Davranışı Ölçeği'nin" Türkçe versiyonunun 5-6 yaş çocuklarının oyun davranışlarımı ortaya koyabilecek, güvenilir ve geçerli bir ölçme aracı olduğunu ortaya koymaktadır (Gülay-Ogelman, 2012).

Uygulama

Oyun Gözlem Ölçeği'nin Türkçe uyarlama çalışması sırasında yukarıda detaylı olarak belirtilen çeviri çalışması, pilot uygulama, gözlemciler arası tutarlılık güvenirliği ve yordayıcı geçerlik çalışmaları gerçekleştirilmiştir. Çalışmanın temel amacını oluşturan oyun davranışlarının cinsiyetlere göre incelenmesinde ise çalışma grubunda yer alan 120 çocuğun her biri çocuk serbest oyunlar sırasında kırk iki gün (çocuk başına 20 dakikadan toplamda 2400 dakika) boyunca Oyun Gözlem Ölçeği doğrultusunda gözlemlenmiştir.

Veri Analizi

Verilerin analizinde, Oyun Gözlem Ölçeği'nin Türkçe uyarlama çalışması kapsamında gözlemciler arası tutarlılık güvenirliğinin belirlenmesinde kappa değeri hesaplanmış, yordayıcı geçerlikte Pearson Momentler Çarpımı Korelasyon Katsayısı Tekniği'nden yararlanılmıştır.

Oyun davranışlarının cinsiyetlere göre ilişkili örneklemler için T testi analiz yönteminden yararlanılmıştır.

BULGULAR

Tablo 1: Okul öncesi dönem çocuklarının serbest oyunlarındaki oyun olmayan davranışlarının cinsiyetlere göre farklılaşıp farklılaşmadığına ilişkin ilişkisiz örneklemler için T testi sonucu

Oyun olmayan davranış	Cinsiyetler	N	$\overline{\mathrm{x}}$	ss	$\mathrm{Sh}_{\overline{x}}$	t Testi		
						t	Sd	p
Sınıfın dışında zaman geçirme	Kız	60	2.20	5.52	.71	2.155	118	.033*
	Erkek	60	.57	1.98	.25			
Geçiş	Kız	60	.87	1.73	.22	.778	118	.438
	Erkek	60	.65	1.28	.17			
Amaçsızca dolaşma	Kız	60	2.07	2.47	2.47	-384	118	.702
	Erkek	60	2.27	3.19	3.19			
İzleyici olma	Kız	60	3.45	5.24	.68	-.537	118	.593
	Erkek	60	4.03	6.59	.85			
Kaygılı davranış	Kız	60	.08	.33	.04	1.019	118	.310
	Erkek	60	.03	.18	.02			
Yakından izleme	Kız	60	.98	2.21	.29	.597	118	.551
	Erkek	60	.77	1.73	.22			
Saldırganlık	Kız	60	.15	.86	.11	-2.147	118	.034*
	Erkek	60	.73	1.92	.25			
İtiş kakış	Kız	60	.15	.55	.07	-2.988	118	.003*
	Erkek	60	1.50	3.46	.45			
Akranla konuşma	Kız	60	1.00	2.36	.34	-.2.147	118	.034*
	Erkek	60	.78	2.13	.28			

*p<.05

Tablo 1 incelendiğinde, okul öncesi dönem çocuklarının serbest oyunları sırasındaki oyun olmayan davranışlarından sınıfın dışında zaman geçirme, saldırganlık, itiş kakış, akranla konuşma cinsiyete göre farklılık gösterdiği belirlenmiştir (p<.05). Kız çocuklarının ($\overline{\mathrm{X}}$ = 2.20) erkek çocuklara ($\overline{\mathrm{X}}$ = .57) göre sınıfın dışında daha çok zaman geçirdikleri ve kızların ($\overline{\mathrm{X}}$ = 1.00) akranlarıyla erkeklere ($\overline{\mathrm{X}}$ = .78) göre daha çok konuştukları belirlenmiştir. Erkek çocuklarının ($\overline{\mathrm{X}}$ = 1.92) da kızlara ($\overline{\mathrm{X}}$ = .86) göre daha çok saldırganlık gösterdikleri ve erkeklerin ($\overline{\mathrm{X}}$ = 1.50) kızlara ($\overline{\mathrm{X}}$ = .15) göre itiş kakış davranışları daha çok sergiledikleri belirlenmiştir. Geçiş, amaçsızca dolaşma, izleyici olma, kaygılı davranış ve yakından izleme davranışlarında cinsiyetler arasında farklılık belirlenmemiştir (p>.05).

Tablo 2: Okul öncesi dönem çocuklarının serbest oyunlarındaki yalnız oyun davranışlarının cinsiyetlere göre farklılaşıp farklılaşmadığına ilişkin ilişkisiz örneklemler için T testi sonucu

Yalnız davranış	Cinsiyetler	N	$\bar{x}$	ss	$Sh_{\bar{x}}$	t Testi		
						t	Sd	p
Meşgul olmak	Kız	60	.57	1.69	.22	-1.216	118	.227
	Erkek	60	1.05	2.57	.33			
Yapılandırmacı	Kız	60	5.82	9.73	1.26	1.216	118	.227
	Erkek	60	3.78	8.55	1.10			
Araştırmacı	Kız	60	.13	.60	.08	-1.647	118	.102
	Erkek	60	.48	1.53	.20			
İşlevsel	Kız	60	.62	2.34	.30	-1.492	118	.138
	Erkek	60	1.50	3.95	.51			
Dramatik	Kız	60	3.60	4.31	.56	1.354	118	.012*
	Erkek	60	1.72	3.74	.48			
Kurallı	Kız	60	.00	.00	.00	-2.269	118	.025*
	Erkek	60	1.13	3.87	.50			

*p<.05

Tablo 2'de, okul öncesi dönem çocuklarının serbest oyunları sırasındaki yalnız oyun davranışlarından dramatik oyun davranışı ve kurallı oyun davranışları cinsiyete göre farklılık gösterdiği belirlenmiştir (p<.05). Kız çocuklarının ($\bar{X}$ = 3.60) erkek çocuklara ($\bar{X}$ = 1.72) göre yalnız başına daha çok dramatik oyun oynadıkları, erkek çocukların ($\bar{X}$ = 1.13) kız çocuklarına ($\bar{X}$ = .00) göre yalnız başlarına daha çok kurallı oyun oynadıkları görülmektedir. Bulgulara göre kız çocuklar yalnız başlarına hiç kurallı oyun oynamamışlardır. Meşgul olma, yapılandırmacı, araştırmacı ve işlevsel oyun davranışlarında cinsiyetlere göre anlamlı farklılık olmadığı belirlenmiştir (p>.05).

Tablo 3: Okul öncesi dönem çocuklarının serbest oyunlarındaki grup oyun davranışlarının cinsiyetlere göre farklılaşıp farklılaşmadığına ilişkin ilişkisiz örneklemler için T testi sonucu

Grup davranış	Cinsiyetler	N	$\bar{x}$	ss	$Sh_{\bar{x}}$	t Testi		
						t	Sd	p
Meşgul olmak	Kız	60	1.63	4.96	.64	.336	118	.737
	Erkek	60	1.37	3.63	.47			
Yapılandırmacı	Kız	60	7.58	11.19	1.44	-.780	118	.437
	Erkek	60	9.12	10.57	1.36			
Araştırmacı	Kız	60	.37	1.63	.21	-.442	118	.659
	Erkek	60	.53	2.42	.31			
İşlevsel	Kız	60	1.33	4.27	.55	-3.750	118	.000**
	Erkek	60	6.07	8.80	1.14			
Dramatik	Kız	60	14.85	15.03	1.94	2.393	118	.018*
	Erkek	60	8.90	12.04	1.55			
Kurallı	Kız	60	.62	3.11	.40	.028	118	.977
	Erkek	60	.60	3.30	.43.			

*p<.05, **p<.01

Tablo 3'de, okul öncesi dönem çocuklarının serbest oyunları sırasındaki grup oyun davranışlarından dramatik oyun davranışı ve işlevsel oyun davranışları cinsiyete göre farklılık gösterdiği belirlenmiştir (p<.05, p<.01). Kız çocuklarının ($\overline{X}$ = 14.85) erkek çocuklara ($\overline{X}$ = 8.90) göre grup olarak daha çok dramatik oyun oynadıkları, erkek çocukların ($\overline{X}$ = 8.80) kız çocuklarına ($\overline{X}$ = 4.27) göre grup olarak daha çok işlevsel oyun oynadıkları görülmektedir. Meşgul olma, yapılandırmacı, araştırmacı ve kurallı oyun davranışlarında cinsiyetlere göre anlamlı farklılık olmadığı belirlenmiştir (p>.05).

Tablo 4: Okul öncesi dönem çocuklarının serbest oyunlarında akranlarıyla etkileşime girme ve akranları tarafından etkileşim açısından tercih edilme düzeylerinin cinsiyetlere göre farklılaşıp farklılaşmadığına ilişkin ilişkisiz örneklemler için T testi sonucu

Etkileşim	Cinsiyetler	N	$\overline{x}$	ss	$Sh_{\overline{x}}$	t Testi		
						t	Sd	p
Etkileşime girme	Kız	60	39.87	42.71	5.51	1.654	118	.101
	Erkek	60	29.22	25.76	3.33			
Etkileşimde tercih edilme	Kız	60	40.02	40.60	5.35	1.056	118	.293
	Erkek	60	32.67	35.46	4.58			

Tablo 4'de, okul öncesi dönem çocuklarının serbest oyunlarında akranlarıyla etkileşime girme ve akranları tarafından etkileşimde tercih edilme düzeylerinin cinsiyete göre farklılık göstermediği belirlenmiştir (p>.05).

Tablo 5: Kız ve erkeklerin serbest oyun sırasında cinsiyete göre akran tercihlerine ilişkin dağılım

		Cinsiyet		
Cinsiyet tercihleri		Kız	Erkek	Toplam
En çok kızlarla etkileşime girme	f	23	11	34
	Genel toplamda %	% 67.6	%32.4	%100.0
	Cinsiyet içerisinde %	% 19.2	%9.2	%28.3
En çok erkeklerle etkileşime girme	f	8	20	28
	Genel toplamda %	% 28.6	% 71.4	%100.0
	Cinsiyet içerisinde %	% 6.7	% 16.7	% 23.3
Yalnızla kızlarla etkileşime girme	f	17	4	21
	Genel toplamda %	%81.0	%19.0	%100.0
	Cinsiyet içerisinde %	%14.2	%3.3	%17.5
Yalnızca erkeklerle etkileşime girme	f	3	14	17
	Genel toplamda %	%17.6	%82.4	%100.0
	Cinsiyet içerisinde %	%2.5	%11.7	%14.2
İki cinsiyetle eşit şekilde etkileşime girme	f	7	10	17
	Genel toplamda %	%41.2	%58.8	%100.0
	Cinsiyet içerisinde %	%5.8	%8.3	%14.2
Hiç kimseyle etkileşime girmeme	f	2	1	3
	Genel toplamda %	%66.7	%33.3	%100.0
	Cinsiyet içerisinde %	%1.7	%0.8	%2.5
Toplam	f	60	60	120
	Genel toplamda %	%50.0	%50.0	%100.0
	Cinsiyet içerisinde %	%50.0	%50.0	%100.0

Tablo 5'de kızların çoğunluğunun (%67.6) ve erkeklerin çoğunluğunun (%71.4) serbest oyunlar sırasında kendi cinsiyetindeki akranlarıyla; kızların %14.2'si sadece kızları, erkeklerin %11.7'sinin sadece erkekleri seçtiği; kızların %5.8'si, erkeklerin %8.3'ünün iki cinsiyetle de eşit düzeyde etkileşime girdiği; kızların (%1.7'si), erkeklerin (%.08)'inin hiçkimse ile etkileşime girmediği belirlenmiştir.

TARTIŞMA

Oyun, çocuğun kendisi ve dünya hakkında bilgi edinmesine ve farkındalık kazanmasına rehberlik eder ve çocuk için gelişimsel kolaylaştırıcıdır (Tuğrul, 2010). Oyunlar, eylemler ve düşünme birleşiminin ifadesidir ve çocuklara başarı hissi ve güven verir. Oyun, boş zaman geçirme işi değil, çocuğun yaşamı öğrenmesidir. Oyun ailenin gerekli bir parçası ve yaşamın dilidir. Formal eğitim sisteminde oyun, girişkenlik, yaratıcılık, etkileşim ve toplumsallaşma için çocuklara eşit fırsatlar sunar (Rivkin, 1995). Kız ve erkek grupları arasındaki farklılıklar uzun zamandır üzerinde çalışılan konulardandır Cinsiyet farklılıkları üzerindeki yıllardır bilinen tipik davranışları Maccoby (2000 Akt: Rohrmann, 2009) ve Fabes ve diğerleri (2004 Akt: Rohrmann, 2009) şu şekilde belirtmektedirler:

İlgi alanları: Kızlar ve erkeklerin oyun seçiminde farklı oyun tercihleri ve farklı ilgileri olduğu gözlenmektedir. Erkekler daha çok blok köşelerinde oynamayı tercih ederken, kızların sanat köşelerinde oynadığı, erkek çocukların futbolu, kızların ise ip atlamayı tercih ettikleri gözlenmekltedir.

Oyun davranışları: Erkekle daha çok aktif oyunları seçtikleri, sert ve risk içeren oyunlar oynamaktan hoşlandıkları ve kızlara göre daha itişme ve kavga barındıran oyunları oynadıkları, kızların ise daha çok uzlaşmacı oldukları ve şiddet barındıran ortamlardan uzak durdukları gözlenmiştir.

Grup büyüğü: Erkekler, büyük oyun grupları içinde oynamaktan daha çok hoşlandıklarnı, kızlarınsa küçük grupları tercih ettiklerini ve "en iyi arkadaş"kavramının onlar için önemlidir.

Konuşma tarzı: Kızlar kendileri hakkında daha fazla ve daha açık konuşurken erkeklerin daha az konuştuğu, erkeklerin konuşmalarının daha fazla emir verici tarzda olduğu, hakaret ve kışkırtma içeren konuşmaların onları mutlu ettiği gözlenmiştir. Yapılan araştırmanın sonuçlarına göre de benzer sonuçlar elde edilmiştir.

Araştırmanın bulgularına göre okul öncesi dönem çocuklarının serbest oyunları sırasındaki oyun olmayan davranışlarından sınıfın dışında zaman geçirme, saldırganlık, itiş kakış, akranla konuşma cinsiyete göre farklılık gösterdiği belirlenmiştir. Kız çocuklarının erkek çocuklara göre sınıfın dışında daha çok zaman geçirdikleri ve kızların akranlarıyla erkeklere göre daha çok konuştukları belirlenmiştir. Erkek çocuklarının da kızlara göre daha çok saldırganlık gösterdikleri ve erkeklerin kızlara göre itiş kakış davranışları daha çok sergiledikleri belirlenmiştir. Geçiş, amaçsızca dolaşma, izleyici olma, kaygılı davranış ve yakından izleme davranışlarında cinsiyetler arasında farklılık belirlenmemiştir. Okul öncesi çocuklarının serbest oyunları sırasındaki oyun olmayan davranışlarında gözlenen farklılıklar aynı oyun oynarken gösterdiği farklılıklar gibi kız ver erkek çocuklarının tercihlerinin farklı olmasından kaynaklanabilir. Sosyal ilişkiler bağlamında bakıldığında kızların işbirliğine daha fazla çaba harcadığı ve uyumlu olduğu, erkeklerin ise daha fazla baskın davranış içinde olduğu gözlenir (Maccoby 2000 ve Fabes ve diğerleri 2004' den Akt. Rohrmann, 2009).

Okul öncesi dönem çocuklarının serbest oyunları sırasındaki yalnız oyun davranışlarından dramatik oyun davranışı ve kurallı oyun davranışları cinsiyete göre farklılık gösterdiği belirlenmiştir. Kız çocuklarının erkek çocuklara göre yalnız başına daha çok dramatik oyun oynadıkları, erkek çocukların kız çocuklarına göre yalnız başlarına daha çok kurallı oyun oynadıkları görülmektedir. Bulgulara göre kız çocuklar yalnız başlarına hiç kurallı oyun oynamamışlardır. Meşgul olma, yapılandırmacı, araştırmacı ve işlevsel oyun davranışlarında cinsiyetlere göre anlamlı farklılık olmadığı belirlenmiştir. Benzer bir şekilde Türk, Alman ve Amerikalı çocuklar üzerinde yaptıkları çalışmada Güler ve Kargı (2008), bu üç kültürdeki çocukların benzer oyun gelişim aşamaları gösterdiğini tespit etmiştir. Oyun türü olarak, Türk kız çocukları daha çok evcilik ve erkek çocukları uzay mekiği oyunu oynamaktadırlar. Kız çocukları daha çok evle ilgili (anne, kardeş, çocuk vb.) rollere girerken, erkek çocuklarının iş ile ilgili (mühendis, tamirci vb.) rollere girdiği gözlemlenmiştir.

Okul öncesi dönem çocuklarının serbest oyunları sırasındaki grup oyun davranışlarından dramatik oyun davranışı ve işlevsel oyun davranışları cinsiyete göre farklılık gösterdiği belirlenmiştir. Kız çocuklarının erkek çocuklara göre grup olarak daha çok dramatik oyun oynadıkları, erkek çocukların kız çocuklarına göre grup olarak daha çok işlevsel oyun oynadıkları görülmektedir. Meşgul olma, yapılandırmacı, araştırmacı ve kurallı oyun davranışlarında cinsiyetlere göre anlamlı farklılık olmadığı belirlenmiştir. Atik (1986), normal gelişim gösteren ve down sendromlu çocukların oyun davranışlarını incelemiştir. Araştırmaya normal gelişim gösteren 35 ve down sendromlu 10 çocuk katılmıştır. Araştırma sonunda normal gelişim gösteren çocukların oyun tipi tercihinde cinsiyetler arasında önemli bir farklılık olmamakla birlikte, erkeklerde kooperatif oyuna geçişin daha geç olduğu, kızların daha çok beraber ve kooperatif oyun, erkeklerin izole ve paralel oyun oynadıkları gözlenmiştir.

Özyürek ve Kılıç (2015) da öğrenme merkezlerinin çocukların serbest oyun davranışları üzerine etkisini araştırdıkları çalışmalarında Gürpınar (2006) araştırmasında olduğu gibi, kız ve erkek öğrencilerin oyun tercihlerinde anlamlı bir farklılık bulunduğu sonucuna ulaşmıştır. Çocukların genel olarak cinsiyetlerine göre tercih yaptıkları kız çocukların daha çok dramatik oyun merkezinde vakit geçirdikleri görülürken erkek çocuklarının çoğu kez blok merkezinde vakit geçirdiklerini gözlemlemişlerdir.

Okul öncesi dönem çocuklarının serbest oyunlarında akranlarıyla etkileşime girme ve akranları tarafından etkileşimde tercih edilme düzeylerinin cinsiyete göre farklılık göstermediği belirlenmiştir. Ayrıca, serbest oyunlar sırasında kız ve erkek çocukların genellikle hemcinslerini tercih ettikleri belirlenmiştir. Fabes, Martin ve Hanish (2003) tarafından yapılan bir çalışmaya göre (2003), kızlar daha sakin ve uzun süreli oyunlar

kurarken; erkekler daha kısa ve sert, gürültülü oyunlar oynamayı tercih ettikleri belirlenmiştir. Öte yandan söz konusu bulgu Aydilek Çiftçi'nin (2011) çalışması ile paralellik göstermektedir. Aydilek Çiftçi (2011) ise çalışmasında resim yapma, evcilik oynama, bebek ile oynama, sohbet etme, oyuncak makyaj malzemelerini kullanma gibi etkinlikleri kız çocuklarının daha fazla tercih ettiğini ve bu etkinliklerde oldukça uzun zaman geçirdiklerini; erkek çocuklarının ise boğuşma, hırsız polis oynama, direksiyon kullanma, trafik işaretleri ile oynama, yap-bozlarla, bloklarla ve tamir aletleri ile oynama gibi etkinlikleri daha çok tercih ettiklerini saptamıştır. Erkekler güç, hız ve dayanıklılık gerektiren oyunları tercih ederken, kızlar bakım vermeyi, ebeveyn rolünde olmayı ve grup içi etkileşimleri gerektiren etkinlikleri tercih etmişlerdir. Erkek çocuklar daha büyük gruplarla geniş alanlarda yapılan etkinlikleri tercih ederken, kız çocuklar daha küçük gruplarla dar alanlarda oynanabilen oyunları tercih etmişlerdir. Ayrıca bu yaş grubundaki çocukların genellikle kendi hemcinsleri ile oynamayı tercih ettikleri, karşı cinsten arkadaşları ile sınırlı düzeyde etkileşime geçtikleri gözlenmiştir.

Bu araştırmadan yola çıkılarak sonraki çalışmalarda daha kalabalık örneklem gruplarıyla çalışmalar gerçekleştirilebilir. Oyun gözlemiyle ilgili yeni ölçme araçları geliştirilebilir. Oyun davranışlarıyla ilgili boylamsal çalışmalar yapılabilir. Çocukların oyun davranışlarını etkileyen değişkenlerin ele alındığı çalışmalar planlanabilir.

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DEMOGRAFİK DÖNÜŞÜM BAĞLAMINDA TÜRKİYE'DE YAŞLI NÜFUS ÜZERİNE BİR DEĞERLENDİRME

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ÖZET

Yüksek doğurganlık ve yüksek ölüm oranlarından, ölüm hızlarının düştüğü ve doğumların düşük seyrettiği yeni bir dönem olarak adlandırılan Demografik Dönüşüm Kuramı; Batı Avrupalı sanayileşmiş ülkelerin yaklaşık iki asır boyunca tecrübe ettiği toplumsal bir gerçekliktir. Bütün toplumların zaman içinde bu demografik dönüşümü yaşayacak olmaları, kuramın önemli iddiasıdır. Ancak Avrupa'nın öncülük ettiği bu model, Dünyanın değişik bölge ve ülkelerinde çıkış noktasından farklı olarak kendi özel sebepleriyle de yol almaktadır.

Türkiye'de yaşlı nüfus, diğer nüfus gruplarına göre daha hızlı artış göstermesine karşın; Türkiye'nin gelişmiş ülkelerle kıyaslandığında hala daha genç bir nüfusa sahip olduğu söylenebilir. Ancak bu veri, Türkiye'nin yaşlı nüfusundan çok, yaşlanan bir nüfusa sahip olacağını göstermektedir. Yaşlılık eğilimindeki nüfusun yol açacağı durumlara rağmen, sosyal ve ekonomik içerikli planlamaların hazırlanması, yeni kentli kimliği uzantısındaki Türkiye için önemlidir. Yaşlı nüfusun mekânsal dağılımı incelendiğinde ise elverişli iklim şartları yanında geleneksel aile yapısının daha yavaş çözülmesi ve genç nüfusun göçe katılımı oranları ile Karadeniz Bölgesi öne çıkmaktadır.

Anahtar Kelimeler: Demografik dönüşüm, yaşlı nüfus, doğum oranı, ölüm oranı

AN EVALUATION ON OLD AGE POPULATION IN TURKEY IN THE CONTEXT OF DEMOGRAPHIC TRANSFORMATION

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ABSTRACT

The Theory of Demographic Transformation referring to a new period from high to low rates of fertility and mortality rates is a social reality that has been experienced by developed countries from Western Europe for two centuries. The fact that all the societies will experience such a transformation is an important claim of this theory. However, this model pioneered by Europe is also proceeding with its own reasons in various regions and countries of the world differently from the starting point of the theory.

Although the old age population in Turkey is increasing faster than other age groups, it is possible to argue that Turkey has still a younger population compared to developed countries. However, this data indicates that Turkey will have an aging population rather that old age population. Because of situations stemming from the aging population, preparing social and economic plans is important for Turkey which is in the extension of new citizen identity. When the spatial dispersion of old age population is examined, Black Sea Region becomes prominent because of the factors such as the loosening of the traditional family structure slowly, the participation of the young population into migration and convenient climate conditions.

Key words: Demografic transformation, elderly population, birthrate, death rate
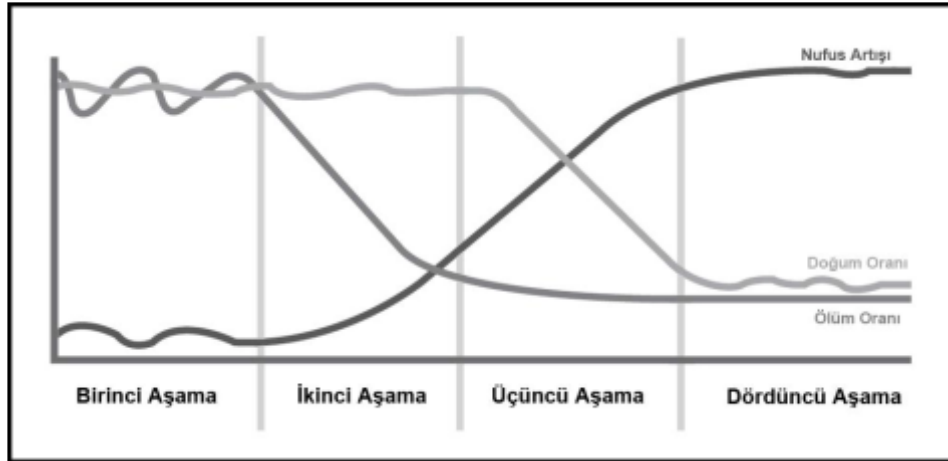
GİRİŞ

Bilindiği üzere *Demografik Dönüşüm*; yüksek doğurganlık ve yüksek ölüm oranlarından, ölüm hızlarının düştüğü ve doğumların düşük seyrettiği yeni bir dönem olarak adlandırılır. Demografik Dönüşüm Kuramı; Batı Avrupalı sanayileşmiş ülkelerin yaklaşık iki asır boyunca tecrübe ettiği toplumsal bir gerçekliktir. Bütün toplumların zaman içinde bu demografik dönüşümü yaşayacak olmaları, kuramın önemli iddiasıdır. Ancak Avrupa'nın öncülük ettiği bu model, Dünyanın değişik bölge ve ülkelerinde çıkış noktasından farklı olarak kendi özel sebepleriyle de yol almaktadır.

İlk kez İngiliz Demograf Warren Simpson Thompson (1887-1950), tarafından 1929'da ortaya atılan Demografik Dönüşüm Teorisi'nde, farklı doğum ve ölüm hızları ile nüfusun gelişme hızı arazında bir ilişki kurulmaya çalışılmıştır. Model yaklaşık olarak iki yüzyıl boyunca sanayileşmiş ülkelere ilişkin doğum ve ölüm hızlarında meydana gelen değişmelerin gözlenmesi ve yorumlanması ile ortaya çıkmıştır. Modelde, *sanayileşme ve ekonomik gelişme ile doğum-ölüm hızları arasında ters yönlü bir ilişkinin* bulunduğu, başka bir deyişle ülkelerin

tarımdan sanayiye doğru yapısal bir değişim geçirirken, hem doğum hem de ölüm hızlarının düşeceği ileri sürülmüştür (Başar, 2010: 21-22). Bu bağlamda Demografik Dönüşüm Teorisindeki amaç, doğum ve ölüm oranlarının yüksek seviyede denge halinden alçak seviyede bir denge haline geçmeleridir (Kaya ve Yalçınkaya, 2014: 171).
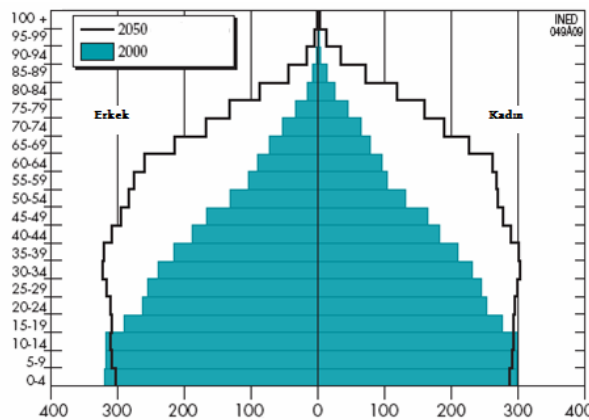
Bilindiği üzere, demografik dönüşüm kuramı 4 aşamalıdır. Birinci aşamada yüksek doğum ve yüksek ölüm oranları, ikinci aşamada yüksek doğum ve düşen ölüm oranları, üçüncü aşamada düşen doğum ve düşük ölüm oranları, dördüncü aşamada ise istikrarlı düşük doğum ve ölüm oranları şeklinde belirmesidir (Şekil 1).

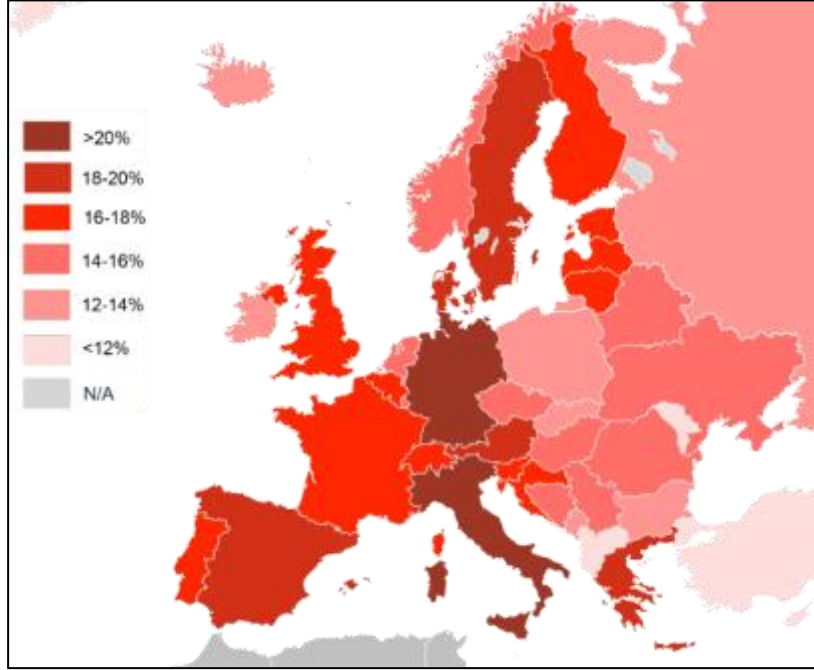Şekil 1. Demografik dönüşüm sürecinin aşamaları.

Demografik dönüşüm sürecinin önemli göstergelerinden biri olan nüfusun yaşlanması; küresel bir gerçeklik olarak kabul edilmektedir. Dünyada giderek artan kentleşme ve beraberinde sağlık hizmetlerine daha kolay erişim, ortalama yaşam süresinin uzamasına neden olurken; nüfus yaş gruplarını da değiştirmektedir.

Dünyada yaşlı nüfusun artış hızı (% 2.1), genel nüfus artış hızından (%1.2) daha fazladır. Nüfus artış hızının azalması sonucu, 2050'de 11 ülkenin (Japonya, Rusya, Ukrayna gibi) nüfusu şimdiki nüfuslarının altına düşecektir. Diğer taraftan bu ülkelerdeki yaşlıların genel nüfus içindeki payı daha da artacaktır. Dünya nüfusu son 100 yıl içinde (1950-2050) dörde katlanırken, yaşlı nüfusun 10 kat artacak olması dikkat çekicidir (Şekil 2). Dünyada en fazla yaşlı nüfus artışı 2008-2040 arasında % 316 ile Singapur'da gerçekleşecektir. 2000 yılında yaşlı nüfusun % 62'si gelişmekte olan ülkelerde yaşıyor iken 2030'da bu oran %75-80'e ulaşacaktır. Günümüzde yaşlı nüfusun en fazla olduğu kıta, % 20 ile Avrupa (Harita 1), en az olduğu kıta ise % 5 ile Afrika'dır. Toplam nüfus içinde ise yaşlıların yüzdesinin en yüksek olduğu ülkeler; Japonya, İspanya, Almanya, İsveç, İtalya, Avusturya ve Yunanistan'dır. Demografik dönüşüm ile ilgili dikkat çeken bir başka özellik ise, gelişmekte olan ülkelerde yaşlanma sürecinin 20 ile 40 yıl arasında yani hızlı yaşanacak olmasıdır. Hâlbuki bu süreç Fransa'da 115 yıl, ABD'de 69 yıl, Japonya'da 26 yıl sürmüşken, Azerbaycan'da 33 yıl, Çin'de 26 yıl, Singapur'da ise 19 yıl sürecektir (Mandıracıoğlu, 2010: 40).

Şekil 2. Dünya Nüfus Piramidi 2000-2050. (Kaynak: Pison, 2010: 1-4.Aktaran:Mandıracıoğlu, 2010: 39).

Demografik Dönüşüm Kuramı, ilk oluşturulduğu yıllarda veri elde edilebilen bazı Avrupa ülkeleri dikkate alınarak formüle edilmiştir. Yaşam standardı yükseldikçe ölüm hızı azalmış ve genellikle birkaç on yıl sonra, nadiren ölüm hızları kadar azalmış olmasa da doğum hızları da düşük denilebilecek düzeylere ulaşmıştır. Doğum hızlarındaki düşüşlerin ölüm hızlarındaki düşüşlerin gerisinde kalmasının nedeni, gerçekte doğumların daha düşük ya da az olması gerektiğine inanacak nüfusun bu fikre olan adaptasyonunun zaman almış olmasıyla açıklanabilir. Endüstriyel ve kentsel yaşamın getirdiği bir süreç olarak aile yaşamı eski önemini ve formunu kaybederek, geniş aile baskısı güçsüzleşmiş ve nihayet doğum hızları azalmıştır (Yüceşahin, 2011: 13). Neticede, Avrupa'da nüfus yaşlanmaktadır ve Avrupa Birliği, 2002'de Sosyal Güvenlik ve Sosyal Entegrasyon ortak raporunda yaşlılığı bir *risk faktörü* olarak tanımlamıştır (Turan, 2007: 14).

Harita 1. Avrupa'da Yaşlı Nüfusun Ülkelere Göre Dağılımı (Kaynak: Eurostat 2015).

Türkiye Nüfusunun Demografik Dönüşümü ve Yaşlanan Nüfusumuz

Dönemler itibari ile Türkiye nüfusu, 1927 yılı sayımından günümüze kadar sürekli yükselmiştir. Cumhuriyet dönemi İlk nüfus sayımında 13.6 milyon kadar olan nüfusumuz 2015'te 78.7 milyona yükselmiştir. Nüfus artışına rağmen, nüfus artış hızımız dönemler arasında önemli farklılıklar göstermiştir. 1927-1950 döneminde yıllık nüfus artış hızları % 1.1 ila % 2.2 arasında seyretmiştir. Bilindiği üzere söz konusu dönemde, nüfus eksiğini kapatma ve daha homojen nüfus yapısı oluşturma isteğine bağlı olarak gerçekleştirilen nüfus mübadelesi ve dış göçler ile Hatay'ın anavatana katılmasına rağmen; Birinci Dünya Savaşı ve Kurtuluş Savaşının ana baba çağında olması gereken nüfus üzerindeki olumsuz etkisi ve İkinci Dünya Savaşı sebebi ile silah altına alınan erkek nüfusa bağlı olarak doğum sayıları azalması sonucu, yıllık nüfus artış hızlarında düşüşler yaşanmıştır (Tablo 1, Şekil 3).

Tablo 1 Yıllara Göre Türkiye Nüfusu ve Yıllık Nüfus Artış Oranı (1927-2015).

YILLAR	NÜFUS	NÜFUS ARTIŞI %	YILLAR	NÜFUS	NÜFUS ARTIŞI %
1927	13.648.270	---	1970	35.605.176	2.5
1935	16.158.018	2.1	1975	40.347.719	2.5
1940	17.820.950	1.7	1980	44.736.957	2.1
1945	18.790.174	1.1	1985	50.664.458	2.5
1950	20.947.188	2.2	1990	56.470.035	2.2
1955	24.064.763	2.7	2000	67.803.927	1.8
1960	27.754.820	2.8	2007	70.586.256	1.4
1965	31.391.421	2.4	2015	78.741.053	1.4

Kaynak:DİE ve TÜİK verilerinden derlenmiştir.

Cumhuriyet Döneminin *en yüksek yıllık nüfus artış hızları* % 2.7 ve % 2.8'lik oranları ile 1950-1960 devresinde yaşanmıştır. Bu durumun ortaya çıkmasında, İkinci Dünya Savaşının olumsuz etkilerinin ortadan

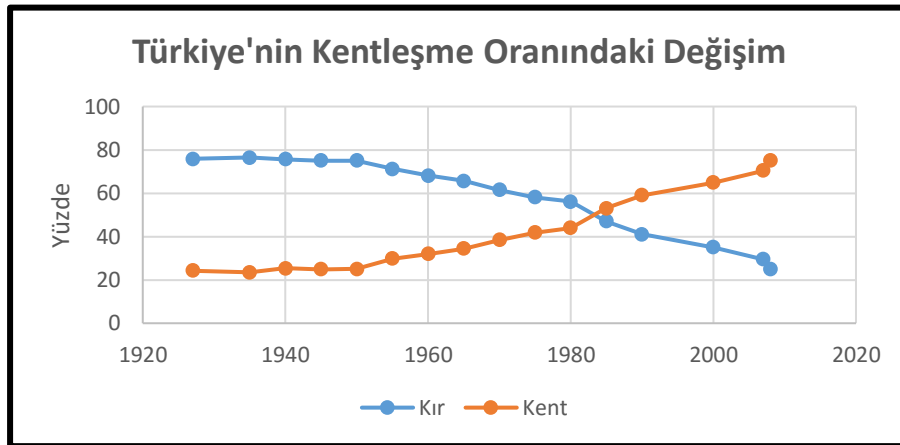kalkmaya başlaması, sağlık şartlarının iyileşmesi sonucu ölüm oranlarındaki azalışlar, ortalama yaşam süresinin uzamaya başlaması gibi faktörler etkili olmuştur. 1960-1990 arasında da, nüfus artış hızları % 2.1 ila % 2.5 arasında nispeten yüksek oranda gerçekleşmiştir. 1990'dan günümüze ise; demografik dönüşümün artan etkisi sonucu nüfus artış hızları % 2'nin altına inerek, *belirgin bir düşüş dönemi* oluşturmuştur.

Şekil 3: Türkiye Nüfus Artış Hızı (1923-2023).

Özellikle ülkemizde son 25-30 yılda yaşanan doğurganlıktaki azalışın nedenleri çoğunlukla *evrensel nitelikte olan bir takım faktörleri* içermektedir. Kadınların eğitim düzeyinin yükselmesi ve işgücüne katılımlarının artması, kentleşme, aile gelir düzeylerinin yükselmesi ve sağlık hizmetlerine erişimin kolaylaşması, bu azalışta etkili olmuştur. Ayrıca bebek ölüm hızındaki düşüş ve doğumda yaşam beklentisinin artması da doğurganlık azalışında etkili faktörler arasında sayılmaktadır (Kabaş ve Kandır, 2015:71). TÜİK 2015 verilerine göre kadın başına toplam doğurganlık hızı 2000'de 2.53 iken 2015'te 1.96' ya gerilemiştir.
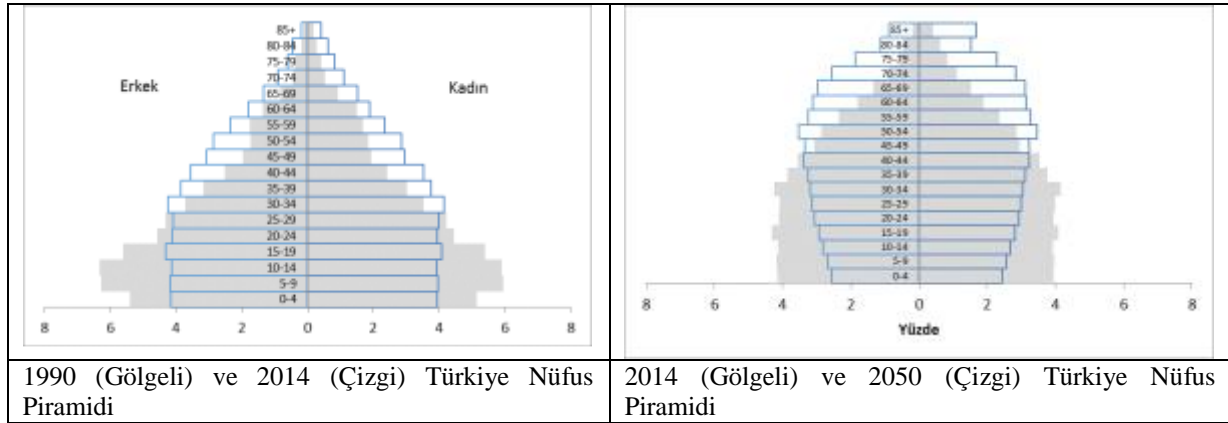
Demografik dönüşümün önemli sebeplerinden biri olarak gösterilen kentleşme; modern toplumların bilinen özellikleri arasındadır. Kentlerdeki doğurganlık oranları kırsala göre daha az gerçekleşir. Bu açıdan ülkemizin demografik yapısındaki değişim ve kentleşme sürecimiz arasında bir ilişkiden söz edilebilir. Cumhuriyetin ilk yıllarında kentlerde yaşayanların oranı % 23-24 iken bu oran 1950'ye kadar aşağı yukarı % 1 civarında önemsiz bir artış göstermiştir (Şekil 4). Ancak 1950'lilerden sonra iç göçlerle artmaya başlayan kentli nüfus, 2011'de % 74'e, 2012'de çıkarılan 6360 sayılı büyükşehir belediye yasası ile de suni olarak % 90'a ulaşmıştır. Bu kentsel gelişime bağlı olarak azalan doğum oranları ve diğer toplumsal yapıdaki gelişmeler, Türkiye'de yaşlı nüfusun payını yükseltmiştir.

Şekil 4. Türkiye'nin Kentleşme Oranındaki Değişim.

Türk toplumu 1930'lardan beri sessiz sedasız bir yaşlanma sürecine girmiştir. Demografik yapısı genç bir görünüme sahip olduğu için bu durum vurgulanmamış, daha ziyade dünyada yüksek doğurganlık oranına sahip olan ülkelerden biri oluşu ön planda tutulmuştur. Doğum oranı yüksek olsa da yarım asırdan beri hem doğum oranı hem ölüm oranı yarı yarıya düşmüştür. Türkiye'de bugün eskisinden daha az çocuk dünyaya gelmektedir, buna karşın uzun ömürlü insanlar çoğalmaktadır. Bir taraftan doğum oranıyla genç yapısını korurken, diğer taraftan yaşam süresinin uzamasıyla Türk toplumu yaşlanmaktadır (Tufan, 2007: 34).
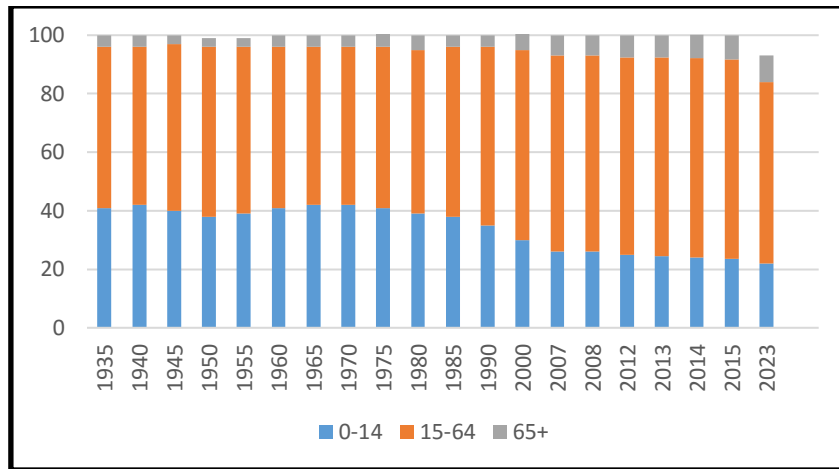
Nüfus yapısı nüfus piramidi ile görünür hale getirilmektedir ve popülasyonun hafızası gibidir (Hörl, 1978: 338-Aktaran Tufan, 2007: 34). Nüfustaki değişimleri açıklamada kullanılan mükemmel bir enstrümandır. Nüfusu genç, ülkelerde piramit *üçgene* benzemektedir. Toplumsal yaşlanmanın iyice belirginleştiği toplumlarda *çan* biçimini alır. Çok yaşlı toplumlarda *mantar* şeklini almaktadır (Rıtter, Hohmeıer, 1999-Aktaran Tufan, 2007: 34). Türkiye nüfusunun yaş yapısının değişimine nüfus piramitleri aracılığıyla bakıldığında (Şekil 5); yüksek doğurganlık rejiminden düşük doğurganlık rejimine geçişi net olarak görülmektedir. 1935'den başlayarak 1975'e kadar sürekli olarak yüksek doğurganlık seviyesine işaret eden geniş tabanlı nüfus piramitleri1980'li yıllardan itibaren doğurganlık seviyesinde azalmayı işaret eden, tabanı gittikçe daralmaya başlamıştır. 1990'dan itibaren ise ileri yaşlara doğru ölüm hızlarının düşmeye başlamasıyla artık daha da yavaş olarak daraldığı görülmektedir. Türkiye'de ölüm hızlarının azaldığını gösteren bir başka gelişme ise 65 ve daha üstü yaşlara ulaşabilen nüfusun payının zaman içinde artmasıdır (HÜNEE, 2008: 8-10).

1990 (Gölgeli) ve 2014 (Çizgi) Türkiye Nüfus Piramidi	2014 (Gölgeli) ve 2050 (Çizgi) Türkiye Nüfus Piramidi

Şekil 5. 1990, 2014 ve 2050 Yıllarına Ait Türkiye Nüfus Piramidi (Kaynak: NP, 2015:6).

Dünyada ve Türkiye'de gözlemlenen demografik dönüşüm sürecinde en dikkat çekeni yaşlı nüfus oranının toplam nüfus içinde hissedilir bir şekilde artıyor olmasıdır. Doğurganlık oranının azalması ve yaşam koşullarının iyileştirilmesine bağlı olarak ölümlülük ihtimalinin düşmesi sonucunda beliren bu olgu, sosyal hizmetlerden sağlığa, siyasetten ekonomiye kadar birçok toplumsal alanı yakından ilgilendirmektedir (Şentürk, 2015: 116).

Demografik göstergelere göre Türkiye'de yaşlı nüfusun sayısı artmıştır ve artmaya devam edecektir. 1960'da yaklaşık 1 milyon civarında olan yaşlı nüfus günümüzde 6.5 milyona ulaşmıştır. Aradan geçen 50 yılı aşkın sürede % 650 oranında artış göstermiştir. TÜİK 2015 verilerin göre, 2023'de ise yaşlı nüfusun 8.6 milyon olacağı tahmin edilmektedir. Türkiye'de yaşlı nüfus sayısının artışı, toplam nüfus içindeki oranını da etkilemiştir. 1935' de % 3'ler civarındaki yaşlı nüfus payı, günümüzde % 8'e, ulaşmıştır. 2023'te ise %10.2'ye yükseleceği beklenmektedir. Ülkemizin toplam nüfus artışı hızı % 1.37 civarında iken, yaşlı nüfusun artış hızı neredeyse 3 katı fazla olup % 3.62'dir (Şekil 6).

Şekil 6. Nüfusun Geniş Aralıklı Yaş Gruplarına Göre Dağılımı (1935-2023).
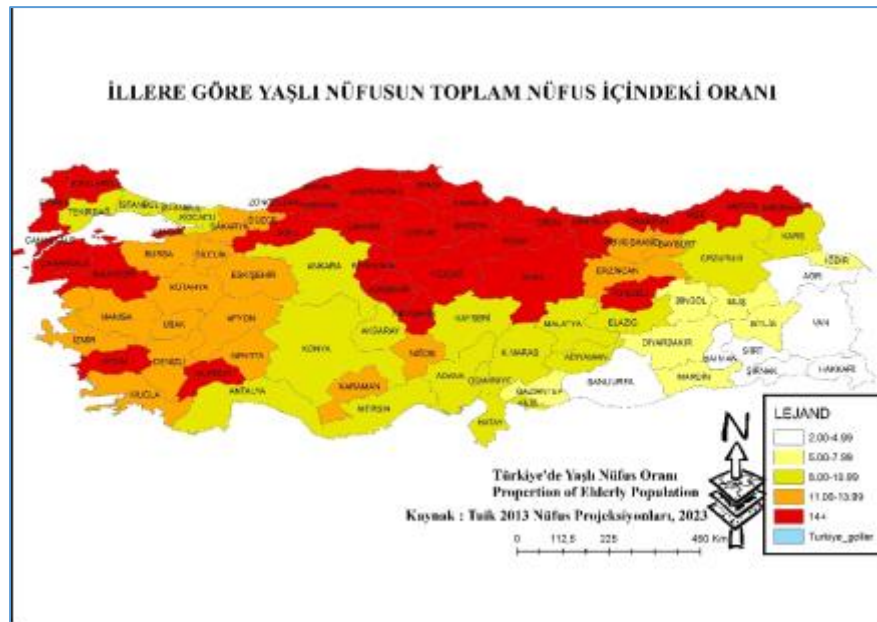
Diğer önemli bir husus ise Türkiye'de yaşlı nüfusun ikiye katlanma süresinin 1935' ile 2007 arasında sürekli kısalmış olmasıdır. 1935'te 620 bin civarında olan yaşlı nüfus 30 yıl sonra yaklaşık 2 katı olan 1.2 milyona

yükselmiştir. 1965'te 1.2 milyon civarındaki yaşlı nüfus 1990'da yani 25 yıl sonra 2.4 milyona çıkmıştır. 1990 ila 2007 yılı arasında ise yaşlı nüfus 17 yılda 2.4 milyondan 4.8 milyona ulaşmıştır. İleriye dönük projeksiyonlarda 6.5 milyon civarındaki günümüz yaşlı nüfusun 19 yıl sonra 2033'de 13 milyona çıkması beklenmektedir. Yani 1935 ila 2007 arasında yaşlı nüfusun ikiye katlanma süresi kısalırken, önümüzdeki dönemde bu sürenin biraz uzayacağı tahmin edilmektedir (Yılmaz, 2016:131).

Türkiye nüfusu yaşlandıkça bağımlılık oranı da düşmektedir. Ancak, genel bağımlılık oranında çocuk bağımlılık oranı azalmasına karşılık, *yaşlı bağımlılık oranının yükseldiği* dikkat çekmektedir.

YAŞLI NÜFUSUN MEKÂNSAL DAĞILIMI

Ülkemizde yaşlı nüfusun mekânsal dağılımı incelendiğinde; bölgeler arası farklılıklar gözlenmektedir. Bu farklılığın ortaya çıkmasında; demografik geçiş döneminin önemli ayrıntılarından olan doğum ve ölüm oranları ile ortalama yaş sürelerinin seyri etkili olmuştur. TÜİK verilerine göre Türkiye'de yaşlı nüfus oranının en fazla olduğu illerimiz % 16.5 ile Sinop, %15. 7 ile Kastamonu ve % 14.3 ile Çankırı, % 14.2 ile Giresun ve % 14.0 ile Artvin'dir. Buna karşılık, % 2.8 ile Hakkari, % 3.0 ile Şırnak ve % 3.2 ile de Van, % 3.5 ile Şanlıurfa ve % 3.8 ile de Ağrı en az yaşlı nüfus oranına sahip illerimizdir. Nüfusun yaşlanması ile ilgili göstergelerden biri olan ortanca yaşın en yüksek olduğu üç ili, 38.2 ile Sinop, 37.7 ile Balıkesir ve 37.6 ile Edirne'dir. En düşük ortanca yaşa sahip ilk üç ilimiz ise 18.7 ile Şırnak, 19 ile Şanlıurfa ve 19 .7 ile de Ağrı'dır (Harita 2).
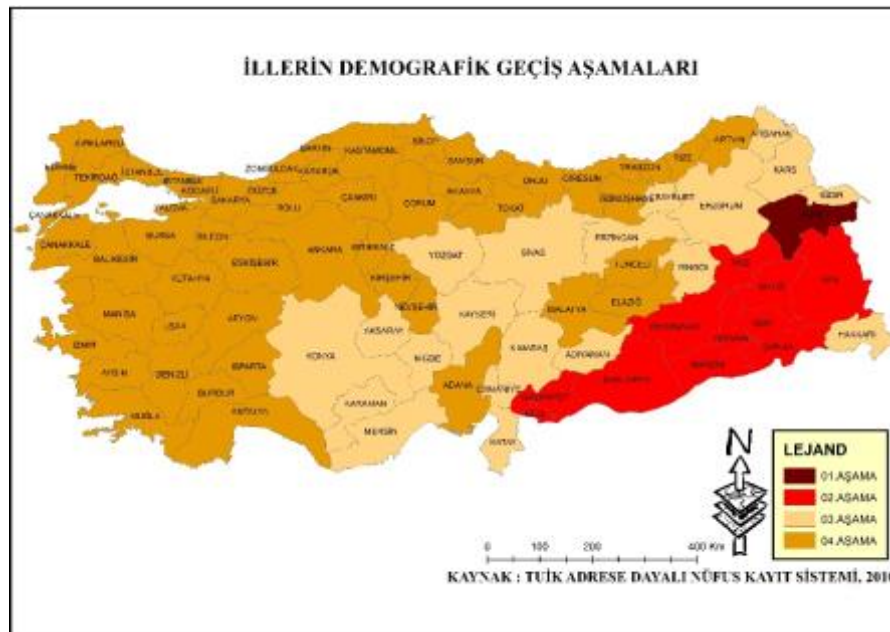

Harita 2. İllere göre yaşlı nüfusun toplam nüfus içindeki oranı (Kaynak: TÜİK 2013).

Ülkemizde yaşlı nüfusun sayısal açıdan fazla olduğu iller, başta İstanbul olmak üzere nüfusu kalabalık olan illerimizdir ve ülkemizin batı yarısında ağırlıktadır. Demografik geçiş aşamaları da dikkate alındığında; toplam doğurganlık hızının ülke geneline göre daha yüksek olduğu Doğu ve Güneydoğu bölge illerimizde ise yaşlı nüfus sayısı ve toplam nüfus içindeki payı en azdır (Harita 3).

TÜİK 2013 verileri esas alınarak yapılan bir çalışmada Türkiye'de yaşlanma endeksi % 45.9 olarak tespit edilmiştir. Yani her 100 çocuk başına 60 yaş üstü nüfus grubundan 45.9 kişi düşmektedir. İllerimiz arasında endeks değerlerinin % 10 ile % 127 arasında değiştiği görülmektedir. İzmir, yaşlanma endeksinin (127.2) en yüksek olduğu ildir. Sinop (123.3), Çanakkale (113.8), Edirne (110.4) bu endeksin yüksek olduğu diğer illerdir. Yaşlanma endeksinin en düşük olduğu illerin başında Şırnak (10.2), Hakkari (12.2), Şanlıurfa (12.6), Ağrı (14.1) ve Batman (14.9) gelmektedir. İllerin yaşlanma endeks değerleri incelendiğinde Türkiye'nin batısı ve kuzeyindeki illerde endeks değerlerinin yükseldiği açıkça görülmektedir (Ünal, 2015: 238).

Ülkemizde yaşlı nüfusun mekânsal dağılımındaki en dikkat çekici ayrıntı ise toplam nüfus içinde en yüksek yaşlı nüfus oranına Karadeniz Bölgesinin sahip olmasıdır (Harita 2-Harita 3). Bilindiği üzere, yaşlı nüfus oranları, kırsal ve kente göre değişiklik arz etmektedir. Kentleşme ve sanayileşmenin neden olduğu istihdam şartları, kırsaldan kente yönelik iç göçleri hızlandırmıştır. Özellikle bu göçlere genç nüfusun katılması, kırsaldaki yaşlı nüfusun toplam nüfus içindeki payını yukarı çekmiştir. Karadeniz Bölgesinde kırsal nüfus payının yüksek olması bu bölgede yaşlı nüfusun ülke ortalamasının üzerinde seyretmesinin nedenlerinden biri olmuştur. Ayrıca,

demografik dönüşümün ortaya çıkardığı geleneksel aile yapısının nispeten bölgede daha yavaş çözülmesi, yaşlı nüfusu olumlu etkilemektedir. Yaz sıcaklık ortalamalarının çok yüksek olmadığı, kış ayı ortalamalarının da 0 °C altına pek inmediği Karadeniz iklimi, yaşlı nüfusun günlük yaşam düzeni ve sağlık şartlarına elverişli ortam hazırlamaktadır. Özellikle Karadeniz kıyıları boyunca iklimin neden olduğu vejatasyon özellikleri ve denizel şartlar da psikolojik destek avantajını sağlamıştır.

Harita 3. İllerin demografik geçiş aşamaları (Kaynak: TÜİK 2010).

SONUÇ

Türkiye'de yaşlı nüfus, diğer nüfus gruplarına göre daha hızlı artış göstermesine karşın; Türkiye'nin gelişmiş ülkelerle kıyaslandığında hâlâ daha genç bir nüfusa sahip olduğu söylenebilir. Ancak bu veri, Türkiye'nin yaşlı nüfusundan çok *yaşlanan bir nüfusa* sahip olacağını göstermektedir.

Demografik yaşlanma Türkiye'de geçtiğimiz yüzyılın 30'lu yıllarında başladığı halde doğum oranlarının aşırı yüksek oluşu bunun algılanmasına engel olmuştur. 70'li yılların başlarından beri uygulanan nüfus planlaması, hedefi bu olmadığı halde toplumsal yaşlanmanın bugün daha kolay görülmesine dolaylı katkı yapmıştır. 1960'lardan itibaren yaşlıların sayısı ve oranı giderek yükselmiştir. Yaşam koşullarından meydana gelen değişimler, bebek ölümlerin azalmasına ve yaşlanma şansına sahip insanların çoğalmasına yol açınca, yaşam süresi de uzamaya başlamıştır. Nüfus artışı sadece doğumlarla değil, aynı zamanda uzun ömürlü insanların çoğalmasıyla da bağlantılı olduğu anlamına gelen bu gelişme, önümüzdeki dönemlerde toplumun yaşlanmasına ivme katacaktır (Turan, 2007: 15).

Hızla yaşlanması beklenen Türkiye'yi yaşlı nüfusa refah hizmeti sunmada birtakım sorunlar beklemektedir. Yaşlı nüfusta ekonomik güçlükler ve yoksulluk, fiziksel yetersizlik ve artan hastalıklar, değişen geleneksel sosyal yapı neticesinde yalnız yaşam başlıca sorunlardır. Bu ve benzeri sorunlara karşılık sosyal hizmet alt yapılarının yetersizliği, emeklilik gelir düzeyleri, sağlık masrafları, aktif yaşlanma imkanları, yaşlı bakımı için gerekli yetişmiş eleman eksiklikleri de belirli planlar dâhilinde kamu tarafından ele alınıp çözüme kavuşturulmalıdır.

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DEPARTMENT OF COMPUTER AND INSTRUCTIONAL TECHNOLOGY TEACHER EDUCATION OPINIONS OF CANDIDATE TEACHERS ON EDUCATION MODELS

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ABSTRACT

The aim of this study is to reveal education models imagined by candidate teachers from Computer and Instructional Technology Teacher Education (BÖTE) department regarding preparation of course, responsibility of teacher and student during phases of learning/instructing and assessment processes as well as possible methods and techniques that can be used in those phases. In the study, a qualitative approach is employed in order for the research to feature a flexible, holistic and inductive analysis and for an in-depth examination and depiction of sample. Working group of the study consists of 30 candidate teachers who received education at Siirt University Education Faculty Computer and Instructional Technology Teacher Education during 2015-2016 education term. The sample is chosen through criterion sampling which is one of the purposeful samplings. In the study, a questionnaire form is used as a data collection tool which consists of open-ended questions to ask opinions about teacher's responsibility during course preparation phase, learning/instructing phase and assessment phase, student responsibility and methods and techniques that can be used during those phases. A descriptive content analysis technique, which is a qualitative analysis technique, is used during analysis of data. After the conclusion of the study findings are put in order as course preparation, learning-instructing practices and assessment phases and in each phase, opinions are presented regarding teacher responsibility, student responsibility and methods and techniques that can be used during those phases.

Key words: Education, education model, candidate teacher

INTRODUCTION

Students are located at the center of modern education understanding. Education is focused on the livings of students. This student-focused approach views him or her as a whole consisting of emotion, thought and values an aims at development with all these aspects.(Özabacı and Acat, 2005) Despite this, one of the factors that impact student performance is teachers. Teachers are one of the main elements of education. According to Kavcar (1987), success in education depends on teachers who can operate and implement the system in the first place. No education model can offer service above the qualifications of its personnel. Therefore, he stated that a school can be no better than the teachers within itself. According to Can (2004), an effective teacher is an employee in education sector who does have responsibilities towards his or her students and care about emotions and needs of students. Üstündağ et. al. (2008), on the other hand, argued that class environment should be designed to increase quality of learning and instruction in accordance with necessities of present time. When it is considered that teachers have a duty and responsibility for preparing students for life, making them aware of their duties and responsibilities towards self and society, bringing up querier, investigative and self-confident individuals, it is important to pre-determine which education models they imagine Aydın, Şahin and Topal (2008) argue that new responsiblities are given to teacher, who are defined as behavior changing engineer, at present. Tatar et. al. (2012) argued that the beliefs of teachers regarding learning-instructing process should be examined closely since they give shape to the education. In their study, Thomas, Pederson and Finson (2001), on the other hand, mentioned that there is a relationship between candidate teachers' beliefs towards education and cognitive models that reflect their behavior. Senemoğlu (2012) said that human beings perceive cases, facts and entities after interaction with the environment and structure them in their minds and then transform the knowledge they structured in their minds into behavior. Therefore after graduation, candidate teachers too begins their career with the education models they constructed in their minds and learning experiences they gained throughout their training process for instruction. Hence, this situation is influential in student's performance, classroom management and method they will use and technical decisions they will make in education environment. For this reason, it is important to reveal what kind of education models are contemplated by candidate teachers for predicting what kind of education they will offer in future.

The goal of this study, is to reveal education models contemplated by Computer and Instructional Technology Teacher Education (BÖTE) department candidate teachers regarding preparation of course, responsibility of teacher and student during phases of learning/instructing and assessment process as well as possible methods and techniques that can be used in those phases.

METHOD

Pattern Of Study

In the study, a qualitative research method is employed in order for the research to feature a flexible, holistic and for an in-depth examination and depiction of sample. Qualitative research method is defined as a study method in which qualitative data collection techniques such as observation, interview and documents are used and in which a qualitative process is followed in order to put forth cases in a realistic and holistic way in their natural surroundings (Yıldırım and Şimşek, 2008). Qualitative research method adopts an interpretative approach when it comes to research problem by looking from a holistic view to all disciplines. The facts and cases, on which research is made, are dealt in their own context and are interpreted in terms of the meanings attributed to them by people.

Working Group

Working group of the study consists of 30 candidate teachers who received education at Siirt University Education Faculty Computer and Instructional Technology Teacher Education during 2015-2016 education term. The working group is chosen through criterion sampling which is one of the purposeful samplings. Criterion sampling features individuals, cases, object or situation that have certain qualities of observation units. In this case, units (objects, cases etc.) that meet criteria are taken into the sampling. (Büyüköztürk et. al., 2008) In this study, criterion is set as possession of basic knowledge about and being a student in Computer and Instructional Technology Teacher Education, fulfillment of Special Education Methods I and II courses and participation in the study as a volunteer.

Data Collection Tool and Analysis

In the data collection phase of the study, a semi-structured questionnaire form is used as a data collection tool which consists of open-ended questions to ask opinions on teacher's responsibility during course preparation phase, learning/instructing phase and assessment phase, student responsibility and methods and techniques that can be used during those phases. Before the preparation of the survey form, relevant studies were looked up in the literature (Ayvacı et. al., 2014; Sünbül, 1999; Yeşil, 2014). Thereafter, under the light of collected data, the survey form was given final shape in accordance with opinions and recommendations of two academics who are expert in their respective fields. Candidate teachers were given information regarding the content and goal of the study during the application process of the study and were requested to fill up forms in 30 minutes. The forms filled up by teachers are the main data sources of the study. A descriptive analysis technique, which is a qualitative analysis technique, is used during analysis of data.

During the analysis and interpretation of data through a descriptive analysis, the steps pursued are as follows: forming a framework for descriptive analysis, identification of findings and interpretation of findings. Since a qualitative research method is employed in the study, differently from quantitative method, aspects such as persuasiveness, transmissibility, consistency and confirmation were assessed. Increase of persuasiveness (internal validity) and transmissibility (external validity) is ensured through use of expert views and detailed depiction of research process with purposeful sampling respectively, during the development of data collection tool. In addition, every answers given to each question were compared among themselves and codification was independently made by two individuals. Thereby it was aimed at increasing consistency (internal reliability). Besides, all data derived from candidate teachers are kept in a codified form.

FINDINGS

In this section, the opinions of candidate BÖTE teachers regarding preparation of lesson, learning/instructing and assessment phases, responsibility of teacher and education methods they have in their minds regarding the methods and techniques that can be used during these phases. Opinions of candidate teachers on preparation phase are given on Table-1.

Table-1 Opinions of candidate teachers on preparation phase

		N	%
Teacher responsibility	Should be ready lesson by preparing a good lesson plan	16	26,7
	Should check degree of student preparedness	9	15,0
	Should keep order in class	8	13,3
	Should arouse interest of students when commencing lesson	7	11,7
	Should prepare lesson material	6	10,0
	Should give information about lesson to students at the beginning	5	8,3
	Should ask questions to student	5	8,3
	Should make a physical preparation in class environment	4	6,7
	Total	75	100
Student responsibility	Should make preparation before class	21	30,4
	Should prepare tools and equipment about lesson	12	17,4
	Waits for teacher in a silence	10	14,5
	Listens to teacher	7	10,1
	Should have made homework	6	8,7
	Should show interest towards lesson	5	7,2
	Should arrive class in time	5	7,2
	Should ask questions if a subject is not understood	2	2,9
	Should make research about the subject	1	1,4
	Total	69	100
Method and techniques	Question answer	11	19,0
	Lecture	10	17,2
	Brainstorm	9	15,5
	Have it done by pointing out	8	13,8
	Fishbone	6	10,3
	Lecture with slide show	3	5,2
	Drama	3	5,2
	Should make experiment	3	5,2
	Cognitive map	2	3,4
	Discussion	1	1,7
	Sample case	1	1,7
	Debate	1	1,7
	Total	58	100

As seen from the Table-1, when looked into the opinions of candidate teachers about teacher responsibilities during preparation phase %26,7 said "*Should be ready lesson by preparing a good lesson plan*", %15 said "*Should check degree of student preparedness*" and %13,3 said "*Should keep order in class*". In this phase, when looked into the opinions on student responsibilities, %30 said "*Should make preparation before class*", %17,4 said "*Should prepare tools and equipment about lesson*", %14,5 said "*Waits for teacher in a silence*" and %10,1 said "*Listens to teacher*". When looked into the opinions of candidate teachers regarding methods and techniques that can be used in this pase, %19 said "*question answer*", %17,2 "l*ecture*" and %15,5 said "*brainstorming*". Opinions of candidate teachers about learning/instructing phase are given on Table-2.

Table-2 Opinions of candidate teachers about learning/instructing phase

		N	%
Teacher responsibility	Active participation of students in lesson should be ensured	9	11,8
	Materials that would enrich lecture should be used	8	10,5
	Examples should be given about subjects	8	10,5
	Questions of students should be answered	7	9,2
	Students should be given opportunity to voice their opinions about subjects	7	9,2
	A suitable technique, which is related to lecture subject, should be used	6	7,9
	Should forward questions	5	6,6
	Exercises should be made	5	6,6
	Should make eye contact	3	3,9
	Should motivate class	3	3,9
	Should use class board	3	3,9
	Should use time efficiently	3	3,9
	Should make revisions	2	2,6
	Should use means for consolidation	2	2,6
	Should lecture fluently	2	2,6
	Should establish contact with student	1	1,3
	Should warn students who create disturbances in classroom	1	1,3
	Total	76	100
Student responsibility	Should listen to teacher	23	31,1
	Should ask questions to teacher and give answers to questions	16	21,6
	Should actively participate in class	12	16,2
	Should take notes	10	13,5
	Should do practices during lesson	6	8,1
	Should openly voice his or her opinions or beliefs	5	6,8
	Should give example about lesson	2	2,7
	Total	74	100
Applied method and technique	Plain lecture	14	13,3
	Question answer	13	12,4
	Brainstorming	12	11,4
	Show then get it done	9	8,6
	Six thinking hats technique	7	6,7
	Empirical observation	7	6,7
	Presentation technique	6	5,7
	Fishbone	6	5,7
	Drama	5	4,8
	Discovery	5	4,8
	Sample case	4	3,8
	Discussion	4	3,8
	Concept map	2	1,9
	Cooperative learning	2	1,9
	Showing video	2	1,9
	Debate	2	1,9
	Panel	1	1,0
	Station	1	1,0
	Micro education	1	1,0
	Problem based education	1	1,0
	Project-based learning	1	1,0
	Total	105	100

As seen from Table-2, when candidate teachers' opinions on teacher responsibility is examined, %11,8 said "active participation of students in lesson should be ensured", %10,5 said "materials that would enrich lecture should be used", %10,5 said "examples should be given about subjects, %9,2 said "questions of students should be answered, %9,2 said "students should be given opportunity to voice their opinions about subjects." When looked at candidate teachers' opinion on student responsibilities, %31,1 said "should listen to teacher", %21,6 said "should ask questions to teacher and give answers to questions", %16,2 said "should actively participate in class, %13,5 said "should take notes." With regard to methods and techniques that can be used during learning/instructing phase, %13,3 of candidate teachers preferred "Plain lecture", %12,4 preferred "question answer", %11,4 preferred "brainstorming" and %8,6 preferred "show then get it done." Opinions of candidate teachers on possible methods and techniques that can be used during assessment phase is given on Table-3.

Table-3. Opinions of candidate teachers on assessment phase

		N	%
Teacher Responsibilities	Should make assessment and evaluation	10	19,6
	Should ensure student fulfill goals	10	19,6
	Should make revisions	9	17,6
	Should ask questions	9	17,6
	Should establish criterion	4	7,8
	Should prepare question	3	5,9
	Should perform measurement that is appropriate for class level	3	5,9
	Should assign homework	2	3,9
	Should encourage thinking	1	2,0
	Total	51	100
Student Responsibilities	Should answer questions	8	29,6
	Should ask questions about the topics not well understood	6	22,2
	Should have knowledge about his or her learning performance	4	14,8
	Should make self assessment	3	11,1
	Should make revisions	2	7,4
	Should not cheat	2	7,4
	Should write summary	1	3,7
	Should do homework	1	3,7
	Total	27	100
Applied Method and Technique	Oral examination	19	40,4
	Multiple-choice tests	9	19,1
	Open-ended interpretive questions	3	6,4
	Concepts web	3	6,4
	Exercise questions	3	6,4
	Brainstorm	3	6,4
	Concept map	2	4,3
	Gap-filling	2	4,3
	Cognitive map	2	4,3
	Correct wrong	1	2,1
	Total	47	100

When looked into the Table-3 for the opinions of candidates teachers about responsibilities of teachers, %19,6 said "should make assessment and evaluation", %19,6 said "should make assessment and evaluation, %17,6 said "should make revisions and %17,6 said "should ask questions". About students responsibilities during assessment phase, %29,6 of the candidate teachers said "should answer questions", %22,2 said "should ask questions about the topics not well understood, %14,8 said "should have knowledge about his or her learning performance" and %11,1 said "should make self assessment". When looked into the preferences of candidate

teachers regarding methods and techniques that can be used during assessment phase the figures are as follows: Oral examination (%40,4), multiple-choice tests (%19,1) and open-ended interpretive questions (%6,4)

DISCUSSION CONCLUSION AND RECOMMENDATIONS

In this section, a conclusion on education models imagined by candidate teachers regarding preparation of course, responsibility of teacher and student during phases of learning/instructing and possible methods and techniques that can be used in those phases is presented below.

In the study, with regard to course preparation phase candidate teachers said teachers should "be ready for lesson by preparing a good lesson plan, check degree of student preparedness, keep order in class and arouse interest of student for lesson." Accordingly, it can be said that candidate teachers favor a constructivist approach during course preparation phase. Constructivist approach designated teacher responsibilities as encouraging active participation of students in lesson, forge a link between prior and new knowledge and encourage asking of questions (Orhan and Bozkurt, 2005) Besides, main role of teacher is considered as preparation of an environment which would help students to reach information and make sense of it (Akpınar and Ergin, 2005). Furthermore, it is stated that good preparation of education process by teachers has an important role in inclusion of students the process and their success. On the other hand it is highlighted that physical and psychological preparedness of students should be taken into account (Çelik, Şanal and Yeni, 2005). Therefore, it is noteworthy that candidate teachers are aware of the fact that teachers has responsibilities of a good lesson preparation and necessity of controlling how much students are prepared for lesson. In a similar study conducted by Ayvacı et. al. (2014), graduate students stated that teachers have responsibilities of organizing education environment, drawing student attention and motivating students during course preparation phase. Er and Aral (2008) argued that teachers should interrogate how students make sense of concepts as well as organize extraordinary, student focused and interesting activities before lesson. Şişman (2007) states that unless teachers do not fulfill their responsibilities towards students, they should not expect they to fulfill their responsibilities. In this study, with regard to students responsibilities during lesson preparation phase, candidate teachers said that student should make preparation before class, prepare tools and equipment about lesson", wait for teacher in a silence and listen to teacher. In addition, in this phase, they stated that methods and techniques question answer, plain lecture and brainstorming can be used. In the constructive approach, teachers are tasked with making planning of authentic learning tasks and education counseling for helping for thinking. (Koç, 2006)

In the study, when opinions of candidate teachers from BÖTE department regarding student responsibilities during learning/instructing phase, they said students should listen to teacher", ask questions, give answers to questions and actively participate in class. With regard to teacher responsibilities they said teachers should use materials that would enrich lecture, give examples about subjects and encourage active participation of students in lesson. These findings has parallels with constructive approach. Teachers who embrace constructivist approach argue that different education method and techniques should be employed and for that emphasis should be placed on activities such as case study, project based learning, problem based learning, learning based on cooperation which feature active student inclusion. In the study, candidate teachers said that methods and techniques such as plain lecture, question answer and brainstorming can be used during learning/instructing phase and favored techniques such as cooperative learning, project based learning and problem based learning less. According to this, it can be said that candidate teachers do contemplate well about educational activities that include process and group activities during learning and instructing phase. Yeşilyurt (2013) has conducted a similar study which found that teachers often use methods and techniques such as plain lecture and question-answer and rarely use those such as cooperative, project and problem based learning as well as concepts map and brainstorming. Ocak et. al. (2012) said in his study that teachers avoid methods suggested by constructive approach and opt rather for plain lecture and question and answer.In contrast, in a similar study conducted by Ayvacı et. al. (2014), graduate students found to have embraced principles of constructive approach and the methods and techniques suitable for 5E model. This difference may stem from the selection of a different sample group.

In the study, candidate teachers designated teacher responsibilities as making assessment and evaluation, ensuring students fulfill goals, making revisions and asking questions while designated student responsibilities as answering questions, asking questions about the topics not well understood and making self assessment. Besides in this study, candidate teachers gave preference to oral examination, multiple-choice study and open-ended interpretive questions as methods and techniques that can be used in this phase. Accordingly, it can be said that candidate teachers from BÖTE department contemplate responsibilities of teacher and students in line with principles of constructive approach during assessment phase while embrace methods and techniques suggested by behavioral approach rather than alternative measurement tools suggested by constructive approach that can be used in this phase.

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DESIGNATION AND QUALIFICATION OF VICTIMS OF LOCAL NEWS STORY IN TURKISH DAILY WRITTEN PRESS: EXEMPLE OF *MILLIYET*

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ABSTRACT

The local news is a kind of the print media which does not know limits today. It is everywhere; in the printed media, on the radio, on television, in the cinema, in the literature, on the web, etc. Centered on the human dramas of every type, this media kind is of sensational character and causes at the readers different feelings: surprise, fear, pity, insecurity, etc. In our study, we have for objective to analyze the nomination of the victims in the print media by establishing their reference chains throughout the text. Afterward, we are going to try to raise the linguistic processes of qualification of the victims, and consequently the linguistic way(s) by which the sensation is created.

INTRODUCTION

The media constitute) an indisputable power in the current world and they are capable of mobilizing with not much effort of the masses, of manipulating the information, people, etc... However, they have an essential aim, it is the "aim to let know, or disclosure objectives (…) which seeks to produce an object of knowledge, according to a civic logic: inform the citizen" (Chareaudeau 2005: 70). That is provide information onto events which took place or take place in the country or abroad through the linguistic activities such as to tell, to describe and to explain in order to clear up the things to the addressees. Furthermore, they have a second aim which is also important as the first one, but it is especially with the aim of survival in the media world, It is the "aim to make feel, or to drew attention, that tends to produce an object of marketed consumption according to a commercial logic: gain control of the largest number to survive the competition" (Chareaudeau 2005: 70). Get people make attention means "making feel feelings to its public, to mobilize his affect, to activate with him interest and passion for the information which is transmitted him" (Charaudeau 2005: 74). And consequently be best sellers to be able to assure their existence in the media competition.

In the present study, we are going to observe the fulfillment of these two aims in the Turkish daily newspaper *Milliyet.* To observe the realization of the disclosure objectives, we opted for news story as text of information in particular the name of the victim. Besides, the news story is a media which is "from informative point of view, self-sufficient" (Petitjean, 1987 : 84) and a "*claused structure*" (Barthes, 1964 : 189) car "it contains all its knowledge in itself ; no need to know anything about the world in order to consume a fait-divers ; it refers formally to nothing bat itself ; (…) on the level of reading, everything is given within the news story ; its circumstances, its causes, its past, its outcome" (*ibid.*). That is he contains the answers of the famous journalistic questions *who? whose? with who ? what? where? when? why? how?* the consequences, etc. However, there are also news story "whose structure is opened" (Petitjean, 1987 : 84). In this case, although most of the information are present in the text, there are also points not clarified sometimes on the "identity of the victim, the murderers, motives..." (*ibid.*), of ongoing investigations, witnesses to be questioned, etc. And as the unclear aspects clear up, new publications are realized to bring details of external developments.

And to demonstrate the aim of drawing the attention, we concentrated on the designation of the victim in the titles and on the first designation in the text. The reason is that during the description of the sequence of events, we just tell the spatiotemporal frame of the facts, The chronology of the facts and the description of the criminal/aggressor which can become "at the same time object of attraction and object of rejection (discharge)" (Charaudeau 2006) while the victim stays generally in the background of the history, which does not prevent the victim, as suggests a victim named Fanny, to be "the heroin" and "the survivor" of her own story (http://www.acrimed.org/Le-viol-dans-les-medias-un-fait-divers, 07.07.2016), except in the cases of murder. And after the event, the victim has to deal with several problems and troubles: cure her physical wounds and her soul; calm its suffering, overcome prejudices and difficulties …

And the journalist, with his speech of dramatization, invites the public "to share the suffering of others, especially as this one is reported by the victims themselves, or by outside witness but close, and we know that words of the victims and the words of witnesses are indisputable" (Charaudeau 2006). And by this way the journalist address essentially "the affect of the receiver" (Kalinic 2005: 184) and try to affect the feelings of the readers in order to make them feel new feelings.

THE STUDY

For our study, we built our corpus from news story published on the web site of the Turkish national newspaper *Milliyet* from March 1st till March 31st, 2016. During the choice of texts, we paid attention to select texts presenting criminal loads or offences which results in legal proceedings, that's why news story have an open structure. We have excluded from our corpus, texts presenting the accidents of any kind (road, domestic, nature, marriage, death...). So, we formed a rather homogeneous corpus of 42 texts among which 41 appear in the column "*News*" and an article being a part of the section "*Sport*" but handles an aggression with a bladed weapon between supporters of two teams of the city of Adana (Turkey), which is consequently one of themes of news story. The distribution of texts according to their subject was not always easy because certain texts contain two different offences; nevertheless we managed to summarize them in the following way:

- rape : 4 texts ;
- any kind of aggression : 9 texts ;
- sexual harassment : 3 texts ;
- murder: 18 texts, Among which, three concern a single event and five others are committed after the rape;
- kidnapping: 2 texts ;
- sexual assault: 3 texts, Among which, one is followed by suicide;
- subtraction of money: 1 text
- dead overdraft: 2 texts.

Among 42 texts of our corpus, 17 texts present the pursuit of an event which has already taken place, or the end of the legal proceedings, etc. because "without judicial follow-up, a news story goes out of itself and is the object of none followed journalistic" (Cossalter 2006: 49). During the mediatisation of the event there is always a brief reminder on the progress.

During our study, you have adopted at first a descriptive method and then an analytical method to demonstrate the aims of information and "attention drawing" of texts. We also made all the necessary translations from the Turk to French by taking into account the structure of the Turkish language and the desired meaning.

FINDINGS

THE INTRODUCTION OF THE VICTIM IN THE TITLES

We began our study of analysis of the first name of the victim in the title to observe the aim of information because the title plays a decisive role in the choice of a text to be read or not to be read. So, we arrived at a classification of the titles in five subgroups.

The designation by a proper noun

The identification of the victim and her presentation as a real being come true by the use of the proper nouns because it allows "to indicate the particular being, through its civilian identity" (Kalinic 2005: 178). To use proper nouns allows us to speak about people who live. So, among 42 titles of our corpus, we observed the use of the proper nouns in 6 titles but only 4 titles concern the victim. In these 4 uses, indeed, there are only 2 first names. One of the first names, example (2 and 3), is "in abrupt naming" (Perret 2003: 115) and it is used 3 times because it is a part of a series of texts which handles the death of a 10-year-old child.

(1) A sexual assault is the cause of the suicide of the high school student Oya (*Milliyet*, 25.03.2016)

(2) Is Beratcan a victim of secret love? (*Milliyet*, 23.03.2016)

(3) The arrest of the alleged murderer of Beratcan (*Milliyet*, 27.03.2016)

To read the first name of the victim gives the impression to us that we already know the victim and that we have certain relationships. Especially in the example (1), to speak about "the high school student Oya" implies that we know several people having for first name Oya, and by indicating she by "the high school student" separates her from the others. However, from the point of view of information, to have only the first name make difficult the identification of the victim.

The designation by the age of the victim

Describe the victim according to its the age, which is also an important peculiarity of the civil identity of a human being, allows the author of the article not only to give information but also to create the sensation; it affects the "affect" (Charaudeau 2005: 74) of the reader and "capture" its attention. More the age of the victim is low or higher more the pain or the sensation is deeper because these victims are the most vulnerable among all the victims. The expressions encountered are: a nine-ear-old nephew / niece, a 15-year-old girl, a newborn child, an old woman …
In our corpus, the number of the title introducing the victim according to the age is 9.

(4) 23 years prison for sexual abuse against his niece (or nephew) of 9 years old! (*Milliyet*, 16.03.2016) (in the title in Turkish it is impossible to identify the gender of the victim; it is possible after reading the text)

(5) Sexual harassment against 15- years– old girl on the tram! (*Milliyet*, 22.03.2016)

(6) Imprisonment for 4 accused of sexual abuse to 46 year–old man (*Milliyet*, 22.03.2016)

We notice minors in the examples (4) and (5). These minors keep their anonymity in the text because they are indicated by their initial of their names. In these examples "their identity is irrelevant" (Perret 2003: 115); what matters it is the fact that they are minor. So, these titles inform about an event by describing the victim according to her age but at the same time perform the function "attention-channeling". As for the example (6), we have 4 aggressors against a single victim of an adulthood whose physical capacity remains lower than that of his aggressors.

The designation by a social identity
Having a social identity is important because "the trait of the social identity is dominant compared with the name of the victim. We notes that the insertion of the victim within an implicitly valued traditional social order" (Kalinic 2005: 178). In our corpus, 23 titles introduce the victim by a social identity that can be grouped according to their nature:

a) The family relationship
A father, a child, a grandfather, a grandson, a mother-in-law (stepmother), a nephew / niece, etc… The names of the relatives are often accompanied with a possessive adjective. Moreover, in the relationship "as the father evokes an image of responsibility, authority and justifiable protection towards his family and towards his children" (Kalinic 2005: 178). All the parents are generally responsible, the one towards the other one. Nevertheless, the examples (7) and (8) show that the victims died because of the violence of their family, which perturbs the traditional social order evoked above.

(7) A grandfather who killed accidentally his grandson has been released (*Milliyet*, 12.03.2016)

(8) (He) killed her sister with whom he had a falling out (*Milliyet*, 09.03.2016). (It is the context which allows identifying that it is about a brother but in the Turkish title the aggressor is indicated by the pronoun of the third person and to the singular)

b) The professional status
A businessman, a professor, a schoolgirl, a retired colonel, etc… Within a working environment, the relationship between the individuals is rules with standards not necessarily written. By examples in a school relationship between teachers, persons in charge, students, etc. are pre-established by regulations and we expect that everybody conforms to it. It is not the case of the example (9), that besides informing, surprise because of the number of the victims in a school. On the other hand the example (10) is a rather informative title of event even if the victim is mentioned there, it remains totally anonymous.

(9) 150 years of prison for the teacher who committed a sexual assault on 12 schoolgirls (*Milliyet*, 16.03.2016)

(10) Assault with a firearm against a businessman in Kadıköy (*Milliyet*, 22.03.2016)

c) The designation by a generic name
In 6 texts of our corpus, we noticed a designation of the victim by a generic name such as *a woman, a man, a person, a type(chap) …* This designation gives the impression that it is irrelevant people while every individual is important within the society. The common point of these three titles, it is because they perform their function to inform the readers of the events who took place: It is successively about a murder, sexual harassments and discovery of body. On the other hand the title (11) is distinguished from two others by the demonstration of the feelings of the journalist especially with the "atrocious" adjective which would doubtless awaken feelings at readers. And as for the example (13), this title is a little bit mysterious and it might arouse the curiosity of the readers.

(11) An atrocious murder of a woman in Erzurum! (*Milliyet*, 28.03.2016)

(12) A person having committed sexual harassments to 7 women during 4 months has been captured (*Milliyet*,

03.03.3016)

(13) Two body found in a vehicle (*Milliyet*, 28.03.2016)

d) The titles without name of the victim
This classification, it is possible to observe two groups of titles; the first category contains the delinquent but bears no indication of the victim while in the second category, there is nothing which concerns the victim as well as the event. It is after the reading of the text that it is possible to understand the information. Nevertheless, in the title (14), it is easy to guess the victim(s) while in the title (15) there is unsatisfactory information but which can awaken the curiosity of the readers.

(14) Teacher's beaten on camera!! (*Milliyet*, 11.03.2016)

(15) The detail in the photo betrayed the assassin (*Milliyet*, 12.03.2016)

As regards the titles below, we do not know which kind of events is in question. Nevertheless, these titles arouse the curiosity of the readers and make feel "the agitation" and the horror.

(16) An event that caused a stir in Istanbul! (*Milliyet*, 11.03.2016)

(17) A blood-curdling   news from Hatay (*Milliyet*, 25.03.2016)

Predominantly, the titles analyzed up to here perform their disclosure objectives in diverse degrees either on the victim or on the event and some are capable of grabbing the readers. Furthermore, there are other indications which even without indicating the victim are capable of grabbing the readers excepted the processes which we were able to observe in the previous examples.

DRAWING THE ATTENTION WITH THE TITLES
Punctuation marks
First of all, it is necessary to underline that certain titles include no name of the victim. Nevertheless, it does not prevent from drawing the attention of the readers and from making read the news story. Punctuation is, in certain contexts, mark who indicate the subjectivity, in other words ways to express feelings. So, in the examples (16 and 18), we can observe the use of the exclamation mark which allows to show the feelings and the position of the journalist during the writing of its article. The grabbing effect in the example (18) is strengthened by the emotional subjective adjective "disgusting", which demonstrates "an emotional reaction of the speaking subject" (Kerbrat-Orecchioni 1980: 84) in front of a fact and aim directly at the feelings of aversion of the readers.

(16) An event that caused a stir in Istanbul! (*Milliyet*, 11.03.2016

(18) The most disgusting news of the day! (*Milliyet*, 30.03.2016)

The question mark, according to the context, can express the subjectivity and can touch the affect of the readers. In the example below, it is not about a real question but about the interrogation of the journalist which speculates and tries to arouse the interest of the readers and consequently to make them read the article.

(2) Is Beratcan a victim of secret love? (*Milliyet*, 23.03.2016)

And finally, suspension points in the example (19) which, without mentioning the horrible adjective and the exclamation mark, allow the readers to complete the history in their way, which takes away the readers of the truthfulness of the event.

(19) Terrible claim! A new-born baby ... (*Milliyet*, 29.03.2016)

The subjective words
Besides punctuation marks, these titles contain a name, a verb and two subjective adjectives. Without any complication, the words "*disgusting*" (18), "*atrocious*" (11) and "*bloodcurdling*" (17) are intrinsically subjective words and show the feelings and the judgments of the journalist. It is completely normal that these texts draw the attention of the readers and reflect consequently the feelings of the readers from the reading of texts.

(18) The most disgusting news of the day! (*Milliyet*, 30.03.2016)

(11) An atrocious murder of a woman in Erzurum! (*Milliyet*, 28.03.2016)

(17) A blood-curdling   news from Hatay (*Milliyet*, 25.03.2016)

In this last example (20) there is an evaluative non axiological adjective "old woman" but in this title it is the vulnerability of the elderly person that plays a decisive role to draw the attention of the reader.

(20) *An old woman missing for 4 months was found dead in the sewerage* (*Milliyet*, 25.03.2016)

FIRST DESIGNATION OF THE VICTIMS IN THE TEXT
Having analyzed the designation of the victim in the title, we have conducted the same approach to study the first designation of the victims in the text. So, we noticed that in 40 texts of our corpus, the first designation is made in the headings or in the summary. Two texts have no headings and the first designation of the victims is made in the text with proper nouns.

The heading is distinguished from the introduction according to its informative nature because it is written in bold and answers generally five questions *what? who? where? when? how?* and sometimes w*hy*?. So, the introduction gives enough information onto the subject and plays a decisive role for the reader in the choice of texts to be read, after the title of course. In particular in case the title remains insufficient to arouse the interest of the reader, this role is performed by the introduction.

After the first designation of the victim, the resumption is made according to the rules of the textual grammar; either by the repetition of the proper nouns, the initial of names, etc. or by the equivalents capable of establishing reference chains (pronouns, synonyms, etc.). In this step of our analysis, we grouped the first name in 5 groups.

The name by a proper noun: In 13 texts the first designation is made by proper nouns. However, they are not alone; they are often accompanied with a description on the age, the job, the social status, the place of residence or the district, etc. All these traits of description allow to identify easily the victim and to locate it in the space as in the example (21) whereas in the example (22) the proper noun is accompanied by its professional status.

(21) In Esenyurt in Istanbul, Yasemin Altun,twenty-eight-years-old, married for 8 years and a mother of one child, was stabbed and killed by her husband Ömer Altun (*Milliyet*, 06.02.2016)

(22) Used products shop owners Muammer Saraç (59), was found his throat cut in his shop. (*Milliyet*, 07.02.2016)

The name by a trunked proper noun: in our corpus we found a single text in which was used the trucked proper noun. As specified above, the presence of the first designation of the victims gives the impression that we know them and allows to feel the compassion and to share their suffering.

(23) In Kayseri, the 3rd Criminal Court has given 42 years 6 months prison sentence for the two accused who, after inviting under the pretext of offering coffee in the workplace, beat Murat K. at 33 years old and raped his wife Pınar K., at 35 years old after stealing her money and jewelry. (*Milliyet*, 01.03.106)

The designation by the initials of the proper noun: In our corpus we identified 8 news stories in which we could observe the use of the initial of names. In the example (24), the name of the victim loses its importance and what becomes abominable it is the drama and the duration of the act "*a father who raped his own daughter H.E. during six years*". In this sentence, drawing the attention of the reader by the feelings of horror, disgust and suffering, prevails the informative objective of the text.

(24) In the district of Kepez in Antalya, a father who raped his own daughter H.E. for six years has been jailed. (*Milliyet*, 06.03.2016)

The designations by a generic name: 17 news stories present a first name of the victim by a common noun which is repeated in the text either with the initials of the abrupt proper noun, or with the abrupt proper noun or with the truncated name. However three of the news story of the corpus keep the use of the generic name throughout the text and protect the anonymity of the victims. In the example (25), by protecting the anonymity of the aggressor and the victim, the act of violence is stressed. Furthermore, even if in the written text the name of the aggressor and the victim are anonymous, this event had been recorded by a camera, as indicated in the heading. The identification of both actors of the fact is not a problem but for the example (26) we don't have the same opportunity.

(25) A person, who peddles, upraised and threw cruelly down a Syrian child after catching him. These moments were recorded second by second. (*Milliyet*, 10.03.2016)

(26) A grandfather, who had accidentally killed his grandson while playing with his shotgun, was released by the Court. (*Milliyet*, 12.03.2016)

DRAWING THE ATTENTION WITH THE TEXT
In 42 analyzed news story the processes of captation of the reader are few in number. The facts are rather presented in their raw state. And there are few adjectives; those who are used are "none" axiological evaluative adjectives: *An old woman, a girl, the Beratcan boy, a victim*. These expressions can be considered as "stereotyped qualifications" (Kalinic 2005: 178) of the victims. However, by the intensive repetition of the expressions as *the victim, the girl, the Beratcan boy* (examples (1) or (2)) or by explaining the psychological suffering of the girl which had not recovered after a sexual assault (example (1)), the authors of news stories try to awaken the pity, experience emotions and heartfelt sympathy and consequently to share the suffering of the victims either their close friends. In our corpus of 42 texts, we had only three texts in which the captation was made by the suffering, among which two are texts having for titles (1) and (2).

For example, in the text (1) *A sexual assault is the cause of the suicide of the high school student Oya* (*Milliyet*, 25.03.2016), we can observe the abundance of the designation of the victim as well as its moral suffering. You should not forget that 17 years is a vulnerable age. So, as the list exposes it, the name of the victim is accompanied with a preceding or consecutive expression, or with an abrupt repetition:
- *the school girl Oya*
- *the school girl Oya Yaşar (3 times)*
- *17-year-old Oya Yasar*
- *the young girl (3 times)*
- *the high school student Oya of the class 11/A*
- *Oya Yaşar (5 times)*
- *Oya (4 times)*

About the young girl suffering, we observed how she got to suicide "*The high school student committed suicide because of the sexual assault and the psychological problems*". The following examples will expose the stages by which the girl had passed as well as a part of the extent of her suffering: "*The girl had lost her gaiety and her hopes, demoralized*", "*She could not stand anymore the blackmail and the pressure of…*" and "*what she had written after her first suicide attempt…*".

In the text of title (2) *Is Beratcan a victim of secret love*? (*Milliyet*, 23.03.2016), we observe the abundance of the expressions which underlines the small age of the child and the repetition of its name:
- *the body of Beratcan Karakütük (4 times)*
- *Beratcan Karakütük, 10 years old.*
- *Beratcan Karakütük, student of 4th year of the primary school called Kartal Yıldız İşcimen*
- *the body of the small child (4 times)*
- *the Beratcan boy*
- *the unfortunate Beratcan*
- *Beratcan (3 times)*

CONCLUSION
In our corpus, it is easy to note that news story perform their function to inform by telling the events in their raw state even if the majority were short texts. We have 10 texts, among which three are dedicated to a single event, long enough to explain the events. The fulfillment of the disclosure objective of the victims in the titles and in the caps is realized by the exposure of the personal traits such as "the name, the age, the environment in which he "lives"" (Kazanoğlu 2013: 620) and by their social identity. So, "the taking into consideration of the main character is, doubtless, essential to a good understanding" (*ibid*: 636) of the event, the construction of the speech of dramatization but especially it is the proof of the dramas which take place around us. So, news story perform their "function of alert: inform for example the citizens of certain types of attacks of whom they could be the object; evoke the explosions of gas to lead the users to take precautions, etc." (Deleu 2005: 15) and contribute indirectly "in the creation of collective links" (*ibid.*).

Concerning the aim of drawing the attention of the reader, t is realized by diverse processes: the use of the proper nouns in particular the first names, the name by the social identity, the punctuations, the subjective names … In brief, we find expressions susceptible to hold attention of readers.

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DESIGNING ANIMATIONS AND SIMULATIONS FOR THE TEACHING OF COMPLEX INFORMATION: A PRACTITIONER'S PERSPECTIVE

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ABSTRACT

The current paper provides a practitioners perspective on the re-designing of an online course that includes the teaching of complex scientific information in the field of astronomy. The subject matter was upgraded from being primarily video-based to a more interactive experience that comprised of text, images, animations, videos and simulations. The project team incorporated research-based multimedia principles to guide the design process of the dynamic visualisations such as animations, videos and simulations. Multimedia assessment tasks were incorporated within an adaptive e-learning platform to facilitate contextual feedback in the form of hints so as to direct the individual's learning pathway. Further to this, a set of videos were created to provide an overview of each topic and, where necessary, included instructional advice pertaining to the acquisition of particularly difficult scientific concepts or optimal learning strategies. The team brought together a combination of theoretical perspectives coupled with previous educational research and a wealth of teaching experience to the design process culminating in an innovative yet informed course layout. Recommendations are forwarded regarding effective strategies for collaborations between academic content-experts and educational multimedia designers.

INTRODUCTION

The advent of a plethora of technologies onto the educational landscape has necessitated a growing trend towards team work wherein design and content experts collaborate towards creating best practice learning experiences. However a productive partnership relies upon a balance between the design considerations implied by a theoretical framework and the intuitive leaning of the subject expert. The applicability of research-based multimedia guidelines need to be considered alongside the creative input of the academic who has an understanding of the complexity of the subject matter and the particular challenges it imposes upon the abilities of the student cohort.

The unfolding of the collaborative design process undertaken during the project suggests that the most effective role for the multimedia designer is to relate only a few key guidelines regarding the layout of specific visualisations, such as minimizing split attention and providing signaling cues, so as not to overwhelm the subject expert who may not be acquainted with cognitive design principles. On the other hand the academic has a crucial part to play in ensuring that there isn't a mismatch between the complexity of the learning task and the ability of the student. To this end the subject expert should be directed to consider principles such as those relating to pre-training and segmentation which both work to minimise the load placed upon the student by the inherent complexity or novelty of the information (Mayer 2005a). Having optimised the layout and presentation aspects of the subject matter, the remaining consideration is to provide instructional advice to the student in terms of illustrating the optimal form of self-directed study.

DESIGNING THE LAYOUT TO OPTIMISE EFFICIENCIES IN LEARNING

Arguably the most common cause of inefficiency in multimedia design occurs when the teaching resource requires the learner to unnecessarily split their attention, either spatially or temporally (Kalyuga, Chandler et al. 1999). If two elements are spatially separated on the screen it may require the learner to go back and forth in a "ping pong" mode of processing as he/she seeks to integrate and encode the information into long term memory. Co-locating the information can result in associations being more explicitly represented and more readily

processed. Similarly when elements are unnecessarily visually or aurally separated by time then the student must rely on their ability to recall information that is no longer accessible by their visual or aural channels. If elements from disparate sources need to be integrated then the designer should ask the question as to whether the information could be temporally and/or spatially co-located. Bringing information together in time and space to facilitate integration leads to a much more efficient student learning experience.
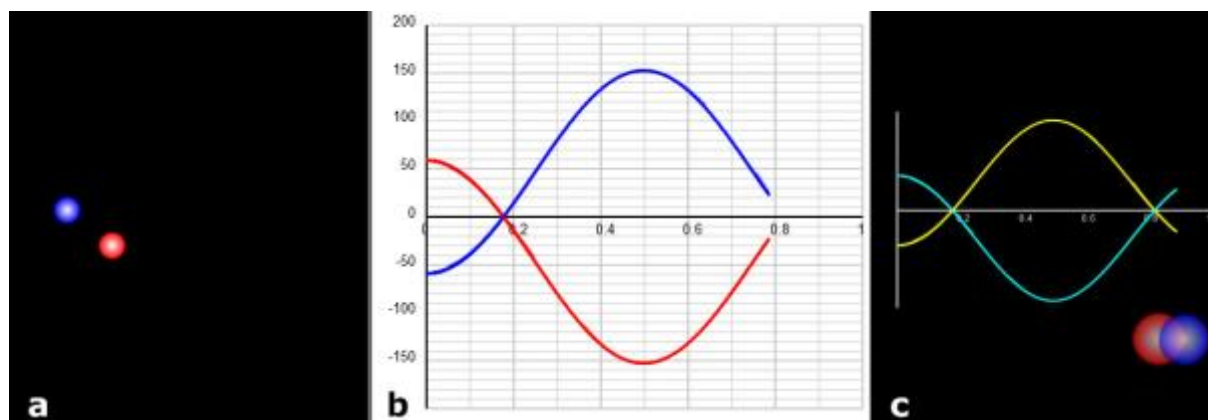

Fig.1 An original simulation design necessitated that the learner go back and forth between images "a" and "b" in a ping-pong fashion so as to establish the relationship between the moving planets and the trajectories on the graph. However by co-locating and aligning the two elements as pictured in image "c" the level of split attention has been minimized and assimilation of the information can more efficiently take place.

Another multimedia principle that can be readily integrated into the design process involves incorporating visual cues that signal to the learner the relevant location for his/her visual attention, particularly useful when a voiceover needs to be synchronized to animations or videos containing spatially disparate visual elements(Moreno 2007). By so doing the learner can efficiently engage both channels i.e. visual and aural, to acquire, integrate and process the necessary information. These signaling cues may be simply arrows, highlighting, fading or any other means of indicating the elements being referred to in the accompanying text or voiceover.

DESIGNING WITH A CONSIDERATION FOR LEVELS OF PRIOR KNOWLEDGE
Students lacking in suitable levels of prior knowledge may easily be overwhelmed with new knowledge that is not only complex but, if embedded in animations, videos or simulations, is also be fleeting. To promote efficiencies of learning under such circumstances it can be beneficial to provide the students with some form of pre-training (Mayer 2005b). This may simply mean a still image that identifies discrete elements that then form part of a dynamic visualization. Having already studied the various elements that play a role in the animation or video, the learner can allocate more of his cognitive resources to analyzing and understanding the behavior and inter-relationship of the different components of the teaching resource. In practice this may simply involve extracting a "critical snapshot" from the video or animation, which is essentially a still that portrays essential information in terms of inter-relationships or behavior, and then discussing the knowledge construct in class before displaying the dynamic visualization in its entirety. As a general guideline the designer can scaffold from a static image to a video or animation and then where necessary to a learner-controlled simulation wherein the student requires a sufficient level of prior knowledge to skillfully manipulate a number of inter-related parameters.
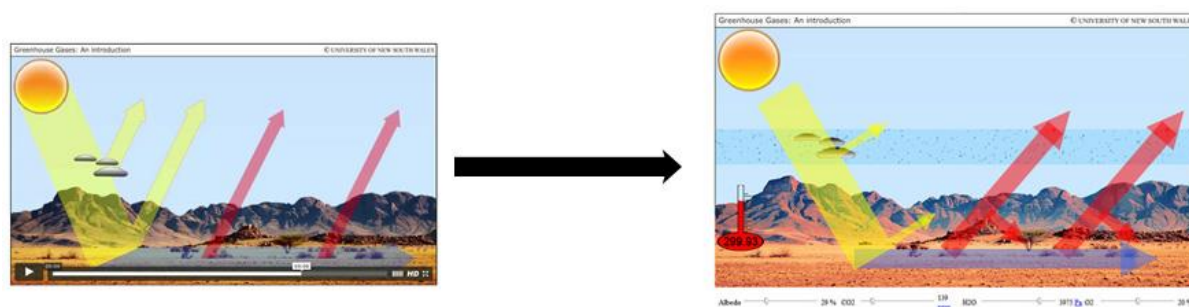

Fig. 2 A video introducing the various interacting elements (shown on left) that form the basis of user-controlled

parameters in a simulation (shown on right) can serve as an essential form of pre-training for novices with low levels of prior knowledge.

Another strategy to deal with lowering the inherent load imposed by complex or novel information on the student's limited cognitive resources is to introduce segmentation. By segmenting the a continuously running video or animation into conceptually discrete elements the educator is not only indicating the underlying structure of the learning task but also encouraging the student to pause and process smaller bits of information.

SELF-MANAGEMENT OF COMPLEX OR TRANSIENT INFORMATION

In the first instance, when considering the structure of the layout to optimize efficiencies in learning the designer is organizing the information to align with the limitations of human cognitive architecture. The stumbling block to meaningful learning for students in general is the limited capacity of working memory. In the second instance the educator must look at the particular nature and complexity of the subject matter at hand and consider the load it imposes on a specific group of learners. In so doing the educator can organize the presentation of the information in terms of pre-training and segmentation so that the student's cognitive capacity to assimilate information is not overwhelmed. And now, thirdly, one must allow for the fact that there will be individual differences amongst the student cohort and also that there will be optimal or recommended strategies by which the learner can guide their own learning processes. To this end it may be beneficial to provide a "working example" of how the learner may best engage with the teaching resources and assessment tasks (Hatsidimitris and Kalyuga 2013). In the current project this consideration took the form of a general overview video wherein the academic exemplified some study skills, in particular the need to split the screen between the lectures providing the background material and the assessment tasks. In so doing the student minimizes any split attention effect that would have existed between the two disparate sources of information. Another strategy employed was to provide a video prior to each topic that not only identified the main theme(s) of the lesson but where necessary pointed to any particularly difficult concept or hidden inter-relationship between concepts. In so doing they were signaling to the student where any learning difficulty may lie and by default where also providing a certain degree of pre-training. The student could then approach the lesson material and assessment tasks accordingly.

Fig. 3 In demonstrating the intended method by which to engage with the assessment tasks (shown on left) i.e. to concurrently open the lesson material (shown on right), the content expert is providing instructional advice to ensure the student employs a learning strategy that is optimally attuned to the provision of available teaching resources.

CONCLUSIONS

The teaching of complex information, especially where difficult counter-intuitive concepts are involved, will rely on a partnership between the designer, content expert and the learner. The designer can draw on a wealth of research based findings in the field of multimedia learning to act as a guide in the decisions related to the layout

of the information. The content expert is particularly equipped in understanding the relationship between the subject matter and the skills and prior knowledge of the student cohort and is thus ideally suited to adjusting the presentation of information in terms of parameters such as pre-training and segmentation. The "baton" is then passed on in scenarios where the learner must interact with complex information in a "self-management" mode as each learner has a different spectrum of prior knowledge constructs and learning skills. This inclusion of the student's role might best be initiated by the academic illustrating through a video or animations what would be considered an optimal strategy for acquiring the requisite knowledge. For all these factors to come together in any given learning design the collaborators must be mindful of the interplay of theoretically driven research outcomes and the experience and domain-specific expertise of the academic. Once all the layout and presentation considerations have been put in place it is then best to make explicit to the student the intent of the underlying design in terms of improving efficiencies in learning. By so doing, and giving due regard to the broader learning environment in which the resources are embedded, one has arguably provided a best-practice multimedia learning environment that draws upon the skills and input of the collaborating practitioners.

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DETERMINATION OF GEOMETRY SELF-SUFFICIENCY OF 5TH, 6TH, 7TH AND 8TH GRADE STUDENTS HAVING IMPAIRED HEARING

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ABSTRACT

Geometry, a significant field of Mathematics, contributes a lot to the lives of individuals in intellectual development, perception of environment, problem-solving, etc. Geometry learning is also important for hearing impaired students. Former NTCM (National Council of Teachers of Mathematics) president Shirley M. Frye says; *'All students can learn, but neither in the same way, nor on the same day'* (Van De Walle, A. J., Karp, S. K. & Bay-Williams, M. J., 2013, s.93). In Elementary Mathematics Program of Ministry of National Education (2013), the affective skills that should be build in students are their self-confidence in mathematics and the belief in the fact that they can learn it. The perception of sufficiency the individuals feel inside for the fulfillment of learning refers to self-sufficiency concept, one of the substantial concepts of social learning theory. In this research, it is aimed for the determination of Geometry Self-Sufficiency of 5th, 6th, 7th and 8th grade students having impaired hearing. The research was carried out in the second term of 2015-2016 school year with 126 students who attend Secondary Schools for the Deaf in Ankara, Kırıkkale, Niğde and Konya provinces. Geometry Self-Sufficiency Scale and forms including general information were applied to students. The data obtained in the research were examined through using Independent Samples T-Test and Anova Variance Analysis. In the case of detecting variance in Anova Variance Analysis, Scheffe Test was carried out to specify the groups with variances. In the comparisons, level of significance was tested at 0,05. Significant differences were obtained in students' positive self-sufficiency notions, beliefs for the usage of geometry knowledge, familiarity level of sign language and mathematics grade in the first term. It is anticipated that the research will contribute to the educational activities of hearing impaired students.

Keywords: Deaf or hearing impaired students, self-sufficiency, geometry

INTRODUCTION

Mathematics stimulates human intelligence to reasoning, forming hypothesis, making logical inferences. Mathematics plays a fundamental part in human's enhancing his thought system, explanation of universe and regulation of his life. What is more important is that mathematics, with its gains to humanity, is the power which produces the technology and knowledge we own (Baki, 2014, s.12). Geometry is an important field of study for mathematics. Geometry, by means of its scope and understanding, enables individuals to have some acquirements on the patterns in their environment, problem-solving, branches of mathematics and on other disciplines. In general terms, learning geometry subsidizes the evolvement of basic skills and the ability of scientific thinking in students (Tutak and Birgin cited from Kılıç, 2008).

Affective factors clarify a considerable part -as much as one fourth- of individual differences in learning (Yurt and Korkmaz cited from Bloom, 2015). Advancing technology and science diversify expectancy from education and attitudes towards education. Students' opinions on math class influence their mathematical achievements (Bulut, Ekici, İşeri and Helvacı, 2002). An individual's judgements which the individual attains through testing the results of his behaviors and which are affected by his opinion, observations and previous experiences constitute his self-judgement capacity. This capacity is expressed with self-sufficiency concept. Self-sufficiency

is described as '*individual's own judgement of his capacity of organizing and successfully implementing the required activities so as to display a specific performance*' (Eyyam, Doğruer and Meneviş, 2012, s.93).For self-sufficiency, individual's self-confidence phrase, depending on time and individual's past experience, was put forward by Cantürk-Günhan ve Başer (2007).

Students' physiological, social and cultural backgrounds constitute a framework for their educational capacity and limits of utilizing education (Atay, 1999, s.13). Özbay (2004, s.157). Individual's associating weaknesses in his self-sufficiency notions with his personal inadequacy only complicates the situations he is to encounter. It is of a great importance to be informed about the progress of students. Compelling students to understand information above their mental capacity or creating a dull educational process through repeating the information below their cognitive levels is an expression of not recognizing students and being unfamiliar with their developments (Selçuk, 2014, s.13).

Bilgin and Kartal state that utilizing educational services provided for students to the utmost can be ensured by students' recognition of themselves and their own personal qualifications (2002). The notions created by an individual in reference to self-sufficiency affect the individual's behaviors in the following three aspects; *(a) selection of the activities to be fulfilled, (b) performance quality of the individual, (c) resolution in difficult duties.* Besides this, they strengthen the individual in his struggle against failure (Özbay, 2004, s.157). Hearing impaired students who believe in themselves, express themselves well think positively towards lessons and increase their mathematical achievements (Tarakçı and Kaplan, 2006). Geometry Self-Sufficiency of students who proceed their educational life with impaired hearing is of a great importance in terms of understanding them, and determining educational activities to be performed. (Özbay, 2004, s.231) For most of our children, school is the chief place where sense of achievement is enjoyed. It is possible for a student who may constantly think himself unsuccessful to form an identity of failure. Formation of such an identity in hearing impaired students makes the life and educational process more difficult for themselves. It is vital that teachers preparing and implementing plans and schedules for these students have adequate knowledge about their Geometry Self-Sufficiency in respect to their success in lessons, their opinion on the lessons, in a broader sense, their educational process. When it is considered that researches on hearing impaired students are limited, our accumulation of knowledge on these students is narrow-scoped. The purpose of this research is to determine Geometry Self-Sufficiency of hearing impaired students and examine it in terms of different variables. Within the context of this aim, answers are sought for the following questions.

Is there a significant difference in Geometry Self-Sufficiency of 5th, 6th, 7th and 8th grade students depending on;
   a) their gender
   b) their grade
   c) availability of another hearing impaired person in their family
   d) their utilization of assistive technologies for the deaf
   e) their receiving subsidized education
   f) their familiarity level of sign language
   g) their elementary school
   h) their first term Mathematics marks?

METHOD

This study is a quantitative research which examines Geometry Self-Sufficiency of 5th, 6th, 7th and 8th grade students with regard to their auditory conditions. As it is aimed in the research to determine Geometry Self-Sufficiency of 5th, 6th, 7th and 8th grade students according to their auditory conditions, it is a descriptive research in survey model. Descriptive researches are the studies that depict a specified situation in the best way possible (Büyüköztürk, Çakmak, Akgün, Karadeniz and Demirel, 2014). The purpose of survey model is accumulation of data with the aim of detecting specific qualities in a certain group (Büyüköztürk vd., 2014).

Research Sample and Population

The aim this research is to reveal Geometry Self-Sufficiency of 5th, 6th, 7th and 8th grade students having impaired hearing. The population of the research will be composed of students who attend Secondary Schools for the Deaf within the context of Ministry of National Education in Kırıkkale, Ankara, Konya and Niğde provinces in Central Anatolian Region. Karasar states that population of the research is the accessible population and that researcher may deliver an opinion on this population either by directly observing the population itself or observing on a group selected from this population (2013, s.110). In this research, as it is possible to reach the whole population, there will not be a sample selection by any means.

Measuring Instruments
   1. Developed by Cantürk-Günhan and Başer so as to specify 6th grade elementary students' self-sufficiency notions towards geometry, Geometry Self-Sufficiency Scale will be used. Geometry Self-Sufficiency Scale is composed of following three sub-dimensions as positive self-sufficiency notions,

usage of geometry knowledge and negative self-sufficiency notions. In consequence of the preparatory work carried out among elementary students having impaired hearing, two questions have been extracted from Geometry Self-Sufficiency Scale. In the scale consisting of 23 questions in total, in reply to self-sufficiency questions related to geometry, there are option formats such as 'Never', 'Rarely', 'Sometimes', 'Generally', 'Always'. Students will be asked to tick the best alternatives that comply with their conditions. Sub-dimensions, item samples belonging to dimensions and total number of items in dimensions are given below.

Sub-dimensions	Item Samples	Number of Items
Positive Self-sufficiency Notions	I can visualize geometric shapes in my mind.	12
Usage of Geometry Knowledge	I can create a new geometric shape using existing geometric shapes.	6
Negative Self-sufficiency Notions	I think I am not as good as my friends in Geometry.	5

Analysis and Interpretation of Data
Independent Samples T-Test, with independent variable composed of two groups, was utilized to specify the differences in students' Geometry Self-Sufficiency. $P < 0.05$ value was predicated on for the recognition of a significant difference in the variables. To specify Geometry Self-Sufficiency differences in independent variables composed of three or more groups, One-Way Anova Analysis of Variance was used. $P < 0.05$ value was predicated on for the recognition of a significant difference in the variables. In the case of detecting a significant difference, Scheffe Comparison Test was utilized to specify the groups with differences. The requisite value of significance is $p < 0.05$.

FINDINGS AND INTERPRETATION
Table 1: Findings concerning the question 'Is there any other person having impaired hearing except for you?'

	Is there any other person having impaired hearing except for you?	N	Mean	Std. Deviation	t	df	p
Positive Self-sufficiency Notions	Yes	60	2,7833	,83209	-,717	123,502	,474
	No	66	2,8990	,97638			
Usage of Geometry Knowledge	Yes	60	2,7417	,92995	-,412	124	,681
	No	66	2,8131	1,00873			
Negative Self-sufficiency Notions	Yes	60	2,9467	,85954	-,845	124	,400
	No	66	3,0697	,77459			

According to the table, there is no significant difference in students' Geometry Self-Sufficiency depending on the availability of another person in their family with impaired hearing.

Table 2: Findings concerning the question 'What is your gender?'

	What is your gender?	N	Mean	Std. Deviation	t	df	p
Positive Self-sufficiency Notions	Female	64	2,7917	,85540	-,654	124	,514
	Male	62	2,8978	,96482			
Usage of Geometry Knowledge	Female	64	2,7682	,92325	-,127	124	,899
	Male	62	2,7903	1,02115			
Negative Self-sufficiency Notions	Female	64	3,1000	,83495	1,246	124	,215
	Male	62	2,9194	,79048			

According to the table, there is no significant difference in students' Geometry Self-Sufficiency depending on their gender.

Table 3: Findings concerning the question 'Have you received subsidized education?'

	Have you received subsidized education?	N	Mean	Std. Deviation	t	df	p
Positive Self-sufficiency Notions	Yes	63	2,8995	,92350	,685	124	,495
	No	63	2,7884	,89776			
Usage of Geometry Knowledge	Yes	63	2,8360	,97986	,658	124	,512
	No	63	2,7222	,96210			
Negative Self-sufficiency Notions	Yes	63	2,9302	,80895	-1,116	124	,267
	No	63	3,0921	,81978			

According to the table, there is no significant difference in students' Geometry Self-Sufficiency depending on whether or not they have received subsidized education.

Table 4: Findings concerning the question 'What kind of a school was your elementary school?'

	What kind of a school was your elementary school?	N	Mean	Std. Deviation	t	df	p
Positive Self-sufficiency Notions	Normal Elementary School	15	2,9167	,57304	,477	25,780	,637
	Elementary School for the Deaf	111	2,8341	,94652			
Usage of Geometry Knowledge	Normal Elementary School	15	2,8444	,64999	,384	24,209	,704
	Elementary School for the Deaf	111	2,7703	1,00606			
Negative Self-sufficiency Notions	Normal Elementary School	15	2,9867	,53166	-,174	24,905	,863
	Elementary School for the Deaf	111	3,0144	,84798			

According to the table, there is no significant difference in students' Geometry Self-Sufficiency depending on the elementary school they attended.

Table 5: Variance Analysis for the comparison of Geometry Self-Sufficiency of students attending different grades.

Descriptive Statistics

		N	Mean	Std. Deviation
Positive Self-sufficiency Notions	5th grade	24	2,7465	,83206
	6th grade	25	3,0233	,90220
	7th grade	36	2,5509	,85409
	8th grade	41	3,0488	,95397
	Total	126	2,8439	,90878
Usage of Geometry Knowledge	5th grade	24	2,7778	,98744
	6th grade	25	2,8867	,90615
	7th grade	36	2,4861	,94060
	8th grade	41	2,9715	,99156
	Total	126	2,7791	,96881
Negative Self-sufficiency Notions	5th grade	24	3,0417	,86070
	6th grade	25	2,8640	,75437
	7th grade	36	3,1222	,78744
	8th grade	41	2,9854	,86069
	Total	126	3,0111	,81518

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Positive Self-sufficiency Notions	Between Groups	5,843	3	1,948	2,440	,068
	Within Groups	97,392	122	,798		
	Total	103,236	125			
Usage of Geometry Knowledge	Between Groups	4,898	3	1,633	1,772	,156
	Within Groups	112,426	122	,922		
	Total	117,324	125			
Negative Self-sufficiency Notions	Between Groups	1,035	3	,345	,513	,674
	Within Groups	82,029	122	,672		
	Total	83,064	125			

In consequence of variance analysis carried out for the comparison of Geometry Self-Sufficiency of the students attending different grades, no significant difference was encountered in Geometry Self-Sufficiency of students in different grades.

Table 6: Variance Analysis for the comparison of Geometry Self-Sufficiency of students utilizing different assistive technologies for the deaf.

Descriptive Statistics

		N	Mean	Std. Deviation
Positive Self-sufficiency Notions	Koklear Implant	20	2,6708	,91226
	Hearing aid	69	3,0217	,88937
	FM Systems	16	2,4583	,63683
	None	21	2,7183	1,05029
	Total	126	2,8439	,90878
Usage of Geometry Knowledge	Koklear Implant	20	2,6750	1,03516
	Hearing aid	69	2,9251	,90547
	FM Systems	16	2,2917	,73912
	None	21	2,7698	1,17317
	Total	126	2,7791	,96881
Negative Self-sufficiency Notions	Koklear Implant	20	3,3700	,75749
	Hearing aid	69	2,8841	,77945
	FM Systems	16	2,9625	,93870
	None	21	3,1238	,82578
	Total	126	3,0111	,81518

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Positive Self-sufficiency Notions	Between Groups	5,491	3	1,830	2,285	,082
	Within Groups	97,744	122	,801		
	Total	103,236	125			
Usage of Geometry Knowledge	Between Groups	5,491	3	1,830	1,997	,118
	Within Groups	111,833	122	,917		
	Total	117,324	125			
Negative Self-sufficiency Notions	Between Groups	3,994	3	1,331	2,054	,110
	Within Groups	79,070	122	,648		
	Total	83,064	125			

In consequence of variance analysis carried out for the comparison of Geometry Self-Sufficiency of the students utilizing different assistive technologies for the deaf, no significant difference was encountered in Geometry Self-Sufficiency of students utilizing different assistive technologies for the deaf.

Table 7: Variance Analysis for the comparison of Geometry Self-Sufficiency of students familiar with sign language at different levels.

Descriptive Statistics

		N	Mean	Std. Deviation
Positive Self-sufficiency Notions	None	6	2,6389	1,38310
	Elementary	28	2,4792	,85515
	Intermediate	21	2,6865	,89089
	Upper-Intermediate	41	2,8557	,85066
	Advanced	30	3,3194	,78390
	Total	126	2,8439	,90878
Usage of Geometry Knowledge	None	6	2,5000	1,55278
	Elementary	28	2,4881	,94491
	Intermediate	21	2,5873	,89848
	Upper-Intermediate	41	2,7317	,90820
	Advanced	30	3,3056	,83055
	Total	126	2,7791	,96881
Negative Self-sufficiency Notions	None	6	3,6333	,96678
	Elementary	28	2,9429	,85524
	Intermediate	21	3,1143	,64675
	Upper-Intermediate	41	2,9707	,81678
	Advanced	30	2,9333	,84418
	Total	126	3,0111	,81518

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Positive Self-sufficiency Notions	Between Groups	11,287	4	2,822	3,713	,007
	Within Groups	91,949	121	,760		
	Total	103,236	125			
Usage of Geometry Knowledge	Between Groups	12,018	4	3,004	3,452	,010
	Within Groups	105,306	121	,870		
	Total	117,324	125			
Negative Self-sufficiency Notions	Between Groups	2,925	4	,731	1,104	,358
	Within Groups	80,139	121	,662		
	Total	83,064	125			

In consequence of variance analysis carried out for the comparison of Geometry Self-Sufficiency of the students familiar with sign language at different levels, it was clearly seen that positive self-sufficiency notions towards geometry are higher in students who claim that they know sign language very well than those who know it a little. Once again, as a result of the analysis, it was concluded that the notions related to the usage of geometry knowledge are higher in students who claim that they know sign language very well than those who know it a little.

Table 8: Variance Analysis for the comparison of Geometry Self-Sufficiency of students in relation to their first term Mathematics marks.

Descriptive Statistics

		N	Mean	Std. Deviation
Positive Self-sufficiency Notions	45-54	15	1,9722	,78089
	55-69	21	2,5238	,76064
	70-84	43	2,8023	,75593
	85-100	47	3,3032	,87959
	Total	126	2,8439	,90878
Usage of Geometry Knowledge	45-54	15	1,8556	,82343
	55-69	21	2,5635	,82744
	70-84	43	2,7791	,89732
	85-100	47	3,1702	,92502
	Total	126	2,7791	,96881
Negative Self-sufficiency Notions	45-54	15	2,9067	,89400
	55-69	21	2,8952	,88004
	70-84	43	3,2233	,75871
	85-100	47	2,9021	,79768
	Total	126	3,0111	,81518

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Positive Self-sufficiency Notions	Between Groups	23,538	3	7,846	12,010	,000
	Within Groups	79,698	122	,653		
	Total	103,236	125			
Usage of Geometry Knowledge	Between Groups	20,960	3	6,987	8,845	,000
	Within Groups	96,364	122	,790		
	Total	117,324	125			
Negative Self-sufficiency Notions	Between Groups	2,939	3	,980	1,492	,220
	Within Groups	80,125	122	,657		
	Total	83,064	125			

A significant difference was encountered in the students' first term Mathematics marks with regard to students' notions for the usage of geometry knowledge and positive self-sufficiency notions.

Conclusion and Discussion

Depending on the availability of another hearing impaired person in the family, no significant difference was encountered in Geometry Self-Sufficiency of 5th, 6th, 7th and 8th grade students having impaired hearing. Depending on the gender of the students, no significant difference was encountered in the sub-dimensions of 'Positive Self-Sufficiency Notions', 'Usage of Geometry Knowledge' and 'Negative Self-Sufficiency Notions'. Depending on the gender, unavailability of a significant difference in 'Positive Self-Sufficiency Notions' and 'Usage of Geometry Knowledge' is a consequence that bear resemblance to the results discovered by (Yenilmez and Korkmaz, 2013; Gülten-Çağırgan and Soytürk, 2013; Özkan , 2010).

There is no significant difference in Geometry Self-Sufficiency of 5th, 6th, 7th and 8th grade students having impaired hearing depending on whether or not they have received subsidized education. It is also concluded in the research that there is no significant difference in Geometry Self-Sufficiency of 5th, 6th, 7th and 8th grade students having impaired hearing depending on whether they graduated from normal elementary schools or elementary schools for the deaf.

Following the comparison of Geometry Self-Sufficiency of students in different grades, no significant difference was encountered in 'Positive Self-Sufficiency Notions', 'Usage of Geometry Knowledge' and 'Negative Self-

Sufficiency Notions' of students in different grades. It corresponds to the results of (Yenilmez and Korkmaz, 2013) that there is no significant difference in 'Positive Self-Sufficiency Notions' and 'Negative Self-Sufficiency Notions' depending on the grades of students.

There is no significant difference in Geometry Self-Sufficiency of students depending on their utilization of various assistive technologies for the deaf. When compared with children using hearing aid, children using Asker-Árnason, L., Wass, M., Gustafsson, F., & Sahlén, B. (2015) Koklear implants have a slighter difference in reading comprehension tests than the children with normal hearing. By means of a similar research, it may be detected whether there is a significant difference in the success of Geometry lesson.

When we look at the familiarity level of sign language, self-sufficiency notions of students who claim to know sign language very well are higher in the sub-dimensions of 'Positive Self-Sufficiency Notions' and 'Usage of Geometry Knowledge' than those who state to know sign language a little.

When the first term Mathematics grades of students are taken into account, it is concluded that self-sufficiency notions of students who have good Mathematics grades are higher in the sub-dimensions of 'Positive Self-Sufficiency Notions' and 'Usage of Geometry Knowledge' than those who have low grades in Mathematics. Aslan has found that there is a significant relation between self-sufficiency notions of students and their performance progress, which he expressed as positive results the students presented in the learning environment (2012). The first term Mathematics grades we viewed in the research are outcome of the whole performance displayed by the students throughout the term. The findings we discovered in the research correspond to those expressed by (Arslan, 2012; Gülten-Çağırgan and Soytürk, 2013).

Recommendations
1. Self-sufficiency notions of students who claim to know sign language very well are higher than those who state to know sign language a little. Considering that students communicate with each other mostly through using sign language, students can be given trainings on sign language. Once again, it can be recommended that teachers who initially interact with students in learning environment know sign language in order to maintain a healthy communication and support students' learning.
2. Students' self-sufficiency notions can be strengthened through organizing the instruction plans and programs prepared for hearing impaired students in such a way that students can feel the sense of achievement.
3. Researchers can study on the relation between teachers' familiarity of sign language and self-sufficiency of students.

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