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Review

## A SHORT REVIEW of TPACK for TEACHER EDUCATION

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The aim of this descriptive study is to examine review of the ICT and TPACK literature for teacher education. Firstly, the general characteristics of the ICT and TPACK have been examined. In the study, the researchers answer the questions namely “How is the distribution of the articles of TPACK of the year?”, “How is the distribution of the subject of article of ICT and TPACK?”, “What is the distribution according to the year of the subject of article of ICT and TPACK?” and “How can we integrate the TPACK to our teacher training program?” 116 articles were analysed. It focused on ICT and TPACK and findings and discussions were conducted. The study presents some recommendations to the teacher education.

**Key words:** Knowledge, pedagogical knowledge, pedagogical content knowledge, technological pedagogical content knowledge, ICT.

### INTRODUCTION

A broad use of technology facilitates everyday life and brings many advantages for people. Technologies have the potential to primarily change the way we think about teaching and learning. Technological tools are seen among the most effective tools both in and out of the school in the educational process of pupils and teachers. Teachers have a role in the schools to integrate the technology into the teacher learning process. For this reason teacher and teachers trainees should follow and integrate technological developments in education. ICT and TPACK studies rapidly increased in last decay. In the literature there are seven kinds of knowledge of teachers such as technological knowledge (TK); pedagogical knowledge (PK); content knowledge (CK); technological content knowledge (TCK); pedagogical content knowledge (PCK); technological pedagogical knowledge

(TPK); technological pedagogical content knowledge (TPACK).

**Technological Knowledge (TK)** Knowledge of how to operate computers and relevant software.

**Pedagogical Knowledge (PK)** Knowledge for teaching that includes “...understanding of how particular topics, problems, or issues are organized, presented, and adapted to the diverse interests and abilities of learners;” and the “...most useful forms of representation of these ideas, most powerful analogies, illustrations, examples, explanations, and demonstrations,” and “...the ways of representing and formulating the subject that make it comprehensible to others,” (Shulman, Knowledge and Teaching: Foundations of the New Reform, 1987, pp. 8-9) Content Knowledge (CK) The grasp of information,

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processes, principles, theories, and skills within a field of study (Shulman, 2004).

**Technological Content Knowledge (TCK)** Technological content knowledge understands technology in a specific subject or discipline; and represents technology.

**Pedagogical Content Knowledge (PCK)** Blends the content and the pedagogy into understanding of how these are associated for successful teaching (Shulman, 1986): The category of pedagogical content knowledge includes the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations, in a word, ways of representing and formulating the subject that make it comprehensible to others. Pedagogical content knowledge also contains an understanding of what makes the learning of specific topics easy or difficult; the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons (p. 9).

**Technological Pedagogical Knowledge (TPK):** Technological pedagogical knowledge understands how technology can shape the ways of teaching. PCK is described as the relationship between the teaching subject and associated pedagogy. For (Shulman, 1987), pedagogical content knowledge identifies the distinctive bodies of knowledge for teaching. It represents the blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction. Pedagogical content knowledge is the category most likely to distinguish the understanding of the content specialist from that of the pedagogue. (p. 4). In teacher education, Pedagogical Content Knowledge has been seen as an important support for teachers' professional development. In order to acquire and update their skills, teachers must keep pace with increasing educational requirements that necessitates adaptable strategy and a long time commitment. An important factor that can help mathematics teachers keep their potentials is the use of technology in classrooms.

**Technological Pedagogical Content Knowledge (TPACK):** The use of technological tools that helps in delivering PCK (Mishra and Koehler, 2006). TPACK– The new acronym for TPCK (Thompson and Mishra, 2007).

The TPACK theoretical framework has been adopted by different researchers in a multitude of educational areas, and is considered to have shown promising results in integrating technology in teachers' practices. In education such as mathematics education, there have been several studies in using the TPACK framework. Researchers have acknowledged the lack of adequate theoretical and professional frameworks that provide help, guidance, and efficiency to teachers to integrate technology in classrooms (Koehler and Mishra, 2005; Mishra and Koehler, 2006; Niess, 2008; Niess et al.,

2009; Valanides and Angeli, 2008a). Many different approaches have been attempted in order to help teachers overcome difficulties of integrating technology in mathematics classrooms (Hew and Brush, 2007)

Technology and ICT were integrated in teaching and learning for teachers, students, educators so on. Research results show evidence of technology being implemented widely in classrooms for teaching (Cuban, 2001; Guzman and Nussbaum, 2009; Hew and Brush, 2007; Kincaid and Feldner, 2002; Lawless and Pellegrino, 2007; McCormick and Scrimshaw, 2001, Banas 2010). Other research results have also asserted that a great number of teachers remain unprepared to use computers in teaching (Cuban, 2001; Hokanson and Hooper, 2004; Russell et al., 2003). Education-technology integration is called the Technology Pedagogical Content Knowledge (Yurdakul, Examining techno pedagogical knowledge competencies of preservice teachers based on ICT usage., 2011, p. 398). Firstly it focused on content knowledge in these processes (Shulman, 1986; Koehler and Mishra, 2005; Mishra and Koehler, 2006). Technological Pedagogical Content Knowledge (TPACK), technology program content and pedagogical approaches to connecting content, pedagogy and technology information field describe the type of interaction (Shin 2010). This model represents teachers' teaching-learning process on how to integrate the technology of technological, pedagogical and content knowledge of the structure. It consists of TPACK, the interaction and combines three information fields (Harris et al., 2009). How to use information technology in teaching pedagogy of various technologies, knowledge, and ability to express change the way teachers teach using technology (Shin 2010). To integrate technology in education, learners and teachers continue to struggle with issues of using educational technology in teaching and learning. Teachers and teacher trainees should adopt seven kinds of knowledge using pedagogical approaches.

### Purpose

The purpose of this literature review was to examine the theoretical basis, practical use of TPACK and the development of the TPACK framework. The purpose of this paper is to understand what role, if any, the TPACK construct can provide in advancing the new agenda in teacher education. This study may guide teachers, researchers, teacher educators, educationalists, program makers and so on. ICT and TPACK literature might be analysed according to years.

### Research questions

The present study is a qualitative study (Miles and Huberman, 2014). This study has used a descriptive method. A literature review was conducted to answer these research questions.

1. How is the distribution of the articles of TPACK of the year?
2. How is the distribution of the subject of article of ICT and TPACK?
3. What is the distribution according to the year of the subject of article of ICT and TPACK?
4. How can we integrate the TPACK to our teacher training program?

## LITERATURE REVIEW

Shulman (1986) asserted that teacher must be organized with content knowledge, curricular knowledge, pedagogical strategies, and pedagogical content knowledge upon which to base professional judgment. Using instructional strategies and programs that have been empirically evaluated can validate the selection of pedagogy. One of the most important ways of providing technological support is to use a framework for integrating complex problems of knowledge from pedagogy, content, technology, and different forms of interactions among these elements in classrooms (Mishra and Koehler, 2008). Adapted from the Pedagogical Content Knowledge model (Shulman, 1986, 1987), the Technological Pedagogical Content Knowledge (TPCK) model is a framework that treats technological integration in education “as a way of thinking about the knowledge [that] teachers need to understand how to integrate technology effectively in their classrooms” (Mishra and Koehler, 2006 pp. 10-11). TPCK, later renamed as TPACK (Thompson and Mishra, 2007), is comprised knowledge of content, pedagogy, and technology, as well as skills to use the interactions among these components (Koehler and Mishra, 2008).

When introducing educational technology in classrooms, researchers noticed that the PCK framework did not explicitly support technology. There were some attempts to adapt the old PCK framework. Some of them, such as TPACK, offer adequate support for technology and offer more opportunities to see how integration of the technology takes place. Since the end of the 1990s, there were several attempts to adapt Pedagogical Content Knowledge to the use of educational technology. From all, the Technological Pedagogical Content Knowledge (TPACK) framework developed by Mishra and Koehler (2006) is the most well-known.

TPACK is an extension of the PCK, defined as a systematic approach to joining technical expertise in teaching with pedagogical content knowledge. TPACK is an emergent model resulting from the intersection of technology, pedagogy and content. This model considers the context as an important aspect. Teaching practices are very important as a source of learning and not just as a consequence of applying a set of learning theories. The TPACK framework offers many insights into how technology should relate to other components of education in order to be successful. This framework

offers clear explanations of why technology should not be treated in isolation but related with required pedagogy and content (Mishra and Koehler, 2006).

## METHODOLOGY

### Identifying journal articles

The literatures were identified in September 2014 by first exploring ERIC database, EBSCOHOST, the Web of Science database and Scopus database. The ICT, TPACK, TPCK, “technological pedagogical content knowledge” entered as keywords. 116 articles has been reached. Only directly related articles were examined. All articles were read, analyzed and coded. All results were represented as a the line graph, the bar graph and the spider graph.

### Coding scheme

All articles, subject, content as sub-themes were grouped into themes and years. Themes and years were converted into categories. Basic data, themes of research are also taken into account. Two researchers coded each article. Reliability and validity were considered. The coders’ agreements were found as .96 (Bogdan and Biklen, 2007).

### Limitation of the study

This review of literature was limited in technological pedagogical content knowledge. In focusing on the TPACK framework, additional limitations are obvious in the types of manuscripts available and the venues in which these manuscripts are presented.

## FINDINGS

There is only two-document analysis that engaged the TPACK framework. The first one, Polly et al. (2010) analyze 26 articles. The second one is paper of Chai et al. (2013). Chai et al. examines 55 articles. *This present study analyzed 116 papers from 2001 to 2014*. These studies point to the need of helping pre-service and in-service teachers to build deeper understanding about TPACK. All articles were displayed according to the year in Table 1.

As seen Table 1, Abrami et al. published articles in 2001; Kincaid and Feldner published articles in 2002; Lundeberg et 2003) al., Russell et al. published articles in 2003; Hokanson and Hooper published articles in 2004; Angeli et al. published articles in 2005; Niess et al. published articles in 2006; Hew et al. published articles in 2007; Akkoç et al. published articles in 2008. In 2009, Angeli and Valanides; Cox and Graham; Cuban; Doering et al.; Graham et al. Groth et al., 2009); Holmes; (Koehler et al., 2007).; Ozgun-Koca et al.; So et al. published articles. In 2010, Allan et al.; An and Shin; Archambault and Crippen; Archambault and Barnett; Archambault et al.; (Jamieson-Proctor et al., 2010); (Jang, 2010); Jimoyiannis, 2010); (Kaya et al., 2010); (Kramarski and Michalsky 2010); (Kuşkaya and Usluel, 2010); Landry,

**Table 1.** Articles of TPACK by year.

2001	Abrami et al.,	2008	Akkoç, Özmantar & Bingölbali, Almas & Krumsvik Graham et al. Greenhow, Dexter & Hughes Hewitt Hofer & Swan Koehler Mishra Niess Shafer Valanides & Angeli Angeli & Valanides, Cox & Graham Cuban Doering, Veletsianos, Scharber & Miller Graham et.al, Groth, Spickler, Bergner & Bardzell Guzman&Nussbaum
2002	Kincaid & Feldner	2009	Harris, Mishra & Koehler Holmes Koehler & Mishra Kramarski & MichalskyLee & Tsai Mishra, Koehler & Kereluik Mistra, P., Koehler Niess, M.L. et al. Niess, Ronau et al. Ozgun-Koca Polly & Brantley-Dias Richardson Schmidt et al. So & Kim Spickler, Bergner & Bardzell Allan, Erickson, Brookhouse & Johnson An & Shin Archambault & Crippen; (a, b) Archambault, & Barnett Archambault,Wetzel,Foulger,&Williams Banas
2003	Lundeberg et al. Russell, Bebell, O'Dwyer & O'Connor	2010	Chai, Koh & Tsai Hardy; a, b Jamieson-Proctor Finger & Albion Albion Jang Jimoyiannis Kaya, Emre & Kaya Koh, Chai & Tsai Kramarski & Michalsky Kuşkaya & Usluel Landry Lee & Tsai Nicholas & Ng Ozgün-Koca, Ozgun-Koca, Meagher & Edwards Özmantar, Akkoç, Bingölbali, Demir & Ergene, Polly, Mims, Shepherd & Inan Wilson & Wright Yang & Chen Akkoç Bowers & Stephens Chai, Koh & Tsai Chai, Koh, Tsai& Tan Chueng & Ho Doukakis, Koiliias & Chionidou-Moskofoglou Groth,
2004	Hokanson & Hooper	2011	Haris & Hofer Harris & Hofer Kereluik, Mishra & Koehler Khan Koh & Divaharan Lyublinskaya & Tournaki Öztürk & Horzum Pamuk Polly Sahin Tee & Lee Timur & Taşar Yurdakul
2005	Angeli & Valanides Koehler & Mishra Niess	2012	Adigüzel & Yüksel Koh, Chai & Tsai Mudzimiri Nicholas & Ng Pamuk, Ülken & Dilek Yurdakul, Odabasi, et.al.
2006	Niess, Suharwoto, Lee & Sadri Mishra & Koehler Hew&Brush	2013	Chai, Koh & Tsai Gömleksiz & Fidan Karadeniz, Vatanartıran Kaya & Dağ Sancar-Tokmak, Yavuz-Konakman & YanparYelken
2007	Koehler, Mishra & Yahya Lawless & Pellegrino Thompson & Mishra	2014	Sancar-Tokmak Yigit

2010; Lee and Tsai; (Nicholas and Ng., 2010); Ozgun-Koca; Ozgun-Koca et al.; (Özmantar et al. 2010); Polly et al.; Wilson and Wright 2010 . published articles. In 2011, Akkoç; Bowers and Stephens; Chai et al.; Chai et al.; Chueng and Ho (2011); Doukakis et al.; (Harris and Hofer, 20011); Kereluik et al., 2011).; Khan; (Koh and Divaharan, 2011); (Lyublinskaya and Tournaki, 2011); Öztürk and Horzum, 2011); (Pamuk, 2011); (Polly, 2011); (Sahin, 2011); Tee and Lee, 2011; (Timur and Tarsa, 2011). published articles. In 2012, Adigüzel and Yüksel; (Koh et al., 2010; 2012.); (Mudzimiri, 2012); (Nicholas and Ng, 2012); (Pamuk et al., 2012). published articles. In 2013, Chai et al.; Gömleksiz and Fidan (2013); Karadeniz and Vatanartıran; Kaya et al. published articles. In 2014, Sancar-Tokmak and Yigit published

articles.

The first research questions was analysed in Figure 1. According to the Figure 1, TPACK studies rapidly increased between 2009 to 2011. According to Figure 2, TPACK studies rapidly declined in 2002 to 2007 and 2014.

According to Figure 3, The biggest improvement of TPACK studies were 2009 to 2011.

### **The second research question is how is the subject of article of ICT and TPACK distributed?**

The present study also analyzed the articles based on the two dimensions ICT and TPACK. Based on these

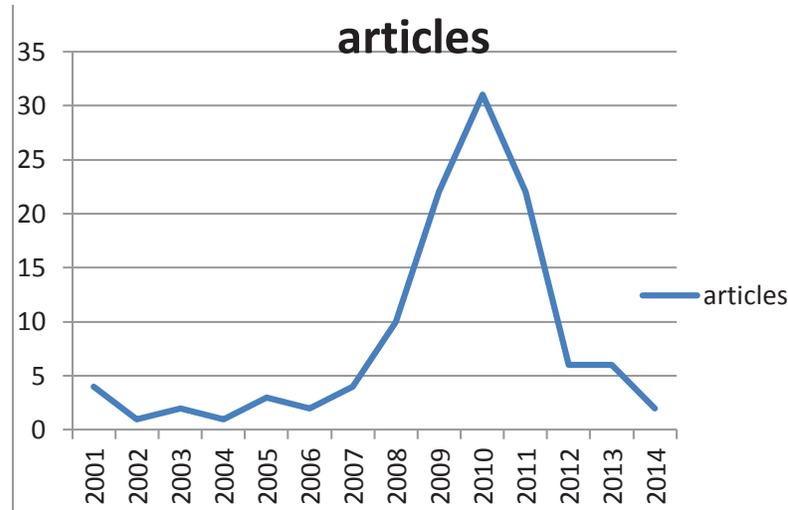


Figure 1. The line graph of TPACK Articles distribution of year.

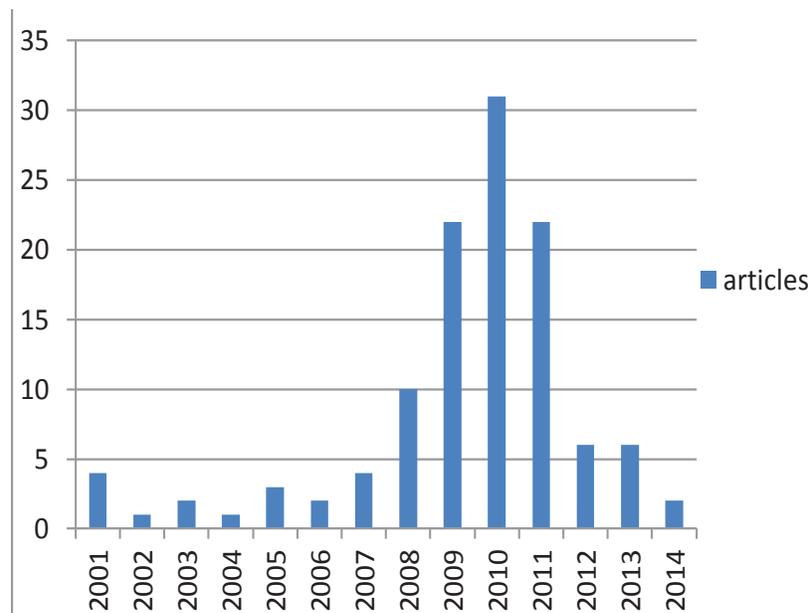


Figure 2. The bar graph of TPACK Articles distribution of year.

criteria, all 136 studies were analyzed and the outcomes are provided below (some of studies both related to the ict and tpack). 51 articles were related to ICT and 82 articles were related to the TPACK. Table 2 provides a summary of the content analysis of ICT and TPACK.

### The third research question is the distribution according to the year of the subject of article of ICT and TPACK

Researchers have acknowledged the lack of adequate theoretical and professional frameworks that provide

help, guidance, and efficiency to teachers to integrate technology in classrooms (Koehler and Mishra, 2006; Niess, 2008; Niess et al. 2009; Valanides and Angeli, 2008). Many different approaches have been attempted in order to help teachers overcome difficulties of integrating technology in mathematics classrooms (Hew and Brush, 2007). Figures 4 and 5 give emphasis on ICT and TPACK studies. After 2009, Tpack studies have been increased. ICT studies have been increased up to 2009. This is to show that ICT is not only enough for teaching and learning.

Finally, we would like to point out the possibility of cross fertilizing some older framework for the study of

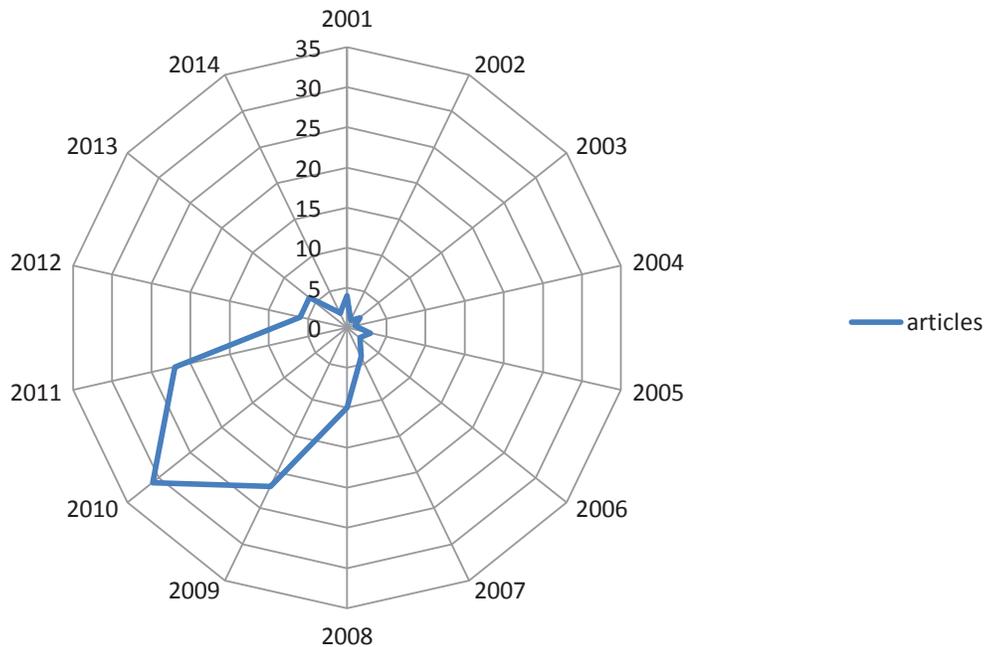


Figure 3. The spider graph of TPACK Articles distribution of year.

ICT integration with the TPACK framework (Figure 6). Established framework such as the technology acceptance model, concern based adoption model and the three models of knowledge creation as reviewed by Paavola et al., (2004) could be brought to bear on TPACK. For example, researchers can possibly envision the acceptance of certain emerging technology by analyzing its TPACK properties and the possible stages of concern that would follow when the technology is implemented. Angeli and Valanides (2009) asserted that the growth or proficiency of each TPACK knowledge construct does not automatically increase the educator's overall TPACK knowledge (Figure 7).

Present research found significant relationships between teachers' TPACK level (Lee and Tsai, 2010; Niess et al., 2006) and their self-confidence in technology, pedagogy, and content (Lee and Tsai). The future studies might focus on teacher characteristics in relation to TPACK and the development of TPACK. Their general conclusion support the foregoing section in that they also found that most intervention produced positive outcomes, especially for TK and pre-service teachers' willingness to use ICT. As illustrated by their work, the TPACK framework can be a common conceptual framework for many more review studies (Figure 7). We would argue that more surveys that compare pre-service teachers TPACK could be helpful in identifying the gaps in their TPACK and teacher educators can then plan how to support the continuous development of TPACK. This is especially so for the faculties in higher education as they are likely to be the most important people to help form the pre-service teachers' TPACK.

#### The fourth research question is how do we integrate the TPACK to our teacher training program?

In the teacher training faculty mostly cover three area of knowledge that teacher trainees have to be known. In this study asserted that the components of the TPACK models are enlightened (Table 3). The TPACK framework is a generative framework with many more possible future applications. In this paper, we have reviewed a sizable and representative set of studies and pointed out many possible directions for future research. Based on our review, we would propose a revised representation of the TPACK framework to guide future research as depicted. We can ask how we can integrate TPACK in teacher education program. For these, instructional planning process was given as an example.

The problems with teacher education made a lot of countries re-question its teacher education systems and hence start restructuring them to support social coherence, teaching performance and national enlargement.

For this an application of TPACK was recommended in Table 3.

## DISCUSSION AND CONCLUSION

This information has to answer the question of how technology will change the teaching-learning process when used in certain ways (Kuskaya and Usluel, 2010). Yurdakul (2011) in terms of competencies in general education teacher candidates' techno pedagogik study concluded they see themselves advanced. As seen

**Table 2.** Articles related to the themes of ICT and TPACK.

		1.	Abrami 2001
		2.	Akkoç, Özmant & Bingölbal 2008
		3.	Almas & Krumsvik 2008;
		4.	An & Shin, 2010
		5.	Angeli & Valanides, 2005;
		6.	Angeli &Valanides 2009
		7.	Bowers & Stephens, 2011
		8.	Bull et a.l., 2007
		9.	Bull, Hammond & Ferster, 2008;
		10.	Chai, Koh and Tsai 2011b
		11.	Cox & Graham, 2009;
		12.	Graham, Burgoyne&Borup 2010
		13.	Groth et al. 2009
		14.	Guzman & Nussbaum 2009
		15.	Hammond & Manfra, 2009b;
		16.	Harris et al., 2009;
		17.	Harris,Mishra, & Koehler, 2009;
		18.	Hew & Brush, 2007
		19.	Hofer & Swan, 2008
		20.	Hokanson & Hooper 2004
		21.	Jamieson-Proctor et al. 2010
		22.	Jimoyiannis 2010
		23.	Kabakçı Yurdakul, & Coklar 2014
		24.	Kereluik, Mishra, & Koehler, 2011
		25.	Khan 2011
ICT	ICT integration	26.	Koehler & Mishra, 2005b
		27.	Koehler & Mishra, 2009
		28.	Landry 2010
		29.	Lawless& Pellegrino 2007
		30.	McCormick, R., & Scrimshaw 2001
		31.	Mishra, Koehler & Kereluik 2009
		32.	Niess et al. 2009
		33.	Niess, 2008
		34.	Niessen 2005
		35.	Özgün-Koca 2010
		36.	Pierson & Borthwick, 2010;
		37.	Pierson 2001
		38.	Polly et al. 2010
		39.	Robin, 2008
		40.	Russell, Bebell, O'Dwyer & O'Connor 2003
		41.	Shafer 2008
		42.	Swenson, Young, McGrail, Rozema & Whitin, 2006
		43.	Tee & Lee 2011
		44.	Toth, 2009
		45.	Valanides &Angeli 2008
		46.	Valanides, 2005
		47.	Valanides, 2009;
		48.	Wilson&Wright 2010
		49.	Wu et al., 2008
		50.	Yigit 2014
		51.	Yurdakul 2011

Table 2. Contd.

	1.	Akkoç 2011
	2.	Allan, Erickson, Brookhouse&Johnson 2010
	3.	Angeli & Valanides 2009
	4.	Angeli & Valanides 2005
	5.	Archambault & Barnett, 2010
	6.	Archambault, L. M., & Barnett, J. H. (2010).
	7.	Archambault, L. M., & Crippen, K. J. (2009b).
	8.	Archambault, Wetzel, Foulger & Williams,2010;
	9.	Banas, 2010;
	10.	Bowers & Stephens, 2011
	11.	Chai, Koh, Tsai & Tan 2011
	12.	Chai, Koh & Tsai 2010
	13.	Chai, Koh & Tsai 2013
	14.	Chuang, H-H.,& Ho, C-J. (2011
	15.	Cox, S., & Graham, C. R. (2009
	16.	Cuban C. (2009).
	17.	Gömlüksiz.& Fidan2013
	18.	Graham et.al.,2009
	19.	Groth, Spickler, Bergner & Bardzell 2009
	20.	Hardy 2010 a, b
	21.	Haris& Hofer 2011
	22.	Harris, Mishra and Koehler, 2007;
	23.	Harris, Mishra and Koehler, 2009
	24.	Hewitt, J. (2008
	25.	Hofer, M., & Swan, K. (2008
	26.	Holmes 2009
	27.	JamiesonProctor,Finger&Albion, 2010
	28.	Jang & Chen 2010
	29.	Jang, 2010
	30.	Jimoyiannis, 2010
	31.	KabakçıYurdakul&Coklar 2014
	32.	Karadeniz&Vatanartiran 2013
	33.	Kay.& Dağ, 2013
	34.	Kaya, Emre & Kaya 2010
	35.	Koehler & Mishra 2005
	36.	Koehler & Mishra 2008
	37.	Koehler & Mishra 2009
	38.	Koehler, Mishra & Yahya,2007
	39.	Koh & Divaharan 2011
	40.	Koh, Chai & Tsai, 2010
	41.	Koh, Chai & Tsai, 2012
	42.	Kramarski & Michalsky, 2009
	43.	Kramarski&Michalsky,2010
	44.	Kuşkaya & Usluel 2010
	45.	Lee & Tsai, 2010
	46.	Lee, Wu and Tsai (2009)
	47.	Lundeberg et al. 2003
	48.	Lyublinskaya & Tournaki 2011
	49.	Mishra & Koehler, 2006
	50.	Mudzimiri, R. (2012
	51.	Nicholas & Ng, 2010
	52.	Nicholas Ng 2012
	53.	Niess 2005
	54.	Niess 2008
	55.	Niess et al., 2006
	56.	Niess et all. 2009
	57.	Ozgun-Koca, 2009
	58.	Ozgun-Koca, Meagher & Edwards 2010
	59.	Özmantar, Akkoç, Bingölbali, Demir & Ergene,2010
	60.	Öztürk & Horzum 2011
	61.	Paavola et al. 2004
	62.	Pamuk 2011
	63.	Pamuk,Ülken & Dilek 2012
	64.	Polly et al. (2010)
	65.	Polly & Brantley-Dias 2009
	66.	Polly 2011
	67.	Richardson, 2009
	68.	Sahin, 2011
	69.	Sancar Tokmak 2014
	70.	Sancar-Tokmak, Yavuz-Konakman & Yanpar-Yelken 2013
	71.	Schmidt et al. 2009
	72.	Shafer, 2008
	73.	Shin et al., 2009
	74.	So & Kim, 2009
	75.	Tee & Lee, 2011
	76.	Thompson & Mishra 2007
	77.	Timur & Taşar 2011
	78.	Tsai & Wen 2005
	79.	Tsai et al., 2011
	80.	Wilson & Wright, 2010
	81.	Yurdakul 2011
	82.	Yurdakul,Odabasi et al. 2012

TPACK

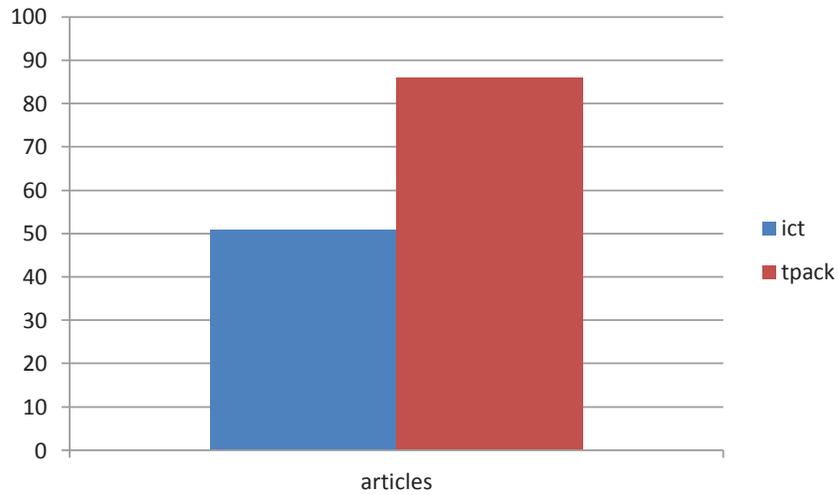


Figure 4. The bar graph of TPACK and ICT articles.

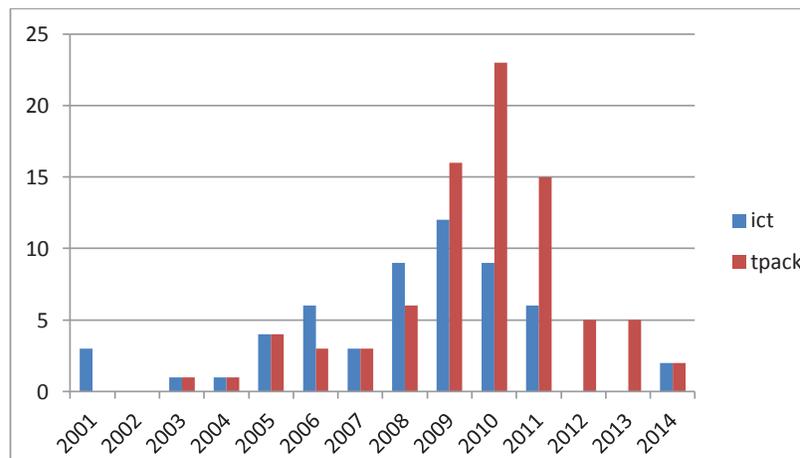


Figure 5. The bar graph of TPACK and ICT Articles distribution of year.

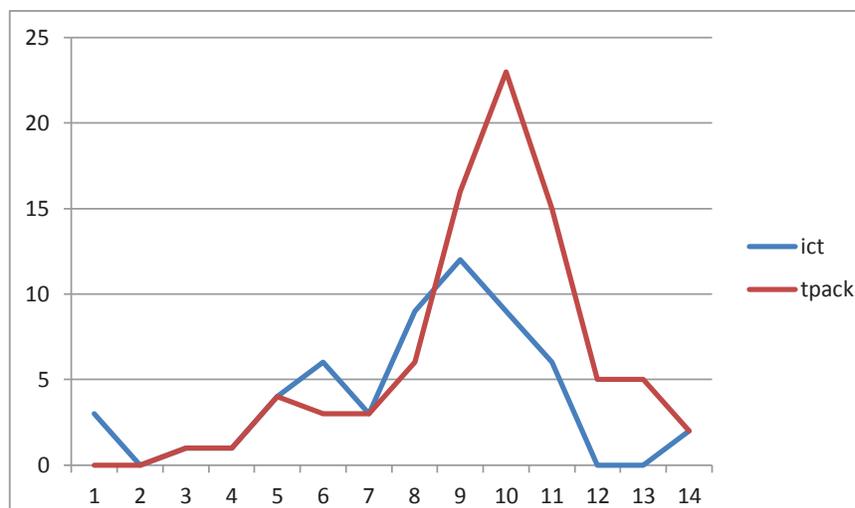


Figure 6. The line graph of TPACK and ICT Articles distribution of year.

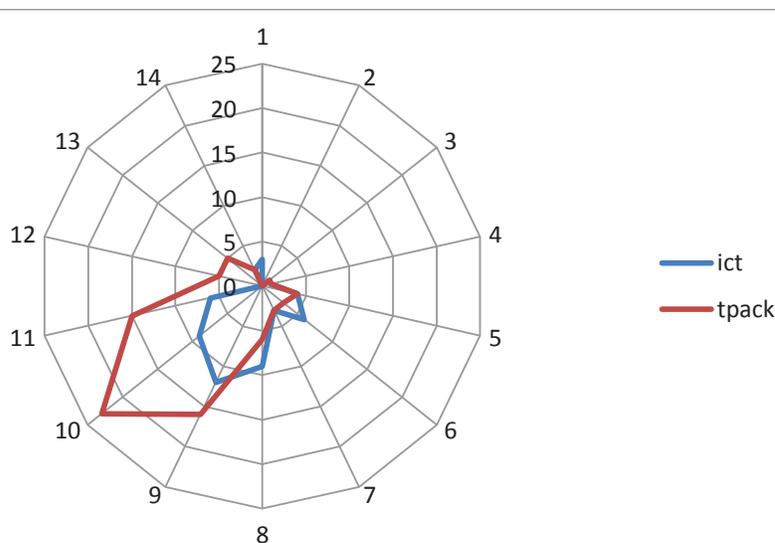


Figure 7. The spider graph of TPACK and ICT Articles distribution of year.

Table 3. Integrated TPACK in teacher education program.

Instructional planning process	Identifying goals(demands from syllabi, school and/or Ministry policy)			Analysing learners	ICT-based resource		Plan Instructional activities
TPACK dimensions	Content knowledge	Pedagogical knowledge	Technological knowledge	Pedagogical content knowledge	Technological content knowledge	Technological pedagogical knowledge	TPACK
TPACK design scaffolds	What are the targeted attitudes, skills and knowledge that students should learn for the specific subject matter?	What are some general pedagogical requirements? (e.g. the inclusion of self-directed learning, collaborative learning, knowledge creation, etc).	What are some possible content-free general software/hardware available that may be associated with the identified CK?	Who is facing what types of problems in learning the CK given what types of environment? What are the existing pedagogical practices associated with the teaching of the subject matter?	What are the available forms of technology or computer-based representations of CK? How does the expert/practitioner use technology to represent and make meaning of the CK?	What are the associated pedagogical approaches for the forms of identified TK/TCK? Any consideration for cyber wellness issues?	How can the preceding dimensions be synthesised to optimise students' understanding and/or knowledge construction?
Decisions	Formulate the lesson objectives				Articulate on resources, grouping instruction (single, pair,etc), technologies, approaches (problem-based, project-based, inquiry-based, etc), procedures, assessment, classroom management strategies, etc.		
Follow up action	Implementation -> Reflection -> Revision						

literature reviewed, we identified four interdependent contextual factors that are to a certain extent characteristic. To sum up, Angeli and Valanides (2009) argued that the growth or proficiency of each TPACK knowledge construct does not automatically increase the educator's overall TPACK knowledge. We would like to point out the possibility of cross fertilizing some older framework for the study of ICT integration with the TPACK framework. For instance, researchers can possibly imagine the acceptance of certain emerging technology by analyzing its TPACK properties and the possible stages of apprehension that would follow when the technology is implemented. All literature review showed that ICT not only enough, also we need the tpack for teaching and learning. While illustrated, the TPACK framework can be a general conceptual framework for many more review studies. In addition, we suggest that TPACK could also be used to analyze policy documents to examine whether there is a shift towards the use of overlapping constructs namely TPACK to formulate policies or standards, which could reflect a deeper understanding among policy makers.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# Male learners' vocabulary achievement through concept mapping and mind mapping: differences and similarities

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While learning English plays an essential role in today's life, vocabulary achievement is helpful to overcome the difficulties of commanding the language. Drawing on data from three months experimental work, this article explores how two mapping strategies affect the learning vocabularies in EFL male learners. While females were studied before, this article focuses on how Iranian male students at Intermediate -level can improve their vocabulary achievement by using Mapping strategies of concept maps and mind maps. It was attempted to know whether gender plays a role or not. Therefore 62 male intermediate EFL learners were selected among a total number of 100. Based on the results, the students were randomly assigned to two experimental groups with 31 participants in each. Both groups underwent the same amount of teaching time by the researcher/teacher during 16 sessions of treatment which included concept mapping for the first group and mind mapping for the second. A posttest was administered at the end of the treatment to both groups and their mean scores on the test were compared through an independent samples *t*-test. The result showed that male learners same as females in the mind mapping group benefited significantly more than those in the concept mapping group in terms of improving their vocabulary achievement.

**Key words:** Argument mapping, concept mapping, mind mapping, vocabulary achievement , meaningful learning ,vocabulary learning.

## INTRODUCTION

Learning English these days is a widespread activity and obviously vocabulary plays an important role in facilitating this process. An extensive vocabulary background helps to build a foundation for reading acquisition, which correlates with greater academic achievement later in life (Cunningham and Stanovich, 1997 cited in (Zeller, 2011).

Generally speaking, vocabulary can be taught in different ways, each with its own merits and demerits (Nemati, 2009).

The learners' vocabulary achievement has received more attention recently (Nunan, as cited in Meara and Fitzpatrick, 2000). It is important for researchers to

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investigate ways to improve direct instruction of foreign language vocabulary; therefore, how to teach vocabulary and use it in a productive way have become the main concerns of learners as well as teachers (Tamjid and Moghadam, 2012). These ways must help both groups in increasing the speed of learning and consequently longer permanence in the memory. When EFL learners start to read a text, what comes to their mind is how to learn and recall the new vocabulary meanings (Yu Ling, as cited in Heidari et al., 2012).

Accordingly there must be vocabulary learning strategies which promote this process of learning. Vocabulary learning strategies (VLS) are distinguished from language learning strategies; one can claim that they are a subclass of language learning strategies (Dóczy, 2011). A multiplicity of different vocabulary teaching procedures have been designed and studied in the literature of ELT (Palmer et al., 2001; Read, 2000). Among such procedures is the mapping strategy which is based on making associations between different nodes of the brain (Davies, 2010). Mapping strategies are among such learning strategies and they are not specifically related to the field of vocabulary learning; they are used in other fields, too. The foundation of these strategies is on "Meaningful Learning". Meaningful learning occurs when humans actively integrate thinking, feeling, and acting to construct meaning and knowledge (Novak, 1998 cited in Khodaday and Ghanizadeh, 2011). Among many different strategies that have been used in the field of language learning, Mapping Strategies can be among those meaningful- based learning strategies.

Rooted in Ausubel (2000)'s theory of meaningful learning elaborating on the principle of linking new concepts to existing concepts in cognitive structures, the mapping strategy puts forth the notion that learners also need to be taught something about brain mechanisms and knowledge organization (Novak and Canas, 2006). Mapping techniques which are among visual learning strategies enhance learning as imagination and association are the keys to high-level memory and creative thinking (Cuthell and Preston, 2008). There are different kinds of mapping strategies and consequently each type has its own impact and is used for a specific domain thus needing its own structure (Ruiz-Primo, 2004).

Among the different mapping strategies existing, mind mapping and concept mapping have been identified as efficient visual thinking tools for storing, processing, organizing, and presenting information graphically that may help learners to facilitate the process of meaningful learning (Cuthell and Preston, 2008). Concept maps have been defined differently from various viewpoints; (Ruiz-Primo, 2004), for example, define that concept as artifacts for organizing and representing knowledge.

Just like concept maps, mind maps are also used in different fields. The term was coined in the UK by Tony Buzan in his 1974 book and BBC TV program *Use Your Head* (Basso and Margarita, 2004). Mind mapping is a

popular brainstorming tool and thinking technique of visually arranging ideas and their interconnections; it is a way of representing associated thoughts with symbols rather than with extraneous words (Abdeen et al., 2009). Others define mind maps as forms of an outline with ideas and pictures radiating out from a central concept (Buzan and Buzan, 1993; Wycoff, 1991).

## METHOD

The participants of the study were 62 male Iranian intermediate EFL learners who were aged between 13 to 19 years and studying in a Language School. The selection of the sample was done in two stages. At first, 100 students were chosen non-randomly from among the existing sample available and sat for a piloted language proficiency test with 64 of them whose scores fell one standard deviation above and below the mean being selected.

The selected participants were subsequently divided into two experimental groups of 32 students. Each group comprised two classes and the assignment was random.

Another 30 learners at the same level language proficiency and age participated in the piloting of the language proficiency test and the posttest with two teachers (the researcher and one of her colleagues who held a master's degree in TEFL and had seven years of experience teaching at this level) serving as the raters of the writing part of the preliminary proficiency test in the study.

## Instrumentation and Materials

For the purpose of achieving the goal of this study, two tests and certain materials were used in this study which they are described below: 1. Tests (PET), 2. Rating Scale for the PET Writing Part, 3. Test of Vocabulary at the Outset and Posttest. The main material was Summit coursebooks (Saslow and Ascher, 2009).

The book is designed for intermediate learners focusing on all four skills and consists of five chapters. As the learners were not familiar with using concept and mind mapping methods, the researcher decided to prepare two handouts in order to inform the participants what concept maps and mind maps were and how they could use these maps.

The four-page handouts consisted of a brief history, description, and some images. The researcher used materials from the internet; she further shared the two handouts with five learners and two colleagues and incorporated their feedback on them before using them in class.

## Procedure

At the beginning of the study, the already piloted sample PET was administered to 100 intermediate EFL male learners from among whom the 64 selected participants of the study were assigned randomly into two experimental groups. The vocabulary test was subsequently administered to make sure that the learners were not familiar with the words.

In the treatment process, both experimental groups underwent 16 sessions of 105 min held three sessions a week. The main course book was taught to both groups with one group receiving concept and the other mind maps.

During these 16 sessions, a sum of 160 new words and phrases were taught in both experimental groups alongside the other parts of language such as grammar, speaking, listening, reading, and writing. The process of teaching in each group is described as follows.

### Treatment in the concept mapping group

The two classes assigned to the concept mapping strategy instruction had 16 male participants in each. The first session was allocated entirely to introducing concept mapping to learners with some practical examples. The participants were given handouts which contained the characteristics of a concept map, some examples of well and poorly constructed concept maps plus introduction to this kind of mapping.

After giving the handouts to every learner, they were given five minutes to have a look at the content. Then the researcher began to speak about concept mapping according to the handouts and tried to draw the example maps on the board. She drew a concept map on the board by asking the students some questions about their opinions on a birthday party which was the first selected topic intended to be something attracting the learners. The questions included many different aspects of holding a birthday party which naturally raised many different ideas and comments. Different ideas or "concepts" were welcomed by the teacher/researcher as the nature of this technique is learners' freedom in delineating and connecting the concepts in a way that their minds can recall it better in the future. For example, one of the questions was about how they held their birthday parties and many of the learners answered by "inviting their close friends to their home", so the researcher used two words here "invite" and "close friend" for making a node while the arrow was titled by "inviting" and the node by "close friends".

Next, the teacher drew a map by asking students' help and guidance. She encouraged the learners to provide the answers and by doing so, she made the learners interested in drawing this kind of map. Each learner was free in delineating her own map and they were not asked to copy exactly what was on the board but for drawing the map by the teacher, they had been motivated to take part and help her. The teacher tried to make all of them interested and involved in the intended process. It was indeed necessary to motivate the learners to take part in this process as this collaboration is one of the basic rules in implementing the concept mapping strategy.

The teacher/researcher followed the Davies (2010) model but before that she reminded the learners that each map is a kind of a personal track and they must feel free in how they show or relate the concepts. Copying the exact map from the board was not compulsory but the learners were encouraged to select some parts when they wished to do so.

First, the teacher asked a declarative question: What is a birthday? What do we eat on a birthday? What do we wear on a birthday? What do we buy for a birthday? And questions like these.

1. She devised a "parking lot" of concepts and ideas that were related to the concept of birthday and the questions to be answered. The purpose of this stage was brainstorming. The resulting concepts might or might not be used in the final map. The concepts were placed in circles or boxes to designate them as concepts. As an example for each question, there were lots of answers by the learners that it showed the different nature of thinking or concept-making in any individual. She did her best for not removing any concept. She wrote all of them and tried to use them in the next step of the map delineating.
2. She then put the concepts in a hierarchical order of importance in the provisional concept map.
3. Next, she linked lines between the hierarchical concepts from top to bottom. Arrows could be used in different directions. For example, when she wanted to draw an arrow or create a connection among the circles, she preferred to draw the two circles of both ends but she let the learners say what phrase can be used for joining these two nodes.
4. She then devised suitable cross-links for key concepts in the

map. Verbs and propositions / prepositional phrases were used most frequently, for example, "requires", "to work with", "will lead to", "involves", "during", "of", "through" and so on. The aim was to show the relationship between the key concepts and their subordinate or super-ordinate elements. This was of course a very fundamental phase of concept mapping.

5. Finally, she added some examples to the terminal points of a map representing the concepts. These were not enclosed in boxes or circles to delineate them as instances of a concept. These examples included some other words that were not related to the main topic (in this case, a birthday party). One example can be the word "glad", when most of the learners stated that the first concept of birthday is "happiness" for them, one told "glad". The teacher mentioned that these two words are the same in meaning but one is more formal. So a new circle was added by arrow of "more formal" for "glad".

These steps would help the learners in mastering the strategy and the result was a map on the board full of arrows and relationships. During the drawing phase, all the learners were encouraged to participate and help the teacher. The learners were told that for each vocabulary teaching time, they needed their own concept maps and any kind of difference was accepted by the teacher as they were all different in mind and concepts of the mind.

In the last stage, the students copied the map in their own notebooks. For homework, they were asked to draw their own maps for the next session and study the 12 new vocabularies they were taught in that session.

On the second session, the teacher first reviewed last session's new words by asking them from some of the students while they were allowed to watch their maps. She then presented a new topic following the same procedure described above. The same procedure was implemented in every session.

### Treatment in the mind mapping group

The first step of this class is exactly same as concept mapping class while the only difference was using mind-mapping handouts and principles. Every participant had an A4 plain paper without any line and sufficient numbers of color pens or pencils. The papers had been located horizontally and then the instructor told the following steps to the learners while asking them to put their color pens and pencils on the desk. They were encouraged to use those colorful pens or pencils throughout the map delineating as this is a basic tenet of mind mapping and one of the major differences with concept mapping.

The teacher started asking learners about their birthday parties and how they held this event. She then followed the steps proposed by Buzan (1991) – the originator of mind mapping – not only in preparing the handout, but also in the teaching process.

1. First, the teacher placed a picture about birthday in the center of the board with at least three colors.
2. Then she chose some keywords and sometimes used pre-printed upper and lower case letters instead of a complete word. For example instead of "gift", she used the upper case "G" and attached it to the board.
3. She subsequently explained that each word or image was alone and would have been placed on its specific line.
4. She then connected the lines starting from the birthday image in the center of the board. The lines became thinner as they radiated out from the center and were the same length as the word or image meaning that a short line was used for a short word and vice versa.
5. She had to tell the learners to develop their own personal styles of Mind Mapping. She told her learners that the beauty of the mind maps lies in their differences and individualities; these differences

**Table 1.** Inter-rater reliability between the two raters scoring the PET writing papers.

		Rater 1	Rater 2
Rater 1	Pearson Correlation	1.000	.803**
	Sig. (2-tailed)	.	.000
	N	30	30
Rater 2	Pearson Correlation	.803**	1.000
	Sig. (2-tailed)	.000	.
	N	30	30

\*\*Correlation is significant at the 0.01 level.

show the importance of each minds' plans. So she encouraged the participants to feel freedom in making a personal map which could be unique for each person.

6. She was required to emphasize and show the associations in the mind. She asked them for example what they recalled when they think about the gifts in such celebration party. Certainly the answers were different because the minds were different. That could be one of the goals of Mind- Mapping to create the distinct maps.
7. She kept the mind maps clear by using radial hierarchy, numerical order or outlines for embracing the branches.

As the main aspects of mind maps are pictorial and graphical design flourishes, the researcher tried to emphasize them and help participants to create associations between their ideas about the words. Therefore, in the first session, the participants followed their teacher who used these steps on the board and finally created a mind map about birthday parties through actively participating in the process.

For the first word, the teacher said the meaning of that word her and for the others, she let the participants to guess the meanings. During these activities, the learners were motivated to help their teacher by telling their ideas about everything that could be related to a birthday party.

Certainly there were different ideas and suggestions so the teacher took advantage of these different opinions and she encouraged learners to have their own constructions of mapping in their works. She emphasized that the nature of our minds' differences can be helpful for this class, so the different colors and images were assumed as valuable factors in learning.

In the last stage, the students copied the map in their own notebooks. For homework, they were asked to draw their own maps for the next session and study the 12 new vocabularies they were taught in that session.

On the second session, the teacher first reviewed last session's new words by asking them from some of the students while they were allowed to watch their maps. She then presented a new topic following the same procedure described above. The same procedure was implemented every session. At the end of the treatment period, both experimental groups sat for the same posttest.

### Data collection and analysis

Due to the non-random selection of the participants and random assignment of the participants in the two comparison groups, the study was quasi-experimental with comparison group and posttest only design. The data analysis of the present study consisted of both descriptive and inferential statistics. Descriptive statistics was

utilized for calculating the mean, standard deviation, and standard error of measurement of all tests used. For the purpose of estimating the inter-rater reliability of PET in the writing part, Cronbach Alpha was used. The inferential statistics which was used to test the null hypothesis of the study was an independent samples *t*-test for comparing the means of two experimental groups at the posttest level. The prerequisites of all parametric tests were also in place. Furthermore, the reliability of the test scores (estimated through the KR-21 procedure) gained by the participants on the pilot PET was 0.82.

As two raters were involved in the scoring of the writing section of the PET, their consistency of scoring or inter-rater reliability had to be checked. The skewness ratio of both sets of scores (-0.20 and -1.00) fell within the acceptable range of  $\pm 1.96$  which means that both sets were not skewed and thus, running a parametric test to check the go-togetherness of the scores was legitimized. Consequently, the Pearson Correlation was run.

Table 1 displays the significant correlation of the two sets of scores given by both raters to the writing papers ( $r = 0.80$ ,  $p = 0.00 < 0.05$ ).

### Descriptive statistics of the PET administration

Next, the piloted PET together with the writing section was administered for participant selection. Table 2 shows the descriptive statistics of this administration with the mean being 37.86 and the standard deviation 7.12, respectively.

### Dividing the participants into two groups

Among the 100 male students who took the PET, the researcher selected 62 who scored between one standard deviation above and below the mean. Table 3 shows the descriptive statistics of this test in the pilot phase. The mean and standard deviation were found to be 47.17 and 8.27, respectively.

The researcher administered the same 40-item vocabulary test as the posttest among the two experimental groups once the treatment was completed. The researcher administered the posttest to both groups in one setting. Table 4 displays the descriptive statistics of this administration with the mean being 24.97 and the standard deviation 3.66 in the concept mapping group and 35.87 and 2.22, respectively, in the mind mapping group.

Figures 1 and 2 display the above statistics for each of the experimental groups, respectively.

Going back to Table 4, the skewness ratios of both groups fell within the acceptable range of  $\pm 1.96$  (0.74 and 0.29) thus signifying that the score distributions in both groups represented normality. Therefore, running a *t*-test was legitimized.

As Table 5 indicates, with the *F* value of 7.312 at the significance level of 0.009 being smaller than 0.05, the variances of the two groups were significantly different. Therefore, the results of the *t*-test with the assumption of heterogeneity of the variances were reported here.

The results ( $t = -14.19$ ,  $p = 0.00 < 0.05$ ) indicate that there was a significant difference between the mean scores of the two groups at the posttest. It can thus be concluded that concept mapping and mind mapping bore a significantly different impact on the vocabulary achievement of the participants in this study.

The researcher was interested to know how much of the obtained difference could be explained by the variation in the two levels of the independent variable. To determine the strength of the findings of the research, that is, to evaluate the stability of the research findings across samples, effect size was also estimated to be 1.03.

**Table 2.** Descriptive statistics of the PET administration.

	N	Minimum	Maximum	Mean	Std. Deviation
PET Administration	100	19	53	37.86	7.118
Valid N (list wise)	100				

**Table 3.** Descriptive statistics of the vocabulary test piloting.

	N	Minimum	Maximum	Mean	Std. Deviation
PET Piloting	30	21	42	32.10	6.189
Valid N (list wise)	30				

**Table 4.** Descriptive statistics for the posttest in both groups.

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic Std. Error
Group 1 (CM)	31	19	32	24.97	3.656	.316 .421
Group 2 (MM)	31	32	40	35.87	2.217	.115 .421
Valid N (list wise)	31					

**Table 5.** Independent samples *t*-test on the mean scores of both experimental groups.

	Levene's test for equality of variances		<i>t</i> -test for equality of means						
	<i>F</i>	Sig.	<i>t</i>	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% confidence interval of the difference	
								Lower	Upper
Equal variances assumed	7.312	.009	-14.19	60	.000	-10.903	.768	-12.4	-9.36
Equal variances not assumed			-14.19	49.4	.000	-10.903	.768	-12.4	-9.36

Therefore, the findings of the study could be considered strong enough for the purpose of generalization.

## RESEARCH FINDINGS

In the field of vocabulary achievement, there have been many studies which have focused on finding ways or strategies to facilitate the process of learning and also helping the learners in retaining and recalling them soon after at the moment (Beck et al., 2002; HeeKo, 2012; Hoshino, 2010; Nam, 2010; Schmitt, 1997; Nemati, 2009; Zeller, 2011). Alongside these researches, studies were done in the field of Mapping strategies which have been used in different aspects and not only vocabulary (Al-Jarf,

2011; Cuthell and Preston, 2008; Davies, 2010; Khodaday and Ghanizadeh, 2011; Hofland, 2007; MousapourNegari, 2011). Therefore, the researcher set out her work while she was aware of the applicability of these mapping strategies in the field of language learning and specifically "vocabulary achievement". It was clear that these techniques can motivate learners in better learning and their main success is giving a picture to participants and helping them in non-verbal learning.

In line with the findings of the previous works which have established the effectiveness of these strategies including concept mapping, mind mapping and argument mapping (Budd, 2033; Mento et al., 1999; Reason, 2010) and also the effectiveness of using these strategies in

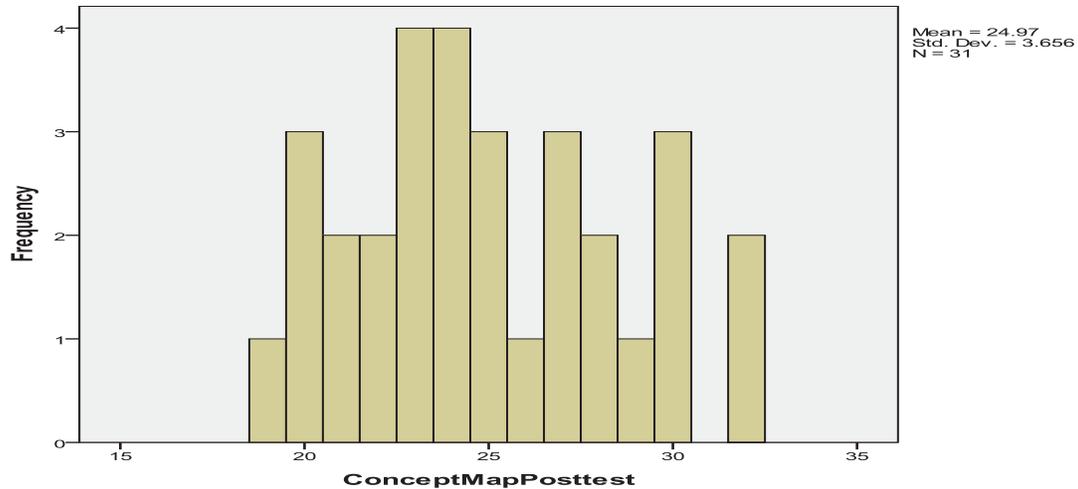


Figure 1. Histogram of the concept mapping group's scores on the posttest.

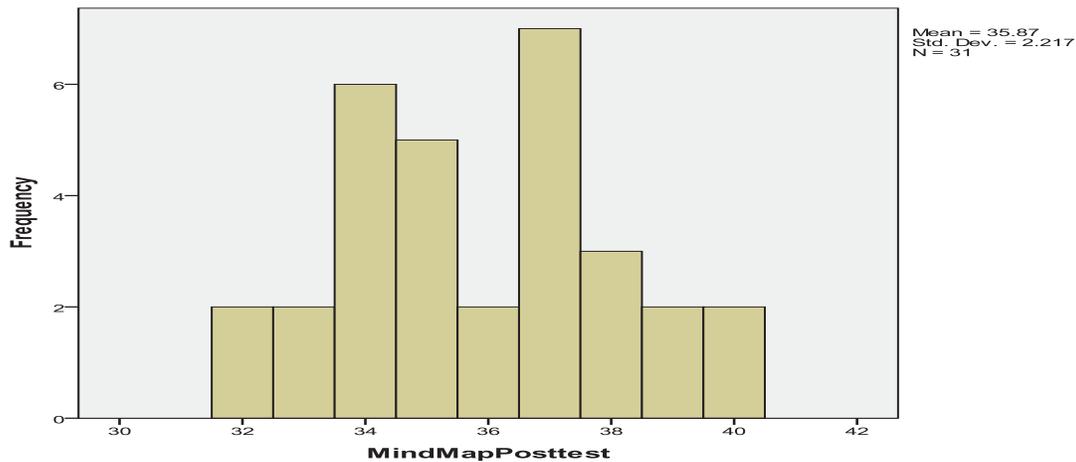


Figure 2. Histogram of the mind mapping group's scores on the posttest.

teaching vocabulary for female learners (Tarkashvand, 2015), this study too emphasized the usefulness of those strategies for male learners, too.

As Eppler (2006) believed and the current study was based on this notion, there are many familiarities and also differences between each type of mapping strategies thus leading to different outcomes. While all these techniques are trying to give a picture of each piece of knowledge to learners but they are definitely different in many aspects and it was a question for the researcher to know whether they are so different in vocabulary achievement or not while it was obvious that both of concept mapping or mind mapping are helpful and facilitator in this area but the degree of effectiveness was a question for the author.

To this purpose, the researcher clearly observed in the

study that using the mind mapping strategy provide male learners with better learning and easier recalling and they could reconstruct the map sooner and more simply than concept maps as the type of mind maps gave them more freedom and less complexity.

It is worth mentioning that in the process of delineating maps in both groups, they were interested in learning vocabulary through these strategies which were not classic type of word lists. The learners showed their interests by participating in all phases of drawing and the satisfaction that they had for vocabulary learning times; not only the researcher herself saw this enthusiasm but also the learners themselves expressed it directly that they liked map drawing. Furthermore both groups had the same level of learners' participation only in the mapping process and not for instance in the reading time.

Interestingly, while the level of participation and the allocated time for delineating a map for both concept map and mind map groups were the same but it was seen by the researcher that while she was asking the learners the pre-taught vocabularies, the male learners in the mind mapping group were more qualified than the other group in recalling and they were more interested in delineating the map more. They also remembered more details than the concept map group. It is worth noting that in this group they also used less time and they repeated the words with more alacrity.

In addition, the researcher gathered from the learners in the mind map group that during the learning course, students generally appreciated this strategy and keywords or signs that they were free to use. This freedom was also considered in the concept map group but the nature of this map which needed more elaboration and time made the learners a bit bored. The final product of each type of mapping tools are different and that is the critical point as reading a mind map is easier than a concept map because in the latter, there are more connections and relations which have to be observed by the learner who is drawing.

Learning vocabularies by signs and key words gave this sight to the male learners that they could also use this technique in other learning sections including writing and reading, something which was seen by the researcher that they tried to learn in a new and different way. Finally it can be said that working by mapping strategies not only helped learners in better learning but also helped the researcher herself as she was the instructor, too. As she had previously used only the word list method for teaching vocabulary, it was a new and insightful method to teach the vocabulary in more motivating condition.

### **Insight for language teachers' development**

Since vocabulary learning was always a controversy for both teachers and learners in how to get command on more words and retain them for a longer time; the necessity is felt to provide learners with more essential strategies in the field of vocabulary learning. Mapping strategies can support learners in many aspects as Cuthell and Preston (2008) believed that concept maps and mind maps are quick to review and are ideal for revision; they engage much more of the brain in the process of assimilation and connecting facts than conventional notes or summaries and they can provide cues necessary to remember the information within it. Accordingly teaching mind mapping, could be a part of the pedagogical curriculum to help students empower themselves in the act of vocabulary learning. This training could be done both for teachers who are being trained to become teachers or those already engaged in the

practice of pedagogy in the form of in-service courses.

In current work, male learners were chosen to know whether these techniques are gender-oriented or not. In previous studies, it was shown that female learners in mind mapping group outperformed learners in concept mapping group so the role of gender and the difference of these two sexes were studied here and finally it has been clear that for male students, there is a same story.

In this study, the researcher would assign the beginning session of the semester for teaching and presenting the mapping strategies while delivering pre-fabricated handouts in order to give more insights to learners. This was done to activate their prior knowledge and thence she herself showed the step by step process of map delineation.

One theme which is contributory to mapping strategies is the learners' cooperation in the process of drawing a map. It helps the learners to see their points of view as essential ingredients of map drawing; therefore, this individuality of each map gives more motivation and enthusiasm to participants. To this end, cooperative learning could be emphasized in teacher training workshops as an effective feature thereby facilitating vocabulary achievements.

In the phase of assessing the learners' vocabulary learning, the mapping strategy can be used too. This type of assessing is giving more cues to learners and also support their subtle learning of how applying these maps. It was more essential than writing feedbacks and verbal correction. Accordingly, it is recommended to evaluate learners by asking them to draw a map which had been previously demonstrated.

### **Conclusion**

The researcher thoroughly observed that using the mind mapping in the process of teaching vocabulary can enhance male students' enthusiasm and participation in the learning process. This is perhaps the case as mind mapping removes the pressure of verbal modalities in the process of vocabulary learning alongside giving more freedom to use personal and individual icons. The learners were also enjoying their liberty in not using connection words as they were motivated to use more colors and shapes to draw any map. They could make it personal as each word or phrase could recall something different from each learner to another.

Furthermore, since vocabulary learning was always a controversy for both teachers and learners in how to get command on more words and retain them for a longer time; the necessity is felt to provide learners with more essential strategies in the field of vocabulary learning. Mapping strategies can support learners in many aspects as Cuthell and Preston (2008) believed that concept maps and mind maps are quick to review and are ideal

for revision; they engage much more of the brain in the process of assimilation and connecting facts than conventional notes or summaries and they can provide cues necessary to remember the information within it. Vocabulary achievement could be raised by many strategies with mapping being one of them. While mapping strategies are the same in the fundamental bases, they have many differences which therefore lead to different usages.

This study revealed that vocabulary achievement as an important part of language learning is enhanced through using mapping strategies but among the two chosen techniques, the mind map group outperformed the concept map group in vocabulary learning. Consequently learners were more successful in vocabulary achievement by using mind mapping. There is of course no dispute over the effectiveness of both strategies in language learning but the teaching material can influence the degree of applicability. In other words, vocabulary as the intended part of teaching in this work was better achieved by the mind mapping than concept mapping technique.

Accordingly teaching mind mapping, could be a part of the pedagogical curriculum to help males same as female students empower themselves in the act of vocabulary learning.

## SUGGESTIONS FOR FURTHER RESEARCH

This research was carried out among intermediate learners; the same experiment could be implemented among other age groups to see whether the latter is a factor in comparing the impact of the two modes of mapping strategies on vocabulary achievement. These modes of mapping strategies were used for all learners while people with kinesthetic minds can learn new materials better by these techniques. It is recommended to carry out this research among learners with that ability to see whether these two strategies are significantly different in learning new words or not.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

## Social emotional learning skills and educational stress

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**The basic aim of this research is to examine the predicting role of social emotional learning skills in educational stress. The participants were 238 adolescents at high school. In this study, the Social Emotional Learning Skills Scale and the Educational Stress Scale were used. The relationships between social emotional learning skills and educational stress were examined using correlation analysis and simple linear regression analysis. In correlation analysis, communication ability, problem solving ability, coping ability and self-esteem enhancing ability were found negatively related educational stress. Regression analysis showed that social emotional learning skills are very important predictor of educational stress. The results were discussed in the light of the related literature.**

**Key words:** Social emotional learning skills, educational stress.

### INTRODUCTION

People are living under an advanced technological world where instant communications and gratifications are the norm. These, in many way, affect people having the need to live together in a negative way in terms of social emotional aspect. Learning, defined as the change of behavior as a result of an individual's nature and wonder, emerges as the most important concept in educational process (Hilgard, 1948). As set out in the definition of the concept of learning, condition caused by individual's experiences, is also an indicator that it can be realized in various ways. Social emotional learning is one of these.

Social emotional learning is defined as a model that provides students to understand and manage their social relationships and emotions (Elias et al., 1997). Social emotional learning, effective learning, positive behavior, regular attendance and emotional well-being are introduced as a comprehensive concept to encourage all school activities (Humphrey et al., 2009). Development of

social emotional qualifications is the key to reach the success in life and in school. Social emotional learning abilities e consists of communications, problem solving and coping with stress skills (Elias et al., 2006). Social and emotional learning reveals the requirement that events should be considered as a whole rather than cognitive approach considering social and emotional aspects. Individuals should gain social and emotional skills at early ages in order to maintain a happy and balanced social life (Cohen, 1999).

In the research carried by Hallam et al. (2006), a program which is about social emotional learning aspects, used in more than 60% of the primary schools in England set to encourage five basic social emotional skills such as empathy, social abilities, self-awareness, managing emotions and motivation. In the program it is shown that social emotional abilities are learned sufficiently (Humphrey et al., 2009). Social emotional competence

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requires remaining calm when angry and having solutions in conflict with friends (Payton et al., December 2008). These skills are accepted as learning skills contributing individual.

Learning comes true in the school pursuant to social, emotional and academic elements (Zins et al., 2004; Durlak and others, 2011). Taking a role model pursuant to social relations for learning is aforesaid (Sarıçam et al., 2012). Students learn as a result of cooperation of families and teachers. Relationships and emotional periods play facilitating and complicating role and affect individuals for which how and what they will learn (Elias et al., 1997).

### Educational stress

Stress is defined as unsuitable circumstances in life and show similar effects in the educational area as it affects lives with various factors, affects the individuals' lives adversely by disrupting mental health (Conner et al., 2010). One of the important definitions about stress is: stress is a chain of reactions shown psychologically and physically in the presence of a threat (Randolph, 1985). For instance, some requests of environment from people is too much for individuals which weakens the relationship between environment and individual (Can, 2010). Beside negative seen of stress, sometimes there could be positive side in which positive emotions are seen as a result of a success of a job. (Helligel and Slocum, 1989; Bataineh, 2013). When looked for the source of stress it is seen that these sources are job, environment and situation in which the source is individual oneself shown by studies carried out (Hamberger and Lohr, 1984).

According to Selye, stress is defined as a biological concept which is a confronting or an adaptation reactions to a stimulus or an event and it is shown that it manifest itself with a number of symptoms. Adaptation reaction is labeled as general adaptation syndrome by Selye and stated that it happens in three stages. These stages are alarm phase, resistance phase and exhaustion phase. In the alarm phase stimulus are taken as stress and in resistance phase there is seen a resistance of a number of organisms which is more than the normal number. If stress continues for a long time and organism cannot show enough resistance, exhaust phase is seen, balance gets destroyed and cause the body to be ill (Selye, 1978). Even Selye rules out psychosocial factors, thinks that emotional and cognitive stages are effective (Moonmuang, 2005).

Stress, when considered in terms of both business life and education, is an element which can be felt in a continuous manner. Since it shows up depending upon outside factors, it is inevitable for daily life. There could be a need for stress can be mentioned for those who become careless and uninterested (Lazarus and Folkman, 1984). It can be seen as a motivational source

for individuals' active progress (Omoniyi, 2013). In a situation educational life is taken into consideration stress which is for success would motivate the individual in terms of learning.

### Present study

It is seen as a necessity to be good in terms of social emotional skills in order to stand in balance in every situation for the individual having adaptation problems in individualistic and social events. Stress, defined as social and emotional or physiological reaction of the organism can be eliminated with development of social emotional learning skills or can be changed in positive way. Social emotional learning skills are the skills that an individual should cope with stress. With the help of stress managing tools, it is seen that people can decrease tension and create a strong social environment (Schmitz et al., 2012). Because of this, research will contribute to eliminate and taking positive sides of stress with social emotional learning skills gained in tension situations that especially adolescents face with in educational environments.

Aim of this research is to analyze relationship between educational stress and social emotional learning skills in adolescents.

Hypothesis 1. Sub-dimensions of social emotional learning skills negatively associated with educational stress.

Hypothesis 2. Social emotional learning skills will predict total educational stress.

### METHOD

#### Participants

The present research was carried out with a sample of 238 high school students, 119 of whom (50%) were females, 119 (50%) were male adolescents from different grade levels enrolled in Turkey. Their ages ranged from 13 to 17 years and their mean age was 14.72 years.

#### Instruments

*Social-Emotional Learning Skills Scale-SELSS* (Kabakçı et al., 2010) was used to measure students' social-emotional learning skills. SELSS consists of 40-items divided across four subscales (a) problem solving (11 items), (b) communication (9 items), (c) self-esteem (10 items) and (d) coping with stress (10 items). Participants respond to items on a four-point Likert scale, and both a total score as well as four subscale scores are provided. Total scores can range from 40 to 160, with lower scores indicating fewer social emotional learning skills. Kabakci et al. reported a Cronbach's alpha coefficient of .88 for the total score of alphas between .61 and .83 for subscale scores. Test-retest coefficients were .85 for the total score and between .69 and .82 for subscale scores.

Educational Stress Scale: Sun et al. (2011) developed this scale and Sarıçam et al. (2015) adapted it to Turkish. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .81 and a significant

**Table 1.** Descriptive statistics, alphas, and inter correlations of the variables.

Variables	1	2	3	4	5	
1. Problem solving skills	1					
2. Communication skills	.68**	1				
3. Self-esteem skills	.91**	.59**	1			
4. Coping with stress skills	.66**	.90**	.55**	1		
5. Social-emotional learning skills(total)	.92**	.88**	.87**	.87**	1	
5. Educational stress	-.71**	-.56**	-.63**	-.55**	-.69**	1
Mean	28.80	25.10	26.83	26.92	107.66	48.28
Standard deviation	4.11	3.47	3.89	3.92	13.64	11.66
Alfa	.79	.74	.81	.84	.80	.73

\*p<.05, \*\*p<.01.

result on Bartlett's test of sphericity  $\chi^2 = 3488.103$  ( $p < .001$ ,  $df = 105$ ). Factor loadings ranged from .41 ile .91. Results confirmatory factor analyses demonstrated that 16 items yielded five factor as original form and that the five-dimensional model was well fit ( $\chi^2 = 123.49$ ,  $sd = 88$  ( $\chi^2/sd = 1.40$ ),  $RMSEA = .03$ ,  $NFI = .97$ ,  $CFI = .99$ ,  $IFI = .99$ ,  $RFI = .96$ ,  $GFI = .95$ ,  $SRMR = .041$ ). Cronbach alpha internal consistency coefficient was found as .86 for whole scale, .87 for sub-dimension of pressure from study, .93 for sub-dimension of workload, .90 for sub-dimension of worry about grades, .90 for sub-dimension of self-expectation, .91 for sub-dimension of despondency. In the concurrent validity significant relationship ( $r = .51$ ) was found between the Educational Stress Scale and School Burnout Scale. Test-retest reliability coefficient was .67 for whole scale. Corrected item-total correlations ranged from .40 to .57.

**Procedure**

Permission for participation of students was obtained from related departments. Students participated in research voluntarily. Prior to administration of scales, all participants were informed about purposes of the study. Relationships between two variables (social-emotional learning skills and educational stress) and their sub-dimensions were tested using Pearson Product Moment Correlation Coefficient. Moreover, data were analyzed by means of simple linear regression analysis using the SPSS program. In the study, the significance level was accepted as .01, which is used in testing hypotheses.

**RESULTS**

**Inter-correlations and descriptive data**

Table 1 shows the inter-correlations of the variables, means, standard deviations, and internal consistency coefficients of the variables used.

When Table 1 is examined, it is seen that there are significant correlations between dimensions of social-emotional learning skills and educational stress. Problem solving skills ( $r = -.71$ ,  $p < .01$ ), communication skills ( $r = -.56$ ,  $p < .01$ ), self-esteem skills ( $r = -.63$ ,  $p < .01$ ) and coping with stress skills ( $r = -.55$ ,  $p < .01$ ) were related negatively to educational stress. Moreover, social emotional learning skills was associated with educational stress ( $r = -.69$ ,  $p < .01$ ). That is to say, if social emotional learning skills

**Table 2.** Simple linear regression analysis for educational stress.

V	R	R <sup>2</sup>	F	β	t	p
SELS	.69	.48	217.70**	-.693	14.75	.00

Dependet variable: Educational stress (ES); Independet variable: Social-emotional learning skills (SELS).

score increases, educational stress levels decrease, and vice versa.

**The result of the multiple regression analysis**

Before creating the Regression Analysis to be used in the current study, the relationships between all variables were taken into consideration. Alternative models were tested with the related sub-dimensions of two varibales and the last finding which demonstrated the most perfect harmony is described in Table 2.

As a result of the regression analysis made, it is observed that the model is significant ( $R = .693$ ,  $R^2 = .480$ ,  $F = 217.702$ ,  $p = 0,000$ ) and the independent variable entering the regression analysis explain 48% of the changes on the dependent variable. Videlicet, social-emotional learning skills are very important predictor for educational stress.

**DISCUSSION AND RECOMMENDATION**

The aim of the present study was to determine the relationships among social emotional learning skills and educational stress. Results demonstrated problem solving skills, communication skills, self-esteem skills and coping with stress skills which can be accepted personal abilities are negatively related to educational stress. This finding also shows social emotional learning skills as an important determinant of educational stress. Some details of the results should be further addressed.

In order to respond in a flexible way in the face of life's

challenges is concerned as necessity of having social emotional living skills in which these necessities are called learning skills (Casel, 2014). Situations such as self-confidence, self-management communication skills and problem-solving skills create an environment that the individual can act in a more comfortable way and give more accurate decisions in a situation of stress. According to Collie et al. (2012) high level of social emotional abilities that teachers apply in class are a result of social emotional skills and understanding that make teachers act in a more comfortable way in the class. There are several effects of teachers' comfortable actions in class such as low level of stress, more teaching activities and high level of life satisfaction (Collie et al., 2012). In the light of these descriptions, it is seen that educational stress and social emotional learning skills are concepts that affect each other. Elimination of situations creating tension from educational areas can become true with social emotional learning skills as it is said before. When looked for the researches made before related to this topic, both Elias et al. (1997) and Payton et al. (2009) show that social emotional learning skills encourage students in class, increase capacity of understanding and managing emotions and make easier to cope with tension situations. It is said that these situations decrease educational stress and help create healthier social environment. As a result of researches done, it is seen that students having social emotional learning skills both in school and out of school live motivational situation and there is an increase in their well-being in social roles and survival duties (Elias, 2003). It is said that social emotional environmental conditions are so effective in reaching success and have a decreasing effect on educational stress (Hawkins, 1997).

According to Greenberg (2003), social emotional skills are learned similar to academic learning. In complex situations students face with, reaching academic success and developing social relationships are based on having social emotional learning skills. It is seen that social emotional learning skills program is much more effective in 2-7 age (Tennant et al., 2007; Brown et al., 2004). All these researches show that adolescents maintain a balanced and healthy stance against tension situations become true with social emotional learning skills program applied. These programs are more effective if they are applied in early stages of life. Social emotional learning skills taught in primary and secondary school level is used as preventive power against alcohol, violence, correction of behavior disorders, healthy nutrition and development of life style. These skills decrease the tension which has a source of stress from the negative situations and help to give more accurate decisions and increase the level of well-being (Elias, 2003).

In conclusion, this research reports that the social emotional learning skills and related to educational stress significantly. Students high in social emotional learning skills are low likely to experience educational stress.

Therefore, current study would further our understanding of the significant predictors of educational stress, without forgetting that more research is needed to examine the antecedents of the educational stress. To support the disciplined behavior of individuals within the school formation, teaching skills such as self-control and problem solving is done as a result of social emotional learning programs. By these programs educational stress in individuals will decrease and they will give healthier decisions in a more flexible way (Cohen, 1999). Students get affected by educational stress factors while gaining information and skills necessary for social life. To make a positive impact in this case, there must be a high level of social and emotional learning skills (Bataneh, 2013). Programs carried out at this point will give students skills to overcome the situations they are faced with and to solve problems.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# Metaphorical perceptions of pre service social studies teachers towards the concept of “Social Studies Teacher”

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The purpose of this study is to find out Social Studies teachers' perception of pre service Social Studies teachers using metaphors. The study group in this research includes 83 pre service teachers at the department of Social Studies, the faculty of education in a state university in Turkey. The research was conducted during 2014–2015 academic year. Related opinions of the pre service teachers participating in the study were collected through an open ended interview form. In this form the pre service teachers were asked to fill in the blanks as follows: “A Social Studies teacher is like ..... As .....” Opinions of the pre service teachers regarding the concept of Social Studies teacher were analyzed by content analysis technique. At the end of the study, 60 metaphors were collected from the pre service teachers and nine categories were set using these metaphors: Teacher as Illuminator/Source of Knowledge, Teacher as Protector/Administrator, Teacher as Guide/Instructor, Teacher as Source of Life, Teacher as Master, Teacher as Source of Merits, Hardworking Teacher, Teacher as Shaper and Teacher as Source of Diversity.

**Key words:** Social studies, Social Studies teacher, teacher candidate, metaphor.

## INTRODUCTION

People and societies are in constant transformation and they encounter complicated problems within this process. Therefore, social studies hold great importance for both people and societies. Social studies undertake important duties in establishing balance between the needs of individuals in a society with the expectations of that particular society and in providing the individuals with the required knowledge and attitudes. As the studies of both transformation and continuity, social studies gain an efficient ground within education which aims to socialize

the individual and the fact that education has transformed into both one of the branches and the application field of the social studies led to emergence of the concept of the social studies (Dönmez, 2003, p. 32). Persons educated to teach social studies courses with a BA degree from the universities make up the concept of the social studies teacher.

The word metaphor derives from Greek meta and pherein (Levine, 2005, p. 172). There are various interpretations of the concept of metaphor. Metaphor is

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an allegoric structure formed by establishing a relation between the objects through comparing similarities and differences and transferring the experience of one to the other (Palmquist, 2001, p. 24). The core of metaphor is to understand and experience one kind of thing in relation to the other kind (Lakoff and Johnson, 2005, p. 27). Metaphors are regarded as a means that people use to express how they see their lives, surroundings, happenings and objects using different analogies (Cerit, 2008, p. 694). Since most concepts which are important for people are either abstract by quality or they are not distinct enough in our experience (emotions, thoughts, time, etc.) we need to comprehend them with the help of other concepts which we understand more clearly (time-space orientations, objects, etc.). This necessity causes metaphorical definitions in our system (Lakoff and Johnson, 2005, p. 145). Metaphors build relations between our former and current knowledge by revealing their similarities, thus help express the new information in concrete terms (Senemoğlu, 2007, p. 564).

Metaphors can be assessed under three categories:

1. An abstract phenomenon that we want to express or attribute meaning to,
2. A concrete phenomenon and its linguistic expression that we use to express the said abstract phenomenon,
3. Special equations set between these two phenomena (Sezer, 2003, p. 89-90).

Metaphors build relations between former and new knowledge by finding out their similarities, thus help express the new information in concrete terms (Senemoğlu, 2007, p. 564). Metaphors also play an important role as the tools that people use to understand their environment and the nature, draw meaning out of seemingly meaningless reality through various interpretations and bring meaning to experience and knowing (Yıldırım and Şimşek, 2008, p. 207-208).

Metaphors can also be used in the field of education in incomprehensible or difficult subjects or to express some concepts, perceptions and attitudes more clearly (Döş, 2010, p. 609). In education, metaphors can be useful for planning education, developing education program, encouraging learning and improving creative thinking. In addition, metaphors are also used to determine the perceptions of teachers and pre service teachers. Metaphor is an appropriate tool to research perceptions of teachers and pre service teachers, role of these perceptions in classroom and underlying elements of the beliefs and assumptions of teachers and students regarding education (Aydın and Pehlivan, 2010, p. 818, p. 835). Many studies carried out on students and teachers about metaphors were found out while related literature was browsed (Kaya, 2014; Yılmaz et al., 2013; Ekiz and Koçyiğit, 2013; Gür, 2012; Szukala, 2011; Aydın and Pehlivan, 2010; Michael, 2009; Pektaş and Kıldan, 2009; Alger, 2009; Shaw et al., 2008; Cerit, 2008; Öztürk,

2007; Saban, 2004, 2009; Ben-Peretz et al., 2003; Martinez et al., 2001; Mahlios and Maxson, 1998; Inbar, 1996). It can be said that a study which is aimed at teachers of social studies is necessary since there are different disciplines in teaching profession. However no study which aims to examine the perceptions of the pre service social studies teachers toward the concept of social studies teacher through metaphors was encountered. Therefore, this study aims to examine the perception of pre service teachers toward the concept of "teacher of social studies" using metaphors.

Implementation of social studies, which is an important course where individuals gain necessary knowledge for adapting to the society and for their daily lives, is as important as its content. In this context, it is crucial to study how social studies teachers who teach these studies to students perceive their profession; in other words, to reveal what meaning is attributed by social studies teachers to their profession. Therefore, the perception of pre service social studies teachers regarding the concept of social studies teacher come to the forefront. In determining the perceptions, metaphor analysis which is used frequently in the literature was used.

Metaphors were used as a research tool to reveal the perceptions of pre service teachers regarding the profession of teaching. Based on the fact that it is possible to improve the emotions, thoughts and skills of the individuals with the help of metaphors, in this study it is aimed to examine the perception of the pre service teachers regarding the concept of "teacher of social studies" using metaphors. Answers to the following questions were searched in accordance with this general objective:

1. Which metaphors do the pre service teachers of social studies use to express the concept of the teacher of social studies?
2. Under which conceptual categories can the metaphors introduced by the pre service teachers of social studies be placed in terms of their common characteristic?

## METHOD

### Research pattern

This study was carried out using the pattern of phenomenology within the framework of qualitative research approach. The pattern of phenomenology focuses on the phenomena of which we are aware but which we cannot comprehend in a profound and detailed way. Phenomenology constitutes an appropriate ground for the studies which aim to deal with the phenomena to which we are not fully unfamiliar but at the same time we cannot fully comprehend either. We encounter phenomena in the world we live as incidents, experience, perceptions, orientations, concepts and situations. The purpose of the phenomenology research pattern is to unfold the individual's experiences, perceptions and the meanings he attributes to these (Yıldırım and Şimşek, 2008, p. 72).

### Study group

Determining the study group, accessible case sampling method, one of the sampling methods of qualitative research is preferred. In an accessible case sampling method, the researcher chooses close and easy-to-access case (Yıldırım and Şimşek, 2008, p. 113). The researcher enables in-depth collection of rich data as regards case/cases about purposeful sampling (Yıldırım and Şimşek, 2008, p. 107). In this direction, the study group in this research includes 83 pre service teachers at the department of social studies, the faculty of education in a state university in Turkey. The processes of application and data collection of this research have been conducted during 2014–2015 academic year. 47 out of 83 participants are females and the rest of participants are males.

### Collection of data

In this study, the pre service teachers were asked to fill in the blanks in the statement: "A teacher of social studies is like ..... as ....." in order to reveal the perceptions of the pre service teachers regarding the concept of the social studies teacher. To this end, a blank paper was distributed to the students on which the statement "A social studies teacher is like ..... As ...." was written. The pre service teachers were asked to express their thoughts using this statement and focusing only on one metaphor. They were given 15 min for this practice. These compositions written by the students are the data collection tool for this study.

### Analysis of data

The data obtained through the data collection tool was analyzed by content analysis technique. Content analysis is, at first, the conceptualization of data and then logical regulation of data in accordance with emerging concepts and, finally, the determination of themes explaining data. The main purpose of the content analysis is to reach concepts and relations that can explain collected data. Data acquired from the content analysis are subjected to deep process and concepts and themes which are not noticed via descriptive approach are explored as a result of this analysis. In this sense, the researcher endeavors to describe data with a content analysis and also to uncover the realities that can be hidden within the data. In content analysis, similar data are collected within the framework of certain concepts and themes and these data are regulated and assessed in a way a reader can comprehend (Yıldırım and Şimşek, 2008, p. 227). Analysis and interpretation of the metaphors developed by the pre service teachers were done at five stages listed below.

#### *The stage of naming*

At this stage a tentative list of the metaphors produced by the participants were made in alphabetical order. In line with this aim, attention was paid to whether the participants expressed one metaphor in a clear way in their statements and metaphors presented by each participant was coded (i.e. technical director, father, etc.) Moreover, forms which do not include any metaphor or left blank were singled out. Some participants shared their personal thoughts on the profession of teaching in general instead of presenting a metaphor while others did not justify the metaphors they presented. Due to these reasons 8 forms were ruled out of the study.

#### *Classification (elimination and clarification) stage*

At this stage, using metaphor and content analysis techniques each metaphor was disintegrated and analyzed in terms of its similarities or commonalities with other metaphors. For this purpose each metaphor given by the students was read carefully and analyzed in terms of (1) the subject of the metaphor (2) the source of the metaphor and (3) the relationship between the subject and source of the metaphor.

Not all the students presented valid metaphors. These kinds of invalid, useless, incoherent metaphors which do not contribute to better understanding of the concept of the social studies teacher were eliminated. The number of such is 8.

#### *Category development stage*

At this stage, the metaphors presented by the students were assessed in terms of their common points. During this process taking 60 metaphors into consideration, they were connected to a theme in terms of their characteristics and 9 different conceptual categories were set.

#### *Ensuring validity and credibility stage*

Detailed information regarding the collection and analysis of the data within the scope of the study was given above. The validity of the study was ensured at two stages. (1) Data analysis process was described in detail. (2) The metaphors written by the pre service social studies teachers were used as primary source of data while processing and interpreting the findings. For ensuring the credibility of the study, in order to confirm that the metaphors given under the nine conceptual categories represent the related conceptual category; opinions of three different experts were taken. Quotations from the participants were made unanimously. The experts were asked to match a list of the names of the 9 conceptual categories and their characteristics with a list of the 60 metaphors in alphabetical order. The matchings made by the experts were compared to the matchings of the researcher. To calculate the reliability of the result of the comparison, Miles and Huberman's (1994, p. 64) formula ( $\text{reliability} = \frac{\text{consensus}}{\text{consensus} + \text{dissensus}}$ ) was used. The experts consulted for his/her opinion misplaced only 4 metaphors. In this case, by the said formula, reliability/credibility was found as  $(\frac{56}{56+4}) \times 100 = 93\%$ . In qualitative studies, in the cases where the consistence between the assessments of experts and researcher is 90% or more a desired level of credibility is achieved; when this fact is taken into consideration, that the consistence in the study was found 93% shows that the desired credibility level was reached. The metaphors which were the subjects of dissensus were pencil, danseuse, rose garden and national lottery ticket.

#### *The stage of computerizing the data*

Following determination of 60 metaphors and developing 9 conceptual categories consisting of these metaphors, all the data were computerized. After this process, the number of the participants representing 60 metaphors and 9 categories (f) and the percentage (%) were calculated.

## FINDINGS

As seen in Table 1, the pre service social studies teachers

**Table 1.** Metaphors developed regarding the concept of social studies teacher.

No	Metaphors	f	%	No	Metaphors	f	%	No	Metaphors	f	%
1	octopus	1	1.33	21	state administrator	1	1.33	41	national lottery ticket	1	1.33
2	herbalist	1	1.33	22	sky	1	1.33	42	mini scientist	1	1.33
3	gold	1	1.33	23	glasses	1	1.33	43	Candle	1	1.33
4	mother	1	1.33	24	rose garden	1	1.33	44	Chaldean	1	1.33
5	mother and father	1	1.33	25	sun	1	1.33	45	Navigation	1	1.33
6	bee	1	1.33	26	map	1	1.33	46	Noah's Ark	1	1.33
7	friend	1	1.33	27	remindful	1	1.33	47	Grass	1	1.33
8	fire	1	1.33	28	weather condition	1	1.33	48	Compass	2	2.67
9	mirror	3	4.00	29	life	3	4.00	49	Guide	1	1.33
10	father	3	4.00	30	man of life	1	1.33	50	street lamp	1	1.33
11	step	1	1.33	31	construction foreman	1	1.33	51	Water	3	4.00
12	mayor	1	1.33	32	worker	1	1.33	52	technical director/trainer	5	6.67
13	documentary	1	1.33	33	goalkeeper	1	1.33	53	Technology	1	1.33
14	brain	1	1.33	34	pencil	1	1.33	54	Seed	1	1.33
15	pal	1	1.33	35	captain	2	2.67	55	Society	1	1.33
16	chameleon	1	1.33	36	ant	1	1.33	56	Soil	2	2.67
17	mobile phone	1	1.33	37	bridge	1	1.33	57	mixed vegetable pot	1	1.33
18	plane tree	1	1.33	38	peasant	1	1.33	58	Veterinary	1	1.33
19	farmer	1	1.33	39	lamp	1	1.33	59	Road	1	1.33
20	danseuse	1	1.33	40	locomotive	1	1.33	60	Director	1	1.33

presented 60 metaphors in total. These are as follows: "ant", "bee", "brain", "bridge", "candle", "captain", "Chaldean", "chameleon", "compass", "construction foreman", "danseuse", "director", "documentary", "farmer", "father", "fire", "friend", "glasses", "goalkeeper", "gold", "grass", "guide", "herbalist", "lamp", "life", "locomotive", "man of life", "map", "mayor", "mini scientist", "mirror", "mixed vegetable pot", "mobile phone", "mother and father", "mother", "national lottery ticket", "navigation", "Noah's Ark", "octopus", "pal", "peasant", "pencil", "plane tree", "remindful", "road", "rose garden", "seed", "sky", "society", "soil", "state administrator", "step", "street lamp", "sun", "technical director/trainer", "technology", "veterinary", "water", "weather condition", "worker."

After these metaphors presented by the pre service social studies teachers regarding the concept of the social studies teacher were analyzed, they were placed into subcategories. The categories set in light of the metaphors of the participants are as follows:

"Teacher as Illuminator/Source of Knowledge", "Teacher as Protector/Administrator", "Teacher as Guide/Instructor", "Teacher as Source of Life", "Teacher as Master", "Teacher as Source of Merits", "Hardworking

Teacher", "Teacher as Shaper" and "Teacher as Source of Diversity."

In Table 2, the distribution of the metaphors regarding the concept of the social studies teachers across the categories along with their frequencies and percentages is shown.

According to Table 2, it is understood that most of the pre service social studies teachers regard the concept of the social studies teacher as Illuminator/Source of Knowledge (22.66%). These categories were followed respectively by Teacher as Protector/Administrator (20.00%), Teacher as Guide/Instructor (18.67%), Teacher as Source of Life (14.66%), Teacher as Master (8.00%), Teacher as Source of Merits (6.67%), Hardworking Teacher (4.00%), and Teacher as Shaper (2.67%) and Teacher as Source of Diversity (2.67%).

Under the category "Teacher as Illuminator/Source of Knowledge" (22.66%), the pre service teachers described the social studies teacher using following metaphors: "fire" (1), "mirror" (3), "documentary" (1), "brains" (1), "mobile phone" (1), "plane tree" (1), "sky" (1), "sun" (1), "remindful" (1), "weather condition" (1), "pencil" (1), "lamp" (1), "candle" (1), "street lamp" (1) and "technology"

**Table 2.** The distribution of the metaphors regarding the social studies teacher across the categories.

Categories	f	%	Metaphors
Teacher as Illuminator/Source of Knowledge	17	22.66	"fire" (1), "mirror" (3), "documentary" (1), "brains" (1), "mobile phone" (1), "plane tree" (1), "sky" (1), "sun" (1), "remindful" (1), "weather condition" (1), "pencil" (1), "lamp" (1), "candle" (1), "street lamp" (1), "technology" (1)
Teacher as Protector/Administrator	15	20.00	"mother" (1), "mother and father" (1), "father" (3), "mayor" (1), "state administrator" (1), "goalkeeper" (1), "Noah's Ark" (1), "technical director/trainer" (5), "director" (1)
Teacher as Guide/Instructor	14	18.67	"step" (1), "glasses" (1), "map" (1), "captain" (2), "bridge" (1), "locomotive" (1), "chaldean" (1), "navigation" (1), "compass" (2), "guide" (1), "society" (1), "road" (1)
Teacher as Source of Life	11	14.66	"life" (3), "man of life" (1), "grass" (1), "water" (3), "seed" (1), "soil" (2)
Teacher as Master	6	8.00	"octopus" (1), "chameleon" (1), "danseuse" (1), "construction foreman" (1), "mini scientist" (1), "veterinary" (1)
Teacher as Source of Merits	5	6.67	"gold" (1), "a friend" (1) "a pal" (1), "rose garden" (1), "a national lottery ticket" (1)
Hardworking Teacher	3	4.00	"bee" (1), "worker" (1), "ant" (1)
Teacher as Shaper	2	2.67	"farmer" (1), "peasant" (1)
Teacher as Source of Diversity	2	2.67	"herbalist" (1), "mixed vegetable pot" (1)

(1). Of these, the most recurrent metaphor is "mirror" which is explained by the students as:

A social studies teacher is like a "mirror." As a teacher wants to raise a generation who possess his characteristics/a teacher is best reflected in his students. In turn, a teacher reflects his thoughts through his students/He recounts and teaches us our history. He familiarizes us with our surroundings. He helps us understand how we should be as individuals. For these reasons a social studies teacher is like a mirror.

Under the category, "Teacher as Protector/Administrator" (20.00%), the pre service teachers described the social studies teacher using following metaphors: "mother" (1), "mother and father" (1), "father" (3), "mayor" (1), "state administrator" (1), "goalkeeper" (1), "Noah's Ark" (1), "technical director/trainer" (5) and "director" (1). Explanations of the two most used metaphors under this category, which are "technical director/trainer" and "father" respectively are as follows:

A social studies teacher is like a "technical director/trainer." As s/he prepares us for each field of life. - S/he has the capacity to prepare us for each situation. - S/he gives tactics/and the students take these tips/tactics and applies these tips/tactics in the match called life. - S/he trains the students, teaches the students what to do, how to do and take the right position and tries to receive the rewards oh his/her efforts. - S/he analyzes the material in his/her hands very well and knows what s/he can make out of that material. - S/he is the most important factor in shaping and orienting the future behaviors of the children and raising efficient citizens.

A social studies teacher is like a "father." As fathers are

determined and they guide us. A social studies teacher also guides us - s/he is a helper, a protector. - A child learn everything from his father. Likewise, a student learns his history, his past from the social studies teacher. That's why a social studies teacher is like a mother and a father.

Under the category, "Teacher as Guide/Instructor" (18.67%), the pre service teachers described the social studies teacher using following metaphors: "step" (1), "glasses" (1), "map" (1), "captain" (2), "bridge" (1), "locomotive" (1), "Chaldean" (1), "navigation" (1), "compass" (2), "guide" (1), "society" (1) and "road" (1).

A social studies teacher is like a "captain." As the social studies teacher integrates the individual to the society and s/he teaches us how we should be to fit in the society. - A captain does everything he can do to bring the ship and the passengers towards the right target and the right port.

A social studies teacher is like a "compass." As s/he is guiding. - S/he shows the people which path to take.

Under the category, "Teacher as Source of Life" (14.66%), the pre service teachers described the social studies teacher using the following metaphors: "life" (3), "man of life" (1), "grass" (1), "water" (3), "seed" (1) and "soil" (2). Explanations of the three most used metaphors under this category, which are life, water and soil respectively are as follows:

A social studies teacher is like "the life itself." As you transfer what you see, hear feel, in short everything you live, to your students. - S/he teaches us what to and where to do it. - S/he teaches all kinds of knowledge

*pertaining to life.*

A social studies teacher is like “*water*.” As *s/he instills the knowledge of the source of life, like the water, to his/her students. - S/he prepares his/her students to life by watering them with knowledge. - S/he is essential to live, to survive.*

A social studies teacher is like “*the soil*.” As *s/he returns what s/he took in a more improves/developed manner. - S/he gives life to every seed planted on it, s/he raises his/her students and prepares them for life. As the soil prepares the fruits for the harvest.*

## DISCUSSION AND RECOMMENDATIONS

The following results were obtained from this study which aims to examine the perceptions of the social studies pre service teachers: 60 metaphorical images were obtained from the metaphor analysis. It was observed that the pre service teachers highlighted various characteristics of the concept of the social studies with the metaphors that developed nine categories were set based on the metaphors developed by the pre service teachers regarding the concept of the social studies teacher. Most metaphors developed by the pre service teachers fall under the category of “Teacher as Illuminator/Source of Knowledge” followed respectively by the categories: Teacher as Protector/Administrator, Teacher as Guide/Instructor, Teacher as Source of Life, Teacher as Master, Teacher as Source of Merits, Hardworking Teacher, Teacher as Shaper and Teacher as Source of Diversity.

Teacher as Illuminator/Source of Knowledge, the first category among the nine conceptual categories determined in accordance with findings of the study, the pre service teachers used such metaphors as fire, mirror, documentary, brains, mobile phone, plane tree, sky, sun, remindful, weather condition, pencil, lamp, candle, street lamp, technology. These analogies may be because they strongly felt that the social studies teachers instill knowledge to their students and illuminate/enlighten them.

Teacher as Protector/Administrator, the second category among the nine conceptual categories determined in accordance with findings of the study; the pre service teachers used such metaphors as mother, mother and father, father, mayor, state administrator, goalkeeper, Noah’s Ark, technical director/trainer, director. That the social studies teachers used these analogies can be because they strongly felt the protective and administrative power of the social studies teachers on their students.

Teacher as Guide/Instructor, the third category among the nine conceptual categories determined in accordance with findings of the study, the pre service teachers used

such metaphors as step, glasses, map, captain, bridge, locomotive, Chaldean, navigation, compass, guide, society, road. The pre service social studies teachers may have used these analogies since they strongly felt the guiding characteristics of the social studies teachers.

Teacher as Source of Life, the fourth category among the nine conceptual categories determined in accordance with findings of the study, the pre service teachers used such metaphors as life, man of life, grass, water, seed and soil. The pre service social studies teachers may have used these analogies since they strongly felt the role of the social studies teachers in instilling the students the knowledge which the students need to possess in their lives.

Teacher as Master, the fifth category among the nine conceptual categories determined in accordance with findings of the study, the pre service teachers used such metaphors as octopus, chameleon, danseuse, construction foreman, and mini scientist, veterinary. The pre service social studies teachers may have used these analogies since they strongly felt that the social studies teacher is an expert at his/her job.

Teacher as Source of Merits, the sixth category among the nine conceptual categories determined in accordance with findings of the study, the pre service teachers used such metaphors as gold, a friend, a pal, rose garden, a national lottery ticket. The pre service social studies teachers may have used these analogies since they regard the social studies teacher as a source of values.

Hardworking Teacher, the seventh category among the nine conceptual categories determined in accordance with findings of the study, the pre service teachers used such metaphors as ant, bee and worker. The pre service social studies teachers may have used these analogies since they regard the social studies teacher as hardworking.

Teacher as Shaper, the eighth category among the nine conceptual categories determined in accordance with findings of the study, the pre service teachers used such metaphors as farmer and peasant. The pre service social studies teachers may have used these analogies since they describe the social studies teacher as the ones who shape their students’ lives.

Teacher as Source of Diversity, the ninth category among the nine conceptual categories determined in accordance with findings of the study, the pre service teachers used such metaphors as herbalist and mixed vegetable pot. The pre service social studies teachers may have used these analogies since they describe the social studies teacher as a melting pot who possesses various functions.

## Conclusion

In this study, the perception of the social studies teacher of the pre service social studies teachers was studied. The same study can be carried out on the teachers as well. Thus, the perceptions of the pre service teachers regarding the roles of a social studies teacher undertake after graduation may be revealed and a comparison through the metaphors to be produced by them can be made between their thoughts before and after they took up the position of social studies teacher. The awareness of the pre service teachers of their beliefs and the reasons for their beliefs should be raised by carrying out different studies which use metaphors on different samples and make analysis of the presented metaphors.

## Conflict of Interests

The author has not declared any conflict of interest.

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*Full Length Research Paper*

# Social Studies pre-service teachers' views on the EU membership process: A multidimensional evaluation

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One of the general purposes of Social Studies is to integrate individuals with the social life by providing accurate knowledge and skills about their environment and society. As well as the role of Social Studies in raising consciousness on EU relations, Social Studies teachers' views about EU membership and the sources of these views are important. By sharing their views, teachers can lead students to have similar views. In this study, it was aimed to identify pre-service Social Studies teachers' views about the EU, Turkey's EU membership process and the effects of this process on Turkey. In the research, descriptive scanning method was used. A hundred freshmen and 100 seniors, totally 200 students, studying at KTU Fatih Faculty of Education, Social Studies Teaching Department were randomly chosen for the study. A semi-structured interview form was used as a data collection tool. The analysis of the interviews was made according to the categories that emerged from the answers. The data, obtained from the research, indicated that most of the Social Studies pre-service teachers have inadequate information about Turkey's EU membership process. The most common information source is television and 60% of the pre-service teachers are not interested in this topic. Besides, it was found that most of the social studies pre-service teachers do not support Turkey's EU membership with the thought that EU will cause cultural erosion.

**Key words:** Social Studies pre-service teacher, European Union, Turkey's EU membership.

## INTRODUCTION

Globalisation is a concept which has economic, cultural and technological dimensions and emphasizes the inevitability of change and has brought together the convergence of time and space. The unbalanced distribution of sources and population has coupled together countries around economic, political, military and social formations among which are the European Union, the United Nations, NATO, Organization of Islamic Cooperation, and OECD by looking after mutual benefits. It is possible to say that these formations, which are also

named as global or regional organisations, play a determining role in world decision-making mechanisms. Turkey takes steps towards ranking among these unions imposed by the global system for political, economic and social reasons as well as its geopolitical position. One of these formations is the EU with which negotiations have been carried out for almost 50 years unevenly. The Union was established as European Coal and Steel Community (ECSC) by Germany, Belgium, France, Holland, Italy and Luxemburg signing the Treaty of Paris in 1951, and the

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Treaties of Rome being enforced in 1958 created European Economic Community (EEU) which focused on agriculture mostly. The enlarging structure of the community and establishing partnerships in many topics required the transition from community to "union". The Treaty of Maastricht, which was enforced in 1993, was the last step to change the community into a union (Dedeoglu, 2003; Avrupa Birliği Türkiye Delegasyonu, 2011). Dedeoglu (2003) resembles the EU to a tree with its root, stem and branches and it is considered as a unique and dynamic integration process. The relationships of Turkey with the Union commenced on July 3, 1959 and the Treaty of Ankara dated December 1, 1964 established the frame. In the 1970s the parties diverged and 1980 Turkish coup d'état resulted in a rupture of the relationship. Although Turkey submitted its application for full membership, the union countries criticised Turkey for democracy and human rights and the application was rejected. Within the frame of Copenhagen criteria, which was signed 1993, define the political and economic criteria for a state to join the union, significant legal regulations were made in Turkey (Morgil, 2006). This application was accepted in the 1999 Helsinki Summit and revealed the necessity of a wide range of reforms to be carried out (Cayhan, 2003; Dedeoglu, 2003; Davutoglu, 2009). Finally, in line with the decision made by the European Union Presidents in the Summit on December 17, 2004 Turkey commenced official negotiations with the EU to join the union on October 3, 2005 and thereby the uneven relationship between the EU and Turkey took yet another twist. It was revealed in the Progress Report on Turkey (2011) prepared by the European Commission that 13 (*Free Movement of Capital, Company Law, Intellectual Property Law, Information Society and Media, Food Safety, Veterinary and Phytosanitary, Taxation, Statistics, Enterprise and Industry Policy, Trans European Networks, Environment, Consumer and Health, Protection, Financial Control*) out of the 33 chapters were opened and 1 (*Science and Research*) was temporarily closed (Avrupa, 2011).

The information that presents a short summary of a quarter-century European Union adventure sets forth the significance of the research done and to be done on the related topic. Today, issues such as Cyprus, Armenian Genocide and education in the mother tongue have become current issues in Turkey and caused public controversy with regard to the relationships between the EU and Turkey (Guresci, 2006). A number of studies all of which presented the insufficient knowledge of the public misled by the media and a negative perception of the EU have been carried out (Akpınar, 2006; Guresci, 2006; Şenyuva, 2009; Balkar and Ozgan, 2010; Açıık, 2010). The first cause of this uneven relationship and the negative perception of the public are considered to be the statements of some European policy makers who characterize the EU as a Christian club, the process being considered as the continuation of the European imperia-

lism by the public and distantiation of presidents of some EU member countries (Davutoglu, 2009). Moreover, there is a concern over the fact that EU might destroy our national and religious values since it is becoming a political and cultural union and purports to lead the rising values of our era (Yilmaz, 2007).

When the gains are considered in terms of the member countries, certain benefits of the membership are basic human rights, agriculture, animal husbandry, food, education, environment, regulations regarding the disabled, freedom of movement, and life-long learning programs. Numerous developments such as developments in the fields of health, law and education which have affected individual and social life positively have occurred in Turkey, despite being a candidate country; on account of the steps taken during the EU process (Açıık, 2010). In the field of education, the Lisbon Strategy and the Bologna Process accepted by Turkey brought about applications such as ECTS, diploma supplement, student and academician mobility in higher education. For the purposes of developing information technologies in primary and secondary education, increasing schooling rate and investment support of the community in education, some projects such as "100% Support for the Education and "All Girls to School" have been made and universities of Turkey continue their studies on the same issue (Bayrakci, 2005; Eurydice, 2010b; Saglam, et al., 2011; Sadioglu, 2013).

One of the most important current issues in Turkey is the European Union (EU) membership process. When the full membership negotiations started in 2004 a road map was determined; however, there are some delays and problems in taking steps towards a strong unity between Turkey and the EU. Therefore, arguments regarding the EU are still in the country's agenda. Turkey's EU membership is a process which has many outcomes on political, economical and cultural life and should be conducted based on a social agreement. Education, also, has been affected by this process which requires many changes in social life. Preparing the society for this process, solving social and cultural problems derived from the unity and introducing shared values are only possible through educational activities. In this context, it is necessary that the courses with a focus on social life serve this purpose. In the EU membership process, one of the important courses to inform the society about the process is Social Studies. Therefore, it is significant to reveal Social Studies pre-service teachers' perceptions and how higher education process affects these perceptions in terms of improving viewpoints regarding the EU.

### **Purpose of the study**

This study aims to determine Social Studies teachers' perceptions and basic knowledge regarding the EU and

**Table 1.** Pre-service teachers' views on the number of the EU member countries.

Number of the members	Fresher	Senior	Total	
	f	f	f	%
12 and less	6	2	8	4
13-20	11	6	17	8,5
21-26	14	13	27	13,5
27	24	40	64	32
28-30	12	18	30	15
30 and more	16	8	24	12
No answer	17	13	30	15
Total	100	100	200	100

whether higher education causes a change in these perceptions and level of knowledge and answers to the following questions were sought to be answered.

1. What do pre-service teachers know about the number of EU member countries and when full membership application of Turkey was accepted?
2. What are the information sources of pre-service teachers regarding the EU?
3. Do the pre-service teachers want Turkey to join the EU and why?
4. What are the views of pre-service teachers on the possibility of Turkey joining the EU and why?
5. What are the views of pre-service teachers on the outcomes of Turkey not being able to join the EU and why?
6. What are the views of pre-service teachers on the effects of Turkey joining the EU on our cultural and social structure?

## METHOD

In this study, it was aimed to reveal, in all its parts, the views of social sciences pre-service teachers on Turkey's EU membership. In accordance with this purpose, document analysis method within the frame of qualitative research approach was adopted. One of the most important goals of qualitative research is that perceptions and experiences of individuals who are included in the study are presented (Yıldırım and Şimşek, 2005). Convenience sampling technique was adopted in the study. Semi-structured interview form was used as the data collection tool. Each interview took an average of 20 min and 20 researchers, each of whom carried out interviews with 10 pre-service teachers, were appointed for the interviews. The research was carried out with freshers (100) and seniors (100) who study at Karadeniz Technical University, Fatih Faculty of Education Social Studies Teaching Department in 2013-2014 academic years. The data gathered through the interviews was analysed through content analysis. First, related themes and codes in literature were determined (Akpınar, 2006; Şenyuva, 2009; Alkan, 2013). Afterwards, the expressions within the interviews were negotiated by three people, and then they were addressed to the themes and categories accordingly. Following the analysis, the data were tabulated in terms of categories and themes in frequencies and percentages. In addition, these categories were

supported with direct quotations from the transcriptions. Nick names such as pre-service teacher 1(PST1) were used in order to provide participants' confidentiality.

## FINDINGS

In this chapter, the data obtained from the answers of the questions asked from the pre-service teachers in order to find out their views on the EU and Turkey's membership process are presented.

It was aimed to determine the pre-service teachers' tendency to follow the number of the EU member countries, Turkey's membership process and current issues related to the EU and their views on information sources. The data obtained from the pre-service teachers' answers the question about the number of the EU member countries was presented in Table 1.

As it is seen in Table 1, 32% (f=64) of the pre-service teachers estimated the number of the member countries correctly. The fact that this number is higher in seniors (40) is an outstanding finding, which is thought to stem from the fact that senior students took a related class. 15% of the pre-service teachers did not state a view on this topic. It was also found out that the rates of pre-service teachers who think the number of the member countries in 20 and less or 30 and more approximate.

One of the turning points of Turkey's membership process is the date on which the application was approved. Pre-service teachers' views on the date on which the application was approved are presented in Table 2.

As it can be seen in Table 2 that only 11 (5, 5%) of the pre-service teachers knew the date on which Turkey's application was accepted. It is striking that 31% of the pre-service teachers did not answer this question. The rate of the pre-service teachers who referred to a date between 2000 and 2004 was 15% and the rate for the ones who stated 2005 and on was 30%.

The data regarding the pre-service teachers' interests in the EU and relationship between the EU and Turkey are presented in Table 3.

According to Table 3, 40% of the pre-service teachers stated to follow developments regarding the EU whereas 60% of them stated not to be interested in this issue. Also, 57, 5% of the pre-service teachers wanted to learn about the EU and 42.5% of them had negative views. Moreover, more than half of the pre-service teachers answered negatively as for to add an EU-related course to their curriculum. 53% of the pre-service teachers did not agree with this view while 47% of them answered positively.

The data regarding the information sources of pre-service teachers regarding the EU are given in Table 4.

As it can be seen in Table 4 television is the most widely used source to gain viewpoints about the EU. 38.9% (f=177) of the pre-service teachers referred to television as an information source and the other important source was newspapers (27.1%). Furthermore,

**Table 2.** Pre-service teachers' views on the date on which the application was approved.

Date	Fresher	Senior	Total	
	f	f	f	%
1950 and before	1	3	4	2
The years between 1951 and 1970	5	4	9	4,5
The years between 1971 and 1990	11	4	15	7,5
The years between 1991 and 1998	1	8	9	4,5
1999	1	10	11	5,5
Between 2000-2004	14	16	30	15
2005 and on	32	28	60	30
No answer	35	27	62	31
<b>Total</b>	100	100	200	100

**Table 3.** Pre-service teachers' interests in the EU.

Questions	Yes				No				Total f
	Fresher	Senior	Total		Fresher	Senior	Total		
	f	f	f	%	f	f	f	%	
Do you follow the current developments?	35	45	80	40	65	55	120	60	200
Would you like to know about the EU more?	52	63	115	57,5	48	37	85	42,5	
Would you like to have a course related to the EU in your department?	38	56	94	47	62	44	106	53	

**Table 4.** Information sources of pre-service teachers regarding the EU.

Information sources	Fresher	Senior	Total	
	f	f	f	%
Teacher	23	29	52	11,4
Family	7	10	17	3,7
Friends	15	22	37	8,1
Course books	15	27	42	9,5
Television	87	90	177	38,9
Newspapers	66	57	123	27,1
Internet	6	-	6	1,3
<b>Total</b>	219	235	454	100

almost 70% of the pre-service teachers made use of print and visual media to gain viewpoints about the EU. Some of the pre-service teachers mentioned teachers (11, 4%), course books (9, 5%) and friends (8, 1%) as information source.

The data and justifications regarding whether pre-service teachers who participated in the study wanted the membership of Turkey are given in Table 5.

When Table 5 is examined, it is observed that 68% of the pre-service teachers opposed to Turkey to join the EU for various reasons; whereas 29% of them had positive views. 3% of the pre-service teachers were indecisive or stated some conditions. Moreover, a significant difference was not found between the two

groups of students.

When the categories related to the justifications stated by the pre-service teachers who wanted Turkey to join the EU (29%) are examined, it is seen that they gave answers in conformity with the categories "*The country's level of development and prosperity will increase*" (55, 5%) and "*Economic improvement*" (12, 6%). Some of the statements of these students were as follows:

*"If Turkey joined in the EU, people would obey rules more and we would develop more (P-ST,182)", "If Turkey joined in the EU, it would be a more developed country and I believe that Turkey would be a developed world country" (P-ST190)", "Life standards would rise. Turkey*

**Table 5.** Pre-service Teachers' Support of Turkey's membership.

Main category	Sub-categories	Fresher	Senior	Total	
		f	f	f	%
Yes	Economic improvement	2	6	8	12,6
	Visa and freedom of movement	4	2	6	9,6
	Improvement of democracy	3	2	5	8
	Having the right to speak	-	2	2	3,2
	Development and the increase of wealth level	21	14	35	55,5
	Having Privileges	1	1	2	3,2
	Stability	2	-	2	3,2
	No answers	-	3	3	4,7
	Total	33	30	63	100
	The rate of main category			63	29
No	Not necessary (economic, geopolitical, political etc.)	21	25	46	31,3
	Restricts our sovereignty	3	3	6	4,1
	A union of Christians	2	4	6	4,1
	Causes Cultural Erosion	20	15	35	23,8
	Cultural Differences	2	2	4	2,7
	EU's loss of power	2	6	8	5,4
	The loss of national identity	10	-	10	6,8
	Puts our country off, not wanting to bring our country in	5	6	11	7,5
	Has benefits	3	5	8	5,4
	No answer	5	8	13	8,9
Total	73	74	147	100	
The rate of main category			147	67,8	
Conditional I yes	(As long as culture is preserved)	3	1	4	1,8
Indecisive		2	1	3	1,4
Total		111	106	217	100

would make use of the same benefits as the EU countries" (P-ST11).", "People would prosper economically" (P-ST36)", "I believe it would contribute to our economic development" (P-ST102)"

Another justification stated by the pre-service teachers (10%) was the opportunity to travel to the EU countries without a visa. For instance the pre-service teacher 27 said, "In order to benefit from visa-free travel" 8% of the pre-service teachers who supported the membership stated that the membership would contribute to the development of democratic rights. "For a more humane life, for women not to be beaten on the streets, for freedom of thought, for me to be a part of the decision making process in my country" were among these justifications. 3 of the pre-service teachers (4.7%) did not specify a justification.

In the justification categories of the pre-service teachers who opposed to EU membership (Fresher, f=73; Senior, f=74) it can be seen that Turkey being thought to be a socially, politically, economically and geopolitically strong country removes the necessity to join the EU is a prominent idea. 31% of the answers of the pre-service

teachers opposed to the EU membership were in this category and it was emphasized that Turkey was a self-sufficient country. P-ST138 and P-ST55 expressed their views as follows: "I don't think it is necessary. Turkey could increase its capacity to 100%. Instead of joining to the EU, it is more reasonable to integrate with other countries" "The EU is not a useful union for Turkey, they want to colonise us; so, I do not want Turkey to join the EU. We are a self-sufficient country" These are some of the statements of the pre-service teachers. The reason emphasized by the opposing sides most is damaging our cultural values. 23.8% of the pre-service teachers set forth this concern by saying the following: "We are already having difficulty in preserving our values. If we joined the EU, we would live a social disintegration (P-ST48)", "If Turkey joined the EU, this would cause social and cultural deterioration. We would imitate the social and cultural structures of the EU (P-ST52)". Other justifications were the EU putting Turkey off (7, 5%), the EU losing power (5,4%) and interests. Some of the statements regarding these justifications were: "Turkey's membership process is similar to beating the air. We are trying in vain because the EU will not accept us (P-

**Table 6.** Pre-services teachers views regarding the possibility of Turkey's full membership.

Main category	Sub-categories	Fresher	Senior	Total	
		f	f	f	%
Possible	The EU needs us	3	7	10	18,2
	Turkey has changed and developed compared to the past	11	8	19	34,5
	Turkey's geopolitical position	4	1	5	9,1
	Using Turkey's sources (manpower, underground sources)	4	1	5	9,1
	Positive political developments	3	-	3	5,5
	We have become eligible	3	2	5	9,1
	No justification	3	5	8	14,5
	Total	31	24	55	100
	Rate of the main category			55	26,3
	Not a necessity (economic, geopolitical, political)	2	3	5	3,3
	The EU is reluctant and delays the process	34	28	62	40,5
	We do not conform with the EU culture	3	2	5	3,3
	The EU's religion is different	9	24	33	21,6
	Our population is high	-	5	5	3,3
	Turkey's internal issues (unemployment, education...)	2	2	4	2,6
	Submissive policies (The EU takes what they want)	-	4	4	2,6
	They would not want Turkey to be a great partner	8	3	11	7,2
	Turkey is far from the EU requirements	6	6	12	7,8
	Impossible	No justification	4	8	12
Total		69	85	154	100
Rate of the main category				154	73,7
Total		100	109	209	100

ST118)", "We want to join the union for economic reasons but there is already a financial crisis in the EU countries (P-ST37)". Besides this, 4.1% of the pre-service teachers stated to oppose to the EU "because of being a Christian union and because of restricting our sovereignty" and 8.9% of the pre-service teachers did not specify any justifications.

Pre-service teachers' views regarding how realistic they think it is for Turkey to be a full member of the EU are presented in Table 6.

As can be seen in Table 6, about 74% of the pre-service teachers believed that it was impossible for Turkey to be a full member of the EU while 26% of them thought that it was possible. It was determined that freshers were more optimistic.

Pre-service teachers who were optimistic about Turkey's membership (26%) tried to support their view by giving various justifications and Turkey's having changed and developed within the last years was the mostly stated view. 35% of the pre-service teachers who found the EU membership realistic gave answers in conformity with the category "Turkey has changed and developed compared to the past". These pre-service teachers articulated the following statements regarding this category: "Turkey is a rising power thanks to its global policies and has become a potentially strong country. Economical problems and some other issues seem to trouble the EU. If Turkey

solved some of its problems, then the EU would accept our application eagerly (P-ST108)", "Turkey influences the world policies. The EU would like to have such a country in their union (P-ST88)" 18, 2% of the pre-service teachers who believed that full membership of Turkey was realistic uttered sentences such as "I think we are one of the most powerful countries of the world. The EU needs us more than we need it (P-ST51)". As it can be seen in Table 6 that the justifications such as "Turkey's geopolitical position", "Making use of Turkey's sources", and "We would comply with the EU criteria" were also explained by 9.1% of the pre-service teachers. "Turkey is an important country in terms of its geopolitical position (P-ST36)", "The EU would accept Turkey's application for only the sake of its youth population (P-ST183)", "The EU would accept us provided that we fulfilled their conditions (P-ST82)". About 15% of the pre-service teachers did not specify a justification although they were optimistic about Turkey's membership.

One third of the pre-service teachers (74%) purported that Turkey would not be a member of the EU and the most common justification for this situation was the EU being reluctant and putting Turkey off for various reasons. 40.5% of the participants gave answers in conformity with the category which reflected this view. Some of the statements of the pre-service teachers were as follows: "The EU hedges Turkey off permanently.

**Table 7.** Pre-service teachers' views on the outcomes of Turkey not joining the EU.

Main category	Sub-categories	F	S	Total	
		f	f	f	%
Would be at a loss	Exploitation	-	3	3	7,7
	Democratization process would be damaged	1	2	3	7,7
	The relationship between the EU and Turkey would deteriorate	4	-	4	10,3
	Political loneliness, being excluded from making significant decisions	5	3	8	20,5
	We cannot make use of the advantages	-	2	2	5,2
	Economic losses	3	4	7	18
	Development would slow down	5	1	6	15,3
	No justification	-	6	6	15,3
	Total	18	21	39	100
	Rate of the main category			39	19,4
	Our freedom and independence would not be restricted	4	3	7	4,6
Would not be at a loss	Turkey is already in a good situation	36	23	59	37,6
	They need us	17	5	22	14,1
	We are a developing country	6	14	20	12,9
	Culture and values would be preserved	5	5	10	6,4
	The EU is already declining	3	6	9	5,8
	Turkey should unite with Asian and Islamic countries	1	1	2	1,4
	No justification	7	21	28	17,9
	Total	79	78	157	100
	Rate of the main category			157	78,1
	No opinion stated	Unanswered	1	1	2
Indecisive		2	1	3	1,5
Total		100	101	201	100

There are abusing us (P-ST116)", "The EU does not want to accept Turkey. They are delaying the process (P-ST5)". Another element stated by 21.6% of the pre-service teachers was related to religion. "Because we are a crowded and Muslim country, they would not accept us (P-ST103)", "The EU is a Christian union and would not accept Turkey because there is no Muslim country in the union (P-ST3). Besides this, about 8% of the participants emphasized that the conditions were rather aggravated by saying "No, because we have a long way to go before they accept us". Again, the rate of the pre-service teachers who did not specify a justification for the impossibility of Turkey's membership was 21.6%. A few pre-service teachers asserted justifications such as "We don't need the union", "Our culture is different", "our population is high" (3. 3%).

Pre-service teachers' answers to the question "Would Turkey lose anything if it did not join the EU?" are shown in Table 7.

As it is seen in Table 7, 78% of the pre-service teachers thought that Turkey would not lose anything in

case of not joining the EU. The number of the pre-service teachers who share the same opinion is approximately the same (1.S, f=79; 4.S, f=78). The main justifications for this situation were "Turkey already being in a good situation and not needing the EU". P-ST102 said, "We can stand on our own feet." and P-ST129 said, "We will become self-sufficient if we improve a little more." Furthermore, 14 of the participants set forth the idea that the EU needed Turkey by stating the following: "We would not lose anything. I don't think that we should join the union. The EU would be at a loss. They would not make use of a country like ours (P-ST155)". 13% of the pre-service teachers indicated that not joining the EU would not do any harm cause Turkey by mentioning these and other similar statements: "It would not cause any loss. Turkey can establish bilateral relationships with the EU countries; the Turkish economy is developing so fast the whole world is watching use. Thus, Turkey would lose nothing (P-ST 108)" and other similar statements. Some of the participants shared the view that it would be useful for Turkey to join the EU by saying "Our freedom

**Table 8.** Pre-service teachers' views on the social and cultural effects of joining the EU.

Main category	Sub-category		F	S	Total		
			f	f	f	%	
Yes	Cultural	Cultural values would be degenerated (customs, traditions and values)	74	81	155	64,9	
		Religious beliefs would be destroyed	3	4	7	2,9	
		Life conditions would improve	9	14	23	9,7	
	Economic	New employment opportunities	-	14	14	5,8	
		Freedom of movement	3	7	10	4,1	
		More freedom and individual	1	4	5	2,1	
		Modernization	-	5	5	2,1	
		Education	-	5	5	2,1	
	International Relations	Rise in cultural and international interaction	4	-	4	1,7	
		Be foreign-dependent	1	3	4	1,7	
		No justification	2	5	7	2,9	
		Total	97	142	239	100	
		Rate of the main category			239	94,8	
		We are already affected by others		2	2	15,2	
		No change	4	2	6	46,1	
		Our cultural structure is already strong	2	3	5	38,2	
		Total	6	7	13	100	
	No	Rate of the main category			13	5,2	
	Total				103	149	252

and independence would be unrestricted" (5%), "Our culture and would be preserved" (6%). Also, 18% of the participants said that not joining the EU would not do Turkey any harm without specifying any justification. 6% of the participants base their views on the argument that "the EU is already declining; so, it would not do any harm. However, the reforms made during the adaptation process would be beneficial (P-ST112)".

19% of the pre-service teachers thought that not joining the EU might cause some disadvantages and losses for Turkey. One of these losses was stated to be Turkey being politically lonely (21%): "I think Turkey's not joining the EU would cause loss because the whole world is becoming a bloc. In this case Turkey will be a lonely country in Europe, which will leave Turkey in a difficult position in every aspect (P-ST190)." 18% of the participants believed that not being a member of the EU will affect Turkish economy adversely. One of the related statements was as follows: "Our economy and employment rates would be affected adversely (P-ST159)." Another point made by the participants was that it would affect the development of Turkey negatively. "Turkey is not a fully developed country; thus, this would affect its development adversely (P-ST6)." Similarly 4 pre-service teachers (10, 3%) believed that the relationship between Turkey and the EU would deteriorate. "It would cause a disconnection in terms of the diplomatic relationship with the EU (P-ST70)." Other losses specified by the pre-service teachers were "We would be exploited" and "We

would not become modernized (democratic rights) (8%); "We would not make use of its advantages" (5%). Also, 15% of the pre-service teachers did not mention any specific justification, but stated that Turkey would be at a loss.

Pre-service teachers' answers to the question which was asked to identify their views regarding the social and cultural effects of joining the EU are presented in Table 8.

As it is seen in Table 8, the majority of the pre-service teachers (95%) believed that joining the EU would have social and cultural effects on our lives. Except for the categories "freedom of movement and improved life conditions" specified by the seniors, all pre-service teachers shared similar views. Only 5% of the participants believed that there would not be change if Turkey joined the EU.

64.9% of the pre-service teachers who mentioned a social and cultural change on the society set forth that this change would be more effective on our cultural life. "Definitely, yes. It would change many of our cultural and social structures such as our cuisine, the way we dress, respecting the elderly, etc" (P-ST105). "We would forget our customs and traditions and do what the rest of the world did, which would deteriorate our values (P-ST62)." The pre-service teachers who referred to the positive effect of joining the EU mentioned the following effects: economical improvement (9.7%), new employment opportunities (5.8%) and freedom of movement (4.1%). Some of these pre-service teachers gave the following

answers on this category: *“Apart from cultural degeneration, joining the EU would create positive economical developments (P-ST118)”, “Joining the EU would remove all borders, and there would be maximum cultural and social degeneration; however, the number of investments would rise and unemployment rates would fall. People would prosper. Young people and university graduates would live the fear of unemployment (P-ST102)”, “I believe that there would be great improvements in our social and individual lives and we would have a better future (P-ST60)”*. Few of the participants mentioned improvement in our social and democratic rights.

Some of the pre-service teachers who believed that there would be no change in our social and cultural life (5.8%) stated that there has already been a change in our lives: *“Our people have already started to act like Europeans. We can see this in every area from the way they speak, dress and behave (P-ST51)”*. 5 pre-service teachers who believed that there would not be a change stated similar views: *“We would not change our culture and structure at once. Thank God we have a very strong cultural and social structure (P-ST35)”*.

## DISCUSSION AND CONCLUSION

Since 1987 when Turkey submitted its full membership to the EU application numerous reforms have been made in the fields of education, health, human rights, freedom of expression, economy and politics. Thus, it is of quite importance to evaluate this process of which effects have reflected on our daily lives objectively and scientifically in order to lead the public opinion correctly. Opinions and prejudices regarding the process which is not based on a sound basis affect our views significantly.

The findings of this study reveal that the rate of the pre-service teachers who know the number of the member countries is rather low (32%). It is believed that the reason for referring to the years after 2005 is the fact that this issue has occupied the public agenda for a long time because of the negotiation process that began on this date. Majority of the pre-service teachers (about 90%) do not know the date of Turkey's membership application. It can also be seen that the main information sources of pre-service teachers regarding the EU are newspaper and television. It is thought that especially seniors referred to teachers and courses more than freshers did because of their course contents. The courses “Introduction to Politics” and “Political Geography” which are taught in 2<sup>nd</sup> and 3<sup>rd</sup> years of university include these topics; yet, television being the main source of information is an important issue, which can be explained with the fact that it is presented in television news reports prevalently. Especially senior students are seen to have a keen interest in the EU, which may result from the fact that these pre-service teachers are preparing for the

public personnel selection exam and that their education directs them to this issue.

Study findings show that majority of the pre-service teachers (70%) do not support Turkey's membership and think that Turkey will not be a full member of the EU, the main reason of which is the idea that the EU puts Turkey off. It is thought that visual and print media sources have influenced these concerns since these justifications and expressions in these sources show parallelism. This finding also shows parallelism with the results of other studies which show that Turkish people's support rate has fallen below 50% (URL 1; URL 2; Şenyuva, 2009; Alkan, 2013; Karluk, 2015). However, in some studies the rate of the people who support Turkey's membership is approximately 70% (Aslan and Gokkaya, 2004; Sen, 2005; Akpınar, 2006; ANAR, 2003; cited by; Akpınar, 2006; Samur, 2007). The reason of this difference is thought to be related to the date of these studies (between 2000 and 2006) because during these years the importance of the EU was emphasized by both the government and the media. It is also stated that during and after the Helsinki Summit, which was held in December, 1999, it was thought that Turkey was going to be a full member of the EU (Karluk and Tonus, 2004). Furthermore, the negotiations began in 2005 are thought to have affected these findings. On the other hand, from 2005 till the date this study was carried out the positive atmosphere turned into a tense atmosphere. It is thought that the relationship having paused since 2010, Turkey's decision of not joining the meetings because of Southern Cyprus' pro-tempore presidency (Alkan, 2013) and Croatia, which started the full membership negotiations in 2005, joining the EU in 2013 have affected the views of pre-service teachers negatively. Pre-service teachers believe that the EU is putting Turkey off and apply double standards. It is possible to say that despite its economic problems and unemployment problem Croatia being accepted within 8 years is a fact that supports this view (Alkan, 2013). It is also seen that the pre-service teachers have a negative perception of the EU, which is a regional organisation, and these perceptions are shaped by the visual and print media mostly and that pre-service teachers' EU awareness was low. Also, majority of pre-service teachers (90) believe that joining the EU would cause important changes in the social and cultural life. It is also seen that the perceptions of freshers and seniors are not significantly different; therefore, it can be said that formal education does not shape the views of pre-service teachers because the formal education curriculum does not include an EU-related course. The contents of some courses (2 courses) include 2 h of EU-related topics; however, it is thought that this time does not suffice to create awareness of and information on the EU. With reference to this data, it would be beneficial to add an EU-related course in the curriculum of Social Studies Education Program in terms of examining the issue and creating a correct perception because primary and

secondary education is of importance in terms of mentality change. Social Studies course stands out in terms of gaining children the skills of social adaptation and being a participatory citizen. For this reason, Social Sciences pre-service teachers' being able to make objective evaluation of the issue would only be possible by means of the courses taken during formal education.

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*Full Length Research Paper*

## Ottoman perception of Egyptian students

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This research was carried out before the period described as "Arab Spring" in Egypt which is one of the highly effective countries of Middle East in political, economic and demographic structuring. The aim was to determine the Ottoman Turks image of Egyptian secondary school third grade students. Descriptive scanning model out of quantitative research procedures was used in the research and within this scope general scanning model was used. Secondary school third grade students who study in Egypt form the theoretical universe of the research. Convenience/accidental sampling method was preferred while choosing sample out of the universe of the research. Third grade students who studied in a village secondary school and had their last lessons in Egypt form the sample group. The scale which was developed by the researcher was used as data collection tool in the research. In the scale, there are 2 open cloze and 4 multiple-choice questions and 19 items to be answered according to the 3-point Likert scale. The data obtained from Likert scale was analyzed with the SPSS 21 package programme. Analyses were made via Cronbach's Alpha, t-test, one-way ANOVA technique, Chi-squared test, frequency and percentage analysis. It was concluded in the research that the Ottoman perception of the aforementioned students were indecisive close to negative.

**Key words:** Ottoman image, Egypt, comparative education.

### INTRODUCTION

The determination of people's perceptions towards one another is highly beneficial and necessary in improving state policies in international relations. For this reason and other similar reasons, international organizations such as UNESCO, UNICEF, OECD and WB conduct projects to analyze the instruction schedules of states with rhetoric like international understanding, cooperation and human rights (Pingel, 2004). IRCICA in Turkey is also doing mutual studies on this subject in cooperation with ALESCO (URL, 1). Turkey which lies at the juncture of three continents and at the center of hot spots such as

Caucasia, Balkans and Middle East needs to extend and perpetuate this study and other similar studies in order to improve its own education system and to contribute to preserving peace in the region. It is especially important for Turkey to be interested in various regions and Middle East where instability is being increased and various dominance scenarios are being fictionalized. As a matter of fact, a vast gap was created in the region with the withdrawal of the Ottoman Empire from the Middle East. The region has always been in a continuous chaos since 1920 (Osmanoglu, 2012).

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Due to the great importance of the region, USA has some strategies for this region. The Free Middle East Strategy declared on 06 November 2013 by USA President G. W. Bush in the article of USA former Security Advisor Condoleezza Rice named Transforming the Middle East which was published in *The Washington Post* on 7 August 2003 and which targeted 22 countries and the Great Middle East Reform Project declared by Vice President Dick Cheney in Davos show that major activities are being planned just near Turkey in 21st century (Evcioğlu, 2005: 69). Concordantly, Turkey must try to ensure that the Middle East structuring, establishment is in line with its interests (Biyikli, 2006: 64-69).

Egypt which was chosen as subject for this research is one of the central countries of Middle East just like Turkey. It is one of the most crowded countries of the Middle East with its official population of 85 million (URL, 2) (unofficially estimated to be 1100 millions) and has one of the largest economies in the region. It is also the strongest country of Arab world (Memis, 2002: 218). It was seen that Egypt is not only one of the key countries of Arab world but also that of both Africa and Third World and that any changes to develop in Egypt which are politically, socially or economically significant can affect almost a whole geography in a short time

Turkey must understand the development dynamics in the Middle East in order to improve the peace and security atmosphere in the region and to protect its own interests. The strongest data about what happens there must be obtained and necessary precautions must be taken. Today, school books of Arab world are commonly trying to place on people's subconscious that the period of Ottoman dominance in the region in between 1517-1882 is a vague period. There are a lot of negative evaluations about Turks in school books (Ceviz, 2004: 17). It is highly important to do comparative educational studies among countries with the aim of improving the international tolerance, determining such conditions scientifically and preventing them diplomatically. Together with this, comparative studies will also provide the extensive documents needed for providing sources for continuous program-developing studies (Demirel, 2006: 68) which are caused and necessitated by series of developments in the fields of science, technology and communication.

There are various studies both on Ottoman, Turkey and Turkish perceptions. Revelations of these studies are presented below.

Akgun and Gundogar (2012) aimed to measure the Turkey and Turk perception in the Middle East in their study named Turkey Perception in the Middle East. Osmanoglu (2012) aimed to comparatively analyze the student books and instruction schedules of social studies lesson which was given in sixth and seventh grade - seventh grade is the equal of 1st grade of secondary school in Egypt, in Turkey and in Egypt in 2007-2008 school year in his dissertation named *Comparison of*

*Social Studies Instruction Schedules and School Books in Turkish Republic and Egyptian Republic.*

Kursun (2010) aimed to explain the changes that occurred in the historiography in Egypt and to give information on modern Arab historiography in Arab geography in his study named *Historiography in International Relations as a Tool: A Critical Approach to the Changes in Egyptian School Books.*

Akyurek and Bilgic (2011) aimed to determine the Turkey and Turk perception of different societies in their report named *Turkey and Turk perception in Africa (Egypt, Morocco, Senegal, Tanzania).*

Yagbasan and Gulek (2010) aimed to reveal the effect of geopolitics, history and popular culture on perceptions and to describe the role of media in political relations between Turks and Arabs in their article named *Changing Perception of Turkey in the Arab Media.*

Basheer (2009) aimed to analyze the Turkey image in the eyes of Arabs in his article named *The Arabs and Modern Turkey: A Century of Changing Perceptions.* It was concluded in the research that according to Islamic Arabs, Turkey was a country which turned its back on caliphate and religious responsibilities in the period between the two world wars and according to non-Islamic young Arab nationalists, it was a country which successfully actualized the modernization process.

Yilmaz and Osmanoglu (2009) aimed to determine the Turk perception in social studies school books in Egypt in their work named *Turkish Image in Egyptian School Books.*

Koroglu (2008) aimed to narrate his experiences related to the journeys he made to Arab countries in his article named *Turkey Perception of Arabs.*

## METHOD

There are studies on Turkey, Ottoman and Turk perception for various historic periods and geographical places in the literature. However, the studies were generally carried out with adults using documents and questionnaires. There are no studies in Arab countries on Ottoman perception of the abovementioned student-level. Based on this negation, the answer to the question "How is the Ottoman perception in the minds of the students who almost finished secondary school 3rd grade in Egypt?" was looked into in this study.

The study is established on the descriptive general scanning model. The model of the study is appropriate for studies aiming to describe a current or past condition as it is or as was. Thus, scanning is carried out on a universe forming of many elements, or on the whole universe or on the sample group taken from the universe or on the sample with the aim of making a general judgment on the universe (Karasar, 2006).

## The universe and sample

Historic Ottoman topics that are included in Egyptian school books are presented in history units within the social studies program in the basic education. Social studies program starts at primary school 4th grade and goes on to finish at secondary school 3rd grade

**Table 1.** Frequency and percentage distribution of students according to the educational status of their parents.

Parent	Uneducated		Primary School		Secondary School		High School		Bachelor's Degree		Postgraduate		Total	
	F	%	f	%	f	%	f	%	f	%	f	%	f	%
Mother	13	31	4	9.5	7	16.7	12	28.6	5	11.9	1	2.4	42	100
Father	1	2.4	6	14.3	7	16.7	11	26.2	11	26.2	6	14.3	42	100

**Table 2.** Frequency and percentage distribution of students according to their state of reading a story or watching a movie.

Variable	F	%
Number of Students who Read a Story or Watched a Movie	14	33.3
Number of Students who did not Read a Story or Watch a Movie	28	66.7
Total	42	100

(Osmanoglu, 2012). Graduate secondary school third grade students who are 15 or 16 years old and studied in Egypt before the period called "Arab Spring" form the universe of the research. In this context, the group which forms the universe took history lessons for 6 years within the scope of social studies program. Thus, they were assumed to qualify enough to answer the items and questions related to Ottomans in the questionnaire.

Convenience/accidental sampling method was preferred while choosing sample out of the universe of the research. While selecting examples from population, convenience/incidental sampling method was preferred. The reasons for choosing this method are: Egypt is ruled with an iron fist, the government takes strict security measures, foreigners are not easily allowed to work in schools, and it is foreseen that it could take at least one year for an official permission request process which is not sure to be responded to. The best way to conduct this study was to convince a teacher of social sciences. Only one among teachers who are extremely afraid of being punished by the government was convinced. Students were reached via this teacher. The example could not be more extended in order to ensure the safety of the researcher, teacher and students. In the aforementioned sampling method, the researcher got his example starting from the most reachable respondent till he got the group he needed (Cohen and Manion, 1989; Buyukozturk et al., 2008). Third grade students who studied in a village secondary school and had their last lessons in the 2007-2008 school year in Egypt form the sample group. This village is approximately 60-70 km far from Cairo. The villagers are occupied with stockbreeding, agriculture, trade and politics. In addition, there are officers just like university lecturers who are assigned in Geza to travel from the village to Cairo and vice versa every day. In this village, there is no child who is not sent to school or kept out of education. The population of the village is nearly 15.000.

23 of the students are males and 19 of them are females. As the educational status of parents of students is one of the variables of the study, frequency and percentage distribution of the students according to this variable are illustrated in Table 1:

According to Table 1, 13 of students' mothers (31%) are uneducated, 4 of them (9.5%) went to primary school, 7 of them (16.7%) went to secondary school, 12 of them (28.6%) went to high school and 5 of them (11.9%) were educated in faculties and 1 of them (2.4%) received postgraduate education. 1 of students' fathers (2.4%) is uneducated, 6 of them (14.3%) went to primary school, 7 of them (16.7%) went to secondary school, 11 of them (26.2%)

went to high school or have a bachelor's degree and 6 of them (14.3%) received postgraduate education.

Another variable of the study is the 23rd question as to whether they have read a story or watched a movie related to the Ottoman Empire. Accordingly, the frequency and percentage distribution of students are presented in Table 2.

According to Table 2, 14 of the students (33.3%) read a story or watched a movie related to the Ottoman Empire, and 28 of them (66.7%) did not partake in such an activity.

Another variable is the 24th question as to whether they have participated in a school trip which was organized to study a historical place related to the Ottoman Empire. Accordingly, the frequency and percentage distribution of students are presented in Table 3.

According to Table 3, 19 of the students (45.2%) participated in a school trip which was organized to study a historic place related to the Ottoman Empire and 23 of them (54.8%) have not done so.

**Data collection tool**

The scale developed by the researcher was used with the aim of determining the perceptions of students related to Ottomans. Before creating the scale, history units in Egyptian Social Studies books were analyzed and relevant literature was scanned. Accordingly, an item pool of 42 items was created. The items were presented to two field experts and the number of items was reduced to 28 in line with the feedbacks and necessary reorganizations were made. The scale was formed of two parts. In the first part, there are 3 questions about the gender of the students and educational status of parents of the students. In the second part, there are 2 open -closed and 3 multiple-choice questions and 19 items to be answered according to the 3-point Likert scale. There are 11 positive and 8 negative items in the Likert scale. The choices of the scale are sorted as "I Agree (1), Neutral (2), I Disagree (3)". While the data was being inserted into the SPSS 21 package programme, necessary conversions were made in the negative questions. Cronbach Alpha test which is known as internal consistency calculation was applied in order to calculate the reliability of measurements obtained from 19 items in the scale after all the data was obtained. Cronbach Alpha coefficient was found to be .801. The internal consistency and homogeneity of the scale or factor increase as the obtained coefficient get closer to 1. The related score shows that the scale used in the questionnaire is both

**Table 3.** Frequency and percentage distribution of students according to their state of touring a historic place related to the Ottoman Empire.

Variable	F	%
Number of students who went to a Historic Place	28	66.7
Number of students who did not go to a Historic Place	14	33.7
Total	42	100

reliable and valid statistically (Brownlow, 2004). In this case, the scale used in the questionnaire is statistically reliable and valid.

#### DATA ANALYSIS METHOD

The data obtained from Likert scale was analyzed with the SPSS 21 package programme. Frequency and percentage distribution of the personal information that are in the first section of the scale were found in the analysis of data. Chi-Squared test was used in order to test the independency of the answers of each other which were given according to the variables of watching a movie or reading a story related to the Ottoman history and participating in a school trip which was organized to analyze a historic place related to Ottoman Empire. Answers given to open- closed and other multiple-choice questions were analyzed by grounding on frequency and percentage distribution.

The method used to evaluate the point of view about Ottoman Empire is generally as follows: The lowest point that can be taken in the scale is 19 and the highest point is 57. The lowest average that can be produced in the scale is 1 and the highest average is 3 as it is a 3-point Likert type scale. Each interval of each unit was calculated to be 100 points and it was accepted that the interval between 1 and 3 was 200 units. The scale was divided into 3 equal intervals. Accordingly, the rubric of the Likert scale is illustrated in Table 4.

According to Table 4, if the average of the points a student makes on Likert scale is between 1.0-1.67, the Ottoman perception is positive; if between 1,68-2,34, it is neutral (indecisive) and if between 2,35-.3.0 it is negative. In order to make a general evaluation, averages of each scale will be added together and the outcome will be divided by 42 which is the number of students. Thus, it will be possible to make a comment about the general attitude.

#### FINDINGS

Accordingly, the frequency and percentage distribution of answers the participants gave to the question "What is the first thing that comes to your mind when someone says Ottoman Empire?" are presented in Table 5.

According to Table 5, the expression Ottoman Empire associates Turks for 31 of the students (73.8%), colony for 6 of them (14.3%), force for 4 of them (9.5%) and war for 1 of them (2.4%). This item and item 24 show the visit with the aim of examining a historical place in Ottoman Empire.

According to this, all of those who have read a story or watched a movie related to Ottomans associate the notion of Ottoman with Turks; 17 of those who have not read a book or watched a movie (60.7; this Item and the Item 24 show the visit with the aim to examine a historical place about Ottoman Empire) also associate it with

**Table 4.** Rubric.

Attitude	Values	Conclusion
I Agree	1.0-1.67	Positive
Indecisive	1.68-2.34	Neutral (Indecisive)
I Disagree	2.35-3.0	Negative

**Table 5.** Frequency and percentage distribution of students according to the Ottoman Empire image.

Notions	F	%
Turks	31	73.8
Force	4	9.5
War	1	2.4
Colony	6	14.3
Total	42	100.0

Turks; 4 of them (14;3; this Item and Item 24 show the visit with the aim to examine a historical place about Ottoman Empire.) associate it with Force, 2 of them (3.6; this Item and Item 24 show the visit aiming to examine a historical place about Ottoman Empire.) associate it with war and 6 of them (21.4; this Item and Item 24 show the visit aiming to examine a historical place about Ottoman Empire.) associate it with colony.

The frequency and percentage distribution of students according to whether they agree with the items that are in the 3-point Likert scale and between the 2nd and 22nd items of the questionnaire are presented in Table 6.

According to Table 6, 8 of the students (19%) stated for the 2nd item of the questionnaire that they thought that the Ottoman Empire ruled justly, 28 of them (66.7%) stated that they did not think so and 6 of them (14.3%) stated that they were neutral.

9 of the students (21.4%) stated for the 3rd item of the questionnaire that they thought that the Ottoman Empire protected the world of Islam from outer threats, 27 of them (64.3%) stated that they did not think so and 6 of them (14.3%) stated that they were neutral, 10 of the students (23.8%) stated for the 4th item of the questionnaire that they thought that the Ottoman Empire took the Islamic culture to top, 25 of them (59.5%) stated that they did not think so and 7 of them (16.7%) stated that they were neutral, 9 of the students (21.4%) stated

**Table 6.** Whether the students agree.

Item No	I Agree		Indecisive		I Disagree	
	f	%	F	%	f	%
2	8	19	6	14.3	28	66.7
3	9	21.4	6	14.3	27	64.3
4	10	23.8	7	16.7	25	59.5
5	9	21.4	6	14.3	27	64.3
6	7	16.7	5	11.9	30	71.4
7	12	28.6	6	14.3	24	57.1
8	9	21.4	13	31.0	20	47.6
9	6	14.3	7	16.7	29	69
10	8	19	2	4.8	32	76.2
11	10	23.8	11	26.2	21	50
12	15	35.7	7	16.7	20	47.6
13	5	11.9	19	45.2	18	42.9
14	13	31	9	21.4	20	47.6
15	16	38.1	4	9.5	22	52.4
16	11	26.2	11	26.2	20	47.6
17	5	11.9	8	19	29	69
18	12	28.5	9	21.4	21	50
19	15	35.7	20	47.6	7	16.7
20	14	33.3	15	35.7	13	31
21	17	40.5	18	42.9	7	16.7

for the 5th item of the questionnaire that they thought that the Ottoman Empire was imperialist, 27 of them (64.3%) stated that they did not think so and 6 of them (14.3%) stated that they were neutral. There is a significant relation between this item and the 23rd item ( $X^2= 7,917$ ;  $p=0,21^*$ ). Those who have read a story or watched a film about Ottoman Empire do not consider Ottoman Empire as colonist. In addition, there is a statistically significant relation between this item and the 24th item ( $X^2= 9,632$ ;  $p=0,008^{**}$ ). Those who have watched a movie or read a book related to the Ottoman Empire and those who have had the chance to participate in a school trip related to Ottoman Empire do not think that the Ottoman Empire is imperialist.

7 of the students (16.7%) stated for the 6th item of the questionnaire that they thought that the Ottoman Empire misbehaved to Arab peoples, 30 of them (71.4%) stated that they did not think so and 5 of them (11.9%) stated that they were neutral. There is a statistically significant relation between this item and the 25th item ( $x^2= 6,785$ ;  $p=0,034^*$ ). Those who have visited a historic place related to the Ottoman Empire to study the place think that Ottoman Empire did not misbehaved to Arab peoples.

12 of the students (28.6%) stated for the 7th item of the questionnaire that if Ottoman Empire were to rule Islamic countries today, they would solve problems such as Arab-Israeli problem in the Middle East, 24 of them (57.1%) stated that they did not think so and 6 of them

(14.3%) stated that they were neutral. According to the Chi-Squared test, there is a statistically significant relation between this item and the 23rd item ( $x^2= 7,125$ ;  $p=0,033^*$ ). Those who have watched a movie or read a book related to the Ottoman Empire think that even if Ottoman Empire existed today, it would not be able to solve the problems of today.

9 of the students (21.4%) stated for the 8th item of the questionnaire that if Ottoman Empire existed today, it would be an intimidating power for other countries to attack Arab countries, 20 of them (47.6%) stated that they did not think so and 13 of them (31.0%) stated that they were neutral.

8 of the students (19%) stated for the 9th item of the questionnaire that Ottoman rulers were interested in the problems of Egyptian villagers, 32 of them (76.2%) stated that they did not think so and 2 of them stated that they were neutral. There is a statistically critical relation between this item and the 23rd item ( $x^2= 8,953$ ;  $p=0,004^{**}$ ). Those who have watched a movie or read a book related to the Ottoman Empire think that the Ottoman rulers were not interested in the problems of Egyptian villagers.

10 of the students (23.8%) stated for the 10th item of the questionnaire that they thought that the ignorance spread during the period of Ottoman Empire, 21 of them (50%) stated that they did not think so and 11 of them (26.2%) stated that they were neutral.

15 of the students (35.7%) stated for the 11th item of

the questionnaire that they thought that the Ottoman Empire contributed to the Islamic culture, 20 of them (47.6%) stated that they did not think so and 7 of them (16.7%) stated that they were neutral.

5 of the students (11.9%) stated for the 12th item of the questionnaire that they thought that the Ottoman Empire was developed in every field, 18 of them (42.9%) stated that they did not think so and 19 of them (45.2%) stated that they were neutral. There is a statistically significant relation between this item and the 24th item ( $\chi^2 = 8,303$ ;  $p = 0,012^*$ ). Those who have visited a historic place related to the Ottoman Empire to study the place were either neutral or stated that they thought that the Ottoman Empire was not developed in every field.

13 of the students (31%) stated for the 13th item of the questionnaire that they thought that the Ottoman Empire protected the sacred spaces of Islam, 20 of them (47.6%) stated that they did not think so and 9 of them (21.4%) stated that they were neutral. There is a statistically significant relation between this item and the 24th item ( $\chi^2 = 13,281$ ;  $p = 0,001^{**}$ ). Those who have visited a historic place related to the Ottoman Empire to study the place mostly stated that the Ottoman Empire did not protect the sacred places of Islam.

16 of the students (38.1%) stated for the 14th item of the questionnaire that they thought that the Ottoman Empire colonized Egypt, 22 of them (52.4%) stated that they did not think so and 4 of them (9.5%) stated that they were neutral. There is a statistically significant relation between this item and the 23rd item ( $\chi^2 = 8,966$ ;  $p = 0,014^*$ ). Those who have watched a movie or read a book related to the Ottoman Empire mostly stated the Ottoman Empire did not colonize Egypt.

11 of the students (26.2%) stated for the 15th item of the questionnaire that they thought that the Ottoman Empire could be characterized with underdevelopment, 20 of them (47.6%) stated that they did not think so and 11 of them (26.2%) stated that they were neutral.

5 of the students (11.9%) stated for the 16th item of the questionnaire that they thought that the cause of the innovations was not Ottoman Empire but English and French invasions, 29 of them (69%) stated that they did not think so and 8 of them (19%) stated that they were neutral.

12 of the students (28.5%) stated for the 17th item of the questionnaire that they thought that the Ottoman Empire did not offer any innovations for the Arab world, 21 of them (50%) stated that they did not think so and 9 of them (21.4%) stated that they were neutral.

15 of the students (35.7%) stated for the 18th item of the questionnaire that they thought that the Ottoman Empire protected Arab soil from the Europeans, 7 of them (16.7%) stated that they did not think so and 20 of them (47.6%) stated that they were neutral.

14 of the students (33.3%) stated for the 19th item of the questionnaire that they thought that the Ottoman Empire protected Arab soil from Portuguese pervasion,

**Table 7.** Frequency and percentage distribution of students according to the countries they associated to Ottoman Empire.

The associated country	f	%
America	9	5.24
Turkey	3	0.95
England	6	4.29
Egypt	1	.38
France	1	.38
Other (Russia)	1	.38
Blank	1	.38
Total	2	00

13 of them (31%) stated that they did not think so and 15 of them (35.7%) stated that they were neutral.

17 of the students (40.5%) stated for the 20th item of the questionnaire that they thought that Sultan II. Abdulhamid Han stood against the planned colonization activities in Arab soil, 7 of them (16.7%) stated that they did not think so and 18 of them (42.9%) stated that they were neutral. There is a statistically significant relation between this item and the 23rd item ( $\chi^2 = 7,025$ ;  $p = 0,027^*$ ). Those who have watched a movie or read a book related to the Ottoman Empire mostly stated that they thought that II. Abdulhamid Han stood against the planned colonization activities in Arab soil.

7 of the students (16.7%) stated for the 21st item of the questionnaire that they thought that the history lessons had a positive effect about Ottoman Empire, 4 of them (9.5%) stated that they thought that they had a negative effect, 30 of them (71.4%) stated that they thought that they had both positive and negative effects and 1 of them (2.4%) stated that they had no effect.

The 22nd question which is one of the open closed questions is "Which current country do you think is most associated to Ottoman Empire?" The answers given to this question are illustrated in Table 7.

According to Table 7, 19 of the students (45.24%) associated the Ottoman Empire to America, 13 of them (30.95%) associated it to Turkey, 6 of them (14.29%) associated it to England, 1 of them (2.38%) associated it to Egypt, 1 of them (2.38%) associated it to Russia and France and 1 of them (2.38%) left the question blank. After the students marked the country they associated, they were asked to explain the reason. The answers were subjected to content analysis. Accordingly, the coding status of the students according to their associations is presented in Table 8.

According to Table 8, the students associated the Ottoman Empire most to America. 5 of the students who associated it to America (26.32%) stated that the similar aspect was the invader characteristic, 4 of them (4.25%) stated that it was tyranny, 4 of them (4.25%) stated that it was colonialism, 2 of them (10.53%) stated that it was the state of being powerful and dominant. 4 of them (4.25%)

**Table 8.**The association status of the Ottoman Empire to other states.

Category	Coding Theme		
	Code	f	%
America	Invader	5	6.32
	Tyrant	4	1.05
	Colonist	4	1.05
	(Blank)	4	1.05
	Powerful	2	0.53
	Sub Total	9	00
Turkey	The Descendent of Ottoman Empire	5	8.46
	(Blank)	3	3.08
	Turk	3	3.08
	Dictator	1	.69
	Muslim	1	.69
	Sub Total	3	00
England	Beautifier	2	3.33
	Lust Spreader	1	6.67
	Colonist	2	3.33
	Tyrant	1	6.67
Egypt	Sub Total	6	00
	Dictator	1	00
France	Sub Total	1	00
	Love of Science	1	00
Other(Russia)	Sub Total	1	00
	Federation	1	00
Blank	Sub Total	1	00
	Blank	1	00
Grand Total	Sub Total	2	00

did not give a reason.

Sample student sentences are presented below: "America. Because it has weapons and economic and fiscal power. It is generally a leader." "America. Because it ignores the lives of the people it rules and it tyrannizes." "America. Because it is tyrant and the universe was oppressed." "America. Because it resembles due to damages and wars for the Arab countries." "America. Because it is a state which is colonist and wishes to take everything." "America. Because America wants to invade the entire world and to spread the ignorance to places it controls just like it did in Iraq." "America. Because it wants to invade most of the states." As a result of the expressions above, it is understood that the students associate the Ottoman Empire to America more with its negative perception.

The students associated the Ottoman Empire to Turkey, after America. 5 (38.46%) of the 13 students who associated it to Turkey explained the resemblance with the fact that Turkey is the descendent of Ottoman Empire, , 3 of them (23.08%) with the fact that both states were Turkish, 1 of them (7.69%) with the fact that both

states were Muslim and 1 of them (7.69%) with the fact that both states were dictators. 3 of them (23.08%) did not make any explanations.

Sample student sentences are presented below: "Turkey. Because Turkey is the descendent of Ottoman Sultans just like Muhammed Ali, the ruler of Egypt." "Turkey. Because it is an example of a Muslim state." "Turkey. Because the Ottomans were Turks." "Turkey. Because Turks are Ottomans." "Turkey. Because they inherited their culture from the Ottoman Empire and preserved it, just like painting in the Ottoman Empire." "Turkey. Because their managements system is similar to that of Ottoman Empire." As a result of the expressions above, it is understood that the students see Turkey mostly as a continuation of the Ottoman Empire.

The students thirdly associated the Ottoman Empire to England. 2 (33.33%) of the 6 students who associated it to England explained the resemblance with the beautifications of the places that these two governments seized, 2 of them (33.3%) with their colonization, 1 of them (16.67%) with their tyranny and 1 of them (16.67%) with their spreading of lust.

"England, Because it has dominance over countries and it colonizes them." "England. Because their regimes are tyrannizer and dictator." "England. Because they sometimes use their politics to beautify countries." "England. Because they spread the lust. "England. Because they sometimes use their politics to beautify countries."

As a result of the expressions above, it is understood that the students associate the Ottoman Empire to England because of its colonialist aspect and its contribution to the civilization.

The students fourthly associated the Ottoman Empire to Egypt. The only student to associate it to Egypt (100%) explained this resemblance with the fact that both states were dictators.

The sentence of the student is presented below: "Egypt. Because no matter how free it seems, the rulers always have the authority." As a result of the expression above, it is understood that the student associates the Ottoman Empire to Egypt with its so-called democratic characteristic but originaly dictatorship.

The students again fourthly associated the Ottoman Empire to France. The only student to associate it to France (100%) explained this resemblance with the love of science of both states.

The sentence of the student is presented below: "France. Because they have spread science and education and respected to the ulema."

As a result of the expression above, it is understood that the student associates the Ottoman Empire to France with regards to its contributions on science.

The students again fourthly associated the Ottoman Empire to Russia. The only student to associate it to Russia (100%) explained this resemblance with the fact that both states keep other countries under their dominance.

The sentence of the student is presented below: "Another country. Because Russia and the Soviet Union were formed of several countries and they were focused on expanding with mercenaries."

As a result of the expression above, it is understood that the student associates the Ottoman Empire to Russia with regards to its federative structure and the fact that it expanded its soils by battling.

Frequency and percentage results are presented in the sample section as the 23rd and 24th questions of the questionnaire contained definitive information on the sample of the research. It was also analyzed whether there was a relationship between the states of the answer sheets being positive, neutral or negative with the answers given to these questions. By this, the aim was to put forward an idea on how the points of view of the students were affected by their state of reading a book or watching a movie related to the Ottoman Empire. It was understood that only two of 14 students who had done the aforementioned activity (14.3%) had a positive opinion, 64,3 percent of them were neutral and 3 of them

(21.4%) had a negative opinion. Only 2 of 28 students (10.5%) who participated in a school trip to a historic place related to the Ottoman Empire which was tested with the 24th question have positive thoughts, 12 of them (63.2%) have neutral thoughts and 5 of them (26.3%) have negative thoughts.

## DISCUSSION AND CONCLUSION

The results of the research are presented in point-form below.

1. The genders and the parental education status of students do not have any effects on the Ottoman perception.
2. As the Likert scale average of 42 students is 2.26, the students generally do not have a positive or negative attitude related to the Ottoman Empire and they have close to negative neutral (indecisive) attitudes.
3. Whether the students watched a movie, read a story or participated in a school trip to a historic place related to the Ottomans do not have any positive or negative effects on the students. It may have caused the negative effect to turn into indecisive situation.

Positive points of views and negative points of view related to the Ottoman Empire are presented in separate titles below:

The topics which are seen positive by most are as follows:

1. At the time of the Ottoman Empire, ignorance did not spread.
2. The Ottoman Empire did not colonize Egypt. Watching a movie or reading a book related to the Ottoman Empire and having the chance to participate in a school trip related to the Ottoman Empire led them to think that the Ottoman Empire was not colonist. In these circumstances, it is understood that the movies watched and the books read were not fictionalized to the detriment of the Ottoman Empire.
3. The Ottoman Empire cannot be characterized with underdevelopment.
  1. The Ottoman Empire protected Arab territory. Visitation to a historic place to study the place related to the Ottoman Empire contributes to this perception.
  2. They did not misbehave to Arab peoples.

The topics which are seen negative by most are as follows:

1. The Ottoman Empire was not governed in justice.
2. It did not protect the world of Islam.
3. It did not take the Islamic culture to the top.
4. If it were existent today, it would not be able to solve the problems of the Middle East. Those who have watched a movie or read a book related to the Ottoman

Empire think that even if Ottoman Empire existed today, it would not be able to solve the problems of today. This can be explained with the inability to carry the Ottoman Empire that is described in the stories read or movies watched to the world of present day in minds.

5. They were not interested in the problems of the Egyptian villagers. Those who have watched a movie or read a book related to the Ottoman Empire think that the Ottoman rulers were not interested in the problems of Egyptian villagers. This can be explained with the depictions of Egyptian villagers in misery in related stories or movies.

6. The Ottoman Empire was not developed in every field. Visitation to a historic place to study the place related to the Ottoman Empire caused this perception. This can be explained with the fact that the works in the visited places are mostly historic places such as mosques, castles and palaces. The facts that these structures are neglected and ruins can cause this.

7. It did not protect the sacred spaces. Visitation to a historic place to study the place related to the Ottoman Empire is one of the important reasons of this perception. It can be explained with the inability of students to imagine these works elsewhere as they have seen the works related to the Ottoman Empire in Egypt.

8. The Ottoman Empire did not offer any advancement to the Arab world.

## SUGGESTIONS

In this research, different results were produced than the studies mentioned below. While it is concluded in this research that the students were neutral close to negative (indecisive), the researches of the Bilge Adamlar Strategic Research Center (2011) was concluded with the following results: Egypt is the most sympathy-bearing country for Turks in the Middle East, Turkey is seen as a model country, according to Uysal (2011) there is a socially positive Turkey and Turk perception in Egypt, according to Yagbasan and Gulek (2010) positive image is dominant for Turkey, according to Basheer (2009) Turkey gained a positive image especially after 2006.

It was seen that there were some differences between the results of this research and the results of the below mentioned researches. Accordingly; while it is revealed in this research that the students have a neutral close to negative (indecisive) perception about the Ottomans, it was determined in the research of the Bilge Adamlar Strategic Research Center (2011) that Turkey was seen as a model country and the fact that Egypt was the most sympathy-bearing country for the Ottoman Empire in the Middle East was emphasized. However, in some researches, it was emphasized that there was a socially positive Turkey and Turks perception in Egypt (Uysal, 2011; Yagbasan and Gulek, 2010) and it was seen that Turkey gained a positive perception especially after

2006 (Basheer, 2009).

In this case, the question to be answered or explained is that: Why do the 15-year-old students who are a part of the same society and form the sample of this research do not have the same positive perception about Turks while adult Egyptians have a positive Turk perception? The answer of this question lies in the following question: While there are no expressions in favor of the Ottomans in the school books there are completely opposite expressions, why do the students have an indecisive attitude towards the Ottomans and not have a negative perception despite all these ideological and nationalist discourses? As a matter of fact, Osmanoglu (2012) concluded in his research that there are no positive expressions related to the Ottomans in the social studies school books of Egyptian secondary school first and second graders. It was stated in the school books that Egypt was underdeveloped in every field including the civilization, that the reason for this condition of underdevelopment was the existence of the Ottoman Empire in Egypt, that the Ottoman soldiers plundered the Egyptian people, that the Egyptians in the Ottoman army were subjected to negative discrimination because of their nationalities, that the Egyptian people were fed up with tyrannies and ready to explode and that they finally revolted (Osmanoglu, 2012, p.394). Similarly, Yilmaz and Osmanoglu (2009) concluded that the sole reason behind the social, political, economic, health and religious, military underdevelopments in Egypt was reflected to be the management of the Ottoman Empire in secondary school third grade social studies school books.

The students do not think negatively of Turks as they are taught in school books. Because their surroundings think positively of Turks. The students are stuck between the contradiction between the school books and their surroundings. The students begin to make sense of the world with their free views and get partly rid of the ideological pressure in the school books once they grow older and become an adult of the society. In this case, the political, economic and social conditions they themselves live in change their perceptions and shape them.

Despite all the national and ideological discourses in the school books, the students are indecisive about the Ottomans as a result of the positive perceptions of their surroundings related to Turkey and Turks and of the facts that they see the especially architectural pieces the Ottomans left in Egypt and they still use Turkish words like "dad, pasha, effendi" remaining from the Ottomans.

The historic and geographical togetherness of Turkey (Yagbasan and Gulek, 2010), political developments such as Turkey's rejection of America's demand to enter into North Iraq through Turkey in 2006 as Basheer stated (2009) and anti-Israeli attitudes seen in Mavi Marmara and Davos and maybe the most important, the fact that they believe in the same religion gain Turkey positive perception in the eyes of the Arab peoples.

Relevant Authorities of Turkish Republic must take action and ensure that there are peaceful discourses related to Ottomans-Turks in the Egyptian school books in order to prevent the opposition against Ottomans-Turks in the Egyptian school books within the framework of these mutual results of the researches. The studies that are said to have begun in 2008 for publishing peaceful school books under the coordination of IRCICA between Turkey and 22 Arab countries must be finalized as soon as possible. Restoration and maintenance of the Ottoman works in Egypt must be ensured and there must be explanatory, correct information-giving signboards there. Novels, stories and movies which will maintain brotherhood and friendship between the countries must be translated into Arabic and they must be promoted. Reciprocal student tours must be organized between the countries, the students must be entertained and current historic, cultural and religious togetherness must be strengthened.

### Conflict of Interests

The author has not declared any conflict of interests.

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*Full Length Research Paper*

# Evaluative research of the mentoring process of the PGDT, with particular reference to Cluster Centers under Jimma University facilitation

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The objective of the study is to evaluate the mentoring process of the PGDT program which was under the supervision of Jimma University in the regional states of Oromia and SNNP, Ethiopia. The overall intention was to see whether the program was being underway as expected. Because, there was uncertainty regarding the proper running of it as it was a new program in the history of the country. The dimensions of the research were mentees school environment, mentors, and supervisors. To see whether school environments were conducive to mentees; whether mentors assigned had the attributes expected in different respects: their commitment, knowledge of the program, the necessary inputs they deliver to the mentees, etc. In relation to supervisors, it was to see their commitment to their roles and knowledge of the program under implementation. The other area was if the supervisors involved were cognizant of the program objectives and committed. The research methods used were both quantitative and qualitative in which questionnaires and interview were used to collect data. In the research what was found out is that there were mentees under apprenticeship who were over-loaded, had no mentors, assigned at a level they were not supposed to, and who had mentors from other very far schools. Not only this, there were mentors assigned irrespective of their education level, experience, subjects they were teaching and field of specialization. And of course, important stakeholders with whom the university runs the program did not know the program very well including its objectives. As a result, the conclusion arrived at were: the mentoring process has not been consistent to the plan; the problems that faced the program include stake-holders' limited orientation of the program, inappropriate assignment of mentors and mentees (assigning mentor who did not qualify to be and assigning mentees at the level where they were not supposed to; misunderstanding of the roles of mentors by mentees, mentors themselves and educational officials; lack of commitment from concerned stakeholders including mentors and education officials at various levels.

**Key words:** PGDT, evaluation, mentoring.

## INTRODUCTION

The education system in Ethiopia has been in problem for years. According to the Education and Training Policy of 1994 in Kedir (2006:1) the system has suffered problems of relevance, quality, accessibility and equity. The objectives are not the ones that take the society's needs

into account nor do adequately indicate future direction. Besides, the contents and mode of presentation of the curricula are not in such a way that they develop students' knowledge, cognitive abilities and behavioral change by level, to adequately enrich problem-solving

ability and attitude (Federal Democratic Republic Government of Ethiopia, 1994:2 in Kedir, 2006:1).

The Teacher Education programme in the system is expected to shoulder missions that are far-reaching in scope through the promotion of social, economic, and political changes in schools. The preparation of teachers who can promote students' learning in schools should be a priority agendum of its programmes (MoE, 2009). However, this programme has not been immune from the aforementioned problems. It has experienced long standing problems. It has failed to produce teachers with the expected knowledge, skills and attitude. According to the Draft Curriculum Framework for Secondary School Teacher Education Programme in Ethiopia (2009:3) by MoE, till recently, it has not had strong policy. Even after having the needed policy, according to the Document, the programme has been in trouble. The same document further explains that the teacher education in the country still staggers to produce teachers who are competent in subject areas and can effectively promote the learning of students in schools.

This might be ascribed to the structure of the programme. The experiences of other countries show that failing to put the appropriate structures in place has a bearing on the outcome and effectiveness of a programme. The document by MoE (2009) confirms this. The pedagogical content knowledge of teachers has been taken lightly. Researches on teacher education show that teachers' professional knowledge base must address how they teach a specific content in their subject areas (MoE, 2009). So, voluminous content on learning theories, teaching methodologies, and assessment would be of little help unless candidates are assisted to see how these issues can be made meaningful in the subject they teach (ibid). Noting this, the teacher education programs have undergone structural changes as the result of the 1994 Education and Training Policy. For instance, pre-service secondary teacher education has been reduced from four years to three. Other aspects of changes have apparently been made to conform to the change in the duration of time. As a result, example, the National Framework for Teacher Education System Overhaul that outlines the rationales for reforms, missions, vision, and the objectives of teacher education in Ethiopia was issued in 2002. It also outlines a set of reform tasks needed to improve the teacher education system. There has been much endeavor of making lessons student-centered, truly-engaging, and real-life-like since then. Example, a professional development course called

Higher Diploma has been running to effect student-centered and 'active learning' methodologies. Besides, as indicated before, the preparation of modules along student-centered approaches has been in practice. Apparently, all these efforts are to prepare student teachers to be effective teachers. And student teachers have been made to experience schooling reality through the programme practicum. Besides, nowadays, a new post graduate programme has been put in place where the pre-service teachers are taking professional courses plus experiencing actual schooling experience.

In the past, the training and recruitment of teachers, in general and secondary school teachers in particular, had no the emphasis it required. Those who have first degree in the fields would be chosen and assigned without due consideration of their academic profile, interest toward the profession and professional ethics. Coupled with others, these problems have had tremendous repercussions on the quality of education. To address these and other problems, a task force that was duly engaged in activities for developing a sound teacher education program and the needs of the country had been identified through analysis of national policy documents and strategies (MoE, 2009). Furthermore, teacher educators had been allowed to reflect on the TESO program and suggest possible direction for improvement. Empirical evidences on teacher education program and theoretical bases of teacher education had been examined: experiences of various countries taken through different means. As a result, the conclusions reached were: the misalignment of program mission and practice, the prevalence of structural problems in the system and the incompetence of teachers' pedagogical content knowledge.

Therefore, taking into account all the problems and the shared experiences, the MoE introduced new pre-service teachers training program with a duration of twelve months in which the pre-service teachers take professional courses, go to apprenticeship/practice teaching and back to taking additional courses. In the practice teaching, mentoring is one of the most important components. And the mentors are expected to be experienced, well-qualified and with better professional and ethical standards who teach at mentees respective schools. Besides, they are expected to know the program very well: program objectives, the roles different stakeholders play, etc. To support the mentee-mentor relationship, in particular, and the mentoring process in general, supervisors (teachers of the college/university) are to

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**Abbreviations/acronyms:** **SNRP:** Southern Nation, Nationalities and Peoples Regional State (in Ethiopia); **PGDT:** Post Graduate Diploma in Teaching; **MoE:** Ministry of Education (Ethiopia).

make scheduled visits. To this end, woreda and zone education offices have responsibilities of coordination between the mentees, the mentors, the supervisors and their offices.

However, the program is a new one to these stakeholders, the education system of the country. Their picture of the program might not be clear. They might not have a clear understanding of the roles they play and they might not have the necessary documents in relation to the program, etc. So much so that the researcher ponders on how the mentoring process is executed.

In order to achieve the objective, the following basic questions need to be answered.

1. Is the mentoring practice consistent with the plan?
2. What are the limitations experienced?
3. What are the problems faced?
4. Are the supervisors and the mentors giving the necessary inputs in the process?

### **Ethical consideration**

After identifying the research problem and developing the proposal, communicating the objective of the research to the organization where the author works and others who involved in the process, a letter of recommendation was asked for. After securing the recommendation letter that explains the researcher is a staff of the organization and asks all those concerned to collaborate when and where necessary, thanking them in advance for their collaboration. The researcher identified the individuals who involved in the research. And then set a schedule of instrument administration. Following, the researcher contacted the category of respondents in person and explained what he wanted to do and asked them if they were willing to involve in the process. Granting confidentiality of the information they give and understanding the significance of the research outcome, with the respondents' consent, data were collected.

### **METHODS AND MATERIALS**

The research methods used were both quantitative and qualitative. The quantitative questionnaires were used to evaluate or assess the program underway by administering them to mentees and mentors; while the qualitative interview was used to collect data from supervisors that complemented the data collected through questionnaires to evaluate the mentoring process of the program. The necessary data were collected from the mentees assigned at the schools in the cluster centers under the supervision of Jimma University, Institute of Education and Professional Development Studies (now College of Education and Behavioral Science) and their respective mentors and the staff assigned supervisors.

The regional states where the mentees, under the facilitation of Jimma University, were assigned are Oromia, SNNP and Gambela. However, due to constraints of resources, only Oromia and SNNP are considered. Of the six cluster centers in the states mentioned only three are taken. The cluster centers chosen in these states are

Jimma and Woliso in Oromia and Bonga in SNNP respectively. These cluster centers were chosen taking into account different factors. As Woliso and Jimma are the nearest centers to Jimma where the researchers reside in , they were chosen to minimize the cost for data collection and traveling, while the researchers' acquaintance to the mentees, mentors and the zone education officials in SNNP made Bonga to be considered. This was helpful in accessing and obtaining the necessary data required. All schools in all centers where there were mentees are included. All subjects' mentees were included because the number was manageable. This is thought to be important that the mentors, the mentees as well as supervisors are of different background that might be important to the research. As to the supervisors; they were all included in the study.

### **Mentees**

The number of the mentees in Jimma, Woliso and Bonga was 4, 8 and 60 respectively. All of them were included in the study.

### **Mentors**

The number of mentors is equal to that of the mentees, as expected. Therefore, the number of the sample mentors is 72.

### **Supervisors**

The number of the staff that involves in supervision may vary from time to time due to different reasons. Nonetheless, all those involved in the supervisory process in the mean time were 18, so regardless of the center they are assigned; all were included in the research.

### **Instruments of data collection**

The necessary data from respondents were collected through questionnaire (from mentees and mentors), semi-structured interview (supervisors). With all the categories of respondents, questionnaire and interview were the instruments to assess the mentoring process in general through which respondents' understanding of mentoring, their experiences in the mean time and the limitation and strength in the process they observe were looked at. Besides, supervisors were interviewed on their understanding of mentoring and the consistency of the actual practice with the intention. This was done in such a way that some items are prepared and from them some other elicited as the interviewing process goes on.

The sampling technique employed to choose representative samples is non-probability.

### **Schools**

The list of the schools in each center was received from the concerned education office and those with mentees identified and included.

### **Selection of the mentees**

All the mentees assigned in the three cluster centers are included.

### **Mentors and supervisors selection**

The mentors of all the mentees were considered. And all the

supervisors who involved in the program were also respondents.

### **Method of data presentation and analysis**

The data collected from the respondents were organized involving editing, classifying, coding and ingoing in computer in a way that they show relationship, give meaning and readying for computation of different statistical values. Finally, the processed data were analyzed through the application of SPSS Version 20.

## **RESULTS AND DISCUSSION**

### **Results**

To achieve the research objective, the collected and processed data are presented in tables on the basis of the juxtaposed variables looked at to assessing the whole mentoring process.

### **Mentors' attributes and their knowledge of the program**

Of all the variables under the general heading, according to respondents, it is "mentors' knowledge of the program goals/objectives", "mentors' belief in the program goals/objectives" and "the appropriateness of tasks mentors are giving" are found to be satisfactory, meet standards or good with average mean of 3.72, 3.72 & 3.54 respectively (Table 1).

### **School environments of mentee**

Of all the variables under the general heading, according to respondents, with reference to working climate of mentees, it is the provision of responsibility to mentees by the management and the prevalence of sharing of experience to others believed to be to the standard or good with the average means of 3.54 and 3.36 respectively (Table 2).

### **Mentors' professional attributes**

Of all the variables under the general heading, according to respondents, in relation to the professional attributes of the mentors, the respondents agree that mentors are integral members of the school community; share information, expertise and resources with mentees; are receptive of feedback and seek opportunities for personal growth; adhere to professional and ethical standards and are advocates of the profession with average means of 3.54 and 3.45 respectively (Table 3).

### **Competence of mentors**

Of all the variables under the general heading, as to

respondents, in connection to mentors' competence, mentors' knowledge of effective teaching practice stands out or very good with average mean of 4.0 each (Table 4).

From the data collected, analyzed and interpreted, what is found out is that:

1. There are mentees who have no mentors.
2. There are mentees assigned at primary schools where they are to be assigned at secondary schools.
3. There are mentees who have mentors from different schools very far.
4. Assigning of mentors, to a significant degree, disregard subject specialization, experience, merit, education level, etc.
5. Mentors and education personnel at woreda and zonal offices do not have enough knowledge of the program and are not committed either.
6. Teaching load of some mentees is unbearable.

### **Discussion and interpretation**

#### **School environments of mentees/working climate of mentees**

This refers to the professional atmosphere at schools. It includes availability of resources to discharge responsibilities, climate of courtesy and respect in the schools, staff willingness to share experiences with the mentees and among themselves, the show of respect towards the mentees, etc. In this regard, though, the quantitative data processed showed that it is conducive while the qualitative data processed show otherwise. The different field trips and observations by the researcher confirmed the latter. The working environment is not conducive; some of the real experiences of mentors are far from ideal. A case in point is load. Though the mentees' load is not determined in a clear cut manner, as apprentices, their load needs to be reasonable so that they will have time to communicate with their mentors for experience sharing, professional support, discussion of areas for improvement and do their course works (action research, school and community and practicum) to meet the requirements of the training program they are in. But many mentees' load is far from being fair. There were mentees with weekly load of twenty –seven and above hours. In such condition, it is difficult to think of mentees having a good time as an apprentice and as a student who has course work obligations. There have been times mentees have not been sent to tutorials and trainings given by the university. Either they are not allowed to go by education officials at woreda level thinking that is a destruction of the teaching learning process, or intentionally do not inform them to go for their own different reasons. As a result, not only they miss trainings, they fail to do projects and come to their universities, at the end of June, empty handed.

**Table 1.** Mentors' knowledge of the program.

Items	Descriptive statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
mentors know the program goals/objectives	11	1.00	5.00	3.7273	1.61808
mentors believe in program goals and objectives	11	1.00	5.00	3.7273	1.48936
mentors have documents on the program	11	1.00	5.00	3.0000	1.54919
mentor establishes professional objective each year	3	1.00	4.00	2.6667	1.52753
mentors participate in mentoring workshops for professional reasons	11	1.00	5.00	3.0909	1.57826
tasks mentors giving are appropriate	11	1.00	5.00	3.5455	1.43970
mentors give timely feedback to mentees	10	1.00	5.00	3.2000	1.61933
mentors engage mentees in learning by enabling them to participate through multiple modalities	11	1.00	5.00	3.0000	1.54919
mentee's performance is continuously assessed to guide the process	11	1.00	5.00	3.1818	1.53741
mentees are encouraged and reinforced through daily assessment	11	1.00	5.00	3.0909	1.57826
multiple assessment strategies and tools are used to monitor mentee's development	11	1.00	5.00	2.9091	1.51357
evidence collection of mentees' independent learning outside class is part of mentoring	11	1.00	5.00	2.9091	1.51357
mentees' progress is documented in a record-keeping system	10	1.00	5.00	2.5000	1.50923
Valid N (listwise)					

Aggregate mean: 3.11

**Table 2.** Working climate of mentees.

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
a professional atmosphere is promoted	10	1.00	5.00	2.9000	.99443
there is a working environment that promotes self-expression	11	1.00	5.00	3.1818	1.25045
resources to discharge professional activities are there in enough quantity	11	1.00	4.00	2.2727	1.10371
climate of courtesy and respect is established	11	1.00	4.00	2.8182	1.07872
the staff demonstrate respect to individual mentee	10	1.00	5.00	2.8000	1.68655
the management gives responsibility to mentees	11	1.00	5.00	3.5455	1.57249
the staff supports the sharing of experiences to others	11	1.00	5.00	3.3636	1.36182
mentees are recognized and praised for efforts and positive contributions	11	1.00	5.00	3.1818	1.40130
Valid N (listwise)					

Aggregate mean = 2.67.

The other aspect of working environment is the need of prevalence of professional atmosphere promotion in the schools, which is characterized by readiness of experience sharing, undertaking academic debate, conducting staff research collaboratively that tries to alleviate problems at classroom and school levels. Equally important is the respect and courtesy shown by staff toward the staff and the mentees as well. But, according to the research, these elements are in scare in

the school environments.

### Mentors' professional attributes and competence

As the objective of the program is designed to produce well-equipped secondary school teachers, and mentoring is the most important component of it, mentors' role is huge. Their professional attributes, knowledge of the

**Table 3.** Professional attributes of mentors.

<b>Descriptive Statistics</b>					
	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
mentor is a life-long learner	11	1.00	5.00	3.8182	1.47093
mentor is an advocate of the profession	11	1.00	5.00	3.4545	1.36848
mentor adheres to professional and ethical standards	11	1.00	5.00	3.5455	1.29334
mentor is receptive of feedback and seeks opportunities for personal growth	11	1.00	5.00	3.4545	1.43970
mentor participates in professional organizations	11	1.00	5.00	3.0909	1.22103
A mentor reflects and incorporates new learning into practice	11	1.00	5.00	3.0909	1.37510
mentor shares information, resources and expertise with peers	11	1.00	5.00	3.4545	1.21356
mentor is collegial and interacts appropriately with mentee, staff and parents	11	1.00	5.00	3.1818	1.53741
mentor is an integral member of the school community	11	1.00	5.00	3.5455	1.29334
Valid N (listwise)	11				

Aggregate mean: 2.78.

**Table 4.** Competence of mentors.

<b>Descriptive Statistics</b>					
	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
mentor dedicates regular time to mentee	11	1.00	5.00	3.0909	1.64040
mentor assists mentee despite obstacles	11	1.00	5.00	2.9091	1.51357
mentor models self-reflection and self-assessment	11	1.00	5.00	3.2727	1.48936
mentor understands the common problems of beginning teachers	11	1.00	5.00	3.0909	1.30035
mentor applies theories of adult learning	11	1.00	5.00	3.0909	1.13618
mentor anticipates the needs of the mentee	10	1.00	5.00	3.2000	1.61933
mentor reflects on how ,when, what, and where to communicate with the mentee	10	1.00	5.00	3.0000	1.33333
mentor reflects confidentiality of the relationship	11	1.00	5.00	3.0909	1.44600
mentor adjusts communication style to needs of mentees	11	1.00	5.00	2.6364	1.43337
mentor discusses professional challenges	11	1.00	5.00	2.9091	1.44600
mentor models effective helping relationship skills	11	1.00	5.00	3.0909	1.57826
mentor engages the mentee in team planning and teaching whenever possible	11	1.00	5.00	3.4545	1.57249
mentor has enough knowledge of effective teaching practice	11	1.00	5.00	4.0000	1.18322
mentor models openness to new ideas and instructional practices	11	1.00	5.00	3.8182	1.25045
mentor lives a life of a learner	11	1.00	5.00	3.5455	1.12815
mentor sees the mentee as a fellow student of teaching and learning	10	1.00	5.00	3.6000	1.07497
mentor pursues professional growth opportunities	11	1.00	5.00	3.5455	1.12815
mentor advises the mentee on professional growth opportunities	11	1.00	5.00	3.0909	1.44600
mentor models personal and professional self-efficacy	10	1.00	5.00	3.4000	1.26491
mentor leads curriculum/program improvement	11	1.00	5.00	3.4545	1.36848
mentor facilitates professional development opportunities	11	1.00	5.00	3.4545	1.21356
mentor is change agent	11	1.00	5.00	3.5455	1.29334
Valid N (list wise)	8				

Aggregate mean = 3.31.

program, competence, commitment to their roles, education level and experience are crucial.

When mentors' knowledge of the program considered separately in the process, more than anything else, it is very important. Whatever the mentor is capable in what he does, whatever committed he is, whatever conducive working environment the mentee has, it is difficult to imagine a mentor contributes much for the thorough practice of the mentee if he does not know what the program is about. That is why acquainting mentors, woreda and zonal education officials and supervisors, who have stake in the program implementation, is both a necessity and an obligation by the university running the program. They should know its objectives and their responsibility as stake-holders. From this point of view, since the inception of the program, the Institute (now College of Education and Behavioral Sciences), has given trainings every year. Unfortunately, from experience, those sent to participate in the trainings are either who have no stake in the program implementation process or might be individuals who are not committed to the program's cause. A challenge, the College is aware of, but unable to rectify for different reasons. In this respect, the research showed the knowledge of mentors of the program is limited. The mentees' relationship with their mentors and the professional support they get show the mentors' knowledge of the program is limited. Education officials at different levels seem to have no or little acquaintance of the program. This is not only what the research showed, but also at the different times of supervisory field trips, the researcher had the opportunities to discuss with these individuals on different matters in connection to PGDT (post graduate diploma in teaching) in general and mentoring practices in particular. During those discussions, what the researcher understood is that the individual experts who lead the program with the woreda and zone education offices might know about the word PGDT. Beyond this, what the program is all about, why it is designed for, its goals, and the important stake-holders who have stake in the program, and their offices' roles in implementing the program, etc is beyond their knowledge. When it comes to officials of these offices and other personnel, the situation is far more serious. What the interviewed supervisors corroborated is this. In such environment, expecting mentors to be better acquainted and execute their responsibilities could be illogical.

Not only this. Mentors' competence, their education level, experience, the subject they are teaching and mentoring and their field of study, too, come into play in mentoring. As the mentees are would be secondary school teachers, the mentors assigned to support them need to have first degree, teach the subjects their respective mentees are teaching, have the same field of study with their respective mentees apart from the vast experiences and superior professional and ethical

standards expected of them. In this respect, the research showed the level of mentors is satisfactory. But when we see the general picture of the scenario, there are mentors who don't deserve it. There are mentors who do not qualify to because of their educational profile. There are mentors with the education level of diploma. There are mentors with certificate. Of course, mentors with diploma and certificate might have something to share. They might have teaching experiences in abundance that they have accumulated over time. But having this doesn't qualify them to be mentors. Mentees may resist to be supported by these mentors. The mentors may fail to be committed that they are not equal to the mentees. They suffer inferiority complex. This is what the researcher witnessed practically during field trips.

The other point is mentors' experience. Mentors assigned, relatively, need to be more experienced and in a better professional level than their peers and mentees themselves. However, as observed from the mentors' bio data, discussions made between mentees and researcher and researcher and supervisors at different times, there are teachers assigned mentors in their first and second year of teaching due to lack of teachers with the necessary experience. In other situations, where there are more experienced, qualified to the responsibility, and distinguished teachers who merit mentoring didn't get assigned for different reasons.

Equally important is field of study. A mentee who graduated in and teaching physics needs to be mentored by a physics graduate mentor who is teaching physics. However, from the research, to some degree, what has been observed is different. An English teacher mentors Amharic teacher (mentee), a history teacher mentors a math graduate mentee teaching math. This is not ideal, not expected either. A mentor who graduated in and teaching history may find it very difficult to give professional support to a mentee who graduated in and teaching mathematics. The professional support he provides might be minimal in math teaching. It is not his fields of specialization. Mentors are expected to share experiences in the area of planning, classroom management, managing contents, selection and application of teaching methods, resources, etc. In the process, the straight forward thing to be fulfilled is that both mentees and mentors should be qualified in and teaching same subjects. A mentor could not support a mentee in a subject he did not qualify or not teaching either. His contribution to the mentee might be minimal. Assigning mentors regardless of their qualification and the subject they are teaching might be insensible. Of course, in situations where the kind of mentors required is scarce or where mentors of same subject qualification, same educational level and same subject teaching are not available, this could be tolerated even though, in a situation like this, it is difficult for the mentee to get the necessary professional support from the mentor. So

much so that it is difficult to imagine the apprenticeship has contributed enough to the achievement of the program goals.

Another instance that characterizes the mentoring practice under investigation is assigning mentors to mentees from different schools which are far away from the schools they are teaching. If the mentors assigned to mentees from different schools have the courage, time and commitment to discharge their responsibility, it is appreciable. But their contribution to mentees traveling to other schools for hours for one or two days on weekly basis is questionable. However, still, it could be the solution to the problem instead of leaving the mentees without mentors.

Overall, taking in to account the challenges faced and the practices observed, it is understandable that the mentors lack the required professional attributes, and competences and the mentees have no conducive environment to flourish.

## Conclusion

Based on the findings, the following conclusions are made;

In relation to the mentoring process:

1. The mentoring process has not been consistent with plan.

In relation to the limitations experienced:

1. Not knowing /having a clear understanding of the program by stake-holders
2. Overloading of the mentees.
3. Not assigning appropriate mentors by schools: assigning mentors disregarding his field of study, what s/he teaching at present
4. merit and experience, etc.
5. Assigning mentees at primary schools/the level which they are not supposed to work at nor prepared and trained for.
6. Misunderstanding of the roles of mentors by mentees, mentors, and educational officials.
7. Lack of commitment from mentors and education officials at woreda and zone levels.

In relation to whether supervisors and mentors are giving the necessary inputs:

1. They are not giving the inputs they are supposed to because their knowledge of the program is not complete.

## RECOMMENDATIONS

On the basis of the conclusions made, the following

recommendations are forwarded.

- a. If the program is to continue and be a success story, all parties which in one way or the other, involve in the program need to have and make a clear understanding of the program and have consensus about how the program should be run .

- b. To make the program successful, providing the necessary and available documents, including program objectives and strategies, need to be provided to all stakeholder beforehand.

- c. For the program to achieve its objectives, the roles and responsibilities of each and every stakeholder involve need to be clear and be accountable when they fail.

- d. To make the program successful, providing the necessary and available documents, including program objectives and strategies need to be provided to all stakeholders.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# Diversity in high schools and diversity management: A qualitative study

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**The purpose of the present study is to present the diversities in high schools and opinions of teachers about management of these diversities. The sample of the study is from nine teachers working at the official high schools in the center of Denizli in Turkey. In this qualitative study, the data are collected with a semi-structured interview form and analyzed with content analysis. According to the results of the study, the diversities teachers encounter the most in their schools are branch and political view diversities. Teachers stated that the diversities can affect the students positively, create variety and abundance when managed well; but they may cause groupings and effect students negatively when they are not managed well. Most of the teachers mentioned positive manners of principals towards diversities.**

**Key words:** Diversity, teacher, diversity management, high school.

## INTRODUCTION

Due to the rapid changes in globalization, there is a fast paced change in demographic, economic, social, and technological structures. Naturally, this change also affects organizations. In order for organizations consisting of many diverse individuals and groups to be able to adapt and be effective, they need to make a good use of and manage these diversities. It is especially important for managers to evaluate the differences between the employees and use it for the benefit of the organization.

The organizations evaluating the diversities, giving chances to the members with differences to reach their potential will also provide individual benefits to employees. The policies and practices in the organizations that manage diversities well establish mutual openness and fairness, showing respect and courtesy, effective commu-

nication, and cooperation between coworkers. People will experience less conflict and stress, and engage in more teamwork in such an organization. Thus, they will be able to reach their goals easier and faster (Barutcugil, 2011). The ability of organizations to attract, retain, and motivate diverse employees creates a competitive advantage for organizations in terms of finance and providing qualified human resources. Besides that, organizations benefiting from positive sides of diversities also gain advantage in creativity, problem solving, and adaptation to changes (Cox and Blake, 1991).

In the current study, diversity means the ways people are different from each other (Pollar and Gonzalez, 1994, p. 4). According to the Turkish Language Association, diversity is defined as "state of being different, difference,

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alterity". In directorial terms, diversity can be defined as collective mixture of similarities and differences being used in the actualization of organizational objectives (Hubbard, 2004a, p. 27).

Diversity has been classified into different dimensions by many scholars in the literature. In the categorization of the types of diversity, two approaches have been adopted which are bi-categorical and multi-categorical. Bi-categorical diversity approaches examine diversities as primary and secondary, observable and non-observable, shallow and profound, highly related to work and lowly related to work. Multi-categorical diversity approaches, on the other hand, examine diversities by classifying them into different groups (Surgevil, 2010).

Managing diversities examined in different dimensions is an approach that concerns creating an organizational culture that approves managing the similarities and differences between the people contributing to the organization, and integrating the problems of human resources management and the problems of the organization (Kramer, 1997, p. 86). In that sense, it is a strategic organizational approach for the improvement of diversities of the employees, development of organizational culture, and empowerment of the employees (Arredondo, 1996, p.17). This approach is based on planning, organizing, directing, and supporting the diversities in the organization in a way that contributes significantly to the organizational performance (Hubbard, 2004a, p. 27).

Diversity management highlights senior management approving of the diversities by creating an atmosphere that everyone feels valuable and accepted. At the same time, it is also a process that directs everyone in the organization to be more sensitive and attentive to others' differences and needs (Robbins and Judge, 2013, p. 55). In diversity management, it is assumed that the groups will preserve their identities and affect the organization (Schermerhorn et al., 2002, p. 16).

Previous studies show that different work groups have a potential to achieve a higher level of performance than homogeneous groups. Groups consisting of differences bring diverse information, abilities, skills, and viewpoints with them. Researches indicate that diverse groups come up with more ideas and solutions than homogeneous groups (Hubbard, 2004b, p. 16). Having diversity in an organization does not necessarily mean positive outcomes. But the important thing is accepting, internalizing, and considering diversities so as to create a common organizational culture. In that manner, an organization which accepts and welcomes diversity will have qualities of openness, understanding, honesty, security, learning, responsibility, improved communication networks, and avoiding extrajudicial execution (Speechley and Wheatley, 2001; cited in Oncer, 2004).

According to Society of Human Resources Management (SHRM), effective management of diversities establishes an organizational culture and environment that all the employees do their best for the organization; allows the organization to benefit from the similarities

and differences of labor force to gain a strategic advantage. It also improves the skills of individuals with different backgrounds to work together efficiently (Luthans, 2011, p. 34). According to the report "The Costs and Benefits of Diversity" published by European Commission (2003), organizations with efficient diversity policies have important advantages such as strengthening the cultural values in the organization, increasing the reputation of the organization, attracting talented people to the organization and keeping them in the organization, rising the motivation and productivity of the employees, improving the innovativeness and creativity among the employees, and improving the quality of service and customer satisfaction.

In terms of both its historical background and very broad borders, diversity management is a topic that needs theoretical enrichment and systematization. This is why further researches are needed in this topic. It is predicted that awareness of businesses will increase and practitioners' interest will be aroused towards the topic with these researches (Surgevil, 2010, p. 3). This is also in effect for educational and school organizations. When the literature is examined, it is among the facts of this research that in Turkey, especially in the area of education, there are scarce amount of studies in that topic (Balay and Saglam, 2004; Memduhoglu, 2007; Cetin, 2009; Balyer and Gunduz, 2010; Memduhoglu, 2011; Karademir et al., 2012; Polat, 2012; Gules, 2012; Cako, 2012; Boydak et al., 2013; Ergul and Kurtulmus, 2014; Memduhoglu and Ayyurek, 2014; Okcu, 2014).

In the current study, it is aimed to determine the teachers' perceptions about diversity in their schools and the way these diversities are managed. In order to achieve the goal of the study, the following questions were examined:

1. What are the main diversities teachers perceive in their schools?
2. What are the advantages and disadvantages of diversities?
3. According to the teachers, how do the principals behave towards the diversities in their school?
4. What are the expectancies of teachers from principals about managing the diversities?

## METHOD

### *Research model*

Qualitative research method is used in the current study. Qualitative researches are researches that allow qualitative processes for realistically and holistically propounding perceptions and events in natural environment (Yildirim and Simsek, 2013). In qualitative researches, the aim is to develop an understanding about how people make sense of their life, to outline the process of making sense, and to describe how people interpret their experiences (Merriam, 2013). In this research, it is tried to specify the teachers' interpretations related to diversity and diversity management thorough interview method.

### Participants

Nine teachers working at the official high schools in the center of Denizli, Turkey during 2014-2015 fall semester constituted the research group. Firstly, the official schools in the central Denizli are classified by their type in specifying the schools. According to this classification, there are 2 general high schools, 15 technical and industrial vocational high schools, 13 Anatolian high schools, 1 social sciences high school, 1 teacher high school, 1 fine arts high school, 3 religious vocational high schools, and science high schools in Central Denizli. The highest number of teachers from each group is identified and one teacher from each school is connected by his consent. In this direction, it can be said that we benefited from the criterion sampling method which is a kind of purposeful sampling method. In criterion sampling method, the situations, defined earlier by the researcher, are taken into the study (Yildirim and Simsek, 2013). The criterion was taken as "the number of teachers in schools" in the current study. It is assumed that the diversities will increase with the number of teachers. While including one teacher from each school in the study, because there are too many technical and industrial vocational high schools, two teachers from two schools are included in the study. All of the teachers are included in this study on a volunteer basis. The information about the study group is in Table 1.

### Measures

The data of the research were collected via semi-structured interview form which is developed by the researcher. Semi-structured interview enables the participants to explain the world they perceive with their own ideas (Merriam, 2013). After taking expert opinions on the interview questions, 4 pilot interviews were made, and after the necessary editing, the real interviews were made.

There are 6 questions in the interview form in total which are formed depending on the sub-problems of the research.

### Data collection

Data of research were collected through face to face interview with teachers in their schools. These interviews were voice recorded by permission of the teachers. Each interview took approximately 30 min.

### Data analysis

Data in the voice records were typed in on computer and approximately 70 pages of data set were composed. Data of research were analyzed in four stages via content analysis. Firstly, codes were acquired from participants' opinions. Then, themes were generated through assembling these codes under specified categories. In the third stage, the data of the research are identified and presented to the reader by organizing the generated codes and themes. In the final stage, the identified and presented findings were interpreted.

As mentioned above, all expressions of the participants were coded. In the next step, similar codes were collected under the same code. The examples of codes were given as follows; "Being a model to students, learning something different from different people, confusion of the students, being a bad role model to students, organizing activities, appreciating teachers' efforts, sharing information with each other for the teachers". Then, the codes were divided into categories by grouping such as "approach to student, teaching method, positive influence on students". Similarly, the main themes of the categories were created. To determine the category that is most importance for the participants,

**Table 1.** The study group of the research.

Participant	Sex	School type
P1	Male	Vocational High School
P2	Male	Anatolian High School
P3	Male	General High School
P4	Male	Science High School
P5	Female	Teacher High School
P6	Female	Vocational High School
P7	Female	Religious Vocational High School
P8	Female	Fine Arts High School
P9	Male	Social Sciences High School

the repetition frequency of the categories was calculated and expressed as frequencies. When analyzing the data, code number was given to each participant (P1, P2...).

### Validity and reliability

According to Erlandson et al. (1993, cited in Yildirim and Simsek, 2013), in order to provide validity and reliability, some procedures are used like expert investigation, participant confirmation, consistency examination, and confirmation examination. Studies towards improving reliability and validity of this research are mentioned below.

In order to increase the internal validity of the research, we benefited from an expert with knowledge about the topic and competence in qualitative research methods. All documents about research process (data, analysis, results) were sent to this expert and some regulations and changes were made considering the expert's feedbacks. According to the feedbacks, the order of the questions was changed and some of the questions were combined. Another procedure for providing reliability and validity was participant confirmation.

After completing the interviews, the relevant reports and analysis were asked to be read and given feedback on whether if they reflect the truth or not through writing down the voice records and sending them to the interviewers. Yet, in order to increase external validity, data of research were tried to be presented to reader by describing them comprehensively. For this purpose, direct quotations were made from interviews.

In order to increase internal validity of the research, interview data was re-coded by another expert. The situations that both experts used the same codes were considered as consensus, the situations that the experts used different code were considered as dissensus. Reliability coefficient was found 74 % by using the  $[\text{Consensus} / (\text{Consensus} + \text{Dissensus}) \times 100]$  formula (Miles and Huberman, 1994).

Yet, in order to provide external validity, researcher withholds the voice recordings, printed documents, coding, and all the reports and analysis of the research process in case of need for confirmation examination.

## RESULTS

The findings obtained from the research are presented in sub-topics in relation with the questions asked in direction with the aim of the research below:

**Table 2.** Opinions of teachers about the main diversities in their schools.

Themes	Categories	f
<i>Demographical diversities</i>	Branch	6
	Age	5
	Sex	4
	Education	3
	Seniority	2
	Place live in	1
	Income	1
<i>Occupational practice diversities</i>	Approach to student	4
	Occupational understanding	4
	Whether or not to complete the assigned duty	3
	Teaching method	3
	Disciplinary approach	2
	Perception by the management	2
	Assessment and evaluation method	1
	Belonging and commitment	1
	Approach to manager	1
	Control over the class	1
	Motivating to the lesson	1
	Tuition fee	1
	Adapting to technology	1
	Perception by student	1
Self-improvement effort	1	
<i>Idea , belief and life style diversities</i>	Political view	6
	Union	5
	Point of view	4
	Life style	4
	About religion (belief, sect, conservatism)	4
	Outfit	4
	Rising environment	3
	Expectation from life and priorities	1
	Rising style	1
	Culture	1
	Family structure	1
<i>Personality diversities</i>	Character, temperament	5
	Human relations	2
	Self-regulation	1
	Sociable	1
	Self-confidence	1
	Self-directed perception	1

### **Main diversities observed in schools**

In the direction of the aim of the research, teachers firstly asked about the diversities they perceive among the teachers. The responses of teachers were coded and these codes collected under themes. As seen in Table 2, the diversities teachers perceive in their schools are separated under four themes which are demographic diversities; occupational practice diversities; idea, belief

and life style diversities, and personality diversities.

The mostly highlighted demographic diversities by teachers are branch diversities. These diversities are followed by age, gender, and educational diversities.

When the findings about the occupational practice diversities are examined, it is observed that each teacher necessarily mentioned about the occupational practice diversities. In terms of these diversities, the diversities mentioned the most by the teachers were approach to

**Table 3.** The opinions of teachers about advantages and disadvantages of diversities.

Themes	Categories related to advantages	f	Categories related to disadvantages	f
<i>Educational</i>	Positive influence on students	6	Negative influence on students	3
	School achievement	2	Comparison of teachers by students and/or parents	2
	Positive influence on parents and management	1	Decreasing of educational quality	1
<i>Organizational</i>	Variety and abundance	4	Groupings	4
	Positive interaction	4	Tension in the atmosphere	2
	Creativity	1	Negative influence on teachers' performance	2
	Gratification	1	Not wanting to join in to decisions	1
	Preventing conflict	1	Conflict	1
	Carrying the business	1	Negative interaction	1
			Disturbance	1

students, and occupational understanding. The teachers mentioned next the diversities in teaching methods, and completing the assigned duties.

Under the theme of diversities are idea, belief, and lifestyle, political view, point of view about life, union, lifestyle, religion, outfit, raising style, expectations from life and priorities, culture, and family structure. When Table 3 is examined, the diversity teachers mentioned the most is political view diversities.

Lastly, under the theme of personality diversities are examined. The teachers stated the diversities they encounter in their schools the most as character – temperament, human relations, self-regulation, sociability, self-confidence, and in terms of perceptions of themselves.

### **The advantages and disadvantages of diversities**

The opinions of teachers about advantages and disadvantages of diversities are presented in Table 3 under two main themes which are; educational and organizational.

When Table 3 is examined, it is seen that most of the teachers (six teachers) point to the fact of positive effect of diversities on students. Some of the positive effects are sampling of the students, broadening of students' horizon, looking from different perspectives, development of their personalities, and easing of their learning processes by seeing different methods.

P5: *"Diversity is always good. Because not everything should be like a prototype. For instance, the child sees a different personality and identity from you. Sees a different method. Like teaching a lesson, or management of the class....Gets to know different people at the same time. You can't extent the children's horizon too when we all are stereotyped or the same. The children because sees only the single point of view, single type of human.*

*But now he/she sees a different kind of thing. Something different than you. Learns something different than this difference. Like sometimes without me being the dominant character he/she learns something different. Not let them be more naive, more polite, more silent of our friends they learns something. He/she takes as a model the things appropriate to them."*

P7: *"I mean we knit the student for the society if we think of a vignette. I like the pink color while someone else gives the green color.... Let me say my own diversity for instance. I love the biology classes. I can say that I will be a biology teacher if I ever born again. I am more environmentalist than normal biology teachers. Maybe this is a diversity of mine for instance and I try to imprint this in every school I go and I gain good achievements every time."*

P8: *...Then it is beneficial for students for it to let them to see from different perspectives for instance, in my opinion. I think there is not such a thing as black or white... Children have chances to observe those things by themselves. They have chances to result from those diversities. But because there is no alternative to differentiate this as this is good, they accept this as good.*

When the teachers' statements on educational advantages are observed, one of the teachers mentioned diversities to be effective on parents and management as well as students. He/she stated this situation by making a comparison:

P4: *"One's income can diminish against some difficulties if he/she has an income only from one source while he/she obtains this income. But if he/she happens to be gaining this income from three different sources, he/she won't be affected by a negativity situation. He/she will know that he will have two other incomes if one does not giving to him/her. If we happen to apply this to teachership, there will be as many positive effects we will*

face when there are as many diversities either on parents, or students, or managers.

Another one of the advantages diversities can produce is about them increasing the success of the school. Both of the teachers (P5 and P7) have presented opinions about diversities between teachers being reflected as contribution to the success of the schools.

When the disadvantages of diversities in terms of education are considered, teachers mention them on the students like they did on the advantages. According to the statements of the teachers, not managing good or prevention of the diversities, the inconveniences that can be count among possibilities are diminishing of the role models of students, endeavors of teachers to adapt their opinions on the students, confusion of the students, being a bad role model to students, groupings among the students:

P2: *"...Everybody pull towards themselves. Everybody tries to transfer their opinions on the students. This establishes students to get confused. What happens when the students get confused. An unhealthy generation happens."*

P4: *"...everybody happen to be the same, students' role models will diminish. I had happened to been entered the class the student had happened to made my behavior as his/her role model. Had made another teacher friend of mine as his/her role model because of his/her appearance, made another teacher friend of mine as his/her role mode because of his/her approach to the student. But if these diversities happened to diminish, the role models of the students will decrease. ...His/her personality will change accordingly"*

P8: *"...Now this type of conflicts can affect students negatively. I mean polarizations may happen to occur between the students. The polarizations between the teachers may be reflected to students...."*

The advantages and disadvantages of the diversities are examined organizationally as a second theme. When Table 3 is examined, the teachers have stated that diversities create variety and abundance, cause positive interaction, provide gratification, prevent conflicts, increase creativity, and let the business to carry on.

One of the participants tried to explain that diversities create variety and abundance by making a comparison:

*"Existing of diversities always is good, variety. You happen to go to a breakfast a brunch. As many varieties there are your eyes... you will get satiated faster. But if there are two varieties, you try to catch from both of them and you will keep an eye on something else. A person will get satiated as fast as there are varieties of food, varieties of meal. You will get the taste and the other one. ... ....Your palate will develop in the meantime."* (P2)

Another one of the organizational advantages of the

diversities is settled as causing positive interaction between the teachers. Teachers have stated that with this interaction, their points of view have developed, they shared information with each other, and they benefited from diversities. Some of the striking opinions on that topic are as follows:

P4: *"Branch diversities for instance .... For instance, from geography, a problem about biology about chemistry about physics about mathematics or when we encounter with a problem I can't overcome, I am able to get the answer directly from my teacher friends... This is the reflection of branch diversities to us."*

P5: *"But there is such a thing you learn very different things from different people. For example, I always say this. Your point of view becomes colorful as you know as many people as you do...."*

P8: *"In terms of developing oneself for teachers... Teachership is not a thing like we do what we should and leave. It is always in a state of revolution. Even teachers can learn different things from each other and they have the opportunity to expand the window of their life styles..."*

When the organizational advantages of diversities are examined, four of the teachers stated that diversities can cause groupings. The important point in here is that each of the four teachers mentions the political view groupings of the teachers:

P2: *"Groupings happen quite a lot because of the age differences. Such a great disadvantage. The strings are not attached they even break. Like the biggest problems are in those schools. Elder younger groupings are one. Women male let to be some extent. But the main scary and frightening grouping is political grouping and union grouping. It causes disturbance a lot. What do these effects. Effect the quality of education."*

P3: *"...Such groupings happen. But this happens for instance. The biggest thing is political. I think politics should not occur in schools..."*

P5: *"...I mean political views occur. Depending on political views, unions for instance."*

P8: *"...The polarizations occurring between the teachers can be reflected to the students.... Union activities, political pressures.. these all are things that bother in business settings."*

### **The behaviors of principals towards diversities**

The opinions of teachers towards principals' behaviors about diversities are grouped under two themes which are positive and negative. As seen in Table 4, teachers mostly stated positive behaviors of their principals that their principals create an atmosphere of unity and solidarity, they do not discriminate between the teachers, are fair and objective, they tolerate diversities, and pay attention to diversities in distribution of tasks. On the

**Table 4.** The opinions of teachers about the behaviors of principals towards diversities.

Themes	Categories	f
Positive	Creating an atmosphere of unity and solidarity	5
	Fair, equal, objective, not discriminating	5
	Tolerating diversities	4
	Paying attention to diversities in distribution of tasks	4
	Knowing the diversities of employees	2
	Creating a peaceful school environment	2
	Appreciating the positive outcomes of diversities	2
	Respecting diversities	1
	Supporting diversities	1
	Appraising diversities	1
Negative	Not being objective	1
	Not including in decisions	1
	Not being open to diversities	1
	Trying to prevent diversities	1

other hand, in negative behaviors, teachers mentioned principals being not objective towards the teachers they are in closer relationships to, not including others in decisions, not being open to diversities in situations causing problems for management or themselves, disturbing the process of the school, and they do not want diversities in those situations.

When the opinions of teachers on the behaviors of their principals about diversities are examined, two teachers responded as “positive in general” but criticized them for showing negative behaviors sometimes; and one teacher refused to talk on that topic and responded as “...let’s say, not as it should be...” while six out of nine teachers presented completely positive opinions by indicating that their principals respond “positively” to the diversities.

Some of the opinions of the teachers stating that their principals accept diversities positively are presented below:

P1: *He/she approves, supports diversities. For instance, he/she has just gathered us. The ones who made a great effort for the dance night, poem, theater night, the ones who made a great effort for graduation. He/she gave an emotional speech to all the friends while buying them tea or coffee...*

P3: *...The breakfast example I have just mentioned, for instance. Just to let there be unity and solidarity. There will be like a dinner soon. In the middle garden again. They really put effort on this.*

P5: *The management knows everything indeed and behaves accordingly to everybody. Because this is a teamwork. The most important thing in a team is knowing the people. I mean, with whom to travel with, with whom not to travel with. The first example is in the beginning of the year when the commissions are formed, the*

*management chooses people depending on this... because this is teamwork...*

P6: *This is the first time I work with a principle who is that fair, dealing with everybody as a proper and a complete manager. Because I have never been able to detect his current view. This means we have such a principle that is quite good, without giving out his side, who behaves equally to culturers and occupationists, even running social activities with culture teachers despite being an occupationist, applying the rules as knowing them very good. And maybe this is why there are not this many disturbances in such a big school. Not this many groupings.*

The opinions of teachers stating that principals accept diversities positively in general but criticizing them in some points are as follows:

P8: *...evaluate diversities. Don’t engage in negative approaches. Don’t engage in negative approaches against ideological diversities like this. Tries to create a school that every teacher can contribute, to according to their skills, capacities... My negative criticism; by forming more intimate relations with the teachers whom he feels closer to as characters but not in ideological way. Mostly characteristically. May be more distant to others while forming more intimate to them... This can cause disturbances sometimes... He/she may used to be not objective. But not as big as to cause big troubles in general...*

P9: *In my observations; he/she is open to diversities that won’t affect the general process of the school, won’t trigger troubles with parents or upper level organizations, as far as I see. But there are also points that they do not accept diversities in specific points.*

**Table 5.** Expectation of teachers from principals about management of diversities.

Themes	Categories	f
<i>Human relations and communication</i>	Supporting the employees	4
	Sociability	3
	Embracing	3
	Humane	2
	Intertwining with teachers	2
	Dealing with teachers one to one	2
<i>Valuing diversities and equality</i>	Being objective	6
	Justice – equality	4
	Tolerance for political views	3
	Openness to diversities	3
	Not preventing diversities	3
	Benefiting from positive aspects of diversities	2
	Accepting diversities	2
	Observing diversities of teachers well	2
<i>Directorial</i>	Inclusion to decisions	3
	Revolutionist, openness to change	3
	Focusing on achievement rather than the rules	2
	Teamwork	2
	Occupational efficiency	1
	Distribution of authority	1
	Coordination	1
	Being able to take risks	1

Yet another teacher responded as follows by refusing to comment on that topic:

P2: *I mean I can't say that it is something as such. ...let's say, it is not as it should be. There is a thing to rear something. Some people rear a school, some people can't...*

### **Expectation of teachers from principals about management of diversities**

The opinions of teachers on their expectations from their principals about management of diversities are grouped under three main themes which are human relations and communication; valuing diversities and equality; and directorial. The theme and the codes acquired from the opinions of teachers are presented in Table 5.

Some of the opinions of teachers about their expectancies about diversities from their principals are presented below:

P1: *A principal is someone who embrace everyone, able to do teamwork... there are even many differences between a principal and a leader... ... A principal should give targets, direct, support teachers in their jobs. I can speak way more easily securely way more*

*comfortably be present in interaction when I am presented in approach to my teacher friends, students, and parents, if I feel the principals' support behind me.*

P2: *A principal should be an organizer, connective, and assembler. I mean he/she should be able to embrace in every manner. The famous roof formula is fundamental really something that should exist. And should be sharing, plus social. I mean a principal of a school that is presented there should be as a social person as possible. Should be at peace with everybody. Should be able to talk with everybody even with a child, with the oldest teacher, should be able to deal with the youngest teacher one to one. Should be able to sit around the same table. Should be able to drink the same tea. Communication, communication before everything.*

P3: *Should be able to always embrace everyone. Should be objective. Even should be able to leave his/her political view aside to evaluate everyone with the thing. Should evaluate them as a person, as an individual.*

P4: *...You can't discriminate between the teachers. They may treat everyone equally. There were favoritisms in the place I used to work despite me having very big negativities.....I mean because of the political views can be a sympathizer or a militant of Party A, even though we are civil servants. A principal should not impose his/her views on everybody. He/she should tolerate people from*

*different political views.*

*P7: My diversity is the environment. The management should observe these diversities well and support teachers to work for these diversities.... This is not that hard actually. The received documents are certain, the certificates of achievements teachers received are certain... Principals are monotonic, unfortunately. The school is a deposit to them in their opinions. They are responsible if something happens. Like is the teacher on duty? They always keep track of this. Are the lessons started on time? Are the lessons finished on time?...*

*P9: Understanding, showing the same respect to each unit in the organization he/she works, from the principal... I expect him/her not to be prejudiced. I expect him/her not to see the employees from their political views. His/her view can definitely be on a side but the organization is not his/her, not mine, not anybody's... the success of the organization should be his/her only aim.*

## DISCUSSION

The purpose of the current study was to examine teachers' opinions about diversity and diversity management in their schools with a qualitative research technique. According to the results, the diversity teachers observed are grouped under four main themes which are; demographic diversity; diversity in application of the occupation; thinking, belief, and life-style diversity; and personal diversity. This classification can be claimed as suitable to multi-categorical diversity approaches. Multi-categorical diversity approaches are formed by clustering many diversity factors or classifying according to the relations between them. McGrath et al. (1995, cited in Mannix and Neale, 2005) distinguished and examined diversity in five categories namely; demographic features; job related knowledge, abilities, and skills; values, beliefs, and attitudes; personality and cognitive and behavioural styles; and status diversities.

The diversities mentioned the most by the teachers were branch and political view diversities. These diversities are followed by age, union, and character diversities. This finding is in accordance with Polat's (2012) findings. In his study with school principals, Polat (2012) reported that the most frequently observed diversities by principals are branch, attitude, experience, age, ideological-political tendency, personality, and union membership. In the study of Tozkoparan and Vatansever (2011), on the other hand, the diversities highlighted the most are education, culture, mentality, and personality diversities; similarly in the study of Cakir (2011) they are education, culture, and personality diversities.

The results in terms of advantages and disadvantages of diversities are examined under two main themes which are educational and organizational. These findings are in support of Memduhoglu's (2011) results. Thus, he highlighted that having teachers with diversities work has

advantages for management, teachers, students, and the school while it brings some hardships for the management of the school.

Teachers stated that diversities will affect students positively, and improve the success of the school. Memduhoglu (2011) has also concluded that teachers with diverse interests, skills, and competencies, from different sociocultural backgrounds working in schools, contribute to the development of schools and students as well as easing for schools to reach their goals. Findings of Allen et al. (2007) support the benefits of diversities to organizations in terms of organizational performance. Similarly, in their study, Choi and Rainey (2010) found a positive correlation between management of perceived diversities and organizational performance. Moreover, teachers indicated that diversities create variety and abundance (Cakir, 2011; Aksu, 2008; Yanasma, 2011), increase creativity (Cox and Blake, 1991; Millikan and Martins, 1996; Austin, 1997; Bassett-Jones, 2005; Lattimer, 1998; Roberge and van Dick, 2010), and provide gratification (Pitts, 2009; Buckingham, 2010).

As there are many advantages of diversities to organizations, there could be disadvantages as well, when they are not managed well. Teachers reported that diversities can lead to negative effects in educational process, grouping in organizations, negative effects in teachers' performances, disturbances in the atmosphere, conflicts etc. The related literature is also in support of these findings. In the study of Jehn et al. (1999), a positive correlation was found between social category and value diversities, and relational conflicts. It is reported in the study by Pelled et al. (1999) that diversities cause conflict, whereas Hobman and Bordia (2006) found a positive correlation between value diversities and conflict. In the study of Aksu (2008), the participants stated the most important problem that can occur in a team with different aspects as miscommunication/disagreement, and the second as conflict. Similarly, in the study of Yanasma (2011), the employees have also indicated the biggest problem that diversities cause as miscommunication and disagreement. Organizations should manage diversities well in order to benefit from these advantages and to diminish the disadvantages to the least possible level. At that point, the role of the managers cannot be denied. The attitudes of the managers towards diversities have an important effect on the success of diversity attempts (Buttner et al., 2006). In terms of diversities, Cox and Blake (1991) mentioned the need of organizations for managers insisting on the need of diversity, being a role model for the behaviors needed for change, and helping to carry the organization forward, through highlighting the managers being revolutionist. In order for managers to benefit from the advantages and decrease the disadvantages of the diversities, organizations are needed to be transformed from monolithic or pluralistic structures to multicultural structures. Pluralism, complete integration

of minority members formally and informally, absence of prejudice and discrimination, and low levels of intergroup conflict characterizes multicultural organizations. Each employee can reach to their potential when these conditions are met and “value in diversity” can be achieved (Cox 1991).

Moving from the point of the importance of managers in the process of diversity and diversity management, teachers are asked about the behaviors of principals for diversity. The results about principals’ behaviors are discussed under two themes which are positive and negative. It is a satisfying finding that six out of nine teachers present completely positive opinions towards their principals about diversities. Teachers stated that principals create an atmosphere of unity and solidarity, do not discriminate between teachers, are fair and objective, welcome the diversities, and pay attention to diversities in distribution of tasks. Similarly, in the study of Memduhoglu and Ayyurek (2014) with preschool teachers, participants largely agreed with that knowledge and skills are supported, experiences are shared in solving the problems between the employees, different opinions are welcomed, and different behaviors are taken normally, by stating that diversities are managed well in general at preschools. In another study of Memduhoglu (2007), teachers stated that principals in high schools present a management depending on the diversities, and possess personal attitudes and behaviors, and organizational values and norms.

Lastly, the expectations of teachers from principals about diversities and diversity management are examined in the study. The findings directed towards teachers’ expectations are summarized under three themes which are human relations and communication, valuing the diversities and equality, and directorial expectations. Teachers expect their principals to be supportive, social, and embracing in human relations and communication terms; to be objective, fair, tolerant to different political views, open to diversities, and not to inhibit diversities in valuing the diversities and equality terms; and to include the employees to decisions, revolutionist, and open to reforms in directorial terms. In the study of Polat (2012), school principals emphasized openness to reforms related to organizational values that should be shared by all employees – self-development, democratic attitude, fairness – equality, respecting the diversities the most. Yet, in the study of Anderson (2014), participants supported that managers should be in a continuous communication with the employees, and understand various perspectives of the employees in order to manage diversities effectively.

## CONCLUSION AND RECOMMENDATIONS

According to the results of the study, the diversities teachers mentioned the most are branch and political view diversities. Teachers stated that diversities can

affect the students positively, create variety and abundance, and increase the interaction of teachers when managed well, by discussing the effects of diversities from the point of the educational process and organization. But they stated that diversities can affect the students negatively, and cause groupings when they are not managed well. Most of the teachers mentioned that their principals adopt a positive manner towards diversities. Teachers want to work with managers who are objective, fair, supportive to their employees, and including employees to the decisions.

According to the results of the study, it can be concluded that it is needed to create a climate where diversities are respected, valued, and welcomed in schools. Diversities should be managed well in order to benefit from the advantages and diminish the disadvantages of the diversities. Thus, interventions can be made in order to raise awareness of the principals and the teachers about diversities and diversity management. Principals should create an atmosphere of unity and solidarity, and support teachers by developing positive relationships with them; and place importance in values such as objectivity, justice, and equality.

There are a scarce amount of studies about diversities and diversity management in Turkey. It can be ensured to increase the number of studies by attracting the attention of the academicians and the practitioners to the topic. Similar studies can be made in different educational levels (primary schools, secondary schools, colleges etc.) and with different work groups (school principals). The relations of diversities and diversity management with organizational outcomes such as commitment, gratification, or conflict can be examined with quantitative methods.

There are some limitations for this study. The participants of the study were limited as 9 teachers so the findings have not the function of generalization. As mentioned above, different groups (such as principals) can be added to the study.

## Conflict of Interests

The author has not declared any conflict of interests.

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*Full Length Research Paper*

# The relationship between critical thinking abilities and classroom management skills of high school teachers

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**High school teachers experience difficulties while providing effective teaching approaches in their classrooms. Some of the difficulties are associated with the lack of classroom management skills and critical thinking abilities. This quantitative study includes non-random selection of the participants and aims to examine critical thinking abilities of high school teachers and the relationships between classroom management skills and critical thinking abilities. A total of 212 high school teachers from Ankara, Turkey participated in the study. Data collection tools included two instruments: The Classroom Management Ability Scale (CMAS) and the California Critical Thinking Disposition Inventory (CCTDI). The results of the study indicated that teachers had positive beliefs about their classroom management skills critical thinking abilities. However, the findings also showed that there were not any significant relationships between classroom management skills and critical thinking abilities of high school teachers.**

**Key words:** Critical thinking abilities, classroom management skills, high school teachers.

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## INTRODUCTION

Teaching in a classroom may be a quite challenging task for some teachers. Teachers take certain measures to create a meaningful learning environment. Some of the strategies include, but are not limited to having student-centered lessons, building a strong relationship with students, having clear expectations, and creating a positive learning environment. Spending time to learn more about the students, teachers may create quality and positive relationships with students. Teachers, who are unable to construct effective learning approaches in a classroom may have difficulty in engaging students in learning tasks. Quality teachers with strong teaching and communication skills need to be very skilfull in thinking skills to analyze, apply, synthesize, and evaluate information so that the students could be able to focus on learning, behave well, and establish relevance between the learned tasks and real life events.

There have been rapid changes in every aspects of teaching methods of teachers as a result of students' behavior and need. Since the acceleration of students' learning needs increases day by day, the necessity of qualified man power who could keep up with such changes has also increased (Şimşek and Altinkurt, 2010). One way to provide effective teaching for quality students is quality education, and the key for quality education could be provided by significantly qualified teachers. Besides having such teachers, the other impor-tant tools for quality education are effective classroom management and critical thinking.

Creating a classroom atmosphere is possible by effective classroom management. Several items such as students' attitudes towards teachers, lessons, and the school may form a positive classroom atmosphere (Ök et al., 2002).

Teachers need to know that teachers with effective thinking skills, students, classroom climate, and learning environment are main elements of classroom management (Bayrak and Eristi, 2005). As one of the main elements of classroom management, effective thinking skills may constitute a positive learning environment (Agaoglu, 2005). Teachers with good communication and thinking abilities may construct a healthy relationship with students and successfully manage their classrooms (Celep, 2002; Kısaç, 2002).

Teachers are the controllers of the environment and must insure the positive learning behaviors in schools (Wolfgang and Glickman, 1980). They are the ones, who first subject children to the discipline of their society (Chambliss, 1996). When students are taught to behave well, they will become, hopefully, well-behaved citizens (Farrell et al., 2001). There are many student behavior problems reported by teachers. Many teachers state that their students can be off-task, rude, unmotivated, and aggressive (Clement, 2002; Kaplan et al., 2002; O'Neill et al., 2001). They suggest that classroom management failures can result in physical aggression toward others, destruction of property, severe verbal noncompliance, and behaviors that are disruptive to the school or classroom setting. Classroom management includes the application of discipline practices and behavioral interventions (Evertson and Harris, 1999).

Classroom management refers to anything that would create effective student learning and positive student behavior in the classroom. When students misbehave, a quick and firm response may help solve the problem (Algozzine and Kay, 2002; McLeod et al., 2003). In some cases, teachers must take immediate actions to prevent behavioral problems in the classroom (Froyen, 1993). Responding to a student's problem behavior with assertiveness is crucial (Belvel and Jordan, 2003; Brophy, 1999; Zabel and Zabel, 1996). When implementing classroom management strategies, the responses of teachers should be consistent so that students are not confused (Algozzine and Kay, 2002; Harlan, 1996). Teachers' responses must provide corrective feedbacks and step-by-step directions to help students improve without labeling them (Fast et al., 2003).

Teachers model and highlight desirable student behaviors within a classroom management approach (Emmer and Stough, 2001). Most teachers have positive beliefs about their classroom management practices and carefully plan a positive classroom setting (Beaman and Wheldall, 2000; Simonsen et al., 2008). Teachers with strong skills prefer to use preventative rather than corrective approaches to manage classroom situations. Teachers' self-confidence and strong beliefs about their classroom management skills enable them to come up with preventative classroom management strategies and prevent inappropriate behaviors from occurring (Clunies - Ross et al., 2008). When educators deal with student misbehaviors, preventative measures are more effective than corrective ones (Simonsen et al., 2008). Preventative classroom management approaches, however, can be developed while teachers exhibit critical thinking abilities (Sugai and Horner, 1999).

It is important to accept that in this information and technology age, teachers have to reach to all students in order to provide effective teaching and create a meaningful learning setting. Quality teachers know that being effective educators in the classrooms requires understanding how students learn and develop over the time (Beşoluk and Önder, 2010). Teachers need to be open-minded and analytical thinkers so that they may be able to transform their knowledge, which support students' cognition and problem solving skills. Research suggests that critical thinking abilities of teachers positively affect students' academic understanding and help students engage in deep learning activities, which may seem more difficult and abstract for many students (Unal and Ergin, 2006). However, teachers may have different thinking abilities. In their research, Beşoluk and Önder (2010) found that most of the teachers (94.7%) had scored either average or low on critical thinking abilities.

The importance of developing someone's critical thinking abilities has increased in the past decade because these skills are core life skills (Smith, 2002). Critical thinking is considered as the highest level of mental activity. It enables people to engage in the processes of making decisions and planning work (Howie, 2011). Improving critical thinking abilities inside and outside of the classroom environment is important (McGuinness, 2005). Critical thinking encourages people to shape their personal opinions and attitudes with self-confidence instead of simply restating those of others by investigating issues from different perspectives and viewpoints with logically-reasoned arguments in order to persuade others. It is believed that critical thinkers are able to think and pursue truth by controlling their emotions and beliefs (McGuinness, 2005).

The results of critical thinking studies show that education and critical thinking must be parallel to achieve educational goals (Ozkan-Akan, 2003). Some studies suggested that some of the teachers lacked critical thinking abilities due to the deficiency of critical thinking abilities taught in college courses (Al-Qahtani, 1995). Ozkan-Akan (2003) asserted that teachers' perceptions affect the enhancement of students' critical thinking abilities either positively or negatively in classroom environment. Critical thinking abilities may enable individuals to solve personal and societal problems, thereby becoming more productive and effective citizens (Costa, 1998; Howie, 2011).

Schools need teachers, who are successful in class-room management and have critical thinking abilities to help students learn, engage, and elaborate in meaningful learning activities with high expectations. Researchers have acknowledged that teachers mainly have strong beliefs about their critical thinking abilities and such abilities play an important and active role in successfully implementing teaching and management strategies in schools (Dunn, 1988; Smith, 2002; Tengku, 1994). Improving learners' behaviors may largely depend on the teachers' critical thinking abilities as well (Dunn, 1988; Smith, 2002). However, teachers' perceptions toward classroom management and their lack of sufficient theoretical and practical knowledge of thinking skills hinders their ability to facilitate the learning process (Kowalczyk et al., 2012). Essentially, it is crucial to consider how much a teacher's classroom management skill and critical thinking ability have effect on the student's behavior and discipline (Stedman and Adams, 2012).

The ability of a classroom teacher in classroom management is a critical factor in order to control students' behaviors and have students focus on learning activities in any educational setting. If teachers do not have adequate classroom management skills, disruptive student behaviors and lost instructional time may be problematic over the time (Chambliss, 1996). Therefore, it is crucial to have teachers with strong confidence and beliefs in their classroom management skills so that they may be successful educators in providing meaningful learning (Evertson and Harris, 1999). In addition to classroom management skills, research suggests that classroom teachers need have effective critical thinking abilities to foster students' cognitive skills (Howie, 2011).

While literature is available about the relationship between students' behavior and effective classroom management, not enough is known about the relationship between teachers' classroom management practices and their critical thinking abilities. Available research about this topic has provided conflicting evidence about the relationships between classroom management and critical thinking abilities of teachers. Therefore, this study thus aims to explore the relationship between teachers' classroom management skills and critical thinking abilities.

In line with this aim, the following research questions were studied:

1. What are the beliefs of high school teachers about their own classroom management skills?
2. What are the beliefs of high school teachers about their own critical thinking abilities?
3. What is the relationship between high school teachers' classroom management skills and critical thinking abilities?

## **METHODOLOGY**

The study used a correlational design using a quantitative approach to investigate whether there was a relationship between classroom management skills and critical thinking abilities of high school teachers. It included non-random selection of participants, who were selected by convenience sampling method. The survey method has been used as research methodology. Survey method aims to describe the situations as how they exist in the past and present. Member checking was used for validity and reliability of the study.

### **Participants**

The quantitative study, which included non-random selection of the participants, was conducted with teachers in six high schools in Ankara, Turkey. All high schools were public schools and none of them were private or vocational schools. Survey instruments were conducted with teachers in their schools and then collected for data analysis. The study included non-random selection of the participants including high school teachers. A total of 212 high school teachers participated in the study to answer questions about their beliefs on classroom management skills and critical thinking abilities. The participants included 49% males and 51% females (Table 1). Teachers' teaching fields included math, science, literature, social studies, physical education, and foreign language teachers. They had 1-28 years of teaching experience.

**Table 1.** Percentages of genders participating in the study.

<b>Group</b>	<b>N</b>	<b>Percent</b>	<b>Cumulative percent</b>
Female	108	51	51
Male	104	49	100
Total	212	100	

## Data collection tools

This study includes two instruments. The *Classroom Management Ability Scale (CMAS)* developed by Nelson (1996) and adapted by Yalçinkaya and Tonbul (2002). The reliability of the original instrument was measured and coefficient alpha (Cronbach, 1951) was .88. This result showed that the instrument was reliable. The instrument includes 25 items with a five point Likert scale. All items of the instrument include positive meanings. The rating scale has five possible responses (1 = not observed, 2 = poor, 3 = average, 4 = good, 5 = very good). Prior to this study, the instrument was pilot tested with 89 high school teachers for its reliability, and the coefficient alpha (Cronbach, 1951) was .91. The second instrument used in the study was called the *California Critical Thinking Disposition Inventory (CCTDI)*. The instrument includes six different dispositions: Inquisitiveness, Open-Mindedness, Systematicity, Analyticity, Truth-Seeking, and Self-Confidence. It was developed by Facione et al. (1995) and adapted by Kökdemir (2003). The instrument has 51 items with a five point likert scale. The original instrument was reliable as the reliability coefficient of this instrument was .78. The instrument has five possible answers (5 = strongly agree, 4 = agree, 3 = neither agree or disagree, 2= disagree, and 1 = strongly disagree). Before this study was conducted, the instrument was pilot tested with 89 high school teachers for its reliability. After the analysis, the coefficient alpha (Cronbach, 1951) was .82.

## Data analysis

This study took place in six high schools. The participants of the study were given enough time to answer questions on the paper surveys in their schools. After data collection, the data set was imported into SPSS 20.0 for further analysis. The data were analyzed on the basis of arithmetic mean, standard deviation, paired samples t-test, and Pearson product-moment correlation coefficient. The beliefs of high school teachers about their own classroom management skills and critical thinking abilities were examined by paired samples t-test. The relationship between high school teachers' classroom management skills and critical thinking abilities was investigated by Pearson product-moment correlation coefficient. The findings of the data analysis were then examined based on the classroom management skills and critical thinking abilities of high school teachers.

## FINDINGS

In this section, the findings are presented according to the beliefs of high school teachers about their own classroom management skills and critical thinking abilities. In addition, the relationships between classroom management skills and critical thinking abilities of high school teachers were analyzed based on the mean scores on CMAS and CCTDI surveys.

When dispositions of CCTDI were analyzed, high school teachers scored different mean scores on each disposition (Table 2). High school teachers received the highest mean scores on analyticity (M = 3.52, SD = .44) and the lowest mean scores on truth-seeking (M = 3.35, SD = .45). They scored same mean scores on open-mindedness (M = 3.47, SD = .41) and inquisitiveness (M = 3.47, SD = .42). High school teachers had higher mean scores on self-confidence (M = 3.46, SD = .45) than systematicity (M = 3.41, SD = .42).

**Table 2.** Summary of ranges, means, and standard deviations on dispositions of CCTDI.

Group	N	Min-Max	M	SD
Analyticity	212	2,14-4,86	3,52	0,44
Open-Mindedness	212	2,5-4,5	3,47	0,41
Inquisitiveness	212	2,36-4,73	3,47	0,42
Self-Confidence	212	2,33-5	3,46	0,51
Truth-Seeking	212	2,29-4,86	3,35	0,45
Systematicity	212	2,254,75	3,41	0,42

Note. CCTDI = California Critical Thinking Disposition Inventory.

After analyzing data on the beliefs of high school teachers about their own classroom management skills and critical thinking abilities, paired samples t-test findings did not show any significant results (Table 3). The findings showed that high school teachers had higher mean scores on their beliefs on classroom management skills ( $M = 3.49$ ,  $SD = .37$ ) than critical thinking abilities ( $M = 3.45$ ,  $SD = .2$ ) with conditions,  $t(211) = -1.42$ ,  $p > .01$ . Although there was not a significant relationship between teachers' beliefs on their classroom management skills and critical thinking abilities, the mean scores showed that they had positive beliefs on both measures.

**Table 3.** Paired samples t-test results on mean scores between CMAS and CCTDI.

Group	N	Min-Max	M	SD	t	p
Classroom management skill	212	2,48-4,64	3,49	0,37	-1.42	0.16
Critical thinking ability	212	2,76-3,96	3,45	0,2		

Note. CMAS = Classroom Management Ability Scale. CCTDI = California Critical Thinking Disposition Inventory.

The Pearson's correlation analysis was conducted to set forth the relationship between high school teachers' classroom management skills and their critical thinking abilities (Table 4). There were some negative significant relationships among self-confidence and open-mindedness ( $r = -.17$ ) and truth-seeking and open-mindedness ( $r = -.14$ ). On the other hand, it was evident that there were positive significant relationships among open-mindedness and analyticity ( $r = .25$ ), inquisitiveness and open-mindedness ( $r = .17$ ), self-confidence and inquisitiveness ( $r = .28$ ), truth-seeking and inquisitiveness ( $r = .15$ ), and truth-seeking and self-confidence ( $r = .36$ ). Similarly, correlation analysis indicated some positive significant results among critical thinking ability total score and analyticity ( $r = .39$ ), open-mindedness ( $r = .49$ ), inquisitiveness ( $r = .65$ ), self-confidence ( $r = .41$ ), truth-seeking ( $r = .43$ ), and systematicity ( $r = .28$ ). It was concluded that there was not any significant relationship between teachers' classroom management skills and their critical thinking abilities ( $r = .05$ ).

**Table 4.** Correlation matrix between teachers' classroom management skills and critical thinking abilities.

Variables	1	2	3	4	5	6	7	8
Analyticity	1,00							
Open-Mindedness	,25**	1,00						
Inquisitiveness	-,04	,17*	1,00					
Self-Confidence	-,01	-,17*	,28**	1,00				
Truth-Seeking	-,04	-,14*	,15*	,36**	1,00			
Systematicity	,02	-,11	,00	-,11	,09	1,00		
Critical Thinking Ability (Total)	,39**	,49**	,65**	,41**	,43**	,28**	1,00	
Classroom Management Skill (Total)	-,07	-,03	,13	,11	,05	-,07	,05	1,00

\*\*Correlation is significant at the 0.01 level (2-tailed);\*Correlation is significant at the 0.05 level (2-tailed).

## DISCUSSION AND CONCLUSION

This study investigated the beliefs of high school teachers about their own classroom management skills and found that teachers had positive, but non-significant beliefs about their classroom management skills while providing instruction for high school students. Therefore, we may suggest that high school teachers have similar beliefs about their classroom management skills and critical thinking abilities. In their study, Beaman and Wheldall (2000) and Simonsen et al. (2008) found that teachers, who had positive beliefs about classroom management skills had similar beliefs about the critical thinking abilities as well. In similar studies, Dunn (1988), Smith (2002), and Tengku (1994) found that teachers, who employ strong beliefs in their critical thinking abilities, are problem solvers in their classrooms and obtain strong perceptions in their classroom management.

There was not any significant relationship between teachers' classroom management skills and their critical thinking abilities. The findings showed that the relationship between classroom management and some dispositions of critical thinking ability was negative and non-significant. These dispositions include analyticity, open-mindedness, and systematicity. Such results mean that teachers with effective classroom management skills may not be effective in analyticity, open-mindedness, and systematicity. In parallel study findings, Beşoluk and Önder (2010) suggested that although it was crucial to have teachers, who were analytical thinkers and open-minded in the classrooms, their results showed that most teachers had either average or lower levels of critical thinking skills. In similar research studies, researchers found that teachers may lack in some aspects of critical thinking abilities (Ozkan-Akan, 2003; Al-Qahtani, 1995).

Study findings indicated some positive and non-significant relationships between classroom management and some dispositions of critical thinking ability as well. The relationship between classroom management and inquisitiveness, self-confidence, and truth-seeking was positive. Therefore, these findings suggest that high school teachers, who have effective classroom management skills may also be effective in skills requiring inquisitiveness, self-confidence, and truth-seeking abilities. These findings have consistency with the findings of the study conducted by McGuinness (2005). He found that effective classroom teachers are self-confident as they seek the truth through their own perspectives and viewpoints with logically-reasoned arguments. In another study, Kowalczyk et al. (2012) found that there was a relationship between teacher's classroom management skills and critical thinking abilities.

The limitations of this study included the time and resource constraints which did not allow the researcher to obtain more data from different school settings. Such constraints limited generalizability of the study findings. In addition, the study was limited with high schools in municipality area of city of Ankara. The findings of the study point out the following recommendations. Efforts for the future research should build on this research with teachers in middle and elementary schools to test their beliefs about classroom management skills and its relationship with critical thinking abilities. In addition, future study should build on these findings by replicating data-informed results for teachers at different school settings.

The key findings and conclusion of this empirical research indicated that although high school teachers employed positive beliefs about their classroom management skills and critical thinking abilities, such beliefs were not significantly different from one another. High school teachers with positive and strong beliefs in classroom management skills are successful in providing effective teaching for students. Teachers having positive critical thinking abilities are found to be effective in teaching and helping students, who engage as active learners. The key results of the data analysis also showed that there was no significant relationship between teachers' classroom management skills and critical thinking abilities.

The non-significant results included both positive and negative relationships between classroom management and the dispositions of critical thinking abilities. The relationship between classroom management and inquisitiveness, self-confidence, and truth-seeking was positive. However, the relationship between classroom management and analyticity, open-mindedness, and systematicity was negative. It is vital for the leaders in education to understand that the positive relationship between classroom management and critical thinking abilities is beneficial for teachers' teaching practices and students' effective learning. Classroom management skills and critical thinking abilities promote teachers to provide effective teaching and create a meaningful learning environment while they effectively shape the processes of making decisions and planning work for students. Therefore, stakeholders in education need to take strong measures to help teachers increase their classroom management skills and critical thinking abilities. Especially, colleges and universities have to have quality educators, who could teach courses that promote critical thinking skills for teacher candidates as they will need such skills in real-world situations. For the teachers in the field, school districts should provide professional development, trainings, and seminars on classroom management and critical thinking abilities.

## **Conflict of Interests**

The author has not declared any conflict of interests.

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*Full Length Research Paper*

# The relationships between dimensions of writing motivation and reading comprehension

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**The purpose of the present study is to identify to what extent writing motivation can classify readers as good or poor comprehenders. The study was conducted on a total of 156 fourth graders studying at a state-run primary school in the center of Duzce, Turkey. The data were collected through the Writing Motivation Scale and the Mistake Analysis Inventory for Reading Comprehension. The participants' writing motivation and reading comprehension scores were subject to a logistic regression analysis. According to the logistic regression model, the students were less likely to be good comprehenders when they viewed themselves unsuccessful in writing. The findings suggest that reinforcement of their writing motivation will help students to construct meaning in a better way, or to become good comprehenders.**

**Key words:** Writing motivation, reading comprehension.

## INTRODUCTION

Students are taught how to read and write two crucial skills of the modern age, during their primary education. Therefore, numerous studies have been conducted on the connection between reading and writing, two skills that are taught simultaneously. Different variables have been the focus of such studies, including writing motivation (Troia et al., 2013; Troia et al., 2012), levels of reading and writing motivation (Mata, 2011), the correlation between reading comprehension and summarizing (Bensoussan and Kreindler, 1990; Gao, 2013), special practices for reading and writing development (Barackman et al., 1995), and writing achievement as well as the use of reading comprehension strategies (Kirmizi, 2009). A review of literature suggests that most of these studies on writing, reading comprehension,

motivation, and the use of strategies are descriptive and explore potential correlations.

Motivation involves one's beliefs, values, and objectives, and it directs his/her behaviors (Guthrie et al., 2012). It is significant that motivation could trigger action, as stated by Ryan and Deci (2000) in the following words: "To be motivated means to be moved to do something." Motivated students exhibit strong perseverance to overcome difficulties they may encounter during their school lives. When faced with a difficult situation, they do not get frustrated; instead, they are able to find out certain strategies or different types of support to handle it (Troia et al., 2012). Lowly-motivated ones, on the other hand, are reluctant to take action, and their intrinsic motives are weak (Ryan and Deci, 2000). Academic life

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is no exception in this respect. In fact, it is known that motivation has a great impact on student performance, particularly during reading-writing activities (Guthrie et al., 2012; Lam and Law, 2007). Students with high motivation to write generally have correspondingly high motivation to read (Mata, 2011). Research has demonstrated a close connection between reading motivation and reading comprehension (Lin et al., 2012; Schiefele et al., 2012; Yildiz and Akyol, 2011). According to Greene (1988), writing activities have a positive influence on reading comprehension. Similarly, Bensoussan and Kreindler (1990) argued that summarizing improves reading comprehension. All these suggest a circular relationship among reading, writing, and comprehension. Seeing that these three skills are intensively driven by motivational factors, it is significant to identify whether there is a predictive correlation between writing motivation and reading comprehension.

Reading comprehension, which constitutes the dependent variable for the present study, is of vital importance for students. Duke and Carlisle (2011) describe comprehension as the process by which meaning is constructed through written language and oral language. Nevertheless, writing is considerably different from reading and comprehension. The main difference between reading and writing is that the former involves constructing meaning out of a text whereas the latter is the expression of constructed meaning. In other words, a student cannot write about a given subject before he/she has constructed it as a meaningful whole in his/her mind. In addition to this cognitive aspect, writing also requires psychomotor and affective characteristics. Writing is decisively influenced, in particular, by such motivational factors as value placed on writing and the objective of writing (Mata, 2011). In reading, on the other hand, meaning construction is directly obtained from the text (Williams, 2005). However, the implication here is to derive a meaning out of the text which has a very large perspective since the concept of "text" also includes different elements such as writings, pictures and graphics. Moreover, readers also use their prior knowledge to derive a meaning (Akyol, 2006). Inasmuch as meaning stems from meaning construction out of writing or speaking (Duke and Carlisle, 2011), students need to activate the process of meaning construction for writing and then to write about constructed meaning. In this respect, writing requires more cognitive efforts when compared to reading.

The discussion above leads to the question as to the role played by writing motivation in reading comprehension. In other words, it is not clear enough whether writing motivation can be used for classifying students as good or poor comprehenders. Therefore, this work aimed at identifying the extent to which writing motivation can

help classify students by their comprehension levels in the present study.

## METHODOLOGY

This is a descriptive and explanatory survey. The dependent variable of this study has a binary/categorical value; therefore, the authors preferred to use Logistic Regression Analysis (LRA). LRA is a method that provides an estimated value of the response variable based on the explanatory variables/risk factors and that facilitates classification and assignment operations. LRA also provides the classification of the units based on the categories of the dependent variable regarding the effects of the explanatory variables and without asserting any assumptions of distribution (Özdamar, 2011, p. 571).

### Participants

The sample comprised 156 fourth graders who were aged between 10 and 12. They studied at a state-run primary school located in the center of Duzce, Turkey. Written consent was granted for data collection by the Provincial Directorate for National Education. In addition, informed consent was obtained from the students, and the data were based only on the volunteering students. Those students who did not agree to participate in the study were not included in the sample.

### Data collection and tools

The data were collected under the supervision of the classroom teachers. The teachers had already been informed as to the scale and the reading comprehension questions. The data collection tools were administered to the participants by the teachers. The students were told that this was not an exam but an ordinary procedure.

The students' writing motivation was measured through the Writing Motivation Scale, which was developed by Ozturk (2013). The scale contained five sub-dimensions, namely *positive attitude towards writing*, *possessed objective*, *loading failure to writing*, *sharing of writing*, and *effort to writing*. The instrument was measured with a five-point Likert type scale (options ranging from "Does not apply to me at all=1" to "Very much applies to me =5"). The factors of the original scale accounted for 54.27% of the total variance, and the original scale had a reliability coefficient of 0.81. The reliability coefficients of the sub-dimensions in the original scale are  $\alpha=79$  for positive attitude towards writing;  $\alpha=80$  for possessed objective;  $\alpha=82$  for loading failure to writing;  $\alpha=8$  for sharing of writing and  $\alpha=82$  for effort to writing.

The students' reading comprehension levels were measured via "Tolerance and Peace", a text suitable for fourth graders (Gumus, 2002). The text was accompanied by six open-ended questions that were intended for the collective measurement of literal and inferential comprehension. The responses to the comprehension questions were assessed through an Mistake Analysis Inventory (Akyol, 2006, p. 233). According to the inventory, the grading of the responses to the literal questions was as follows: 2 points for full answers, 1 point for incomplete answers, and 0 point for unanswered questions. As for the responses to the inferential questions, 3 points were awarded for full answers, 2 points for slightly incomplete answers covering much of the answer, 1 point for incomplete answers, and 0 point for unanswered questions.

The scores assigned to the answers to the literal and inferential comprehension questions were added together in order to generate an overall comprehension score for the students. The comprehension scores were listed in descending order. The classification of the students as good or poor comprehenders was based on the median, a value commonly used for such classification (Lau & Chan, 2003). The median for the present study was 6. Whereas those students with a score above the median were called good comprehenders, those with a lower score than the median were named poor comprehenders. The classification procedure yielded 88 good comprehenders and 68 poor comprehenders, and their data were analyzed.

## FINDINGS

First, descriptive statistics were revealed concerning the sub-dimensions of writing motivation. The statistics for the sub-dimension Positive Attitude towards Writing indicated that the students had high attitudes towards writing ( $m=4.04$ ,  $sd=0.79$ , and *range* from 1.00 to 5.00). As for Possessed Objective, the range was less wide, suggesting that the students had a clear objective of writing ( $m=4.52$ ,  $sd=0.54$ , and *range* from 2.50 to 5.00). The scores for Loading Failure to Writing were considerably low ( $m=2.28$ ,  $sd=0.98$ , and *range* from 1.00 to 5.00). The students did not view themselves as unsuccessful in writing, which positively contributed to their writing motivation. The scores for Effort to Writing implied that the students did make efforts ( $m=4.42$ ,  $sd=0.64$ , and *range* from 1.67 to 5.00). Finally, their scores for Sharing of Writing suggested that the students had an above-average tendency to sharing ( $m=3.68$ ,  $sd=0.93$ , and *range* from 1.00 to 5.00). The mean comprehension score was 5.63 ( $sd=2.24$  and *range* from 0 to 11).

Within the scope of the logistic regression analysis, the first thing to do was to look at the iteration history for the initial model, and the -2 Log likelihood value was 213.691 whereas the constant was 0.258. According to the classification data for the initial model, which did not include the predictive variables, the classification was correct by 56.4%. The chi-square statistic in the initial model, which only included the constant term, was significant ( $\chi^2\beta_0=20.461$ ,  $p<0.05$ ). This suggested that the coefficients for the predictive variables excluded from the model were significantly different than zero. In other words, the incorporation of the predictive variables into the model would enhance the predictive power of the model.

The next step was to look at the iteration history for the model into which the predictive variables were incorporated, and the -2LL value was 192.297. When the predictive variables were added to the model with the constant term, the -2LL discrepancy was 21.393 (213.691-192.297). This was a significant change. The

connection between the predictive and predicted variables was also supported by the omnibus test ( $\chi^2=21.393$ ,  $df=5$ ,  $p=0.001$ ). In the summary of the objective model, the Cox and Snell  $R^2$  was 0.128 whereas the Nagelkerke  $R^2$  was 0.172. The former value indicated that the incorporation of the predictive variables into the model would account for approximately 12.80% of the variance for the dependent variable. Afterwards, a Hosmer and Lemeshow test was performed, and the finding was as follows,  $\chi^2=10.016$ ,  $df=8$ ,  $sig=.264$  ( $p>0.05$ ). This insignificant value suggested that the model had acceptable fit; in other words, the model-data fit was satisfactory. Table 1 presents the subsequent classification.

The results of the analysis of the classification through the logistic regression analysis revealed that 37 of the poor comprehenders ( $n=68$ ) had been correctly classified while the remaining 31 had been wrongly classified. In other words, the students had been correctly classified by 54.4%. On the other hand, 19 of the good comprehenders ( $n=88$ ) had been wrongly classified whereas the remaining 69 had been correctly classified. In other words, the rate of correct classification for the good comprehenders was 78.4%. The rate of correct classification was 56.4% in the initial model. As for objected model the rate is 67.9%.

According to Table 2 one unit of increase in the predictive variable loading failure to writing led to a 50% reduction in the odds of being a good comprehender. The other predictive variables, on the other hand, did not have a significant influence on the dependent variable.

## DISCUSSION AND CONCLUSION

The present study attempted to identify the extent to which variables in writing motivation could classify students as good or poor comprehenders. The results of the analysis revealed that the students viewing themselves as unsuccessful in writing, or loading failure to writing, were less likely to be good comprehenders. When viewed in combination with the results of the similar correlative studies in the literature, the finding explains the predictive correlation between the two variables. Loading failure to writing suggests that the student has low writing motivation. This is considerably risky for students and could cause them to write less. Troia et al. (2013) also pointed out this, arguing for a positive correlation between writing activities and motivational beliefs.

Carretti et al. (2013) compared expressive writing of good and poor comprehenders in reference to different variables. They observed that poor comprehenders made more spelling mistakes. Furthermore, poor comprehenders were at a disadvantage in their efforts to write

**Table 1.** The classification table for the objected model.

	Observed	Predicted		
		Poor comprehender	Good comprehender	Percentage Correct
Step 1	Poor comprehender	37	31	54.4
	Good comprehender	19	69	78.4
	Overall Percentage			67.9

**Table 2.** Estimated coefficients for the variables in the objective model.

		$\beta$	S.E.	Wald	df	Sig.	Exp( $\beta$ )
Step 1	Attitudes towards writing	.156	.296	.277	1	.599	1.168
	Possessed objective	-.084	.409	.042	1	.837	.919
	Loading failure to writing	-.696	.197	12.488	1	.000	.499
	Effort to writing	.286	.331	.747	1	.387	1.331
	Sharing of writing	.028	.219	.016	1	.898	1.028
	Constant	.257	1.832	.020	1	.888	1.293

narrative texts. These findings suggest that writing is directly proportional to comprehension. This relationship is supported by the results of the present study as well as those of Carretti et al. (2013).

The correlation between writing motivation and comprehension, revealed by the present study, has one more aspect: reading. That is because comprehension entails effective reading. To explain this, Gao (2013) holds that meaning construction relies on an effective use of the cognitive processes of reading and writing. This idea of Gao's makes one better understand the finding of the present study that viewing themselves unsuccessful in writing may cause students to be less likely to be good comprehenders. On closer inspection, meaning construction appears to form the essence of both skills.

Lam and Law (2007) said that writing motivation influenced the writing performance. If this argument is generalized, it is found that motivational processes influence the professional performances of individuals. Then, the influence of writing motivation on reading comprehension can be demonstrated more clearly in the relation between writing and reading-understanding; since both of them include active cognitive processes along with regeneration. In reading context, "regeneration" is comprehending through meaning derivation while it is to sum up the proposition in the mind meaningfully and putting it into words in writing context. This kind of an approach to the relation between writing and comprehension might be helpful to understand it better.

Another aspect of the link between writing motivation and comprehension is observable in the process of setting objectives. According to Mata (2011), if students

have an objective for a given writing procedure, they will be able to maintain their writing motivation. Similarly, Swanborn and de Glopper (2002) maintain that having an objective for reading is a crucial factor in reading comprehension. Therefore, it can be argued that inability to set an objective for writing and reading could have a negative influence on students' attempts to construct meaning.

In conclusion, the findings of the present study actually point out two significant and direct factors in meaning construction, namely ability to sustain motivation and to set an objective. That is because highly-motivated children also have an objective. Therefore, students should be encouraged to move towards an objective not only at school but also at home. That is because, as mentioned above, it is easier to construct meaning out of purposeful reading comprehension and writing activities. In other words, it is almost impossible for students to construct meaning when they are faced with a reading comprehension or writing activity for which they do not have an objective. Furthermore, students should be enabled to keep their writing motivation dynamic through various writing activities.

In addition, if individuals see themselves unsuccessful at a practice or have this kind of expectations, their interaction with that practice will probably get weaker. Thus, if students get distant from writing and develop a negative attitude towards writing, they will possibly have a limited interaction with writing practice. Another meaning of this situation is that the skill of "regenerating thoughts and structuring through meaning derivation", which is created by writing activity, will be used less. Any

skill that is rarely used will get weaker in time. This situation implies the “Matthew effect” in reading suggested by Stanovich (1986). Is this effect also seen in writing, too? If our answer is “yes” it is necessary that students are positively motivated all the time to prevent them from considering themselves unsuccessful.

This study has some limitations. First of all, the study sample included only the fourth grade students. Secondly, the reading comprehension scores are limited to those obtained from the texts used in the study. Moreover, the collected data are limited to the writing motivation levels of the participant students since their motivational characteristics easily vary according to their individual traits. Therefore, the generalization of this study’s outcomes needs special attention. Further studies considering different variables related to students such as age, gender, socio-economic and socio-cultural variables will be helpful for attaining more generalizable outcomes.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# Historicizing teaching in Awgni as a mother tongue language at primary schools of Awi Nationality Administrative Zone: Challenges and implementation

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This study examined the challenges facing the teaching as well as the implementation of Awgni as a mother tongue language in primary schools of Awi administrative zone. The need to teach through mother tongue in Ethiopia was widely discussed following the change of the politics in 1991. To this end, the government issued new education and training policy since 1994 in which nations and nationalities provided with the right to learn in one's own language at primary schools. The change in language policy ensures the equality of the languages that nations and nationalities use as medium of instruction at primary schools and tools for preservation of cultural identity. Some writers considered it as the era of language revival. Awgni is one of the nationality languages widely spoken in Awi Nationality Administrative Zone. Though Agaw language has long history in Ethiopia, Awgni (one sect of the Agaw) was confined to rural and pocket lands of Agew Medir and Metekel areas. Years back, the Awgni language had never been in written use and traditionally considered as the language of the non-educated society. The implementation of the Awgni as the mother tongue education in Awi Administrative Zone started in 1996 at five primary schools, one pilot school in each woreda. A year later, teaching in Awgni as medium of instruction was put into practice throughout all primary schools where Awgni is dominantly spoken. The findings of this study show that teaching through Awgni was followed by a wave of parents', students' and teachers' resistance against using Awgni as medium of instruction at primary schools. The resistance was emanated from various sociolinguistic myths irrespective of its pedagogical advantage. The five pilot schools, which were pioneer for implementation of Awgni as medium of instruction, were selected for this study. Wide ranges of primary and secondary sources were consulted. Parents, students, teachers and educational experts who contributed to the implementation were interviewed. The sources are critically collected, scrutinized and then analyzed. The validities of the sources are cross-checked against each other.

**Key words:** Mother tongue, medium of instruction, challenges and implementation.

## INTRODUCTION

### Background of the study and the sociolinguistic pattern of the Awi Nationality Zone

The debate about teaching through mother tongue continues being the core of conversation among

educators. The discussion has moved into social and political agendas. Though the term 'mother tongue' is familiar in conceptual framework, it is better to go through scholarly definitions to avoid misunderstandings and confusions. To begin with, Wanger (1995) and Poth,

(1980) defined mother tongue<sup>i</sup> as “the language spoken from the cradle, the language of one’s parents, the language one first uses after birth, the language one thinks in or the language used at home.” Dyken (1990) also defined it thus, “mother tongue is the language which a child speaks fluently before going to school”

Educators encourage the use of the mother tongue as medium of instruction for pedagogical advantage. Accordingly, children are advised to start their primary education through a language that they learn first and usually speak best (Rubin and Jernuadd, 1971; Bamgbose, 1976). They argued that effective language use determines the quality of education because successful communication between students and teacher avoids confusion and misunderstanding of concepts, meanings etc.

On the contrary, the others argued against the use of the mother tongue language as medium of instruction. They argued that the difference in language could have an adverse effect on national unity. For instance, Mahatma Gandhi, the inspirational leader of India opposed the use of mother tongue based education where he feels that difference in the medium of instruction aggravates ethnic division and weakens the potentials of national unity against colonialism (Melaku, 2004: 23; Daniel; 2008: 15).

Though the argument is fascinating, the use of mother tongue language facilitates the pedagogical progress of the students. The move to teach in one’s own language received the greater attention after the end of the Second World War (WW II). UNESCO widely discussed the multifaceted advantages of teaching in mother tongue and recognized its use as the medium of instruction at elementary schools in 1953. In the meantime, it passed the following resolution.

*Pupils should begin their schooling through the medium of the mother tongue and that the use of the mother tongue is extended to as a late stage in education as possible (UNESCO, 1953).*

Some multilingual Latin American and Asian countries introduced mother tongue based education in 1980s. Philippines, Bolivia, Peru, etc are using several ethnic languages as medium of instruction. In Africa, the move to introduce mother tongue education has the recent age because of the fact that African children were let to learn in colonial languages. It is true that the European colonization of Africa had degraded its indigenous cultural identity (Curtin et al., 1996:469) and Africans were forced to attain education through foreign languages. The question of implementing mother tongue

language as medium of instruction was one of the big challenges for post independent African educator because of the legacy of the European colonization. Some African countries such as Kenya, Guinea, Ghana, Zambia and South Africa adopted mother tongue education (Rassooletal, 2006:54) hoping to repair the old African culture, language and ethnic identity. The use of the mother tongue language is beyond facilitating achievements in education. Language is used to preserve the unique indigenous knowledge. The death of language leads to the decline of indigenous knowledge.

Ethiopia, home of multilingual was politically independent state in Africa and its language is not affected by the colonial legacy. However, it had been dependent on the foreign languages since the introduction of the modern education in the first decade of the twentieth century. Foreign languages such as French, Arabic, English and Italian were serving as the medium of the instruction at primary schools (Marew, 2000; Pankhurst, 1962).

Like what was in many European colonies of Africa, the Italians embarked on the implementation of their languages as medium of instruction, from 1936-1941 during its five years occupation of Ethiopia. After 1938, they made the radical shift in language policy and few Ethiopian languages were used as the medium of instruction in primary schools of their six administrative units. Accordingly, they were Tigregna and Arabic in Eritrea, Amharic in Amhara, Amharic and Afan Oromo in Addis Ababa, Harari and Afan Oromo in Harari, Afan Oromo and Keficho in Oromia-Sidama and Somali in Somalia (Pankhurst, 1974). However, what is to be noted here is that Italians designed this curriculum to check their “divide and rule” policy, established along the ethno-linguistic line.

After liberation, the language policy was changed; Amharic got the privilege and was made the medium of instruction (Tsega, 1999; MOE, 1985). Similarly, the military regime (1974-1991) continued using Amharic as the tool of communication in Ethiopian schools. In its education policy, the government of Derg was able to use fifteen nationality languages such as Amharic, Afan Oromo, Wolayta, Somali, Hadya, Kembata, Tigrinya, Tigre, Sidama, Gedeo, Afar, Kafa-Mochigan, Saho, Kunama and Silti (Getachew and Derib, 2006:47) for education purpose during its literacy campaign.

The change of the Ethiopian politics in 1991 marked the shift in language policy. The question of the nationality languages has been one of the political agenda in the post Derg regime. The resulting statement is that the government radically changed the language policy and recognized nations and nationalities of

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Ethiopians to use, develop and learn in their own language. Some writers considered the action of the state as an era of language revival. It was said that the government introduced mother tongue based education for pedagogical purpose and in response to rights of its nations and nationalities to develop and preserve their respective culture and language. Accordingly twenty nationality languages including Amharic were decided to serve as the medium of instruction in primary schools. Among these nationality languages, Awgni which was formerly neglected got the constitutional recognition. Accordingly, Awgni language is the medium of instruction in the primary schools of newly structured Awi Nationality Administrative Zone.

Awi is one of the nationality zones among the three nationality zones of Amhara National Regional State. Awi Nationality Zone is named after the language of its people, Awgni. According to the linguistic classification, Awgni is part of the Agew language under central Cushitic. Historical sources indicated that the Agew language is one of the oldest languages in Ethiopia which had once been widely spoken in northern part of the country (Tsehay, 1977; Hetzzone, 1969; Sergaw, 1972). Scholarly works show us that the Agew language speakers were forced to give up their initial base, northern Ethiopia because of the politico-religious and economic influence of the Semitic speaking people and as a result, the Agews split into various pocket lands of the country. One branch of the Agew (the subject of this study) left for Gojjam<sup>1</sup> and settled in what is today's Awni Nationality Administrative Zone and some parts of Metekel Zone.

Different writers had mentioned the people of Awi by various names such as "Awiya, Southern Agews", "Awawka" and "Damot Agews." The need to select the appropriate and historical name was widely discussed in series of the conferences during the foundation of the Awi Nationality Zone in 1990s. In the meantime, historians and elders attended the symposium. At the end, Awi got the acceptance and was made to represent the people. Informants<sup>2</sup> stated that before 1991, the scope of the Awgni language was limited to rural areas and it was usually considered as the language of the "non-educated and rural people." There had been conditions where educated Awi were denied their origin [Awi], not to be seemed "rural origin" and speaker of the "non-educated society."

## Objectives of the study

The general objective of this study was to explore the

<sup>1</sup> The oral sources are against of this argument and they traced the coming of the Awi people directly from Lasta who were said to be seven in number and primarily came there for hunting and collecting natural resources.

<sup>2</sup> Interview with: Yewew Dessalegn, Sewunet Ambay and Worku Abebe, interviewed on 10/5/2013

challenges, dilemmatic and debatable issues faced during the implementation of Awgni language as a medium of instruction in primary schools of Awi Nationality Zone. The specific objectives were,

1. Evaluating the process of the implementation of Awgni as mother tongue education.
2. Identifying the major challenges and dilemmas faced during the implementation of Awgni language as medium of instruction at the expense of quality education.
3. Discussing sources of parents', students' and teachers' resistance against teaching in Awgni.
4. Investigating the debatable issue on the fate of Awgni language after grade six and its implication on the quality education.

## RESEARCH METHODOLOGY

The qualitative research methodology was employed as an appropriate method to obtain reliable and relevant information for this study since it is essential to collect data about the particular issue in time with the intention of describing the nature of existing conditions or determining the relationship that exists between specific events. In addition, qualitative method helps to understand historic processes and human experiences which took place in specific time setting. Accordingly, the reason why the researcher has employed qualitative method as the main research method is the nature of the research problem and research questions.

In this study, both primary and secondary sources of the data were used. This includes key informant interviews, focus group discussions, document analysis and other sources of data. The applicability of some of the data collection instruments is discussed as follows.

### Key informant interviews

Unstructured interviews were carried out with the intention of collecting the needed data for this study. The researcher had conducted face-to-face interviews with parents, teachers, and educational experts. The selection of the key informant was made based on their nearness and knowledge to the issues. Teachers, students, parents, zonal and woreda education experts who were main actors in the implementation of Awgni as mother tongue education were extensively interviewed.

### Focus Group Discussions (FGDS)

Focus group discussions with six to eight discussants in each group were carried out on different issues such as the process of the curriculum preparation, challenges facing teachers and students, reasons for teachers and students' resistance against teaching in Awgni as mother tongue education, parents' attitude towards the use of Awgni language and the like. These discussions involved unstructured and generally open ended questions. The selection of the discussants was made based on their nearness and knowledge of the particular issue, duties and responsibility.

### Document review and analysis

During the process of research, the researcher reviewed related literature about teaching through mother tongue language and

experience of other countries. In addition, letters, reports, newspapers, articles, research papers, minutes, diaries, documentary films and other manuscripts were consulted from Awi Nationality Administrative Zone education department, woreda offices and former five pilot schools. The written documents are cross-checked against the oral sources.

Finally, the data collected through different methods have been carefully examined, cross-checked, analyzed and interpreted in order to produce meaningful study.

**RESULT AND DISCUSSION**

**The process of the implementation of Awgni as a mother tongue education**

The right to teach in one’s own language, preserve cultural and linguistic identity is one of the salient feature of the 1995 constitution. After the collapse of the Derg regime in May 1991, the EPRDF government swiftly shifted the image of Ethiopia from socialist based military rule to ethnic federalism. In line with this, the introduction of the mother tongue education for divers nations and nationalities of Ethiopia was put into practice. To this end, *committee* was founded at national level in *Hamile* 1983 (July 1991) whose task was identifying nationality languages and facilitating the works of the translation (Abebe, 2012: 38). In the meantime, the committee identified twenty two nationality languages including Amharic. Among these languages, Awgni moved one step forward and promoted to the language of education for the Awgni speaking students for the first time ever in its history.

Though teaching through mother tongue language was put into practice in some regions such as Tigray, Oromia, Wolayita and Sidama (Southern Nations Nationalities and Peoples) since 1991/2 (Ibid), the fate of the Awgni language was delayed until 1996. It was said to have delayed because of the two main reasons. In the first place, the issue of the language equality [Awgni] had not been the sensitive, hot and urgent issue among the people of Awi in the then time. This was because of the fact that the Awgni speaking people are culturally intermingled with Amharic speaking society through marriage, *mahiber* (religious based association), *Idir* etc, which create fertile ground for acculturation, preventing socio-linguistic complexity. Secondly, as the language had not been in written use before, it takes time to make necessary preparation.<sup>3</sup>

It was in April 1995 that the need for using Awgni language as medium of instruction at primary schools was officially discussed in Awi Nationality Zone. The Awi Nationality Zone held symposium in its seat Injibara where educated Awgni speaking individuals from various parts of the country were invited to attend. In the meantime, the decision was reached to use Awgni as a

medium of instruction in coming September (Dessalew, 2002:55-56). However, no Awgni speaking elders were invited to attend the conference, rather it was dominated by zonal and woreda experts.

Soon, committee (twelve in numbers) called *ልዩ የትርጉም ግብጪ ህይል* (special translation task force) was established in April 1995.<sup>4</sup> The task force (B.A and M.A) holders from language, social and natural science fields of study were assigned to prepare curricular materials, develop scripts and alphabetical rearrangement, and translate textbooks from Amharic into Awgni.

The time given to accomplish such academic task was, however, not more than six months and very speedy preparation was made. The task force was disappointed with the time given for preparation and they stated it as follows:

*የትርጉም ስራውን ለማክናወን፤ ሥራዓተ-ትምህርቱን ለማስተዋወቅና ለሌሎችን ተዛማጅ ሥራዎች ለማከራት የተሰጠን ጊዜ በጣም በቂ አልነበረም። ቋንቋው ከዚህ በፊት በጽሁፍ አግልግሎት ያልዋለ ስለሆነ በትርጉም ስራና በቋንቋ ማሳያ ስለምንከራከር ምንምሳን ስራ ቀኑ ያልፋል።*<sup>5</sup>

*The time given for translation, introducing the curriculum and undertake related activities was too enough. As the language had not been in written service before, there is debate on word selection and translation and hence, the day left.*

In addition, no training was given for task force on how to translate the textbooks and prepare curricular activities. Lack of experience and absence of training is criticized for its poor quality of the first copies of the textbooks. As the textbooks were the direct translations of the Amharic, examples, pictures and illustrations were not considered in the indigenous Awi culture. For instance, place names and cultural aspects were not included under examples, pictures and illustrations, which enable learners to associate the learning aspects to their existing environmental and socio-cultural realities.

Hastily, the task force developed the scripts and orthographies. Though the ministry of education recommended Latin scripts for Cushitic languages in 1991 (Smith 2008: 222) they choose the Amharic script, similar to geez and Tigregna. This was probably; the task force may not be informed with the recommendation of the ministry of education or it may be purposefully done because of some similarities in sound formation with Tigregna words.

Accordingly, two new letters which are not found in the table of the Amharic alphabet are added. These are “h” and “ኻ”. The former is borrowed from the Tigregna letter, while the latter is newly created by modifying Amharic letter “ገ”. In addition, “ኸ” and “ፀ” are directly taken from

<sup>3</sup>Interview with Yenew Dessalegn, Tesfaw Ayenalem and Asfaw Getnet, interviewed on 22/05/2013

<sup>4</sup> Archive from Awi Zone Education Department, Folder No. 92(01), File No. 01.

<sup>5</sup> Interview with Aynalem Wolie and Asfaw Getnet, interviewed on 30/05/2013

the Amharic letters, but their sounds is not similar to Amharic. The newly published Awgni-Amharic dictionary states these letters as follows:

--- በአሜሪኛ የፊደል ገበታ የሌላ ሁለት ፊደላት [የተጨማሪ] “ከ” እና “ኸ” ሲሆኑ በአሜሪኛ የፊደል ገበታ ላይ ያሉት “ኸ” and “ፀ” ደግሞ በአሜሪኛ ከሚገኙት ደምፃ የተለዩ ደምፃ ይኖራቸዋል (Yeshwasetal, 2001: ii)

--two letters “ከ” and “ኸ” which are not usually found in the table of the Amharic alphabet are added, while the other two letters “ኸ” and “ፀ” already existed in the Amharic alphabet gives different sounds unlike.

In addition, the Amharic alphabetical orders are modified. Accordingly, “ሰ” appears first instead of “ሀ” and followed by “ከ” and “ኸ”. “ሀ”, the first letter in the Amharic alphabet appears last in Awgni alphabet. The alphabetical order of the Awgni letters is presented in Figure 1.

The reason why “ሰ” appears first is that it frequently appears in Awgni language. Moreover, an Awi child first begins speaking calling letter “ሰ” because it is easy during sound formation. On the contrary, the frequency of “ሀ” in Awgni language is the least. The other reason why the rearrangement first started with “ሰ” and then followed by “ከ” “ኸ” and so on is that it is easy to educate a child from simple to complex<sup>6</sup>. Thus, a child can simply write letters from “ሰ” to “ከ”, “ኸ” etc.

The other issue which was considered during curriculum preparation was that some Amharic letters such as “ቀ” “ሰ” “ጸ” & “ጸ” which existed in Amharic alphabet are omitted. There are no such plosive sounds in Awgni language. For instance, the Awgni mother tongue speaker cannot pronounce “ቀሰሌ” instead; he/she says “ከሰሌ.” Generally, the Awgni mother tongue speakers could not pronounce words such as “ሰቀሌ” “ሰለጠ” “ቁርሰ” “ሰቆሎ” etc.

In addition, letters which repeatedly occur in Amharic alphabet such as “ሀ” “ሐ” & “ኀ” “ሀ” & “ሰ” “ከ” & “ፀ” are made to appear only once. Thus, “ሐ” “ኀ” “ሀ” and “ፀ” are discarded. According to the informants, this was made not to confuse the child and letters which are easy for writing are chosen.

Teaching through Awgni started since September 1995 at five pilot schools, one elementary school in each woreda i.e, Kibi primary school (in Guangua), Qidamaja primary school (in Banja Shiqudad), Singuri primary school (in Dangila), Gazahara primary school (in Fagita Lekoma) and Urana Primary school (in Ankesha)<sup>7</sup>.

To this end, three teachers from each pilot school were selected and given training from 11-20 September 1995 at Dessie Teachers’ Training Institute.<sup>8</sup> The training which

was given only for ten days focused on the methodological aspects instructed. However, the training brings very little or no significant change in their teaching profession. This was because the languages that they received training and used for teaching never match, English and Awgni respectively. As a result, they were confused with local words, terminologies and even reading the textbooks, which matter to quality education.

A year later, 1997/98 teaching through Awgni was fully implemented at sixty-five Awgni speaking primary schools; 8553 students were allowed to learn through their mother tongue language and one hundred twenty teachers were assigned to teach.<sup>9</sup> Side by side, Amharic continued to serve as medium of instruction for Amharic mother tongue and the Gumuz children. The Gumuz communities settled in the lowland areas of Awi Nationality Zone such as Zigem, Jawi, Enabara and Wara-Daban (Alemayehu, 2012:167) are made to educate in Amharic. On the other hand, Amharic and Awgni are given as an independent subject for Awgni and Amharic mother tongue students since grade three respectively.

However, teachers were allowed to teach in Awgni without given any training. Though they were fluent in Awgni language, they were confused with reading, selection of the appropriate local words and terminologies. As a result, they lost their confidence and the issue of the quality became under question mark. Teachers who had the lion-share in checking the quality of education were under dilemma because of the multidimensional challenges.

The growing number of the students from year-to-year caused the shortage of the Awgni speaking teachers. When the issue became the critical problem, students who were drop out from 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> grades and 12<sup>th</sup> completed during 1991 political upheavals were recruited and let to teach in Awgni language. The recruitment process considers mainly the grade level of the candidates rather than their performance<sup>10</sup>. Though it radically reduced the number of the unemployed, it left its own implication on the quality of education. Most of them have been separated from education life (eight to ten years) and recruited regardless of their academic performance. In Addition, they were let to teach after very short days training.

Hoping to check the quality of the education and attract the public attention, radio education was started in September 2004. Accordingly, lessons of grade one and two environmental science (ዙሪሜ) started its actual work in October<sup>11</sup>. The informants stated that the beginning of Awgni program in education surprised parents, students

<sup>6</sup> Interview with Ayenalem Wolie, Asfaw Getnet and Molla Kindie interviewed on 28/05/2013

<sup>7</sup> Archive from Awi administrative zone Education Department Folder no. 92 (01), File no. 02.

<sup>8</sup> Interview with AynalemWolie and Tesfaw Aynalem, interviewed on 3/06/2013

<sup>9</sup> Awi Administrative Zone Education Department, General Report of Education sector from 1987-2004.

<sup>10</sup> Interview with AynalemWolie, Asfaw Getnet and Tesfaw Aynalem, interviewed on 02/06/2013

<sup>11</sup> Archive from Awi Zone Education Department, Folder Number 51, File Number 01.



አው-ጊኩ			ፊዴልካ		
በ	ቡ	ቢ	ባ	ቤ	ብ
ከ	ኩ	ኪ	ካ	ካ	ክ
ኸ	ኹ	ኺ	ኻ	ኼ	ኽ
ቨ	ቩ	ቪ	ቫ	ቼ	ቾ
ሰ	ሱ	ሲ	ሳ	ሴ	ሶ
ሸ	ሹ	ሺ	ሻ	ሼ	ሽ
ለ	ሉ	ሊ	ላ	ሌ	ሎ
ገ	ገ	ጊ	ገ	ጊ	ገ
ኘ	ኙ	ኺ	ኻ	ኼ	ኽ
ነ	ኑ	ኲ	ኳ	ኴ	ኵ
ተ	ቱ	ቲ	ታ	ቲ	ታ
ቸ	ቹ	ቺ	ቻ	ቼ	ቾ
ረ	ሩ	ሪ	ራ	ሪ	ራ
ፈ	ፉ	ፊ	ፋ	ፈ	ፎ
ፀ	ፁ	፲	፱	፳	፴
ወ	ወ	ዐ	ዐ	ዐ	ዐ
ቸ	ቹ	ቺ	ቻ	ቼ	ቾ
መ	ሙ	ሚ	ማ	ሚ	ሚ
የ	የ	የ	የ	የ	የ
ደ	ደ	ደ	ደ	ደ	ደ
ጀ	ጀ	ጀ	ጀ	ጀ	ጀ
ዘ	ዘ	ዘ	ዘ	ዘ	ዘ
ጥ	ጥ	ጥ	ጥ	ጥ	ጥ
ኘ	ኘ	ኘ	ኘ	ኘ	ኘ
ሀ	ሀ	ሀ	ሀ	ሀ	ሀ

Figure 1. The alphabetical order of the Awgni letters. Source: Awi Nationality Administrative Zone Education Department.

and teachers and hence, it played its own role in changing their attitude towards teaching in Awgni language.<sup>12</sup> The program was said to have served as the moving spirit behind parents to send their children to school. The program has left positive role in breaking the negative attitude of the community towards teaching in Awgni and students were eager to attend the radio lesson. In order to consolidate the radio education, an

attempt was made to shift its center from Bahir Dar to Injibara. The building which costs 358, 533.70 Ethiopian Birr donated by Ethiopian Full Gospel Believers Church Organization was constructed.<sup>13</sup> However, the radio education collapsed shortly after months of service.

By now, Awgni is taught as the medium of instruction in about 227 primary schools and the numbers of the students are growing in alarming rate (Abebe, 2012: 70).

<sup>12</sup>Interview with Aynalem Wolie, Molla Kindie and Asfaw Getnet, interviewed on 06/06/2013

<sup>13</sup>Archive from Awi Zone Education Department, Folder Number 51, File Number 01.

**Table 1.** Some of the controversial terminologies during the translation.

Lowland Awgni speaking words	Highland Awgni speaking words	Equivalent English word
ኩንጊ	ፕሪ	Jumping
ዲኩዊ	ድሰት	Stove (?)
ሳፊቲ	ውፍቺ	Tuesday
እንጂና	ፋሌንጋ	Later
ጉሲሲ	ዝላኒ	Whip
አቲቢ	ጎርኸ	Hoi
ከራሪ	ሲቺ	Grass use for roof cover
ኩናኩኒ	ስቤታዊጊሊ/ዝላናእንጅጊ	Farming tools
ሰጋ	ኩከሪ	Lower
ካንታባይ	እከባኒ	<i>Migud</i> (?)
ከሳሪ	እርኩት	Yoke

By 2006/7, training teachers in Awgni language (certificate) started at Debre Markos College of Teachers Education. In June 2001, the Awgni program was separated from Debre Markos and shifted to Injibara aimed at training teachers in Awgni language for primary school.

**Progress of the implementation: Challenges and debatable issues**

Resistance against the use of their mother tongue language as medium of instruction was common in most parts of post independent Africa, in favor of colonial languages. For instance, in Nigeria, fluency in English is considered as the symbol of “literacy” (Abebe, 2012: 73). The same was true in Awi Nationality Zone since traditionally, the Awgni speaking society had been regarding fluency in Amharic as “civilization.”

Challenges, dilemmas and debatable issues for the implementation of Awgni as mother tongue education encountered during the early stages of the preparation. There was confusion and ambiguity among the translators in translation, selection of the appropriate teaching terminologies and local words. One of the serious challenges during the translation was disagreement between task force on the selection of terminologies and dialects spoken in the lowland (Zigem and Guangua) and highland (Injibara, Ankehsa and Fagita) Awi. Some of the controversial terminologies during the translation are given in Table 1.

The final agreement favors the lowland Awgni terminologies because of the assumption that they are original. As the lowland Awgni speaking people had relatively less interaction with the Amharic speaking, they are believed to keep the originality.

There was serious teachers’, parents’ and students’ resistance against teaching in Awgni. The identity crisis among teachers was one of the challenges faced during

the first few years of the implementation. Teachers denied their ethnic identity [Awi] and consider themselves as Amharic speaking which they purposefully did not teach in Awgni language<sup>14</sup>.

There were various reasons why teachers refused to teach in Awgni. In the firstly place, historical legacy of Amharic over Awgni created socio-linguistic complexity. This is speaking in Awgni, had been formerly considered as an indication of illiteracy and rural people. This mentality caused the identity crisis. Secondly, teaching through Awgni became very complex task. As many of the teachers were allowed to teach in Awgni after very short days or no training, they were faced with problems in reading the text books, understanding the concepts, explaining concepts, writing in Awgni language, selecting the appropriate words and method of teaching in Awgni (Dessalew, 2002: 77). Thirdly, teachers denied being Awi because of the better advantage for working place. If a teacher was identified as Amharic speaker, he/she would be placed in towns where Amharic is spoken as mother tongue. On the contrary, the Awgni speaking teachers were placed in remote and rural areas.<sup>15</sup> A letter from one of the school director states the resistance of the teachers like this:

*የአወጂ ቋንቋ ይችላሉ ተብለው የተመደቡ መምህራንንም እንችልም በማለት የሃሰት ምክንያት በአወጂ ለማስተማር ፈቃደኛ ያለ መሆን፡፡<sup>16</sup>*

*Those teachers who are assigned to teach in Awgni are not willing under the pretext that they are do not speak Awgni.*

Under such condition, selecting Awgni speaking teachers became dilemmatic issue for school directors, woreda and zonal education experts. Forcing the teachers to

<sup>14</sup>Interview with Aynalem Wolie, Tesfaw Aynalem and Asfaw Getnet, interviewed on 22/05/2013

<sup>15</sup> Interview with Asfaw Getnet, Aynalem Wolie, interviewed on 26/05/2013

<sup>16</sup> Archive from FagitaLekomaWärada Education Office, Folder no. 19, File no. 3.

teach in Awgni at the expense of their interest and performance puts quality of education under dilemma. Evidence obtained from *Chigualy* primary school (Fagita Lekomaworda) shows that because of the unwillingness of the teachers, only one teacher was said to have assigned to teach 260 students in one section.<sup>17</sup> So, breaking the negative attitude of the community towards the use of Awgni language was one of the major challenges.

In addition, there was strong resistance of the parents against teaching in Awgni. They were disappointed with their own language because of their firm interest to make their children fluent in Amharic (Dessalew, 2002: 93) and had been discouraging them like this ደግሞ በአወጃ በምትማረው ቀርተህ ከብቶችን ጠበቅልኝ! (Please do not go to school! instead keep the cattle, your education never bothers me because you are learning in Awgni). When parents were asked, they replied; አወጃ ለመጥ አስተማሪ አያስፈልጋቸዎም ምክንያቱም እቤት ተምረዋል (no need of teacher to learn Awgni because they learned it at home).

There were several reasons why parents neglected teaching through Awgni. To begin with, they feared that their children could face the communication problem when they go to university, college and other places outside Awi zone. In addition, traditionally, they consider speaking in Amharic as literate. Moreover, they worried that the fate of their children could be similar to them because Awgni is not the working language in the zone and its speakers could not express their grievances and feelings (Dessalew, 2002: 92). Better income family, teachers and head officers relocated their children to neighboring schools and towns where Amharic is the medium of instruction.

Teaching through Awgni was swiftly put in practice before considering the interest of the students, parents and training teachers. Parents who have the big responsibility in checking the quality of education were not consulted and invited to attend the zonal conferences. There should have been awareness creation on the advantages of teaching through Awgni.

The bilingual families<sup>18</sup> were not happy to see Awgni as the medium of instruction. The issue had been hot particularly in Injibara town. Parents collected the petition complaining against Awgni. In response, the zone education department sent committee to check whether their children are Amharic or Awgni mother tongue. When their children are proved to be fluent in Amharic, it became medium of instruction at Injibara primary school. However, this news became a bad model for others because they claimed the same question and expressed their grievances. The zone refused to receive any complaints regarding teaching through Awgni. The issue of the language choice had been a debatable point during

2005 national election.

Students were disappointed with the use of Awgni as medium of instruction at the expense of pedagogical advantage. Though learning through mother tongue helps students to understand the concepts easily and prevents communication barrier (Daniel, 2008:14) the Awgni mother tongue students were eager to learn in Amharic. In addition, learning through one's own language helps to maintain cultural values, ethnic identity and being aware of the environmental protection (Getachew and Derib, 2006: 50-51).

The fate of the Awgni language after grade six was one of the controversial issues between Awi Nationality Education Department and Amhara National Regional State Education Bureau. The issue became critical in June 2002 because students who attended five pilot schools completed grade six and it needs immediate resolution. The zone wanted to make English medium of instruction for grade seventh and eighth for Awgni mother tongue students, while bureau favors Amharic. The zone passed the decision based on the will of students, parents, woreda and zonal experts after conducting need assessment. It was believed that students could be competent in high-schools if English becomes the medium of instruction for grade seventh and eighth. In addition, the experience was taken from Addis Ababa city administration and some zones of Southern Nations, Nationalities and Peoples where English is serving as the medium of instruction from grades seventh and fifth respectively. Moreover, the decision had the constitutional ground which considers article 39 (2) of the federal constitution article 79 (5) of the regional constitution and article 3.59 (2) of the 1994 educational and training policy.<sup>19</sup> Textbooks and curricular materials were brought from Addis Ababa and teaching through English for grade seventh started in September 2002. The process was rejected by the bureau of education. It put pressure on the zone education department to make Amharic medium of instruction for grade seventh and eighth. The bureau states that---ከትምህርት ፖሊሲና ከገጠር ልማት ስትራቴጂያችን አንጻር ትምህርቱ ለ7ኛና 8ኛ ክፍሎች በእንግሊዝኛ ይሰጥ የሚለው ትክክል አይደለም<sup>20</sup> (---The plan to make English medium of instruction for seventh and eighth grades contradicts our education policy and rural development strategies). A letter written on 14 March 2003 by bureau forced the zone to stop teaching in English.<sup>21</sup> In addition, in several meetings, bureau had been criticizing the Awi Nationality zone head department of education and other experts in their resistance to accept the recommendation.

The bureau considers the uniformity from the perspectives of the cost effectiveness and rural development

<sup>17</sup>Ibid

<sup>18</sup>speak both Awgni and Amharic as mother tongue

<sup>19</sup>Archive from Awi Zone Education Department, Folder Number 92(01), File Number 04.

<sup>20</sup>Archive from Amhara National Regional State Education Bureau, Folder Number 05, File Number 07.

<sup>21</sup>Ibid

policy. Uniformity in medium of instruction reduces the cost in training teachers, material supply and preparing grade eighth regional examination.<sup>22</sup> In addition, the bureau feared that it could lead the Amharic speaking society to claim the same question.

In order to convince the zone officials, the bureau held joint meeting with Awi zone head education department, officers and other experts on 29 May 2003 at Injibara town.<sup>23</sup> In the meantime, Awgni was decided to continue as medium of instruction for grade seventh and eighth. The decision provoked the resentment among students, teachers and parents because it does not consider training teachers in Awgni language and material supply, which could affect the quality of education. Students were made to attend in Awgni for a year. The issue had been hot during 2005 national election. After national election, the bureau revisited its curriculum and English became the medium of instruction in grade seventh for all schools in the region except social studies and civic and ethical education.

## Conclusion

Historical documents tell us that foreign languages had been serving as medium of instruction in Ethiopia since the foundation of modern schooling in the first decade of the twentieth century. Diverse nationality languages were left aside and children were made to learn in their non-own language. After the liberation, the language policy was changed and accordingly, Amharic language which was widely in use throughout the country was made to be medium of instruction in schools. This trend continued until the demise of the government of the Derg in May 1991.

Thus, following the change of the politics in 1991, the EPRDF government issued the ethnic based federalism and acknowledged linguistic and cultural equality. Under this, mother tongue based education was introduced. Among the various languages which were made to use as the medium of instruction, Awgni was one. However, teaching in Awgni started in 1996, two years after the adoption of new education and training policy of Ethiopia. As the language was not in written use before, there were serious challenges, dilemmatic and debatable issues from the very beginning. Whatever the issue was challenging, very speedy preparation was made before the implementation of Awgni as medium of instruction in terms of training teachers, material supply and convincing parents, students and teachers about the multidimensional advantages of teaching in mother tongue language. As a result, the implementation was followed by the resistance of the teachers, parents and students against the use of Awgni as medium of instruction. It left

its own implication on the quality of education. In sum, this study is a very important lesson for policy makers and other emerging nation and nationalities who are interested in introducing mother tongue education.

## Conflict of Interests

The author has not declared any conflict of interests.

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<sup>22</sup>*Ibid*

<sup>23</sup>Archive from Awi Zone Education Department, Folder Number 92(01), File Number 04.

<sup>i</sup> Also known as vernacular language

*Full Length Research Paper*

# The effect of academic controversy technique on Turkish teachers candidates' success to effective speaking skills and its relation with some variables (gender, multilingualism)

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The aim of this study is to determine the effect of Academic controversy as a technique of collaborative learning on Turkish Teachers candidates' success to effective speaking skills and its relationship with variables like gender and multilingualism. Therefore the experimental design based on the pre-test and post-test measurement with control group has been used in the research. SPSS program was used to analyze the pre-test and post-test data obtained by Turkish Effective Speaking Scale (TESS hereafter) used as a data collection tool. As a result of the practices carried out for 10 weeks on 62 (32 experimental and 30 control group) Turkish teacher candidates, it was determined that Academic controversy technique is more successful than conventional methods on candidates' effective speaking skills in Turkish. In addition, it has identified that techniques of academic controversy reduce significantly the effects of "gender" examined variable on speaking skills, whereas it has no significant effect on the variable "multilingualism".

**Key words:** Academic controversy, Turkish teacher candidates, effective speech, gender, multilingualism.

## INTRODUCTION

Speech is an important and effective communication method which man needs to realize his social life. This form of communication has become increasingly important with each passing day in regulating his relationships with people through the ages, people's interaction, forming a nation and all sorts of interaction with other nations. Today, this importance has increased considerably by the spread of mass media because of advanced technology.

While Özbay (2003) explains the communicative method regulating interpersonal interactions as individuals and verbal communication that occurs between the individual and society, Güneş (2000, p. 95) defines the same concept as a process that starts in the mind and completed by verbalizing thoughts. In a Turkish dictionary (Doğan, 2011, p.1057), speech is defined as "in the presence of the audience, a person says a word and his/her thoughts and verbalizing what he/she desires to

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say". The Turkish Language Association also defines speech as "explaining the idea by the words of any language, mentioning a particular topic, speaking mutual on a subject, to chat, to discourse, use as a spoken language, to explain the thought of using any tools, to say in a certain way. Such a definition demonstrates that the concept "speech" is quite comprehensive and it consists of complicated processes like sound, pronunciation, communication, expression, agreement and understanding (Ceran, 2012, p. 339).

It is considered as a social being, man most commonly uses "talk" as the method of communication after "listening" (Buzan, 2001, p. 97; Maxwell and Dornan, 2001, p. 106; Nalıncı, 200, p.130). While it is considered that realization of listening depends upon speech, it will be understood that in everyday communication speech is much more important (Ceran, 2012). However, conducted researches demonstrate that listening and speech, which are the first learned language skills of individuals in order to meet their needs, are acknowledged as the skills learned by the community and so, there is not enough focus on the training of the basic language skills (Tompkins, 1998 ).

Whereas especially speaking skill is an important skill that must be improved in regular education in terms of students' ability for communicating with their environment, making cooperation, joint decision-making and for the purpose of solving the problems they face (Özbay, 2013, p.101). Improving the language skills of individuals with the planned education is a need to be successful in social life.

Without agreement between people, feelings, thoughts, sharing common ideas, it cannot be considered the continuation of individual and community life (Temizkan, 2009). For such a learning space, systematic approach must be developed by regular training. It is a requirement for the success of the individual and society.

By the regulations which were made in order to meet the needs, the development of speaking skills has been considered in Turkish Curriculum of Ministry of Education (2005); for students, the goals like "Beholding the Turkish aesthetic pleasure and express themselves correctly and comfortable advantage of the rich vocabulary, can solve the problems faced by speaking in social life, so they can evaluate and interpret". For this reason, the program contains certain activities that aim at developing students' speaking skills, presenting their ideas logically and in all, making comparisons, to establish cause-effect relationships, classification, evaluation, summarizing, mental activities which constitute the starting point of the conversation, such as reaching a conclusion.

Indeed speech is one of the important factors that determine people's success or failure in education and working life. In this sense speech can be considered as a process of sharing education and business and social life experience between individuals (Temizyürek, 2007). Since it is a skill area encompassing all aspects of life,

speech and its education is necessary for both mother-language course and other courses and also people to have effective and communicative skills for life.

Understanding and practice of education that is individual oriented and planned certainly looking to develop speaking skills is required for eliminating speech defects of individuals and anxiety concerning speaking before people and community.

Carnegie (1998, p.11) mentions the concerns that many of us live but refrain from expressing as follows: "When prompted me to stand up and speak, because of such a fear that surrounds me, I cannot clearly think, cannot collect my attention, I will not remember what I wanted to say. I want to win the confidence of myself and get my balance and think of myself and say my thoughts clearly and in a convincing manner in front of business or community of friends." The elimination of concerns and fear and anxiety individuals have will only be possible with a regular training process using effective methods and techniques. Then, speech is a language skill that can be developed and lifelong education for the development of these skills is a social necessity to continue for successfully educating people to be able to build a successful society. "Know how much you know, it is up to the people to understand." Rumi's ideas summarize these requirements.

Dealing and evaluation of speech training activities with physiological, psychological and social dimensions is necessary for testing the efficiency of the speech training process and to get the changes needed (Temizyürek et al., 2012). Ignoring one of the dimensions adversely affects level of realization and evaluation of the skill having multidimensional and complex features. In the evaluation process for the speaking skills, features like the content of the speech (Douglas and Mayer, 2000), grammar of the application, selection and use of words, style (Douglas, 1994), effective use of body language, analysis-synthesis are the essential criteria that are considered.

In various sources, requirements for a successful speaker features are summarized as follows:

"A speaker looks at the issue from different angles; he/she has wide horizons; he/she thinks and talks about issues other than daily ones; he/she makes empathy; he/she gives a place for humor in their speech; he/she has a unique way of speaking (Kılıncı and Şahin, 2013, p.8); he/she gives some examples and explanations in his/her speech; he/she sets the speed and tone of speech, he/she makes emphasis correctly; he/she is a rigorous critical for himself/herself if it is necessary; he/she pays attention to his/her appearance; he/she knows the audience; he/she communicates with the audience face to face (Temur and Çakıroğlu, 2010, p.168); he/she makes balanced breathing; his/her voice organs are harmonious; he/she is mature and smart; he/she is careful... (Temizyürek et al., 2007, p. 264).

In order to train the individuals who have all of the criteria stated and can effectively express themselves correctly and successfully, it must be focused on speech training process. By considering variables that can impact on the speaking skills (gender, multilingualism), various applications should be carried out (Özbay, 2013, p. 104).

Thus, the researches demonstrate that gender and being multi-lingual variables is effective on students' success of effective speaking. While some studies articulate that male students feel more speech anxiety and fear than female students and so they could not speak effectively (Sevim and Gedik, 2014), some studies demonstrate that female students feel more speech anxiety and fear than male students and so they cannot have an effective speech (Bozkurt, 2004; Çakmak and Hevedanlı, 2005; Ergür, 2004; Rosenthal and Schreiner 2000; Surtees et al., 2002).

Similarly, it has been known that monolingual students are more successful in the language skills like effective speaking and writing when they are compared to multilingual students. Yılmaz (2014) points out that being multilingual have the negative impact on the individual's academic achievement and the solution to this problem is to give students effective language training.

When the variables affecting the speaking skills and evaluation criteria for effective speaking skills given above are considered, it can said that the technique of Academic Controversy is one of the effective and modern teaching techniques in speech training that will meet these criteria.

Academic Controversy technique is one of the important techniques used in "Collaborative Learning". Socialization and personal development activities which are accepted between indisputable universal goals of education are among the main concerns of collaborative learning activities. In this sense, collaborative learning is a teaching method which is the proven positive effects on cognitive and affective learning products in which understanding (listening and reading), expression (speaking and writing) being the basic of active learning are used, cooperation skills coming to the forefront, social interaction being on the basis, capable of responding to the needs of students, allowing them to use their mental abilities and make decisions about their own learning (Şahin, 2011, p. 9). Slavin (1999) defines cooperative learning as one of the most effective products of the modern educational approach which is often applied by contemporary educators in training activities.

Collaborative learning, by improving their duty and social responsibility against each of the people in interpersonal interactions, helps to eliminate misunderstanding which is likely to happen between student-student, student-teacher and to develop empathy skills (Johnson and Johnson, 1985; Slavin et al., 1984 Stahl, 1994; Johnson et al., 1998).

While collaborative learning activities contributes male and female students to the development of leadership

skills by taking responsibility for teaching and learning (Bean, 1996), it allows students to improve their communication skills and to establish academic relations by making more accurate and effective communications both individually and in the classroom (Tinto, 1997).

The research on collaborative learning techniques demonstrates that this method has been developing mental thinking skills of students (Webb, 1980; Slavin, 1992), it provides facilities for the students to develop their critical thinking skills and freely express their ideas by creating a debate about academic issues (Nelson-Legall, 1992), it helps students to express themselves orally without hesitation (Bershon, 1992), it constitutes exploratory and effective teaching-learning environment by increasing the awareness and responsibility for learning (Slavin, 1980; Baird and White, 1984), it directs students to conduct research and analysis by promoting learning-based approach (Cooper et al., 1984).

Starting from the results of this research, one of the major benefits of collaborative learning activities is understood that it encourages students to build healthy social relationships by developing effective communication skills, prepares the ground to increase the competence of individual by taking responsibility for learning and teaching and ultimately helps them achieve self-realization by eliminating the barrier that hinders the student from being successful, confident and social individuals.

Academic controversy, one of the techniques that fulfill the described aims of collaborative learning methods in growing successful individuals in society, seems to be effective to bring student academic and social skills like research, investigation, analysis-synthesis do, achieve results and transfer the obtained results with an effective narrative forms.

Academic controversy technique, developed by Johnson and Johnson, is shown as one of the least used teaching approaches although it has the characteristics that are powerful, dynamic, exciting, participation provider (Şahin, 2013, p. 32). Açıkgöz (2011, p. 182) explains the reasons for less use of this technique as the reasons that how the controversy should be applied as a teaching strategy is not defined previously, teachers are not trained in how this technique should be applied and people generally afraid of controversy and conflicts. However, controversies and conflicts are unavoidable that the learners may face in healthy learning activities and these conditions can be used as a teaching opportunity. Indeed Academic Controversy is a teaching practice which can be effective in teaching to think critically, to communicate effectively, and to reach a rational judgment (Açıkgöz, 2006).

In addition, this technique is also believed to reduce the effect of the independent variables like gender known to be effective on individuals' speaking skills and being multi-lingual.

The process steps of the technique can be summarized as follows:

**Forming the Groups:** First, students are divided into groups that include four students in terms of demographic characteristics (gender, achievement, age, and single-lingual, multi-lingual and so on.) Then, groups are divided into two sub-groups to defend conflicting thoughts.

**Presenting the Controversy:** Predetermined controversy is presented to groups. Controversies must have the characteristics that are open to debate, have uncertain result and can be defended by two sides.

**Preparation of proposals:** Groups prepare the report containing its recommendations and they plan how to defend their opinions by dividing into further sub-groups for defending opposing views.

**Presentation of Opinions:** Parties defend their opinions and explain why they defend it.

**Defense:** At this stage, the parties argue about the views put forward.

**Understanding Opposite opinions:** Parties explain what the opposite views are.

**Judging:** a decision is made on which the two sides can agree. To do this, students move away from defending their opinions and then will have an agreement by synthesizing the best evidence and prepare a group report. Finally, members of the group prepare for the exam which they will be taken individually (Açıkgöz, 2006, p. 183).

Since the reason for this study was carried out on Turkish teacher candidates, the responsibility of individuals studying at primary, secondary and higher education to provide effective speaking skills is loaded with Turkish teachers.

Yet, a Turkish teacher, who does not have an effective speaking skills, will have difficulty in training successful individuals who can express themselves verbally, effectively directing community by conversations. It should be noted that successful individuals / students can be successfully trained by successful teachers.

In the research the following questions are tried to answer:

1. Is there any effect of the Academic Controversy technique on development of Turkish teachers' Turkish oratory skills?
2. Is there any effect of the Academic Controversy technique on gender related to candidates' Turkish oratory success?
3. Is there any effect of the Academic Controversy technique on being multilingual related to candidates' Turkish oratory success?

## METHODS

In this study that investigated the effects of Academic Controversy technique on speaking skills of the Turkish teacher candidates, experimental design with control group based on pre-test and post-test measurements, one of the experimental research designs, was used.

## The working group

Working group of the research consists of 62 Turkish teacher candidates studying in Turkish Education Department in a state university at spring semester of 2013-2014 academic years. Two sections were created considering the demographic characteristics of the teacher candidates (gender, academic achievement, multilingualism etc.). Before the application, pre-test application data carried on research groups was examined and there was no significant difference between the sections. By using a random assignment, one of the sections (n = 32) was identified as the test group and the other section (n = 30) was identified as the control group.

## Data collection tools

Turkish Effective Speaking Scale (TESS) is used as a data collection tool. The scale consists of the dimensions that measure skills like audio, presentation, style and expression, focusing on the discussion and taking into account the audience. Subscale and scale-item scale was discussed by five experts in the field of Turkish education at the Faculty of Education and after obtaining a positive opinion of experts, it has been decided to use the scale without any changes.

The 20-item scale consisting of 24 items contain positive and 4 items contain negative judgment. The scale developed on teacher candidates by Yıldız and Yavuz (2012) is a 5-point Likert-type form like "totally agree, agree, moderately agree, disagree, and strongly disagree".

Prior to application, the reliability of the scale was tested by making pre-application on 88 Turkish teacher candidates studying at Turkish Education Department in the Faculty of Education in the University of Yüzüncü Yıl. Preliminary result of the application of the scale Cronbach's Alpha (KR 20) value was 0.90. This consistency coefficient indicates that the scale is highly reliable and available.

## Practices for the experimental group (Academic Consistency Technique)

1. Throughout a week (4 h), information about principles of academic controversy technical, application phases, intra-group activities, materials, task-responsibility and goal achievements are made to experimental group students.
2. As a part of the pre-test application, each student was asked to speak for 5 min on the controversy given the previous week. The conversations were evaluated with Turkish Effective Speaking Scale (TESS) by 3 different experts and then the average was taken. Speaking skills assessment studies were carried throughout 160 min (four hours).
3. Then, class consisting of 32 people is divided into 4-person mixed group in terms of variables such as gender, academic achievement and multilingualism by the researcher.
4. It has been noted that there are two girls and two boys in each group. In this way, it has attempted that the students do not hesitate to communicate with each other.
5. Respectively, A, B, C, D, E, F, G, H codes are given to create 8 groups and groups were also told that they will find a group name starting with the letter if they want to. For example: "Lions" for the group A; "Virgo" for the group B and so on.
6. Second codes are given to individuals in groups, depending on the group code. Ex., individuals, respectively, in group A1, A2, A3, A4; the members of the group B B1, B2, B3, B4; those in group C, C1, C2, C3, C4; students in group D, D1, D2, D3, D4 and so on. This process is performed for all groups.
7. Materials like worksheets, lecture notes, reference books,

textbooks and activity book were determined and obtained by the researcher. It has also been requested from the group to work their subjects with investigating further issues at least a different source by giving homework.

8. Studies were initiated by introducing the groups to controversies that are opened to discussion and have ambiguous response and can be defended by the two sides in terms of education and social issues. Controversies are prepared by taking the experts' opinions.

9. In 10 weeks (4 h per week), work started in groups by being directed to investigate the controversies presented to them and use previously prepared materials for discussing and defending the information they get in groups.

10. As work time, two weeks (8 h) is given for each determined controversy.

The controversies are presented respectively:

1. Writing is more important to develop imagination/ Reading is more important to develop imagination.
2. Adults should decide on behalf of children/ Adults should not decide on behalf of children.
3. Application of uniform clothes in education should be / Application of uniform clothes in education should not be.
4. Attendance in universities should be/ Attendance in universities should not be
5. Congressman should have parliamentary immunity/ Congressman should not have parliamentary immunity

Then, individuals who work the first study at the main group are divided into sub-group pairs. At this stage, they have continued to work in the binary sub-groups. Parties have made planning about how to most effectively defend their arguments by resources like worksheets, books and articles presented to them. They tried to put forward the results to prove the correctness of their views by preparing reports on the information they have reached.

After completion of the preparatory work, binary groups come together and then they made their final preparations for transferring knowledge and experience concerning controversies with persuasive speeches method to the group on the opposite opinion.

The parties have come together and they explained respectively (thesis-antithesis) their opinions they defend and why they defend it with a convincing manner through the information they get. After presenting the views, both groups have worked together through cooperation on what would be the best decision. During this study, in order to achieve more information for explaining issues that do not make sense, the groups continued for some time to research.

After reaching the last information, the parties have come together for defense and they have submitted their views to the opposite side again. In the last step, the groups are left to defend their views and they synthesized the best available evidence by taking into account group study, research and defenses. It has been reached an agreement with the synthesis business and a report covering the agreed issues (group report) were prepared by end of study.

At the end of the study, group reports presented to the class by the researcher and then the groups were celebrated and honored for their successful work. After this stage, each member of the groups began to individual work for preparing to the exams that they took individually. At the eleventh week, the study was finished by making post-test application for 160 min (four hours).

#### **Practices for the control group (Traditional Method)**

Traditional teaching format is used extensively as a teaching method in Turkey. This method is known as a teacher-centered

teaching method. In educational activities in which the traditional method is used, teacher is the one who researches, reads, compiles, classifies and configures the information he/she gets. Teacher works actively in the process of obtaining information and then by using recitation and repetition techniques, he/she attempts to transfer the information to the students who are in the passive state in the educational environment. In this process, teachers attempt to characterize the students by the messages like "I want you to watch", "I will talk to you; shut up", "Follow me," "do as I say" (Duruhan, 2004, p. 3).

In this study (control group) application steps performed are as follows:

1. A control group consisting of 30 Turkish teacher candidates was created.
2. For a week (4 h), students were informed about teaching activities carried out during the semester.
3. As a practice of pre-test, each student was asked to speak for 5 min about the controversy given in the previous week. The conversations were evaluated with Turkish Effective Speaking Scale (TESS) by 3 different experts. Pre-test application was maintained throughout 150 min (about four hours).
4. Worksheets, lecture notes, textbooks were prepared and introduced to the students by the teacher. The students were required to provide recommended reading books, if it is possible.
5. In a traditional classroom setting (educational environment where students are passive listeners), speech training courses were taught from the books with teacher-centered method by using narrative techniques.
6. Topics such as the importance of effective speaking, specifications that are sought in the successful speaker, mental, physiological and physical properties of speech and so on have been explained to the students by the teacher.
7. From time to time, the teacher had students talk on the topics that he determined and he/she gave them feedback on speech defects and deficiencies.
8. The training has been maintained throughout 10 weeks (4 hours per week).
9. At the eleventh week, the teacher has completed the study by application of post- test for 150 min (four hours).

#### **Data analysis**

SPSS 16.0 software was used to analyze the data. In the analysis of data obtained from Turkish Effective Speaking Scale (TESS) with pre-test and post-test application, Dependent Samples t-test has been used to evaluate the measurement results of the test or control group; Independent samples t-test statistics has been used for measurements of control and experimental groups.

#### **RESULTS**

In order to understand the effect of the technique of Academic controversy on the variables like effective speaking the success of Turkish teacher candidates and gender and being multilingual. The experimental and control groups (Turkish Effective Speaking Scale) pretest - posttest data were compared with Dependent/ Independent samples of the t-test.

TESS pre-test and post-test comparison results of the control group having a traditional teaching are given in Table 1.

According to the table, there is a significant difference

**Table 1.** The control group dependent samples t-test comparison results.

Grup	Test	N	X	T	p
Control	Pre-Test	30	66,16	-7,309	<b>,000</b>
	Post-Test	30	69,94		

$p < 0,05$

between the pre-test to post-test and post-test results ( $t = -7,309$ ;  $p < ,05$ ). It is observed that the effective speech training carried out by the traditional method increases the success statistically significantly. These results indicate that the traditional teaching is effective on Turkish speaking success.

TESS pre-test and post-test comparison results of the experimental group to whom Turkish effective speech training performed by Academic Conflict technique is applied are given in Table 2.

It is seen that there is a significant difference between pre-test and post-test results of the experimental group in the table ( $t = -14.622$ ,  $p < .05$ ). These findings suggest that Turkish effective speech training conducted according to the principles of Academic Controversy technique increases the success in a statistically significant level.

The dependent sample t-test results given in Tables 1 and 2 demonstrate that Turkish effective teaching of speech conducted by both traditional methods and academic controversy technique significantly increase the success of Turkish teachers' speaking skills. Pre-test and post-test comparison results of Control and Experiment groups are given in Table 3.

The average of the control group students in the pre-test is 66.16 and the average of the experimental group students is 68.03. It has been seen that there is no statistically significant difference between the control and experimental groups in the pre-test ( $t = ,810$   $p > ,05$ ).

The average of the control group students in the post-test is 69.94 and the average of the experimental group students is 82.57. It has been seen that in favor of the experimental group, there is statistically significant difference between the control and experimental groups in the post-test ( $t = -4,839$ ;  $p < ,05$ ).

These findings suggest that Academic Controversy technique is more effective than traditional teacher-centered methods in the development of Turkish teacher candidates' Turkish oratory skills.

The relationship between TESS pre-test and post-test average scores of control and experimental groups is shown more clearly in Figure 1.

While in the pre-test, it has not been observed that there is a significant difference between averages of Turkish oratory success of the experimental and control groups of teacher candidates, in the post-test, it is seen that there is a significant difference in favor of the experimental group on whom Academic Controversy is

**Table 2.** Comparison results of the experimental group dependent samples t-test.

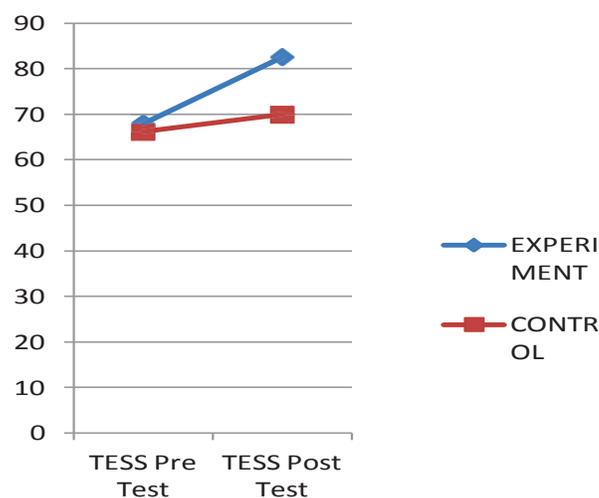
Group	Test	N	X	t	p
Experimental	Pre- Test	32	68,03	-14,622	<b>,000</b>
	Post Test	32	82,57		

$p < 0,05$ .

**Table 3.** Experimental-Control group independent samples t-test comparison results.

Test	Gruplar	N	X	t	p
Pre Test	Control	30	66,16	-,810	<b>,421</b>
	Experimental	32	68,03		
Post Test	Control	30	69,94	-4,839	<b>,000</b>
	Experimental	32	82,57		

$p < 0,05$ .

**Figure 1.** TESS Pretest and Posttest Comparison of Experimental and Control Groups.

applied. From the figure, it can be said that Academic Controversy technique is more effective than traditional teacher-centered methods in the development of Turkish teacher candidates' Turkish oratory skills.

Pre-test and post-test results of effects of Academic Controversy techniques on the variables like gender and being multilingual are given in Tables 4 and 5.

When Table 4 is examined, it shows that there is a statistically significant difference between Turkish oratory success of male and female teacher candidates according to results of pre-test ( $t = 2,241$ ;  $p < ,05$ ). When the results of post-test are examined, it is observed that there is no statistically significant difference between successes of male and female teacher candidates ( $t =$

**Table 4.** Independent samples t-test results related to gender.

Group	Gender	N	X	t	p
Pre-test	Female	16	70,79	2,241	<b>,043</b>
Experiment	Male	16	65,63		
Post- test	Female	16	86,29	1,831	<b>,078</b>
Experiment	Male	16	79,31		

$p < 0,05$ .

**Table 5.** Independent samples t-test results related to multilingualism.

Group	Multi-lingualism	N	X	t	p
Pre test	monolingual	16	71,00	2,208	<b>,036</b>
Experiment	bilingual	16	64,64		
Post test	monolingual	16	86,63	2,363	<b>,025</b>
Experiment	bilingual	16	77,93		

1,831;  $p > ,05$ ). According to these findings, it can be said that effective speech training performed by Academic Controversy technique eliminates the effect of gender on the success of teacher candidates.

Findings on the effect of the Academic Controversy technique on multilingualism variable are given in Table 5.

When Table 5 is examined, it is observed that variable to be multilingual is significantly effective on Turkish oratory success of the candidates according to both results of pre-test ( $t$  2,208;  $p < ,05$ ) and post-test ( $t$  2,363;  $p < ,05$ ). In other words, Academic Controversy technique did not reduce significantly the effects of multilingualism.

## RESULTS, DISCUSSION AND SUGGESTIONS

The results of problem-questions of the research are as follows:

1. It has been found that Academic Controversy technique is more effective than traditional teacher-centered methods in the development of Turkish teacher candidates' Turkish oratory skills (Table 3).

In the results related to the first question of the study, it was determined that academic controversy technique which is an application of collaborative learning was more successful compared to traditional methods in development of Turkish teacher candidates' effective speaking skills in Turkish.

It can be said that Academic Controversy technique is

effective in providing students with the opportunity to express their thoughts and feelings on specific topics without hesitation by preparing a democratic and social learning environment. Teaching-learning activities which are student- centered and performed by doing and living can be said to provide a significant contribution to develop students' language skills, self-confidence, opportunities to use language effectively.

In the literature, it is possible to see numerous experimental studies which test the impacts of Collaborative learning techniques on Turkish language skills. In his research, Şahin (2013) examined the effect of Jigsaw technique and traditional cluster group on 8th grade students for academic success in their writing skills and students' attitudes to practices. As a result of the survey, it was determined that collaborative group work has been more successful than the traditional cluster group work. In a similar survey, Kardaş (2014) examines the effect of collaborative learning on teacher candidates' grammar achievement and as a result of research, he assesses that collaborative group work gives better results than the traditional group studies. In his other experimental studies on the effect of collaborative learning on Turkish language skills (2013a, 2013b, 2011), Kardaş has determined that Collaborative learning gives more successful results compared to the traditional method. When the results obtained from similar researches done by Maden (2011a, 2011b, and 2010) have been examined, it also has been shown that Collaborative learning applications is more successful compared to other traditional methods in teaching Turkish. In related researches, Şahin (2011a, 2010) examined the effect of Jigsaw II and Jigsaw III applications, which are Collaborative learning techniques, on Turkish writing skills of students and determined that the obtained results are in favor of collaborative learning applications. The results obtained in these studies are in line with the results of our study.

2. Academic Controversy technique significantly eliminates the effect of gender on the success of Turkish oratory skills (Table 4).

At the results related to the second question of the study, it was determined that because of academic controversy technique, "Gender" variable of which significant effects are observed in the pre-test data has no significant effects on the post-test data.

In other words, it has been shown that Academic controversy technique significantly decreases the impact of gender which is in favor of female candidates between male and female teachers. This result can be explained that Academic controversy technique has increased significantly the Turkish oratory skills through the applications in which male teacher candidates can express themselves in the classroom and in social media, interpersonal and group calmly without panic and whereby the technique enable them closing the achievement gap between male and female teacher candidates

coming from the gender.

When it is considered that one of the important indicators to assess successful teaching practices is to break the influence of the independent variables on the dependent variables effectively, the practices of academic controversy technique can, in this sense, be said to be successful.

As one of the Cooperative Learning techniques, Academic controversy, determined to be an effective method for the development of Turkish speaking skills, is thought to be beneficial to use in training the students who study primary, secondary and higher education.

3. Academic Controversy technique did not significantly reduce the effect of being multilingual on the success of Turkish oratory skills (Table 5).

At the results related to the third question of the study, it was observed that the variable "being multilingual (bilingual)" has been effective significantly on Turkish teacher candidates' Turkish oratory skills in both pre-test and post-test data. This result can explain that the practices of academic controversy technique alone is not enough for reducing significantly the effect of the variable "being multilingual" on the success. The result shows that being multilingual has a negative impact on Turkish oratory skills of the candidates.

In conclusion, with the changes of societal culture and technological advancement, it is necessary to consider the interests and needs of students in language education, with methods that are appropriate to their different learning styles, are modern and also effective.

When providing a fun learning environment, including all students in the learning activities in the classroom, the sharing of knowledge and skills in group work, giving opportunities the students in mixed groups to discuss specific topics without any hesitation, and by doing this, allowing them to realize their wrong and missing, containing skill-based and application-oriented activities, the advantages in performing an effective communication environment are considered, it is understood that Academic Controversy technique must be preferred as a technique in education.

Taking into account the results of the study, the following recommendations can be made for field researchers:

1. Experimental studies in which the effect of academic controversy on other language skills has been investigated can be done.
2. Experimental studies in which the effect of Academic Controversy on students' speaking skills in English, French, German, Arabic, Persian, and so on has been investigated can be done.
3. Experimental studies in which students' attitudes and opinion concerning the practices of academic controversy technique has been investigated can be done.
4. Experimental studies in which relationship between academic controversy technique and other variables (reading habits, writing frequency, the frequency of

participation in social activities and so on.) has been investigated can be done.

## Conflict of Interests

The author has not declared any conflict of interests.

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*Full Length Research Paper*

# Pre-service music teachers' opinions about the significance of choir lesson

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**This study aims to determine pre-service music teachers' opinions about the significance of the choir lesson. This is a qualitative research. The data were acquired with the participation of 54 pre-service teachers. An open-ended interview questionnaire was used to collect the data. The data were processed using content analysis and classified in eight categories. These categories are: perception, the consciousness of singing together, social development, harmonic ear training, technical development, musical development, professional competence and listening skills. It was found that the categories and themes created in regard to the opinions of the teacher candidates included in this study were compatible with one another.**

**Key words:** Choral training, pre-service teachers, opinions of pre-service teachers.

## INTRODUCTION

The word "choir" is khoros in Greek, chorus in Latin and coro in Italian (Egüz, 1981). The concept of singing together as a musical organization brought together the elements of socialization, the production of culture and sharing mutual feelings (Say, 2002). According to Çevik (1997), a choir is a group of voices that is balanced in terms of numeral construction, voice type and voice capacity with the aim of vocalizing and interpreting monophonic or polyphonic musical pieces according to a predetermined model. Choirs thus contribute to the cultural and artistic life of society.

Choral training is the process of enabling individuals in the choir to learn socio-musical behaviors in a purposeful and systematic way (Ucan, 2001). Along with learning to sing together or solo, choral training makes a significant contribution to ear training and musical literacy, love of

music, creativity, evaluation and social interaction. It also supports instrument education.

As a choral and instrumental trainer, Leenman (1997) said that inner senses would become stronger if choral skills were implemented in instrumental music. Choral training makes a significant contribution to training for musical literacy, taste, creativity and musical interaction. It also supports the instrument education (cited by Okay, 2012).

Choral training is the most fundamental, effective and widely studied field of music education. According to the main principles of collective vocal training and curriculum objectives, choral training includes these topics:

Practical exercises,  
Reading music,

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Solfege,  
Singing and interpreting,  
Choral culture,  
Group harmony,  
Increasing awareness about responsibility,  
Learning about the choral music repertoire and its stylistic features.

There are five basic principles that should be followed to generate a good choir:

1. To speak and sing together.
2. To be a group.
3. To collaborate.
4. To organize.
5. Making music and speaking with group awareness (Ucan, 2001).

Musical behaviors and forms may vary according to the level of choral training, but the purposes and functions of the choir are; Making music and singing, Musical listening and comprehension, Musical thinking and reflection and Musical enlightenment.

Egüz (1981) said, "Choral education not only teaches culture and the love of music, but also allows large numbers of people to study and train together." In many different ways individuals in the choir reflect the positive habits and discipline that they learn during choral training to society.

According to the main principles of collective vocal training and curriculum objectives, choral training includes these topics:

Practical exercises,  
Reading music,  
Solfege,  
Singing and interpreting,  
Choral culture,  
Group harmony,  
Increasing awareness about responsibility,  
Learning about the choral music repertoire and its stylistic features.

This field of learning enables the music teachers of the future to attain these competences: using the voice in harmony with the choir depending on the basic principles of collective voice training, improving musical sensitivity, studying with a team spirit, getting to know choral music and its stylistic features, forming school choirs and performing with them, communicating and expressing oneself using a correct, favorable and effective use of the native language (Çevik, 2006).

Choral training is a sub-field of music education. It has individual, social, cultural, educational and economic functions. It also helps people to feel happier and calmer. The choir is also the most suitable and safe environment for children and young people to learn and implement

social rules. Friendships that are built in a loving, respectful and safe environment are also effective in creating social unity. In this environment of love and respect, individuals improve their taste. They also become more sophisticated since they are exposed to distinguished examples of both their own culture and foreign cultures. When choirs travel to other cities and give concerts, they create significant economic mobility. Individuals who receive choral training are often inclined to choose music as their profession and learn to play a musical instrument.

Individuals who sing in a choir learn how to use and control their voice. They also learn a lot of songs. They ensure that their voice is not louder or quieter than their friends' and that it harmonizes with the others. They learn to sing accurately and smoothly. These attainments allow them to enjoy learning new things and singing collectively (Sun and Seyrek, 1998).

Developing the skill of producing a correct and clear voice is among the general targets of vocal training in a choir. However, choral training also includes other behaviors and skills related to producing sounds using human body. It is possible to create meaningful sounds by moving the tongue, the palate and the lips and to accompany by moving the head, the face, arms and legs. Ucan (2001) said that choir could play a more effective, productive and determinant role in the musical development of an individual if the whole body potential was put into use.

Individuals can develop their sensitivity, aesthetic taste and creativity only in democratic learning environments where they can express themselves comfortably and improve their talents. Democratic learning environments also give life to democratic thinking (Bilen et al., 2009). Choirs are one of the most convenient settings for creating democratic learning environments. Individuals who take part in choirs gain many positive behaviors thanks to music and these behaviors are reflected in the society at large in many ways. For this reason, choirs not only contribute to the development and progress of the musical culture of the society, they also help to raise society's general educational level (Egüz, 1981).

Education and training given in the choirs with a modern and universal perspective lets individuals be:

Psychologically open and free,  
Dynamic and disciplined,  
Productive,  
Unselfish,  
Able to create a balance between society and themselves, and also education and occupation,  
In good mental health.

In social terms:

The choir creates a foundation for unity and equality in music education.

It helps to integrate Western societies' social structures and artistic development qualitatively and quantitatively.

Kaya (2014) produced a study titled "The Influence of the Constructivist Approach on Attitude, Self-Efficacy, Belief and Academic Achievement in Choral Training," which employed a pretest/post-test control group experimental design. In that study the experimental group was given choral training with the constructivist approach and the control group was given choral training with the traditional approach. Based on the findings, Kaya concluded that there was a significant difference between the control group's choral training course self-efficacy perception-scale scores and those of the experimental group.

Kose (2004) produced a descriptive study titled "The Necessity of Individual Vocal Training for the Enhancement of Choral Performance." The author obtained many findings through literature review and interviews, which revealed that individual vocal training courses had a dramatic influence on the performance of the choir in the music teaching process.

Sarıçiftçi (2006) produced a descriptive survey study on "Music Teachers' Use of the Knowledge Gained in 'Collective Vocal Training' and 'Choral Training and Direction' Courses in Undergraduate Studies during Professional Life." It was found that music teachers mainly used the knowledge gained in the "collective vocal training" and "choral training and direction" courses taken during their undergraduate studies.

This study was conducted in collaboration with students enrolled in Education Faculty Department of Fine Arts Education Music Education Program; students received choral training course and the study determined their ideas about the significance of choral training.

This study is significant because it enables pre-service teachers taking choir lessons to be aware of its benefits and helps choir leaders review the functions of the lessons. This study aims to determine pre-service music teachers' opinions about the significance of the choir lesson. The primary purpose of the study was to determine the teacher candidates' level of consciousness with respect to the general purposes of the choral training course, with consideration for their own opinions. This study contributes to the literature on the significance of choral training.

## METHODOLOGY

### Research model

This study has a qualitative design. Yildirim and Simsek (2000) said that in qualitative research facts are analyzed from the perspective of the individuals involved and the processes created by these perspectives are revealed. The main objective of a qualitative research is not to use numbers to obtain quantitative results that can be generalized. It is rather to present a descriptive and realistic situation related to the research subject.

### Study sample

This study was conducted in the Spring semester of 2014 in collaboration with 54 pre-service music teachers who were attending choral training at Necmettin Erbakan University's Ahmet Kelesoglu Faculty of Education in the Department of Music Teaching.

### Data collection tools

The data were collected using the open-ended interview questionnaire. The questions in this interview enable the researchers to discuss the facts they want to investigate using a flexible and open-ended approach (Yildirim and Simsek, 2003). The pre-service teachers were asked a single question about the significance of the choir lesson. Content analysis was done with the research data and evaluations were made considering the themes that emerged from these opinions.

### Data analysis

For the analysis of the data, the answer sheets with only one question were numbered from 1 to 54. The main aim of the content analysis was to identify the concepts and connections that could explain the data. Moreover, it aimed to bring them together in frame of certain concepts and themes, interpreting the data in a way that the reader can understand (Yildirim and Simsek, 2006). Significant words and sentences were underlined and agreed on by three specialists. Then the data was categorized by semantic relationships, the frequencies of words and sentences were calculated, tabulated and they were classified in eight categories.

## FINDINGS

Pre-service teachers' opinions about the significance of choir lesson were analyzed under eight sub-dimensions and each of these dimensions were tabulated separately. The 54 pre-service teachers expressed their opinions about the significance of choir lesson. Of them, 32 teachers expressed opinions about perception, 24 wrote about the awareness of singing together, 12 about social development, 10 about harmonic ear training, 10 about technical development, 9 about musical development, 7 about professional competence and 3 about the development of listening skills (Table 1).

PST46: "No other lesson is as entertaining, fun and offers as much musical development as the choir lesson."

PST41: "When I am singing my favorite pieces in choir lessons, I feel very happy and good."

PST35: "When the choir lesson is pleasant, it could be regarded as a tool for entertainment and relaxation for us students who live fast paced lives."

PST26: "The choir lesson is both the most entertaining and important lesson in my department."

According to Arikan (2008), "Perception is a mental process that can be described as comprehending the phenomenon of one's current focus by paying attention and using the senses." Based on that statement, the

**Table 1.** Pre-service music teachers' opinions about "perceiving the choir lesson" dimension and the descriptive distribution.

Perception	n	%
It is an important lesson.	14	25.9
It is an entertaining lesson.	8	14.8
It is a lesson that requires care and discipline.	3	5.5
It is a lesson that gives peace and comfort.	3	5.5
It is not an important lesson.	2	3.7
It is nice in terms of integrity.	2	3.7
It is a lesson that arouses emotions.	1	1.8

**Table 2.** Pre-service music teachers' opinions about the awareness of singing together sub-dimension and the descriptive distribution.

The awareness of singing together	n	%
It is important in terms of group awareness.	9	16.6
We act as a group.	8	14.8
It helps to make music together.	7	12.9
It is important in terms of integrity.	2	3.7

perception of choral training as an important course by teacher candidates has been accepted as a mental process included among the categories created in accordance with student reviews.

Individual needs, such as the desire to relax, have fun or attain spiritual fulfillment are usually accompanied by music. In the "perception" category, teacher candidates expressed that the choral training course was an entertaining one that made them feel happy and relaxed, which was consistent with the needs in question (Table 2).

PST52: "Studying together means taking a beautiful musical piece and bringing it to the highest level together. It also means social unity and warmer relationships."

PST51: "In my opinion, the choir lesson is the best lesson for improving our spirit of unity. I also see that this spirit gets even more intense when we sing the songs that we love and enjoy performing."

PST50: "I think the choir lesson is very entertaining and also very beneficial for doing things with the group, that is, living and learning the spirit of a group. I think students learn how to adapt themselves to the group in this lesson."

PST48: "I think the most important aspect of the choir lesson is that we internalize group work and are able to do that."

PST40: "To me, the choir lesson plays a significant role in improving students' awareness about learning together. When everyone takes an active role in the preparation of a piece that will be staged and acts with team spirit, this will bring out the best performance of the piece, along with the awareness of working together and the impor-

tance of group work."

PST30: "The most significant benefit that students gain from the choir is that they learn to sing as a group, create a group spirit and adapt themselves."

Another main objective of choral training is to imbue in students the consciousness of thinking, acting and sharing thoughts in conjunction. It is an obligation for the members of the choir that they listen to and watch the other members, and that they remain in harmony with one another as they sing (Eguz, 1980).

The teacher candidates sharing thoughts in this category used statements similar to that of Eguz, which he had qualified as obligatory (Table 3).

PST54: "If they have social phobias, choir lessons will help them to become more social."

PST32: "The choir lesson is not just a lesson, but a situation that improves the connections between people and makes them feel peaceful and relaxed. It is a lesson that creates individual and social harmony besides providing continuous learning experiences.

PST12: "I feel that friendships are getting stronger, and above all, we benefit from acting as a group.

Music, from the standpoint of social development, is a cultural activity that helps individuals socialize, enhance their abilities and helps them gain skills such as solidarity and sharing in terms of human relations (Uslu, 2007). In regard to social development, teacher candidates said the choral training lesson not only strengthened their social association and helped them work more effectively as a group, but it was also helpful in dealing with their

**Table 3.** Pre-service music teachers' opinions about the social development sub-dimension and the descriptive distribution.

<b>Social development</b>	<b>n</b>	<b>%</b>
Friendships grow stronger.	3	5.5
Group study skills are improved.	2	3.7
I also learn about adaptation and other behaviors related to life.	2	3.7
It is really nice to do things together.	1	1.8
It might influence the connection between teacher and student.	1	1.8
It teaches people how to share music.	1	1.8
It is not individual work, but group work.	1	1.8
It enhances social unity.	1	1.8
It helps students to overcome their social phobias.	1	1.8

**Table 4.** Pre-service music teachers' opinions about the harmonic ear training sub-dimension and the descriptive distribution.

<b>Harmonic ear development</b>	<b>n</b>	<b>%</b>
It is a significant factor in terms of polyphony.	7	12.9
It enhances both harmony and my ear.	3	5.5
It teaches about polyphony.	1	1.8

**Table 5.** Pre-service music teachers' opinions about the technical development sub-dimension and the descriptive distribution.

<b>TECHNICAL DEVELOPMENT</b>	<b>n</b>	<b>%</b>
It is important for the development of the voice.	3	5.5
I believe every individual has improved their tone color.	2	3.7
It is the practical version of individual vocal training.	2	3.7
It teaches how to use the voice without pushing its limits.	1	1.8
It is very important to do relaxation and warm-up exercises before starting the lesson.	1	1.8
It teaches us how to use our voice correctly.	1	1.8
It teaches to sing with a more comfortable use of the diaphragm.	1	1.8

social phobia (Table 4)

PST49: "The lesson teaches about polyphony and improves musical intelligence along with solfege skills."

PST41: "The choir lesson is very important in terms of understanding the musical concept of polyphony and learning musical pieces."

PST36: "A capella has a great place in the musical world. Since polyphony made use of the human voice—that is the first instrument—it also has a specific and significant place, having been used in various music types."

PST24: "The choir lesson teaches polyphony in practice."

PST8: "I think different voices make a beautiful harmony together, and I develop my listening skills since I am able to hear my own voice. I believe that I improve my harmony skills, in particular."

Sevgi, (2005), in his study titled "A Harmony Education

Based on the Professional Requirements of Music Education" claimed that knowledge of harmony gave students the skill of understanding the musical work being interpreted. Additionally, he stated that the sound to be produced by the group that makes music collaboratively could be given an identity with the help of knowledge regarding harmony.

Teacher candidates said the choral training course was helpful in the sense that it assisted them in perceiving the concept of polyphony and also helped develop a "harmonic ear" (Table 5).

PST33: "It teaches us to sing more comfortably by using the diaphragm."

PST32: "The choir lesson is a type of lesson that improves the individual in every possible way. It is quite influential in gaining confidence along with using your voice correctly and so feeling relaxed."

**Table 6.** Pre-service music teachers' opinions about the musical development sub-dimension and the descriptive distribution.

<b>Musical development</b>	<b>n</b>	<b>%</b>
We have been improving our musicality.	6	11.1
It enhances our musical aptitude.	2	3.7
It enhances intonation.	1	1.8
It teaches about nuances.	1	1.8
It helps you see the details more closely.	1	1.8
It enhances our musical intelligence.	1	1.8

**Table 7.** Pre-service music teachers' opinions about the professional competence sub-dimension and the descriptive distribution.

<b>Professional competence</b>	<b>n</b>	<b>%</b>
It is very important since we will work as music teachers.	3	5.5
It provides continuous learning experiences and makes us improve.	2	3.7
It is a lesson that I can also benefit from in the future.	2	3.7
It is important in music education.	1	1.8
It is very useful in professional terms.	1	1.8

PST31: "The repertoire has a very important part in the exercises that students do. We correct our use of the voice and are able to perform polyphonic songs in harmony."

PST26: "Doing relaxation and warm-up exercises before starting the lesson is very important."

PST21: "It allows you to use and develop your voice correctly without pushing its limits, by dividing music into four parts in the most suitable way for your tone color and voice range."

PST2: "It is important for strengthening the voice."

PST8: "I believe that I have improved my voice in the choir lessons."

PST12: "I believe that every person has found and improved their own tone color."

The choir is a type of musical expression that requires vocal control. In order for the choir to achieve a complete facility of expression, its members are supposed to have exactly the same technical and musical competencies (Köse, 2004).

Regarding the opinions stated in the category of technical development, teacher candidates said they learned how to use their voices in the choral training course and that it was an important lesson for vocal development, specifically in terms of technique (Table 6).

PST35: "I am aware that playing an active role in a choir with successful intonation will help us improve our musical aptitude. I also claim that it will help us to have better intonation while playing our instruments."

PST9: "Choir lessons improve our musicality since it is polyphonic in general."

PST47: "To me, choir lessons are an essential part of musical polyphony."

Önder and Yildiz, in their study titled "The Dimensions of Classical Guitar Education" (2008) stated that collective music implementations could develop students' skills in making music together and contribute to their musical development. The teacher candidates' statements on the choral training lesson, which is included in the collective music implementations, were in accordance with the ideas of Önder and Yildiz (Table 7).

PST53: "By the time we start to work as teachers, we will have learned how to establish a choir, manage it, train it and be successful with it. The choir lesson is also important in this respect."

PST46: "The most useful information for our professional life after school is taught in the choir lesson."

PST43: "The choir lesson will be important for me when I start to work as a teacher."

PST34: "I want to start a choir when I become a teacher, so this is a beneficial experience for me. That's why the choir lesson is very important to me."

PST26: "The choir lesson is gives us the information that we will use and that will benefit us most when we become professional teachers."

Music teachers are supposed to know about the concepts and information on voice and instruments in the curriculum and have the competency needed to turn them into student behavior while providing students the means to learn about these subjects.

According to Şahin (2004), the concept of competence

**Table 8.** Pre-service music teachers' opinions about the listening skills sub- dimension and the descriptive distribution.

Development of listening skills	n	%
The choir lesson teaches us how to listen.	1	1.8
It requires us to listen to each other.	1	1.8
I make use of this competence to develop awareness of listening in orchestra.	1	1.8

is the knowledge and skill that an individual must possess in order to perform a task in an effective way (Table 8).

PST35: "It is a very important issue to listen to each other in the choir. I am playing in an orchestra in addition to the choir. I believe that people are supposed to have the awareness to listen to each other in orchestras, too. So I also make use of this competence in the orchestra."

PST19: "It teaches us how to listen to each other."

Training for listening skills is an education in tastefulness, consciousness, shared feelings and development. It arouses desire in the interpreter, and it engenders respectability (Özgüç, 1984).

Emiroğlu and Pinar (2013), in her study titled "The Correlation between Listening Skills and Other Skill Types", proposed that listening possibly had an influence on other fields and types of skills. She added that listening was the conscious use of the hearing function of the ears.

The P.S.T 35 supported that statement, saying they attained this skill in choral training and used it in their orchestral works.

## DISCUSSION

This study aims to determine pre-service music teachers' opinions about the significance of choir lessons. The data were collected in collaboration with 54 pre-service teachers and it was classified in eight categories. These categories were: perception, the consciousness of singing together, social development, harmonic ear training, technical development, musical development, professional competence and listening skills. Regarding the themes created through these categories, the research looked for similarities and contrasts in the data. Kalyoncu (2004) said: "Courses that aim to teach musical behaviors to students are dominant in the curricula. This can be explained by the fact that psycho-motor objectives and products of this branch are deemed most important. However, this dominance should not cause a process of learning in which the development of intellectual skills is ignored and motor skills are the primary focus. The curriculum should be improved with courses that encourage students to listen to music and analyze it." This research found that the rate of pre-service teachers who expressed opinions about listening skills development was very

low at 1.8%. This supports Kalyoncu's assertions.

The choir is a psycho-social and socio-cultural phenomenon, and the underpinning quality of the choir is the fact that the individual is a social product. According to White (1956), nowadays individuals are not evaluated individually, but they are rather seen as group members. Thus, it is common for individuals to be understood through their roles in the group. The concept of "group" is thus attained, and we can begin to understand productivity and motivational behavior from this perspective. Apaydin (2001) claimed that in the process of choral training, individuals acquire the habit of working collectively by singing together, increase their self-confidence, gain self-respect by respecting others and are socialized by making new friends. In the consciousness of singing together sub-dimension, 16.6% of the pre-service music teachers supported this notion by stating that: "It is an important lesson in terms of collective consciousness." Moreover, Özgül (1996) said that individual and collective studies encourage students to become more conscious and sensitive about music and music education. They socialize, become part of a group, and their sense of responsibility is increased. In the social development sub-dimension, participants said that their friendships got stronger at a rate of 5.5%, which corresponds to Özgül's claims.

According to Fenmen (1997), the primary goal of musical training is to help students develop their musical skills. Since the aim of music is to express beauty, this should be the main expectation from the students. The primary concern is not technical talent, but the richness of expression and the musical emotions that students have inside. The real achievement of teachers is to direct their students to this path. Gordon claims that singing will help students develop their skills in volume, tonality, intonation, musical phrasing and articulation. In this research, the idea that we develop our musicality dominated the musical development sub-dimension; however, the idea that it improves intonation was only expressed by 1.8% of the students.

Deniz and Gundogdu (2008) conducted a study entitled "An Analysis and Assessment of Music Teachers' Professional Competencies." They found that music teachers felt their colleagues had low levels of competence in creating a polyphonic choir. The researchers indicated that one reason for this was insufficient time spent on choral studies. In this research, the rate of the opinions expressed in the professional competence

sub-dimension was 5.5%, which is significantly low. This implies that the duration of choral training in institutions that train music teachers should be reviewed.

In the same study, Deniz and Gundogdu (2008) determined that music teachers thought their colleagues were competent at an intermediate level in vocal training while they were less competent in technical-based categories such as breathing with diaphragm support and doing vocal exercises. When the percentages in the themes in the technical development sub-dimension of this study are assessed, it can be observed that the rates are very low, which is % 5.5. This is a study of undergraduates and the research done by Deniz and Gundogdu looked at professionals, but the two studies are compatible in the sense that they both demonstrate how inadequacies in undergraduate education influence professional life.

## Conclusion

The choral training course curriculum consists of the following objectives, which are classified as general purposes, main skills, attitudes, learning fields and sample activities:

1. Learning to think and act collectively and share through choral studies;
2. Developing the sense of responsibility in group work;
3. Producing and spreading the correct voice;
4. Becoming a conscious listener of music;
5. Developing the skills of thinking, interpreting and musical sensitivity; and
6. Acquiring the skill of singing collectively.

It was found that the categories and themes created in regard to the opinions of the teacher candidates included in this study were compatible with one another. The primary purpose of the study was to determine the teacher candidates' level of consciousness with respect to the general purposes of the choral training course, with consideration for their own opinions.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# An investigation of self-efficacy beliefs in terms of the reasons for the choice of the teaching profession by teacher candidates

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**The aim of this study is to determine whether there is a difference between the reasons for the choice of the teaching profession by teacher candidates and their self-efficacy beliefs. Survey method was used in this study. The sample of the study consisted of 972 students (232 males and 740 females) studying at Primary School Education, Science Education and Preschool Education at Canakkale Onsekiz Mart University in Turkey. The data were collected through “The Teachers’ Sense of Efficacy Scale” and “The Personal Information Form”. It was seen that there was a significant difference between self-efficacy beliefs and the reasons for the choice of the teaching profession by teacher candidates. No significant difference between the reasons for the choice of the teaching profession by teacher candidates and in the subscales of “Efficacy in Instructional Practices” and “Efficacy in Classroom Management” was discovered from the results of this study.**

**Key words:** Faculty of education, teacher candidate, self-efficacy beliefs, reasons of choosing profession.

## INTRODUCTION

The concept of self –efficacy can be found in the social learning theory. According to the social learning theory, self-efficacy is the main structure affecting motivation (Bandura, 1989). Self-efficacy is the beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments (Bandura, 1977). Self-efficacy explains the way an individual feels, thinks, motivates himself and behaves (Bandura, 1994). Self-efficacy greatly influences our actions. If individuals do not believe that they can reach certain goals through their actions, then they would be less motivated (Bandura,

1999). Self-efficacy is the ability to control one’s emotional performance in challenging situations (Schunk, 1990). Students’ self-efficacy influences their efforts and motivation. Self-efficacy affects an individual’s choice of activities, efforts expended, persistence and success. The sources of information on one’s self-efficacy include personal achievements, vicarious experiences (observations, comparing others’ actions and abilities), persuasion, and physical and emotional states (Schunk, 1984).

Teachers’ perception of self-efficacy can be described

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as the belief in one's ability to organize and perform the acts required to successfully produce a teaching activity in a specific setting. The self-efficacy beliefs of teachers have a major impact on the educational process. Studies showed that the teachers' self-efficacy is shaped after their teaching experiences during their training (Knoblauch and Hoy, 2008). It was determined that teachers' perception of self-efficacy influences the processes of teaching and learning (Hoy and Spero, 2005). Students would be unmotivated if their teacher's perception of self-efficacy is low. Teachers who have a low sense of self-efficacy do not believe in their efficacy in classroom management abilities. They are intolerable to students and pessimistic about their students' progress and they focus on problems instead of progress. Teachers who have a high sense of self-efficacy, on the other hand, show professional commitment for academic activities (Bandura, 1997). They are usually good at planning and organizing certain activities (Tschannen-Moran and Hoy, 2001; Pajares and Urdan, 2006). Furthermore, teachers tend to avoid certain topics when they experience lower levels of self-efficacy; While teachers with a higher level of self-efficacy may encounter problems pertaining to classroom management more often (Pajares and Urdan, 2006). Teacher's self-efficacy is also associated with their behaviors in the classroom (Milner and Hoy, 2003). Efficacy beliefs are raised if a teacher perceives her or his teaching performance to be a success, which then contributes to the expectations that future performances will likely be proficient (Tschannen-Moran and Hoy, 2007).

More than two decades ago, teacher self-efficacy was identified as one of the characteristics contributing to students' success (Milner and Hoy, 2003). Factors which contribute to the development of self-efficacy perceptions in teachers include teaching performances and experiences during the first year of employment (Hoy and Spero, 2005). Teacher self-efficacy is also associated with their behaviors in the classroom (Milner and Hoy, 2003). Furthermore, the self-efficacy perceptions of teachers are associated with various student outcomes such as achievement (Tschannen-Moran and Hoy, 2001). Teachers with a high sense of self-efficacy are open to new ideas and more willing to use new teaching methods, which may meet the students' needs in a better way. The sense of self-efficacy influences teachers' persistence in the face of various problems. Higher levels of self-efficacy help teachers to be less sensitive to students' errors and to be able to work with difficult students. In addition, teachers with a higher level of self-efficacy are more likely to refer challenging students for special education. A higher sense of self-efficacy results in better performance, thus, produces more efficacy and persistence. In other words, low self-efficacy results in unfavorable student outcomes and decreased efficacy, which, in turn, leads to showing less persistence and

effort (Tschannen-Moran et al., 1998).

It has been found that the self-efficacy of teachers significantly predict students' academic success (Maguire, 2011; Gaythwaite, 2006; Coutinho, 2008). It has been determined that there is a strong association between self-efficacy scores and academic grades (Coutinho, 2008; Marriner, 2006). Vogt (2005) reported that self-efficacy has a positive effect on academic behavior. King (2007) found that self-efficacy has a strong direct effect on success. Bujack (2012) also demonstrated that self-efficacy affects academic success. According to Çaycı (2011), there was a positive significant correlation between the self-efficacy levels and attitudes toward professional education in classroom teacher candidates. Hoffman and Spataru (2008) determined that self-efficacy and metacognitive abilities increase the level of problem solving skills in a student group.

Self-efficacy belief has an impact on learning, motivation, choosing process, setting a goal, stress etc. (Jespersen, 1996; Yingling, 2003; Anselmo, 2003). According to Montolbano (2001), self-efficacy influences the choice of behaviours, performance and motivation. Furthermore, there is a significant relationship between success and self-efficacy. This was also supported by the studies of writers such as Jackson (2002) and Prussia et al. (1998). Vogt (2005) stated that self-efficacy is the strongest impact on success.

Because of having impacts on different areas, self-efficacy is important in terms of learning and teaching. Higher levels of self-efficacy help students studying at Faculty of Education to be more successful, to develop their learning skills and to be more motivated. Self-efficacy is an important factor for students' academic performance. In this area, there is not enough study in Turkey and in other countries also; hence this study is expected to fill that gap. The results of this study are important in terms of making contribution to scholars, teachers, authorities of Ministry of National Education and quality of education.

### **Purpose**

The aim of this study is to determine whether there is a difference between the reasons for the choice of the teaching profession by teacher candidates and self-efficacy beliefs. The hypothesis of this study is to find out this difference.

### **METHODOLOGY**

In this study, survey method was used in order to determine self-efficacy beliefs of students according to their reasons for the choice of the teaching profession (Gay et al., 2009; Fraenkel and Wallen, 2006; Creswell, 2008), studying at Primary School Education, Canakkale Onsekiz Mart University.

### Sample

The sample of the study consisted of 972 students (232 males and 740 females) studying at Primary School Education, Science Education and Preschool Education at the Canakkale Onsekiz Mart University. Information on the sample group is given in Table 1.

### Instruments

#### *The teachers' sense of efficacy scale*

The Teachers' Sense of Efficacy Scale (TSES), which was developed by Tschannen-Moran and Hoy (2001), was used for determining the self-efficacy levels of the teacher candidates. The TSES consists of 24 items and includes three subscales (Çapa et al., 2005). The Turkish adaptation of the TSES was conducted by Çapa et al. (2005). Çapa et al. (2005) named the scale as the "Turkish Version of the Teachers' Sense of Efficacy Scale" (TTSES). The Teachers' Sense of Efficacy Scale includes three subscales: "Efficacy in Student Engagement", "Efficacy in Instructional Strategies" and "Efficacy in Classroom Management". Each subscale has eight items. The Teachers' Sense of Efficacy Scale uses a 9-point Likert-type scale, and the responses are measured with the descriptors 1-inadequate to 9-efficient. The highest score that teacher candidates can have is 216 whereas the lowest score is 24. They used a sample of 628 teacher candidates. The reliability coefficient of the efficacy in student engagement subscales was found to be 0.82, whereas this value was 0.84 for the efficacy in classroom management subscale and 0.86 for the efficacy in instructional practices subscale. The reliability coefficient of the entire scale was found to be 0.93 (Çapa et al., 2005).

#### *The personal information form*

The personal information form which was used for data collection in the study, is composed of three parts: Question of gender, class, department of university and the reasons for choosing the department.

#### *Procedures*

Data were collected from the students (232 males and 740 females) studying at Primary School Education, Science Education, Preschool Education at Canakkale Onsekiz Mart University in the spring term of 2012-2013 academic year. In the study, data were analyzed after descriptive statistics computing was done for the independent variables. The one-way analysis of variance (ANOVA) was conducted in order to test the differences between self-efficacy beliefs and the reasons for the choice of the teaching profession by teacher candidates; whereas the LSD technique (the least significant difference), which computes the smallest significant difference between two means, was used for determining between-group differences.

Fisher's LSD technique was used in this study for testing the smallest significant difference (Büyüköztürk et al., 2011).

## RESULTS

In this section, findings regarding the teacher candidates' self-efficacy beliefs scores according to the reasons for the choice of the teaching profession by teacher candidates are presented. The analysis of the variance

**Table 1.** Descriptive statistics of the sample distribution.

		F	%
Gender	Female	740	76.1
	Man	232	23.9
	Total	972	100.0
Department	Elementary Education	465	47.8
	Preschool Education	280	28.8
	Science Education	227	23.4
	Total	972	100.0
Class	1 <sup>st</sup> year	280	28.8
	2 <sup>nd</sup> year	228	23.5
	3 <sup>rd</sup> year	195	20.1
	4 <sup>th</sup> year	269	27.7
	Total	972	100.0

(one-way ANOVA) was used to determine whether there is a difference between the reasons for the choice of the teaching profession by teacher candidates and self-efficacy beliefs.

#### *Evaluation of the teacher candidates' self-efficacy beliefs*

It was discovered from the results of Table 2 that the most prevalent characteristic assessed by the students was "It was my ideal to be a teacher" in the "Efficacy in Student Engagement" subscale. This was closely followed by "I like the teaching profession". The lowest rate belongs to the reason of "I chose teaching because of family reasons". As seen in Table 2, the most prevalent characteristic assessed by the students was "It was my ideal to be a teacher" in the "Efficacy in Instructional Practices" subscale. The reason of "I chose teaching because of family reasons" was the lowest prevalent characteristic assessed by the students. In the "Efficacy in Classroom Management" subscale the most prevalent characteristic assessed by the students was "The job offers good job security". The lowest rate belongs to the reason of "I chose teaching because of family reasons". In total, the most prevalent characteristic assessed by the students was "Teachers earn a lot of money" and the lowest rate belongs to the reason of "I chose teaching because of family reasons".

According to Table 3, there is a significant difference between the reasons for the choice of the teaching profession by teacher candidates and the results of "Efficacy in Student Engagement" subscale. This is why students chose the factors such as "I like the teaching profession, The job offers good job security, It was my ideal to be a teacher, I chose it because of the university placement exam results". Overwhelming evidence from

**Table 2.** The analysis results of the teacher candidates' self-efficacy beliefs according to the reasons for choosing the teaching profession.

Subscale	Reasons	N	Mean	Std. deviation
Efficacy in student engagement	I like the teaching profession	279	5.9315	.78926
	It is a respectable job..	18	5.7222	.62655
	I chose teaching because of family reasons	32	5.3086	1.06113
	Teachers earn a lot of money	4	5.6250	.44488
	There are long holidays	48	5.6536	.81347
	The job offers good job security	173	5.8382	.75663
	It was my ideal to be a teacher	173	5.9335	.81752
	I chose it because of the university placement exam results	245	5.7602	.91087
	Total	972	5.8327	.83611
Efficacy in Instructional practices	I like the teaching profession	279	6.8522	.96376
	It is a respectable job.	18	6.6111	.80541
	I chose teaching because of family reasons	32	6.2695	1.22520
	Teachers earn a lot of money	4	7.2188	.53400
	There are long holidays	48	6.7708	1.00707
	The job offers good job security	173	6.8280	.94645
	It was my ideal to be a teacher	173	6.8598	.98612
	I chose it because of the university placement exam results	245	6.7612	1.07338
	Total	972	6.8002	1.00412
Efficacy in classroom management	I like the teaching profession	279	6.8669	.94945
	It is a respectable job.	18	6.7361	.85737
	I chose teaching because of family reasons	32	6.3047	1.33801
	Teachers earn a lot of money	4	6.9375	.64952
	There are long holidays	48	6.7708	1.02279
	The job offers good job security	173	6.9473	.89279
	It was my ideal to be a teacher	173	6.8757	.99367
	I chose it because of the university placement exam results	245	6.7786	1.11967
	Total	972	6.8351	1.01218
Total score	I like the teaching profession	279	6.8487	.86503
	It is a respectable job.	18	6.6528	.68061
	I chose teaching because of family reasons	32	6.2227	1.15381
	Teachers earn a lot of money	4	6.9167	.49301
	There are long holidays	48	6.6788	.86551
	The job offers good job security	173	6.8321	.80350
	It was my ideal to be a teacher	173	6.8646	.89757
	I chose it because of the university placement exam results	245	6.7270	.99662
	Total	972	6.7856	.90743

the findings of the study revealed that there is a significant difference between the reasons for the choice of the teaching profession by teacher candidates and total scores of self-efficacy. This is why students chose the reasons such as "There are long holidays, I like the teaching profession, The job offers good job security, It was my ideal to be a teacher, I chose it because of the university placement exam results". No significant difference between the reasons for the choice of the teaching profession by teacher candidates and in the "Efficacy in Instructional Practices" and "Efficacy in Classroom Management" subscales was discovered from

the results of Table 3.

## DISCUSSION AND CONCLUSION

The purpose of this study was to determine whether there is a difference between the reasons for the choice of the teaching profession by teacher candidates and their self-efficacy beliefs. The findings of this study revealed that there was a significant difference between the reasons for the choice of the teaching profession by teacher candidates and in the "Efficacy in Student Engagement"

**Table 3.** The analysis results of the teacher candidates' self-efficacy beliefs according to the reasons for choosing the teaching profession.

		Sum of Squares	df	Mean Square	F	Sig.	LSD
Efficacy in student engagement	Between Groups	16.493	7	2.356	3.429	.001**	I like the teaching profession
	Within Groups	662.313	964	.687			The job offers good job security
	Total	678.807	971				It was my ideal to be a teacher I chose it because of the university placement exam results
Efficacy in Instructional practices	Between Groups	12.271	7	1.753	1.748	.094	
	Within Groups	966.752	964	1.003			
	Total	979.024	971				
Efficacy in classroom management	Between Groups	12.947	7	1.850	1.816	.081	
	Within Groups	981.852	964	1.019			
	Total	994.799	971				
Total	Between Groups	14.482	7	2.069	2.540	.014*	There are long holidays
	Within Groups	785.073	964	.814			I like the teaching profession The job offers good job security It was my ideal to be a teacher I chose it because of the university placement exam results
	Total	799.554	971				

P< 0.05 \*; P<0.01\*\*.

subscale. This is why students chose the reasons such as "I like the teaching profession, the job offers good job security, it was my ideal to be a teacher, I chose it because of the university placement exam results". No significant difference between the reasons for the choice of the teaching profession by teacher candidates and in the "Efficacy in Instructional Practices" and "Efficacy in Classroom Management" subscales was discovered from the results.

A similar result was reported by Sağır and Aslan (2009), Özdemir (2008). According to Yavuz (2009), self-efficacy had an influence on choosing

the teaching profession by university students. Contrary to the results of this study, Elkatmis et al. (2013) determined no significant difference between self-efficacy beliefs and the reasons for the choice of the teaching profession by teacher candidates studying at Primary School Education.

Many studies have investigated factors that influence the choice of teaching as a profession among students alike. Self-efficacy beliefs' of students studying at Faculty of Education is affected by many factors such as metacognition, intelligence, the school environment, learning skills, the choice of profession, self-regulation

learning, attitude, motivation, type of high school graduated from etc. However, the most important factor of these is the reasons for the choice of the teaching profession by university students. The choice of the teaching profession is one of the most important choice students make in determining future plans, because this decision will impact students throughout their lives.

There is a relationship between students' self-efficacy beliefs and their academic performance. Students with high sense of self-efficacy toward a task are likely to attempt the task and they will work harder and persist longer in the face of

difficulties. Furthermore, higher levels of self-efficacy help students to be more patient to students who have difficulty in learning. Self-efficacy encourages students to try, allows them to make their own choices.

It is important for students to choose their profession willingly at university. It is expected that students should not choose teaching profession because of the economic concerns. If students choose teaching profession reluctantly or unconsciously, they will be in difficulty in terms of self-efficacy. Furthermore, they cannot be able to help their students sufficiently with low sense of self-efficacy. Conclusively, self-efficacy beliefs of students studying at Faculty of Education is affected by the reasons for the choice of the teaching profession by university students. Therefore, students' academic performance is thought to be affected negatively and positively.

### Conflict of Interests

The author has not declared any conflict of interests.

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*Full Length Research Paper*

# The effect of recreational activities on the elimination of state-trait anxiety of the students who will take the SBS Placement Test<sup>i</sup>

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The purpose of this study is to examine whether recreational activities have an effect on the elimination of state-trait anxiety of the students who will take the “SBS Placement Test” which is an exam for transition from secondary school to high school. For this purpose, as well as an information survey which determined the socio-demographic features, the Spilberger State-Trait Anxiety Inventory was administered as pre-tests to a total of 366 students studying in the 7<sup>th</sup> and 8<sup>th</sup> grades of Elementary Schools. The study was started with 60 students in total - 30 of whom as the intervention group and 30 of whom as the control group - randomly chosen among 123 students whose anxiety symptoms were found high and who stated that they would like to participate in the study voluntarily and had permission from their parents. Following the pre-test implementation, a program including recreational activities such as music, cinema, rhythm training, improvisation exercises, fun athletics, folk dances, scouting, educational games, picnic, orienteering, creative drama, basketball, football and volleyball was applied to the intervention group 2.5 h twice a week for 12 weeks. The study was completed with the administration of post-tests to the intervention and control groups one day before the SBS Placement Test. No significant difference was observed between the intervention and control groups in terms of the state and trait anxiety scores in the pre-tests, whereas a significant difference was observed between the mean scores of both groups in favor of the intervention group in terms of state anxiety ( $p=0,000$ ) and trait anxiety ( $p=0.004$ ) after the implementation of the activities. These results showed that the applied recreational activity program was effective in the elimination of state and trait anxiety attributes.

**Key words:** Recreational activities, state-trait anxiety, students, SBS placement test.

## INTRODUCTION

In the Turkish education system, students take a central exam administered simultaneously throughout the

country to go to high school after secondary school. In respect to this exam; messages related to the fact that it

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is necessary to study hard to go to a good high school are continuously given by schools, families and the media. While the students who are at the transition stage to adolescence try to adapt the situations brought with age traits on one hand, they have to undertake the responsibility of this important exam and studying hard for academic achievement on the other. Young people who experience conflicts at the high school entrance stage and in the transition period to adolescence bearing the responsibility of succeeding in the exam, the uncertainty of the result may lead to anxiety (Varol, 1990; Yörükoğlu, 2004).

Anxiety is described to include one or most of the excitements such as sadness, distress, fear, sense of failure, helplessness, not knowing the result and being judged and as an adaptive mood against hazards (Cüceloğlu, 2006); whereas exam anxiety is defined as an unpleasant mood and stress which inhibits individuals to deliver their actual performance in an evaluation environment. It is mentioned to have cognitive and affective dimensions. The cognitive dimension is stated to include a kind of negative self-talk and thoughts as dilusions for being unsuccessful and inadequate, whereas the affective dimension is stated to be a sensory dimension where autonomic nervous system is stimulated and which also includes physiological parts (Spielberger and Vagg, 1995).

Spielberger (1980) formed the basis of the two-factor theory of anxiety as a result of the studies he carried out and put the concepts of "state" and "trait" anxiety forth. The state anxiety is stated to reflect the subjective feelings of an individual related to the situation he is in and how he feels himself at certain moments and under certain conditions and trait anxiety is stated to be a feeling related to how an individual generally feels, his tendency to anxiety experience and a persistent state of anxiety and also to increase in times of intense stress and decrease in lack of stress (Beck et al., 1984; Lecompte, 1985; Spielberger, 1980).

In the literature, it is stated that efforts to search for identity and rapid changes experienced during adolescence cause anxiety. This anxiety can affect an adolescent's life negatively and can shake self-esteem and self-confidence together with particularly the exam preparation process, identity, school problems and changes in achievement. Exam anxiety is also mentioned together with the anxiety experienced because of the nature of adolescence and is stated to increase in direct proportion to the importance attached to it by the society (Hampel et al., 2008; Pat-Horenczyk et al., 2007; McDonald, 2001). It is stated that young people try different ways to remove anxiety arising in adolescence, even turn to risky behaviors damaging themselves (Ajduković, 1998; Ekşi, 1999; Yörükoğlu, 2004).

The sense of self-confidence is shaken when school problems and academic failures are added to these risky behaviors (Pat-Horenczyk et al., 2007, cited from Rogge by Şanlı et al., 2014).

Although playing games and doing sports are suggested to be helpful for children in managing their impulses and emotions and reducing the level of anxiety and in coping with trauma (Erden and Gürdil, 2009; Gestwicki, 1999), the situations, such as exams, triggering anxiety are included in training programs instead of improving problem solving skills through game supported studies in reducing the problems and anxiety experienced during adolescence.

Leisure activities eliminate negative feelings and thoughts and help achieve positive ones (Steptoe et al., 1989). Game and sports activities activate passive students in educational environments improve the quality of educational environment offered to children, school motivation and reduce exam anxiety (Çamlıyer and Çamlıyer, 2001; Hazar, 2000). As low-force, rhythmic and long-term activities do not force the body and include no risk of turning into a competitive content, participation in sports, social and cultural activities is recommended to cope with anxiety (Bond et al., 2002; Gosselin and Taylor, 1999). Implementation of these activities in groups increases its effectiveness (Cahill and Foa, 2005).

It is also stated that timing of the selected activities in the elimination of anxiety should not trigger anxiety (Brody, 1998).

As leisure activities are important in eliminating anxiety, especially exercising supports releasing hormones providing relaxation and so eliminates some negative feelings such as depression and anxiety, the importance of doing leisure activities is highlighted in many resources (Ba1taş and Baltaş, 1990; Kalyon, 1994; Müftüoğlu, 2005).

Considering all these literature data, it was wondered how the implementation of a recreational activity program to the students who will take the SBS Placement Test which is a high school entrance exam administered at the beginning of adolescence affects the elimination of state and trait anxiety.

### **The purpose of the study**

The purpose of this study is to examine whether the recreational activity program implemented to the 7<sup>th</sup> and 8<sup>th</sup> grade students who will take the SBS Placement Test and have high state-trait anxiety in groups for 12 weeks without giving any psychological support has an effect on the elimination of anxiety symptoms.

### **Research question**

Does the implementation of the recreational activity program administered to the 7<sup>th</sup> and 8<sup>th</sup> grade students who experience state-trait anxiety and will take the SBS Placement Test in groups for 12 weeks have an effect on the elimination of state and trait anxiety?

## MATERIALS AND METHODS

### Subjects

This research is an experimental design study. The intervention and control groups were constituted by 60 primary education students, who attended the 7<sup>th</sup> and 8<sup>th</sup> grades at Kazım Karabekir Elementary School in Ümraniye, İstanbul, had high state-trait anxiety levels and participated in the study voluntarily; 30 were the intervention group and 30, the control group.

The study was started after obtaining the necessary permissions from National Education Directorate of Ümraniye District and Ethics Committee of Kocaeli University. The activity program was planned in such a way that termination of the activity schedule and the post-tests right after it would be performed one day before the exam in accordance with the exam schedule due to the fact that the SBS placement test would be performed at the end of the spring term.

### *Determination of the students constituting the study group*

The information survey which determined the socio-demographic features and the Spilberger State-Trait Anxiety Inventory were administered to 366 students who studied in the 7<sup>th</sup> and 8<sup>th</sup> grades at Kazım Karabekir Elementary School in Ümraniye İstanbul and would take the SBS Placement Test. A meeting was held with 123 students who said “yes” to the question asked in the information survey “Would you like to participate in the social, cultural and sportive activities to be performed?” Among the 210 students who were identified to experience high level of anxiety symptoms and their parents and they were informed about the purpose of the study and the implementations of the activities. 30 students randomly chosen among the 123 volunteer students with permission from their parents who stated that they would participate in the activity program regularly were assigned as the intervention group and 30 students who had permission from their parents but stated that they would be studying for the exam during the activity hours were assigned as the control group.

### *Preparation of the recreational activity program*

During the preparation of the activity program, it was paid attention to be after studying hours and supporting the sense of “can do” (Kılbaş, 2004) as in the definition of recreation. As timing of the selected exercise not being a matter of anxiety and the person’s not thinking about how to allocate time are considered important for the sense of “can do” (Brody, 1998; Gökçe, 2004), a program based on volunterinees of the students including activities the students preferred and could participate in after the studying hours was prepared. Considering the students’ wishes as well as the literature information, this program included activities appropriate to the students’interests after the studying hours. In the implementation procees of the activities, situations such as getting bored with the activity and whether they wanted to repeat the activity or not were also taken into consideration. In line with the requests from the students, a program including recreational activities such as music, cinema, rhythm training, improvisation exercises, fun athletics, folk dances, scouting, educational games, picnic, orienteering, creative drama, basketball, football and volleyball was prepared. As exam preparation was of priority for the students participating in this study, the activity program was implemented after school and studying hours. The activity program, which the students participated in groups, was implemented at 2.5 h twice a week for 12 weeks. Creative drama, volleybal, football and basketball activities were implemented in groups of 15 students in different periods of time. All the other activities were performed with the simulataneous participation of all of the 30 students. The content of

the program for the planned and implemented activities are given in Table 3.

### *Data collection tools*

Information Survey: A 16-item information survey determining the socio-demographic features of the students, whether they would like to participate in this study or not and if they did, what kind of activities they preferred was prepared.

State-Trait Anxiety Inventory: The State-Trait Anxiety Inventory developed by Spielberger et al. (1970) and adapted to Turkish by Öner and Le Compte (1985) consists of two sections, each of which includes 20 items, and 40 items in total. The total score value obtained from each scale varies between minimum 20 and maximum 80 and high scores indicate high anxiety level (Öner and Le Compte, 1985). In the reliability study of the scale carried out by Öner and Le Compte (1985), the Alpha reliability coefficient was found between 0.83 and 0.87 for trait anxiety scale and between 0.94 and 0.96 for state anxiety scale. In the pre-tests for this study, the Cronbach Alpha reliability coefficient was found as 85.4% for the trait anxiety inventory and 80.4% for the state anxiety inventory. In the post-tests, the Cronbach Alpha reliability coefficient was found 89.9% for the trait anxiety and 74.4% for the state anxiety.

### *Statistical analysis*

The demographic features were taken as percentages. First, whether the demographic distributions of the intervention and control groups were homogeneous or not was tested with the Levene test and the variances were determined to be homogeneous. The student’s t test was used in comparison of the pre-test and post-test results for the state-trait anxiety levels of the intervention and control groups; and the paired t test was used in the comparison of the pre-tests and post-tests of each of the intervention and control groups separately in terms of both state and trait anxiety as it was appropriate for the normal distribution.

## RESULTS AND DISCUSSION

The average age of the students participating in this study was determined as 13.60±.49. It was ensured that the intervention and control groups were similar in terms of the variables such as gender, income status, parental education level and the number of siblings, which were reported to affect the anxiety state in the studies examined. Considering the literature, as well as studies finding, the girls’ anxiety was higher (Alyaprak, 2006, Aslan, 2005, Duman, 2008), and the boys’ anxiety was higher (Kapıkıran, 2002; Kayapınar, 2006; Sarason, 1981). In view of this information, in order to see the effect of the recreational activities, it was ensured that the intervention and control groups were similar in terms of the variable of gender so that it would not affect our results ( $p=1.000$   $p>0.05$ ) (Table 1). Considering the information in the literature reviews that there are differences between primary school graduate parents and college graduate parents in terms of their attitudes towards their children and the anxiety experienced decreases reversely as the education level of the family increases (Gökçedağ, 2001; Gümüş, 1997; Kayapınar,

**Table 1.** Frequencies and Levene test results for the socio-demographic features of the intervention and control groups.

Variables	Groups	Intervention Group		Control Group		P value
		f	(%)	f	(%)	
Gender	Girl	22	(73,3)	22	(73,3)	1,00
	Boy	8	(26,7)	8	(26,7)	
Mother's Education Level	Illiterate	5	(16,7)	3	(10)	0.889
	Literate	3	(10)	5	(16,7)	
	Primary school graduate	17	(56,7)	13	(43,3)	
	Secondary school graduate	3	(10)	7	(23,3)	
	High school graduate	2	(6,7)	2	(6,7)	
	Illiterate	1	(3,3)	2	(6,7)	
	Literate	2	(6,7)	2	(6,7)	
Father's Education Level	Primary school graduate	18	(60)	13	(43,3)	0.174
	Secondary school graduate	6	(20)	8	(26,7)	
	High school graduate	14	(46,7)	14	(46,7)	
	Illiterate	1	(3,3)	2	(6,7)	
Family income status	Below 500 TRY	5	(16,7)	8	(26,7)	0.665
	500 -1000TRY	14	(46,7)	14	(46,7)	
	1000-1500TRY	8	(26,7)	3	(10)	
	1501TL and over	3	(10)	5	(16,7)	
	None	1	(3,3)	2	(6,7)	
Number of siblings	1 sibling	3	(10)	4	(13,3)	0.119
	2 siblings	6	(20)	9	(30)	
	3 siblings	9	(30)	3	(10)	
	4 siblings and over	11	(36,7)	12	(40)	

2006). It was ensured the intervention and control groups were similar in terms of the mother's education level ( $p=0.467$ ,  $p>0.05$ ) and the father's education level ( $p=0.598$ ,  $p>0.05$ ). In addition, based on the explanations that the children in low socio-economic level have higher anxiety (Alyaprak, 2006; Aral, 1997; Duman, 2008; Girgin, 1990; Kayapınar, 2006) and state and trait anger decreases as the income level increases depending on the increase in the sense of self-confidence (Gündoğar et al., 2007), the intervention and control groups were similar in terms of the income level ( $p=0.598$ ,  $p>0.05$ ) (Table 1).

As it is mentioned in some studies that the number of siblings is a factor which increases the level of anxiety (Toros and Tataroğlu, 2002), it was tried that the numbers of siblings of the children constituting the intervention and control groups were similar so as not to affect the results of the study, and as a result of the statistical analysis carried out, it was seen that this similarity was provided ( $p=0.467$ ,  $p>0.05$ ) (Table 1).

Our efforts to provide the similarity of the socio-demographic features which could affect the anxiety state of the control and intervention groups being successful

showed that the recreational activity program we implemented was effective in the elimination of the state and trait anxiety symptoms.

Considering the results for the state anxiety in Table 2, the difference between the pre-test scores of both groups being insignificant ( $p=0.736$ ,  $p>0.05$ ) when the scores of the intervention group ( $54.17\pm 8.120$ ) and the scores of the control group ( $53.50\pm 7.109$ ) were compared showed that the students included in the study had similar features in terms of the sense of anxiety at the beginning. To evaluate the effectiveness of the recreational activity program we implemented; the state anxiety pre-test scores of the intervention group ( $54.17\pm 8.120$ ) gradually decreasing in the post-tests ( $32.80\pm 8.806$ ) and this decrease in the scores being found significant in the analysis performed ( $p=0.024$ ,  $p<0.05$ ), the state anxiety pre-test scores of the control group ( $53.50\pm 7.109$ ) decreasing in the post-tests ( $43.90\pm 10.145$ ); however, the difference being found insignificant ( $p=0.157$ ,  $p>0.05$ ) and also the difference between the post-test mean scores being significant when the state anxiety post-tests of the intervention and control groups were compared ( $p=.000$ ,  $p<0.05$ ) showed that the recreational activity

**Table 2.** State-trait anxiety pre-test post-test values of the intervention and control groups.

Applied scales		Intervention Group Mean $\pm$ SD	Control Group Mean $\pm$ SD	t value	P value
State anxiety	Pre-test	54,17 $\pm$ 8,120	53,50 $\pm$ 7,109 43	.338	0,736
	Post- test	32,80 $\pm$ 8,806	,90 $\pm$ 10,145		
	t	10.612	4.311	-4.526	,000
	P Value	0,024	0,157		
Trait anxiety	Pre-test	52,97 $\pm$ 7,421	54,60 $\pm$ 5,456	-9.71	0,335
	Post- test	43,80 $\pm$ 8,802	49,73 $\pm$ 6,079	-3.038	0,004
	t	5.315	2.986		
	P Value	0,034	0,267		

**Table 3.** Number of the planned and implemented activities.

Name of the planned activity	No of the planned activity	No of the implemented activity	Name and No of the replaced activity in the implementation	Reason for the change in plan
Music study	2	2	-	-
Cinema	2	2	-	-
Rhythm training	2	2	-	-
Improvisation studies	2	2	-	-
Folk dances	2	2	-	-
Scouting	2	2	-	-
Educational games	2	2	-	-
Picnic	2	2	-	-
Orienteering	2	2	-	-
Creative drama	2	2	-	-
Basketball	2	1	Watching a basketball match	The students' desire to watch a basketball match
Football	2	2	-	-
Volleyball	2	2	-	-

program we implemented was effective for the state anxiety and contributed to the elimination of the anxiety, which is a subjective feeling of students for "the SBS Placement Test" considered important, considering the explanations that the state anxiety reflects the subjective feelings for the present situation and increases in times of intense stress (Table 2).

Interms of the trait anxiety scores, the pre-test scores of the intervention group (52.97 $\pm$ 7.421) decreasing significantly in the post-tests (43.80 $\pm$ 8.802) ( $p=0.034$   $p<0.05$ ), there being a significant difference between the pre-test (54.60 $\pm$ 5.456) and post-test scores (49.73 $\pm$ 6.079) of the control group; however, this difference being found insignificant ( $p=0.267$ ,  $p>0.05$ ) and no significant difference being observed between the pre-test scores of the intervention and control groups ( $p=0.335$ ,  $p>0.05$ ) at the beginning of the study, whereas

there being a significant difference between the post-test scores ( $p=0.004$ ,  $p<0.05$ ) revealed that the recreational activity program we implemented was also effective in the elimination of the trait anxiety (Table 2).

These results showed that that the recreational activity program we implemented was effective in the elimination of both the state and trait anxiety.

Although a similar study examining the effect of recreational activities has not been encountered, it is seen that there are studies investigating exam anxiety, state and trait anxiety (Duman, 2008; Günay et al., 2008, Kozacioğlu, 2012) and reporting that socio-cultural and sports activities have an effect on self-esteem and social anxiety (Aktop and Erman, 2002; İçten et al., 2006; Karagün et al., 2010; Steptoe et al., 1989; Tekin et al., 2002; Togo et al., 2006). Studies show the importance of exercises, sports and participation in socio-cultural

activities in coping with anxiety (Bond et al., 2002; Gökçe, 2004; Karagün et al., 2010; Steptoe et al., 1989) as regular physical activities are supportive in positive orientation of feelings and behaviors and reduce the level of anxiety. Regular physical activities are stated to be supportive in positive orientation of feelings and behaviors and reduce the level of anxiety (Baltaş and Baltaş, 1990; Müftüoğlu, 2005). Especially, recreative activities performed in groups such as games, sports, drama, story telling, handcrafts and photography are stated to encourage regular participation as they will be found entertaining and increase interest (Rose, 1998).

When interpreted with the information that psychosocial support can be effective to cope with negative feelings such as anxiety and to increase self-esteem (Hampel et al., 2008), in-class student interaction in elementary education level has an effect on academic achievement, socialization and development (Johnson and Johnson, 1999), and the belief in being able to do something improves self-confidence in proportion to success (Biçer, 1998), it was concluded that the students gained the sense of “can do” and developed self-confidence when they performed the activities they liked and wanted, they relaxed with the activities they participated voluntarily, they received a kind of psychosocial support through the activities they participated in groups, their in-group interactions increased, their self-confidence was reinforced and they cognitively experienced a positive change in their negative thought patterns as they expressed themselves, their participation in the activities they were interested in and loved provided a kind of relaxation, and therefore their anxiety levels decreased.

In addition, when considered with the information that when the intervention programs are implemented at schools, their acceptance becomes easier both for the children and the families, doing sports reduces the general symptoms and anxiety index, the sense of game and cooperation rather than competition in particular support socialization (Çekin et al., 1996; Karagün et al., 2010) and most of the students do not do sports out of school (Taşmektepligil et al. 2006), it is seen how important it is to carry out recreational studies at schools in a systematic way.

## Conclusion

In conclusion, no significant difference was observed in the pre-tests in terms of the control and intervention groups, whereas the anxiety level of the intervention group decreased in the post-tests. These results indicate that the implemented recreational activity program was effective in reducing the state-trait anxiety level of the students who would take the SBS Placement Test. Based on the results of this study, it is anticipated that mainstreaming recreational activities at schools and performing them together with psychological guidance

activities will be supportive for students to cope with exam anxiety and other ongoing anxieties. It is thought that it would be appropriate to include recreational activities in secondary school programs thinking that they would be supportive to cope with anxiety especially in the exam periods considered important by the society.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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<sup>i</sup> This study has been adapted from the master's thesis titled "The Effect of 12-Week Recreational Activities on the State-Trait Anxiety Level of the Primary Education Students Who will Take the SBS Placement Test" Supervised by Assist. Prof. Dr. Elif Karagün.

*Full Length Research Paper*

## Gifted students' metaphor images about mathematics

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**The aim of this study is to investigate the metaphors images of gifted students about mathematics. The sample of the study consists of 82 gifted students, which are 2, 3, 4, 5, 6, 7 graders, from Istanbul. Data were collected by asking students to complete the sentence: "Mathematics is as ..., because...". In the study content analysis was used. The metaphors which were generated by students were categorized in terms of perceptions of mathematics. Metaphors were classified by three categories as content of mathematics, function of mathematics and exhibit attitude to mathematics. Chi-square test was used for examining relationship between two qualitative variables which are grades and metaphors. One of the findings is that gifted students generated metaphors according to their attitudes to mathematics.**

**Key words:** Metaphor, mathematics, gifted students.

### INTRODUCTION

Research on metaphors, dating back to the work of Aristo (B.C. 386-322), treats the usage of language and eloquence. Lakoff and Johnson (1980) mention that our mentality is formed with metaphors (Otyzbayeva, 2006). Metaphors are used as a pedagogical tool, an assessment tool, a mental tool in education (Saban, 2006). Metaphor makes it easy to conceptualize and helps to configure knowledge. Most research studies in mathematics education on the use of metaphor have presented that metaphor highlights the importance of education. Metaphors produce a conceptual relationship between a source domain and a target domain because of linking different senses. Though conceptual metaphor is related to person building it, teachers use metaphor to help students' understanding (Lakoff and Nunez, 1997). Therefore, while talking about abstract concepts, the usage of metaphors provides coherence of meaning.

Metaphors are experiences that are acquired from our

daily lives and they are conceptual. Metaphors are indispensable in the comprehension process of abstract notions. Because of conceptuality, metaphors are shaped according to different cultures (Lakoff and Johnson, 2005).

According to Lakoff and Johnson (1980) in addition to providing new understandings, metaphors which are defined simply as 'understanding something from another perspective' create our thoughts and actions at the same time. For MacCormak (1990) 'the basis of a metaphor is to refer to the concepts that we know and recognize for explaining something unknown and it is the extraordinary sequence of the things which are familiar and which are not familiar to us.' According to Cerit (2008) people use metaphors when they know little or do not know much about the concept and terminology about the case that they want to explain. For instance, someone who says 'Turkish is like a mother's milk' while defining our mother

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tongue which is one of the basic components of our life, explains it by emphasizing the mother's milk which is more familiar to him/her and which has a basic and vital function like the mother tongue itself. That is to say, explains the meaning of this basic component by moving from mother's milk metaphor. According to the researchers who moved from the Lakoff and Johnson's definitions about metaphor concept, metaphors have a shaping effect on our thinking styles, languages and science and also on the way for expressing ourselves in our daily lives (Morgan, 1998). In this regard, metaphor has been used in many studies in recent years. The purpose of these studies which were carried out in this method is to try to present the perception style of different concepts by people through metaphors.

People perceive and understand their environment; as a matter of fact if we discuss it from a wider perspective, the world, in many different dimensions from each other. The answers of the questions such as where to live, where to shop and where to visit base on our perceptions about the places such as beautiful or ugly, good or bad, safe or dangerous. The environmental issues are important factors on the emphasis given for the environmental education and the determination of the perceptions about environmental issues has a discrete importance as it will reveal the attitudes of individuals about the problem. Because, it will be wrong to claim that there is a single solution and a single method for the solution of the problems about the environment as in all fields. Thus, the previous studies state that environmental education is an effective as it is expected and should be freed memorization. In the process of understanding the perceptions of individuals, effective results can be obtained by looking at their metaphoric intellectual worlds.

Because, the metaphors are cognitive concepts which enable people to be able to discuss any subject from different perspectives in order to be able to express their thoughts about it. With the evaluation of these concepts, it is provided to understand subject which is discussed from different perspectives and to shape it according to reality (Morgan, 1998; Berci, 2007).

60 teachers participated who teach vocational and technical courses perceived themselves as a zookeeper, a maestro, a judge and puppeteer (Ben et al., 2003). While the teachers of students with low performance defined themselves as zookeeper, the teachers of students with high performance defined themselves as a maestro. They also stated that metaphors are important perception tools in education and it is possible to reveal underlying beliefs and assumptions about teachers' roles in the classroom, students and education through metaphors.

The features of a metaphor can be classified as Tompkins and Lawley (2000): for a concept;

(i) defining a concept with a different one

(ii) describing through the analogical feature of a different concept,

(iii) seeing in different dimensions and with a different form.

Metaphors can be living and nonliving things, abstract and concrete and also they can be positive and negative. Metaphors which can be used as a tool for collecting information and interrogation at the same time enable one to understand subjects which were not understood sufficiently. Besides, they play an important role in presenting the problems overtly and providing abstracts for the thoughts.

Uçar et al. (2010) asked from primary school students to illustrate the mathematics and the mathematician of their dreams. In addition to that it was aimed to collect students' thoughts about mathematics and mathematician concepts through written documents. When pictures and writings were analyzed, it was determined that students perceived mathematics as a ball of numbers and mathematicians as unsocial and introvert persons. Oflaz (2011) searched the perceptions of primary school students regarding mathematics teacher concept. It was determined as a result of the study that students wanted a mathematics teacher who is caring, affectionate, merciful, easy to communicate with and non-judgmental when they ask him/her questions. Güler et al. (2012) analyzed the metaphoric perceptions of secondary school prospective mathematics teachers about 'mathematics' concept. 5 categories appeared in the study. These categories are; the necessity, advisor, infinity, perspective and the life itself. Yılmaz et al. (2013) asked prospective teachers to create metaphors about 'teacher' concept. The categories obtained as a result of the analysis are as in the following; formatting teacher, advisor teacher, source of information teacher, non-status teacher, flexible teacher, role-model teacher, teacher carrying out a sacred work. Ada (2013) analyzed the perceptions of 6th, 7th and 8th grade students about 'mathematics' and 'mathematics teacher' concepts with the help of metaphors in his published master's thesis. According to data which were analyzed with content analysis, students generally interpreted mathematics concepts as a difficult and boring lesson. In addition to this; it was also described as enjoyable, comprehensive and requiring intelligence. It was asserted as 'a smart person' for the 'mathematics teacher' by the majority of the sample. According to chi-square test carried out in the study, it was determined that as the grade levels of the students and their parents' educational levels increased, the student displayed negative attitudes towards 'mathematics teacher' and 'mathematics' concepts. Güner (2013) asked the opinions of classroom, social sciences and primary school mathematics prospective teachers about 'mathematics' concept. Whereas the idea of 'mathematics makes their life complicated' became prominent among social sciences

prospective teachers, classroom prospective teachers generally emphasized the idea that 'mathematics is an amusing engagement'. Primary school prospective mathematics teachers mostly stated the idea that 'mathematics is simply the life itself'.

Picker and Berry (2000) asked to draw their mathematics teacher from the seventh and eighth graders at five different elementary schools in five different countries. When analyzed the metaphorical, students had drawn threatening, violence, despot and rigorous people figure.

Inbar (1996), in this study, 409 primary students and 254 educators participated who offered metaphors for the concept of student, teacher and school principal. When students were perceived as a vegetation by many of the educators, educators were perceived as a super lock by many of the students. The concept of school principal was perceived as an author by students and educators. The concept of school was perceived as a framed the world by many of the students and educators.

Researchers proposed to investigate the dynamic process of teaching and learning of graph fiction in high school in Spain (Frant et al., 2005). Researchers looked for answers to the following questions: what kind of metaphors was used for explaining the graphic representation of functions by teacher, did teacher realize metaphors which uses, what effect of metaphors which teacher uses was on his/her students, what was the role played by metaphors in the negotiation of the meaning.

### The importance and purpose of the study

At the beginning of the study, we assumed that gifted students generate metaphors about mathematics related to its function in real life. It was examined whether categories of generated metaphors vary according to class level which means primary (2,3,4) and secondary (5,6,7).

### METHOD

The research method of this study was case study. Case study is one of the methods of qualitative research. The sample consisted of 82 gifted students who were at 2, 3, 4, 5, 6 and 7 grads from private primary school in Istanbul. The participants were requested to complete semi-structured sentence: "Mathematics is as..., because...".

#### Data collection

Content analysis technique was used on collected data.

#### Data analysis

Data were analyzed both qualitatively and quantitatively. First of all, three phases were implemented. Generated metaphors by gifted students were a) coded as concept (sea, water, fish, game and etc.), b) classified according to topic, source and connection of topic

and source, c) examined in terms of common characteristic independently of researchers. Afterwards, researchers compared their lists of metaphoric images. Researchers found the least common denominator.

Chi square test was only used when all expected values in nxn tables have to be above 5. For this reason, we implemented Chi square test for determining the link between gender and metaphorical categories and also school levels and metaphorical categories.

### Participants

#### Gifted students

According to Ministry of Education Science and Art Centre (SACs) Directive's j clause of 4th article of the definitions section, gifted students are defined as in the following; j) Gifted Child/Student: The child/students who are specified by the experts that they display higher performances than their peers in intelligent, creativity, art, leadership capacity or special academic areas (BILSEM Instrustions, 2007). The Wisc-r test score of all the gifted students who participated in this thesis study was determined as 135 ZB or over. The class was opened for gifted students without classifying their talents regarding on which field they are more talented by predicting the contribution of environmental factors (selection of school and class etc.) to their academic achievements. This case is included in literature as 'full special classes. It helps to create a full-time homogenous group (Sak, 2012). 'Full special classes' environmental factor is seen as important for gifted students to get academic achievements (Rogers, 2002). A gifted individual displays abnormal performances in one or more areas and succeeds in developing creative and innovative ideas (Budak, 2008). A gifted individual grows up earlier than his/her peers and maintains his/her development in a larger period than normal. For example, a gifted individual maintains his/her development till older ages than the development age of a non-gifted individual (Winner, 1996). It is stated in literature that gifted students understand the concepts quickly, think flexible, open to discoveries, analyze the details and have high ethical senses (Reynolds and Birch, 1988). Jost emphasizes that gifted children have higher potentials than their peers but it is not always possible to convert this potential into performance automatically (Jost, 2006).

Furthermore, gifted students were coded according to school level. Primary school students were coded as P<sub>1</sub>, P<sub>2</sub>,..., P<sub>46</sub> and secondary school students were coded as S<sub>1</sub>, S<sub>2</sub>,..., S<sub>36</sub>.

### FINDINGS

According to the results of the study, generated metaphors by gifted students were identified in 3 categories. The participants generated metaphors related to their approach to mathematics.

56% of the participants were from primary school level and the rest of the participants were secondary school level. Demographic information of the participants is placed in Table 1.

Gifted students of Secondary school generated 26 metaphors which are respectively; water (4), life(4), blood (3), game (3), logic, flower, lamp, history, tree, sea, clue, key, secret, fish, sun, star, space, lastic, cafein, mind, maze, atom, patato sack, blind-alley, loop and seed (Table 2).

**Table 1.** Demographical data of participants.

Graders	2-3-4	5-6-7
Number of Participants	46	36
Gender		
Female	21	11
Male	25	25

Gifted students of primary school generated 32 metaphors which are respectively; life (4), shine (4), teacher (3), puzzle (3), water (2), heart (2), tree (2), flower (2), house, knowledge, gifted knowledge, calculator, way, game, star, ice-cream, computer, world, mind, brain, fire, smart board, compass, strand, time streaming, mint, planet, a brain box, cave, profession, matter, building.

Chi square test is calculated in Table 3. Hypotheses are as follows:

$H_0$ = Gender and metaphors are independent qualitative variables

$H_1$ = Gender and metaphors are dependent qualitative variables

According to result, degree of freedom is 2 (for categories and gender) and  $\chi^2_{0,01;2}=9,21034 > \chi^2_{0,01;Table 2}= 4,7$ , then qualitative variables which are gender and metaphoric images are independent.

Moreover, degree of freedom is 2 (for categories and school levels); hypotheses of chi square test are as follows:

$H_0$ = School levels and metaphors are independent qualitative variables

$H_1$ = School levels and metaphors are dependent qualitative variables

$\chi^2_{0,01;2}=9,21034 > \chi^2_{ Yates }=1,4$ .

Hence, these two qualitative variables which are metaphoric images and school degree (primary and secondary level) are independent variables.

### Examples of generated metaphors

#### Category 1

*Mathematics is as compass. Because both of them guide to us (P<sub>11</sub>)*

*Mathematics is as water. Because we cannot live without water (S<sub>24</sub>)*

#### Category 2

*Mathematics is as trees. Because trees have boughs (P<sub>36</sub>)*

*Mathematics is as a clue. Because it helps us to make out (S<sub>20</sub>)*

#### Category 3

*Mathematics is as a fish. If you go straight, you can pick the bones of fish, and eat. (P<sub>25</sub>)*

*Mathematics is as a lastic, because lastic gets longer as long as you pull (S<sub>7</sub>)*

### DISCUSSION

Respectively, metaphoric categories-gender and metaphoric categories-school level were identified as independent qualitative variables. Generated metaphors by gifted students were predominantly in category 1. Actually, it was surprise for us. Because, we expected that gifted students generate metaphors about using of mathematics in real life. Probably, this is due to students' perception of mathematics as a lesson only and not linking mathematics and real life.

Students perceive mathematics as a difficult lesson in the study carried out by Oflaz (2011) and the number of students who accepted mathematics as necessary was less. However, in this study, gifted students whether they like mathematics or not accepted the necessity of mathematics. In Sterenberg (2008)'s study primary school students perceived mathematics as a struggle in a similar way to this study. In Wood (2008)'s study which was carried out with 1200 university students, many students see mathematics as a tool for their future professional lives. Similarly, 20 % of the students in this study considered mathematics as a tool while producing metaphors.

In Şahin (2013)'s study the metaphors about mathematics and mathematics teachers were asked to prospective teachers from various departments of the university and while prospective teachers who frequently use mathematics and have successful results perceived mathematics as enjoyable, prospective teachers on the opposite case generally used negative metaphors. This result overlapped with the studies of Güler et al., (2012) in which prospective mathematics teachers produced metaphors such as guiding, eternity, necessity and indispensable part of life regarding the mathematics concept that they have.

In Kılıç (2011)'s study which was carried out comparatively, the result which mostly occurred commonly in metaphors of mathematics teachers in Belgium and Turkey about mathematics was puzzle. Cultural, regional, national and international factors were stated as for the reason of the other different metaphors. The effect of teachers is major on establishing positive attitudes towards mathematics among students. According to Megay-Nespoli (2001) when teachers create a positive classroom atmosphere, the motivations and cognitive developments of students are positively affected and in accordance with this their academic achievement increases. Besides, according to Bloom (2012) affective

**Table 2.** Distribution of metaphors according to categories.

Categories of metaphors	Primary School Students	Secondary School Students
	Metaphors (n=46)	Metaphors (n=36)
Function of Mathematics	Life (4), teacher(3), water(2), heart(2), computer, mind, brain, smart board, compass, mint	Water (4), blood(3), logic, clue, key, secret, mind
Content of Mathematics	Tree(2), flower(2), house, world, building	Flower, history, tree, sea, space, atom, potato sack, blind alley, loop and seed
Attitude to Mathematics	Shine(4), puzzle(3), knowledge gifted knowledge, calculator, way, game, star, ice-cream, fire, strand, time streaming, planet, brain box, cave, profession, matter	Life(4), game(3), lamp(2), fish, sun, star, lastic, cafein, maze

**Table 3.** Metaphoric images distribution according to gender.

Categories of metaphors	Grader		Gender	
	2-3-4	5-6-7	Female	Male
Function of Mathematics	17	12	9	20
Content of Mathematics	7	9	10	6
Attitude to Mathematics	22	15	13	24

features are one of the reasons of individual differences while learning and the effect of this on the variety among others while learning is one fourth. Teachers should be in a supportive manner against their students by considering all of them.

## Conclusion

Metaphor refers to a clue related with one's idea about a concept (Levine, 2005). For this reason, we explored gifted students' metaphoric images link with mathematics concept. 2,3,4 graders of primary school and 5,6,7 graders of secondary school gifted students joined this study. According to findings, three categories came out in the result of classification. It was found that metaphor categories depend on neither gender nor school level.

## Assessment of the metaphors in terms of the gender

It has been detected that the male students have been much more related with the functionality of mathematics and they have produced much more metaphors concerning the usage of it in the daily life than the female students. However, both female and male students have mostly preferred to produce metaphors concerning the attitudes against the mathematics itself.

## Assessment of the metaphors in terms of the level of the school

There has been a situation which is very similar to the

one of the results obtained from the sexuality aspect. That is, the both students who have been coming from the two school levels have mostly produced metaphors concerning the attitudes against the mathematics itself. Another significant point recognized during the increase in the school level is that there has been a decrease in the quantity of producing metaphor concerning the functionality of the mathematics while there has been an increase in the quantity of producing metaphor concerning the content of the mathematics. This case reveals the question whether the creativity of the students has been decreased during the progress in the level of their schools or they think the school mathematics far from the daily life. The required updated works have to be carried out related with this situation.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# Examining the impact of chess instruction for the visual impairment on Mathematics

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The purpose of the study is to explore the impact of chess instruction for visually impaired children on math achievement. The study group consists of a total of 26 visually impaired students from inclusion classes in inclusive secondary schools of MoNE (Ministry of National Education), 9 male and 5 female students in the experiment group and 8 male and 4 female students in the control group. The experiment group consisted of those who were trained for chess over a 12 week- period (one day a week, 4 h) as of the semester break and the control group consisted of those who were never trained for chess. Math scores of the both groups during the fall and the spring semesters which were the recorded scores in the "e-school" system of the Provincial Directorate for National Education were verbally learned from those who were included in the study. Arithmetic mean and standard deviation were employed in the statistical analysis of the data, and the Wilcoxon Test was used for the assessment of the participants' progress. For the fall semester, arithmetic mean and standard deviation of the experiment group were  $66.52 \pm 4.45$ , and those of the control group were  $66.96 \pm 3.55$ . For the spring semester, arithmetic mean and standard deviation of the experiment group were  $73.47 \pm 3.59$ , and those of the control group were  $66.88 \pm 3.23$ . In the comparison of the fall and the spring semesters of the experiment group, there was a significant difference at the level of 0,001 ( $p < 0,05$ ) while there was no significant difference at the level of 0,441 in the control group ( $p > 0,05$ ). In the comparative study of the experiment group and the control group in both semesters, there was no significant difference at the level of 0,905 for the fall semester ( $p > 0,05$ ) while there was a significant difference at the level of 0,002 for the spring semester ( $p < 0,05$ ). As a result, chess instruction for the visually impaired has proven to be influential on math achievement.

**Key words:** Visual impairment, chess, mathematics.

## INTRODUCTION

Chess is considered to be an educational activity that has many different types of elements and that consists of contradictory movements, based on attacks.

Educationally speaking, it is obvious that chess improves creativity, reading and intelligence, reasoning and thinking skills. It also contributes to imagination. The

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results of the study have shown that chess has a positive effect on student learning (Köksal, 2006). Chess has also been frequently employed in multiple intelligence studies (Arlı, 2004). development Research on chess has shown that chess players have improved their mental capacity such as creativity, critical thinking, decision making and problem solving and chess has positively influenced academic and social achievements of individuals and has been explored as a sport of good time management ([www.talimterbiye.mebnet.net](http://www.talimterbiye.mebnet.net)). Chess is a mental game which is suggested for children with learning difficulty, attention deficit and hyperactivity disorders.

The number of chess pieces and that of squares are properly arranged in mathematical terms and the qualities of pieces match mathematical positioning. It has been observed that those who consider chess in mathematical terms and play by attaching numerical values are more successful in the game than others (<http://www.eokulegitim.com/>).

Chess is a game of infinite probabilities and strategies. In general, calculations of probabilities and choosing the right strategy have priority during the game. Constantly imagining all possible positions in the game, calculation of ten or more movements by many chess masters and their awareness of which rival will have the advantage of the upcoming position make chess completely abstract and built on calculation skills. Mathematics has similar features to chess in that it contains abstraction and calculations. Scientific research has supported such a relationship. Many studies suggest that children use their mind better than ever during a game of chess and that chess improves mathematical skills and academic performance (Gobet and Campitelli, 2005; Sadik, 2006).

Chess is primarily a mind sport and a board game that needs immobility. As a result, it removes the risk of physical difficulties in sports and thus is one of the most popular activities for the visually impaired in their leisure time. Chess is not only considered as a sport and a recreation activity for the visually impaired, but is also viewed as a contributor to their education since it has multi-academic effects such as analytical thinking as a game strategy, problem solving and applying mathematical concepts.

The purpose of the study is to explore the impact of chess instruction for the visually impaired on math achievement.

## METHODOLOGY

### Study group

The study group consisted of voluntary visually impaired students ( $n=26$ ) in secondary school inclusion classes of MoNE. Those students were divided into two: those who were trained for chess (9 male and 5 female students) and those who were not (8 male and 4 female students). The former group was taught chess over a 12-week period (once a week, four hours). The control group consisted of the other students.

### Collection of data

Math scores of the both groups during the fall and the spring semesters which were the recorded scores in the "e-school" system of the Provincial Directorate for National Education were verbally learned from those who were included in the study.

### Analysis of data

In the statistical analysis of the math scores in the fall and the spring semesters, the Wilcoxon Test was employed to find out arithmetic means, standard deviations and the differences between the two semesters and the groups.

## RESULTS

Arithmetic means, standard deviations and the Wilcoxon Test results for the math courses in the fall and spring semesters of the visually impaired students included in the study are given in Table 1.

Arithmetic means of the end of the year scores of the experiment group were 66.52 for the fall semester and 73.47 for the spring semester (Table 2).

Arithmetic means of the end of the year scores of the control group were 66.96 for the fall semester and 66.88 for the spring semester (Table 3).

According to the Wilcoxon Test results, there was a significant difference between the arithmetic means of the math scores of the experiment group in the fall semester and the spring semester ( $P<0,05$ ). There was no significant difference between the arithmetic means of the math scores of the control group in the fall semester and the spring semester ( $P<0,05$ ). There was no significant difference between the experiment group and the control group in the comparison of the math scores in the fall semester ( $P<0,05$ ). There was a significant difference between the experiment group and the control group in comparison of the math scores in the spring semester ( $P<0,05$ ).

## DISCUSSION AND CONCLUSION

In this section, assessment of statistical analyses of GPAs of the 14 students in the experiment group who were trained for chess and of the 12 students in the control group is presented.

In the study, there was a significant difference in the comparison of the fall and the spring semesters for the experiment group ( $p<0,05$ ) while there was no significant difference in the control group ( $p>0,05$ ). There was no statistically significant difference between the experiment group and the control group for the fall semester in the comparison of the both semesters ( $p>0,05$ ) whereas there was a significant difference for the spring semester ( $p<0,05$ ).

In Turkey, there have not been studies on the impact of chess instruction for the visually impaired on math

**Table 1.** Math exam scores of the experiment group in the fall and spring semesters, arithmetic means and standard deviations.

Student	GPA for the Fall Semester	GPA for the Spring Semester
1	70	75
2	71.66	77.66
3	73.33	77.66
4	66.66	73.33
5	66.66	71.66
6	70	75
7	64.33	70
8	60	66.66
9	61.66	68.33
10	70.33	78.33
11	68.33	75
12	58.33	70.66
13	65	73.33
14	65	76
$\bar{x}$ and Sd	66.52±4.45	73.47±3.59

**Table 2.** Math exam scores of the control group in the fall and the spring semesters, arithmetic means and standard deviations

Student	GPA for the Fall Semester	GPA for the Spring Semester
1	66.66	65
2	71.66	69.33
3	70	70
4	66.66	67.33
5	68.33	66.66
6	70	70
7	62.33	64.33
8	61	58.33
9	66.66	66.66
10	69.33	68.33
11	69.33	68.33
12	61.66	68.33
$\bar{x}$ and Sd	66.96±3.55	66.88± 3.23

GPA: Grade point average.

**Table 3.** Wilcoxon test results.

	Z	P
Experiment group-fall/spring	-3.302a	0.001
Control group-fall/spring	-0.771	0.441
Experiment and control group-fall	-.119	0.905
Experiment and control group-spring	-3.063	0.002

\*P<0,05.

achievement. In a study conducted by Sadık (2006), it was observed that problem solving skills of 4th and 5th

graders in elementary schools with counting numbers were higher for those who knew how to play chess. In another unpublished study conducted in 2011 with 5th, 6th, 7th and 8th graders in elementary schools, it was seen that there were significant correlations between skill levels and chess levels in the comparison of numerical and verbal skill levels and chess levels of the students (Karakaya, 2012).

In studies that examined problem solving skills of elementary students who played chess and of those who did not, it was found that hasty approach levels and avoidant approach levels of the students who did not play chess were higher when compared to the ones who could

play the game and planned attitude levels of the chess players were found higher when compared to the non-players (Erhan et al., 2009).

In experiments by Dr. Yee Wang Fung, a faculty member of the Chinese University of Hong Kong, with students at numerical departments of the university, in the years 1977- 1979, it was observed that those who were trained for chess had an increase of 15% on average in their math and science test scores. Barrett and Fish (2011) found an increase in the math scores of the students who attended the 30 week chess training program. They emphasized chess had significant contributions to increasing math achievement of students with special education needs. In a study that was aimed at exploring the impact of chess instruction for pupils with learning difficulty on math achievement, they claimed chess was a significant contributor to those with learning difficulty (Scholz et al., 2008). In their study, Hong and Bart (2007) found chess instruction for underachievers had positive effects on cognitive development.

Again, in a study conducted in Texas, USA in the years 1994-1997, it was found that students who joined chess clubs between 3rd and 5th grades made two-fold progress than the others in reading and mathematics (Köksal, 2006). Garcia (2008) found there was a significant difference in math performance between Spanish 4th graders who were trained for chess in the chess club and those who were not instructed.

In a chess training program by Cheryl Coles, the principal of the state school no: 68 in Bronx District, New York in 1997, it was shown that there was an increase of 11.2% in reading performance of the students who were trained for chess and an increase of 18.6 % in their math scores over a year (<http://www.tsf.org.tr>).

Frank conducted an experimental study with a total of 92 students aged 16-18 in Democratic Republic of the Congo (in Zaire) in the years 1973-1974 in order to explore the impact of chess on various skills such as intelligence, creativity, numerical and verbal skills. As a result of the study, it was concluded that those who were trained for chess had more effective levels of intelligence, creativity, reasoning, quick and accurate grasping and shapes and spatial understanding skills and that they developed those more when compared to the control group (Cited by Karakaya, 2012)

A study was conducted with 437 5th graders in New Brunswick, Canada in the years 1989-1992. It was concluded that those who were most intensively trained for chess were found more successful in problem solving in mathematics among the groups of students divided into three according to course load (<http://www.tsf.org.tr>).

As a result of the study, it was explored that chess increased math achievement of the visually impaired because of analytical thinking and problem solving qualities.

According to these results, there were statistically significant differences in the comparison of math course means of the visually impaired students in the experiment

group for the fall and the spring semesters and in the comparison of arithmetic means and standard deviations of the spring semester math scores of the control group and the experiment group ( $p < 0,05$ ). There was no significant difference in the comparison of arithmetic means and standard deviations of the fall and the spring semester math scores of the control group and in the comparison of the fall semester scores of the experiment group and the control group ( $p > 0,05$ ). According to these results, chess contributed to math achievement of the visually impaired.

## RECOMMENDATIONS

1. There should be more groups to study with.
2. Progress of chess players in other courses could be tracked.
3. Chess problems including creative thinking could be applied in math courses.
4. Chess, when considered as a positive contributor to word problems and problem solving skills in math courses, could be included in pre-school, elementary school, secondary school and high school curricula and higher education programs.
5. Chess can be instructed for every visually impaired student as a most beneficial leisure time activity.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

## Effects of art/design education on meta-aesthetics consciousness of fine arts students

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**The objectives of the present study were to determine the consciousness and sensitivity levels of Fine Arts students about the meta-aesthetics as a consumer and producer and to determine the effects of the courses they took on their meta-aesthetic consciousness. The research universe was composed of fine art faculties of the foundation universities located in Ankara during the academic year of 2013-2014. The research sample was composed of 126 students enrolled at Fine Arts Design and Architecture Faculty of Baskent University. During this academic year, there were 437 students in the faculty. In this study, production-consumption relationships were evaluated within the perspective of whether or not knowing meta-aesthetics and development of esthetic awareness will be able to meet the demands of the people in the 21<sup>st</sup> century.**

**Key words:** Meta aesthetics, art and design education, meta aesthetics in fine arts education.

### INTRODUCTION

Sensitivity can be defined as to be sensitive, susceptible and delicate. It is not possible without the action of recognition. Sensitivity is developed as a response to a case when the impacts of the case are sensed or known. The target in art education is highly complex and multi-stage education and creativity processes include primarily "awareness", "participation"; then "choosing the best to express oneself along with the personal characteristics and experiences" and "expressing oneself". The creativity, known as an ability which is not gained or learned afterwards, is only possible with proper conditions and quality art or design education and training.

Creativity depends on culture. Such dependence was

expressed by Robinson (2008) as: "Cultural conditions may trigger or kill creativity. Creative thoughts do not reside in an empty space. Thoughts, works and creations of other people provoke the individual creativity. We have to climb over the shoulders of others to see further. Such a case is valid in all areas including, science, technology, sports, fashion, music, design, and etc. Human intelligence is a deep and comprehensive creator" (p.19).

Within the art/design education, art/design training, especially mentioned after the 1960s, has brought the discipline-oriented programs into agenda. Art training encompasses the disciplines of aesthetics, art history, criticism and handcrafts and especially emphasizes the

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discipline of esthetics. Boydaş (2006) pointed out such a case as: "The thing complying with the logic of art is esthetics apart from the workers of philosophers and scientist, the unique objective of esthetics to be considered all the time is beauty" (p. 5).

## CONCEPTUAL FRAMEWORK

### The science of esthetics

Esthetic in full-sense means the science of sensation, the science of sense. Esthetic is considered as the science related to sensible perception and sensitivity (Tunali, 1998, p.1).

Ranci re (2001) in his work pointed out the relationships of esthetics with the mind and presented the following definition: "Esthetic points out a mentality opening itself to artistic choices and trying to express why they are intellectual choices" (p. 9).

Another researcher pointing out the significance of thoughts is Herbert Read. Read (1978) in his work, expressed that foundations of civilizations lied in sensations, not in mind. According to Read, unless how to use senses is not learned, it is impossible to move forward, even impossible to create biological conditions to survive (p.193).

### Esthetic reality

Esthetic reality is an esthetic philosophy composed of heterogeneous esthetic problems and creates the foundations of today's ontology of esthetics. Every esthetic phenomenon is necessarily related to a subject. This subject participates in the integrity of the esthetic phenomenon as an esthetic attitude and as an esthetic sensation asset (Tunali, 1998, p.18).

Esthetic asset does not rely only on the existence of the subject. In esthetic phenomenon, there is another asset that the subject is oriented to on the face of the subject, which participated in this phenomenon: Esthetic object (Tunali, 1998, p.47). Another asset creating the esthetic entity is the esthetic value or the beauty. Subject-object relationship is objectified as a judgment: Esthetic judgment (Tunali, 1998, p.21).

### Meta esthetics

It is required to know the fundamental basis of Marxist esthetic to know about meta-esthetics. According to Marxist esthetics, a subject comprehends an object as a sole sensual-tangible object and such an object can be an esthetic object only when an esthetic pleasure is sensed from this object. As mentioned in the work of Tunali (2003), Marxist esthetic relies on a humanitarian

culture base (p.9).

It is required to know about the Marxist philosophy well enough to resolve the Marxist esthetics. Marxist philosophy is dialectic materialism; it is basically dialectic. It is a great idealistic philosophy started by Kant, moved through Fichte and Schelling and extended to Hegel (Tunali, 2003, p.12).

Tunali (2009), in his work put forward the relationship between an industrial good and social status: "The industry trying to meet the entire demands of the society through serial production is effective in determination of social status in the society despite the democratic trend in this desire. The interests of social classes in industrial goods are directly related to their income levels" (p.100). Another issue was pointed about by Read (1978) in the following fashion: "A hundred years ago, the important point was how to inspect the machine. The machine was a monster receiving raw materials from one end and ejecting finished goods from the other end. However, the finished good should have attracted the attentions of the consumers with its grace, ornament, and color. The capitalists of that age were aware of the fact that the art was a commercial factor. When the other things were equal, the most "artistic" product was going to capture the market (p.19).

Meta esthetics originates from the meta form of products and determined by the change value functionally. Haug (1997) defines meta-esthetics and its functions as follows:

"On the one hand, there is the "beauty" in another words an appearance appealing to the senses; on the other hand there is a design impelling the purchasing reflects of the observes to own that meta. Well-appearance of the meta to the people puts the sensual perceptions of them into action and then sensual benefits determine them. Conversion of beneficial objects of the world into meta triggers instinctual responses and consequently functional tools to renew or reshape not only the humanitarian sensitivity but also the world sensual objects occurs. Therefore, the concept of "reshape of sensitivity" becomes a significant issue" (p.14).

Because of the above specified reasons, it is necessary to head towards an art education perception supporting and allowing formation of an art/design object that is able to be represented technology, fashion and design areas and able form a tradition, not excluding the cultural items from the mass where everything is commoditized and served to use with sparkling appearance and slogans.

### Objective of the study

The objective of the present study was to determine the effects of demographic characteristics and art/design education of the students studying at art and design

**Table 1.** Frequency tables of demographic characteristics of participants based on gender.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	76	60.3	60.3	60.3
	Male	50	39.7	39.7	100.0
	Total	126	100.0	100.0	

faculties on their awareness about meta-esthetics.

### Significance of the study

The present study was designed based on the doctorate thesis of the researcher defended and successfully passed in 2009 (Peşkersoy, 2009). There were 409 participant students being the subject of the relevant doctorate thesis and all of them were in senior year of their studies at art and design teacher departments of education faculties. To compare the results, it was suggested that artist/designer candidates were evaluated with a similar scale and basis.

Approaches of current educational policies and educational programs of every level to be conscious are notable. Raising members of a society, which is conscious about production and consuming, is regarded as passive part of the “global culture” of the 21<sup>st</sup> century, but not as an active part.

### METHOD

In this section, “research model”, “universe and sample”, “data collection techniques”, “development of data collection tools” and “data analyses” are provided.

#### Research model

The present research was designed based on “general screening model”; and “school survey” method was used as the description method.

#### Universe and sample

The research universe was composed of fine art faculties of the foundation universities located in Ankara during the academic year of 2013-2014. In this category, there were 6 universities offering fine arts education. The research sample was composed of 126 students studying at Fine Arts Design and Architecture Faculty of Baskent University. During this academic year, there were 437 students in the faculty. While determining the research sample, the students who already took the course of “basic art/design education” and “esthetics” were taken into consideration.

#### Data collection techniques

Sample students were subjected to an attitude scale. With the developed attitude scale, the status of meta esthetics in art/design

education; belief about the necessity of meta esthetics in terms of esthetic consciousness; awareness about the relationships of meta esthetics with fashion, design and technology were determined.

#### Development of data collection tools

Data collection tool turned out to be the adaptation of attitude scale articles which were used in 2009 and passed validity-reliability tests to the design education. The revised scale was also subjected to validity-reliability test and the scale validity and reliability were proven by scientific data analysis.

#### Data analysis

Data analyses were performed by SPSS 11.0 statistical software. In data analyses, initially frequency tables belonging to a variable were created. Between the items that might be interrelated formed the crosswise tables. Additionally, “RXC Cross Table” was technologically applied to the mass counted in the Khi-square analysis technics for the purpose of independence controlling. Then the symmetric measurements of the cross tables that formed on SPSS were carried out. A statistical hypothesis test was applied to reveal the interrelationship between the matters. Spearman Correlation coefficient was considered to assess the level of relationship. Statistical hypotheses were applied to put forward the status of relationship between the related items. The hypothesis was tested according to the “p value” of these measurements. The hypothesis,  $H_0$ , was rejected since  $P = 0.000 < \alpha = 0.05$ .

## RESULTS AND DISCUSSION

All the responses given to attitude scale items were “valid”.

#### Frequency tables of demographic characteristics

Of the students who participated in the attitude scale, 60.3% were females and 39.7% were males (Table 1).

Of the participant students, 15.1% was between 18-20 years of age; 78.6% was between 21-25 years; 5.2% was between 26-30 years and 0.8% was between 31-35 years of age (Table 2).

Of the participant students, 29.4% enrolled in Graphic Design Program of Visual Arts and Design Department, 69.8% enrolled in Interior Architecture and Environmental Design Department and only 0.8% enrolled in Fashion and Textile Department (Table 3).

Of the participant students, 36.5% was enrolled in freshman year (1<sup>st</sup> year), 20.6% in sophomore year (2<sup>nd</sup> year), 16.7% in junior year (3<sup>rd</sup> year) and 26.2% in senior

**Table 2.** Demographic characteristics of participants based on age.

	Frequency	Percent	Valid Percent	Cumulative Percent
	18	1	.8	.8
	19	5	4.0	4.8
	20	13	10.3	15.1
	21	15	11.9	27.0
	22	21	16.7	43.7
	23	30	23.8	67.5
Valid	24	17	13.5	81.0
	25	16	12.7	93.7
	26	2	1.6	95.2
	27	1	.8	96.0
	29	2	1.6	97.6
	30	2	1.6	99.2
	32	1	.8	100.0
Total	126	100.0	100.0	

**Table 3.** Frequency tables of participants' study program.

	Frequency	Percent	Valid percent	Cumulative percent
Valid	Graphic and design program	37	29.4	29.4
	Interior architecture and environmental design department	88	69.8	99.2
	Fashion and textile department	1	.8	100.0
Total		126	100.0	100.0

year (4<sup>th</sup> year) (Table 4).

With regard to education levels of the mothers of the participant students, 2.4% did not have any formal education, 12.7% had primary and secondary school education, 43.7% had high school education, 4.8% had vocational collage education, 30.2% had undergraduate education and 6.3% had graduate education (Table 5).

With regard to education levels of the fathers of the participant students, 8.7% did not have any formal education, 34.2% had primary and secondary school education, 30.2% had high school education, 6.3% had vocational collage education, 38.9% had undergraduate education and 11.9% had graduate education (Table 6).

With regard to attitudes of the families while raising the participant students, 73% was democratic, 20.6% was authoritarian and 6.3% was careless (Table 7).

Of the participant students, a large portion (59.5%) was satisfied with the department that they are enrolled, 31.7% was partially satisfied and 8.7% was not satisfied with the department (Table 8).

Of the participant students, 2.4% indicated that the department/area they study was above their expectations, 50.8% stated that the department was suitable to their expectations and 46.8% stated that the department was below their expectations (Table 9).

With regard to dwelling units where the participant students received their secondary education, 77% was in

metropolises, 16.7% in provinces and 6.3% was in counties (Table 10).

### Frequency tables of section two (Opinions about course contents)

**Item 1:** *Art and design courses teach me artistic design principles both theoretically and practically.*

Of the participant students, 57.1% agreed that art and design courses teach them artistic design principles both theoretically and practically. About 24.6% of them were undecided. By taking undecided ones as negative, the rate of students indicating negative opinion for this item sums up to 44.9%. In this case, it is possible to state that almost half of the students indicated supportive opinion about the subject and the other half indicated negative opinion for this item (Table 11).

**Item 2:** *Art education courses do not have contents that will enable me to use my creativity and composition knowledge.*

The total of the undecided and supportive students were 56.4% and participant students agreed that art education courses have contents that enable them to use their

**Table 4.** University level of students.

		Frequency	Percent	Valid percent	Cumulative percent
	1	46	36.5	36.5	36.5
	2	26	20.6	20.6	57.1
Valid	3	21	16.7	16.7	73.8
	4	33	26.2	26.2	100.0
	Total	126	100.0	100.0	

**Table 5.** Educational level of the participant students' mothers.

		Frequency	Percent	Valid percent	Cumulative percent
	Illiterate	3	2.4	2.4	2.4
	Primary school	12	9.5	9.5	11.9
	Secondary school	4	3.2	3.2	15.1
Valid	High school	55	43.7	43.7	58.7
	Vocational Collage	6	4.8	4.8	63.5
	Undergraduate	38	30.2	30.2	93.7
	Graduate	8	6.3	6.3	100.0
	Total	126	100.0	100.0	

**Table 6.** Educational level of the participant students' fathers.

		Frequency	Percent	Valid percent	Cumulative percent
	Primary school	11	8.7	8.7	8.7
	Secondary school	5	4.0	4.0	12.7
	High school	38	30.2	30.2	42.9
Valid	Vocational Collage	8	6.3	6.3	49.2
	Undergraduate	49	38.9	38.9	88.1
	Graduate	15	11.9	11.9	100.0
	Total	126	100.0	100.0	

**Table 7.** Attitudes of the participant students' mothers/fathers.

		Frequency	Percent	Valid percent	Cumulative percent
	Democratic	92	73.0	73.0	73.0
Valid	Authoritarian	26	20.6	20.6	93.7
	Careless	8	6.3	6.3	100.0
	Total	126	100.0	100.0	

**Table 8.** Students' satisfaction with departments.

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Yes	75	59.5	59.5	59.5
	Partially	40	31.7	31.7	91.3
	No	11	8.7	8.7	100.0
	Total	126	100.0	100.0	

**Table 9.** Area-expectation relationships.

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Above my expectations	3	2.4	2.4	2.4
	Comply with my expectations	64	50.8	50.8	53.2
	Below my expectations	59	46.8	46.8	100.0
	Total	126	100.0	100.0	

**Table 10.** The place where participant students received secondary education.

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Greater city	97	77.0	77.0	77.0
	Province	21	16.7	16.7	93.7
	Town	8	6.3	6.3	100.0
	Total	126	100.0	100.0	

**Table 11.** Students' opinions about art and design course contents.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	4	3.2	3.2	3.2
	Disagree	9	7.1	7.1	10.3
	Undecided	31	24.6	24.6	34.9
	Agree	72	57.1	57.1	92.1
	Totally Agree	10	7.9	7.9	100.0
	Total	126	100.0	100.0	

**Table 12.** Students' opinions about art education courses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	9	7.1	7.1	7.1
	Disagree	46	36.5	36.5	43.7
	Undecided	33	26.2	26.2	69.8
	Agree	31	24.6	24.6	94.4
	Totally Agree	7	5.6	5.6	100.0
	Total	126	100.0	100.0	

creativity and composition knowledge. On the other hand, 43.6% of the students indicated their disagreement with this item (Table 12).

**Item 3:** *I think we took appropriate art and design courses that can make us to play the role of an artist or designer properly, either as an art producer or consumer.*

The ratio of the students thinking that they have taken appropriate courses allowing them to play the role of an artist or designer properly was 56.4%. On the other hand, the sum of undecided and opponents was 43.7 for this item (Table 13).

**Item 4:** *I think there is insufficient education on the significance and necessity of esthetic values in the characteristics of our culture.*

With regard to item 4, 49.2% of the students indicated positive opinions. On the other hand, undecided and negative opinions had a sum of 50.8%. Almost half of the students indicated that the education they receive has insufficient esthetic value (Table 14).

**Item 5:** *I think art educators exhibit sufficient sincerity and sensitivity in the teaching of art.*

This item evaluates the sincerity and sensitivity of

**Table 13.** Students' opinion about taking appropriate art and design courses.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	3	2.4	2.4
	Disagree	18	14.3	16.7
	Undecided	34	27.0	43.7
	Agree	64	50.8	94.4
	Totally Agree	7	5.6	100.0
	Total	126	100.0	100.0

**Table 14.** Students' opinions on esthetic values education.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	5	4.0	4.0
	Disagree	32	25.4	29.4
	Undecided	27	21.4	50.8
	Agree	50	39.7	90.5
	Totally Agree	12	9.5	100.0
	Total	126	100.0	100.0

**Table 15.** Students' opinions about art educators' sincerity and sensitivity in the teaching of art.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	7	5.6	5.6
	Disagree	16	12.7	18.3
	Undecided	28	22.2	40.5
	Agree	58	46.0	86.5
	Totally Agree	17	13.5	100.0
	Total	126	100.0	100.0

attitudes of art educators toward the students and courses. The ratio of the undecided ones and the students indicating negative opinions were 40.5%. It is thought that such a ratio is significantly high for art educators (Table 15).

**Item 6:** *I don't think esthetic and meta-esthetic topics are sufficiently included in the course contents of the education program that I attend.*

This item questions the sufficiency of esthetic and meta-esthetic topics within the education program. Of the participant students, 42% indicated insufficient placement of esthetic and meta-esthetic topics. The total of undecided ones and the rest was 58% (Table 16).

### Frequency tables of section three (Opinions about consumption)

**Item 1:** *I don't feel uncomfortable about buying products which are distorted, whose advertisement is exaggerated*

*and which are "nice" to my senses.*

This item questions the purchasing behavior of students although they know that the advertisement is made by exaggerating or distorting their characteristics. Of the participant students, 51.2% indicated positive response, 24.6% was undecided and 23.8% indicated negative response to this item. The total of undecided ones and positive ones was 76.2%. Such a case indicated that students were not sufficiently conscious about the training of their senses (Table 17).

**Item 2:** *Appearance of a product I am going to purchase is more important than its functions.*

This item questions the priority of the appearance and functions of a product in purchasing preferences. Of the participant students, 37.3% assigned priority to the appearance, 40.7% to the functions, and 22.2% was undecided between the appearance and function (Table 18).

**Table 16.** Students' opinions about the inclusion of esthetic and meta-esthetic topics in the course contents of education program.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	5	4.0	4.0	4.0
	Disagree	32	25.4	25.4	29.4
	Undecided	36	28.6	28.6	57.9
	Agree	42	33.3	33.3	91.3
	Totally Agree	11	8.7	8.7	100.0
	Total	126	100.0	100.0	

**Table 17.** Students' opinions about buying products which are distorted and whose advertisement is exaggerated.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	10	7.9	7.9	7.9
	Disagree	20	15.9	15.9	23.8
	Undecided	31	24.6	24.6	48.4
	Agree	51	40.5	40.5	88.9
	Totally Agree	14	11.1	11.1	100.0
	Total	126	100.0	100.0	

**Table 18.** Students' opinion about the priority of the appearance and functions of a product in purchasing preferences.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	16	12.7	12.7	12.7
	Disagree	35	27.8	27.8	40.5
	Undecided	28	22.2	22.2	62.7
	Agree	44	34.9	34.9	97.6
	Totally Agree	3	2.4	2.4	100.0
	Total	126	100.0	100.0	

**Item 3:** *I care about buying products for which advertisement is made.*

This item evaluates the role of advertisement in buying preferences of customers. Of the participant students, 54.1% preferred the advertised products, 44.4% indicated their disagreement with this item, and 21.4% was undecided about this item. The ratios were close to each other in this item (Table 19).

**Item 4:** *I think the changes made only in the package of an item trick the consumers.*

This item evaluates the effectiveness of changes in package of an item in convincing consumers. Of the participant students, 61.1% indicated that changes over the package of an item trick the consumers, 18.3% indicated negative opinion for this item and 27.8% was

undecided on this item (Table 20).

**Item 5:** *Because of art and design education I received, I look initially for the esthetic integrity and uniqueness in an item I purchase.*

For this attitude scale evaluating the function of art/design education in purchase preferences, 78.2% looked for integrity and uniqueness, 19% was undecided and 12.7% indicated negative response (Table 21).

**Item 6:** *I think the institutions providing basic art/design education and raising artist/designer are insufficient in raising conscious art consumers.*

This item questions the role of the institutions raising artist/designer through providing basic art/design education in raising conscious art consumers. Of the participant

**Table 19.** Students' opinion about buying products for which advertisement is made.

	Frequency	Percent	Valid Percent	Cumulative Percent
Totally Disagree	14	11.1	11.1	11.1
Disagree	42	33.3	33.3	44.4
Valid Undecided	27	21.4	21.4	65.9
Agree	34	27.0	27.0	92.9
Totally Agree	9	7.1	7.1	100.0
Total	126	100.0	100.0	

**Table 20.** Students' opinion about the changes made only in the package of an item.

	Frequency	Percent	Valid Percent	Cumulative Percent
Totally Disagree	1	.8	.8	.8
Disagree	13	10.3	10.3	11.1
Valid Undecided	35	27.8	27.8	38.9
Agree	57	45.2	45.2	84.1
Totally Agree	20	15.9	15.9	100.0
Total	126	100.0	100.0	

**Table 21.** Students' opinion about the esthetic integrity and uniqueness they look for in an item purchased.

	Frequency	Percent	Valid Percent	Cumulative Percent
Totally Disagree	3	2.4	2.4	2.4
Disagree	13	10.3	10.3	12.7
Valid Undecided	24	19.0	19.0	31.7
Agree	57	45.2	45.2	77.0
Totally Agree	29	23.0	23.0	100.0
Total	126	100.0	100.0	

students, 52.4% found these institutions insufficient, 29.4% was undecided and 18.3% did not find the institutions insufficient in raising conscious art consumers (Table 22).

#### Frequency tables of section four (Opinions about production)

**Item 1:** *I hear the concept of "meta esthetics" for the first time.*

Of the participant students, 56.4% indicated that they heard the concept of "meta esthetics" for the first time, 38.1% indicated that they did not hear the concept for the first time and 5.6% was undecided about this item (Table 23).

**Item 2:** *I think esthetic appearance and functionality are equally and highly important in the design of every product with the intended use.*

This item includes a comparative evaluation about the appearance and sales value of an item. Of the participant students, 76.2% indicated that appearance and sales value is equally and highly important, 11.9% was undecided and another 11.9% indicated negative response for this item (Table 24).

**Item 3:** *In a product I present to express myself, I don't care about the interests and needs of the crowd with which I share that product.*

This item evaluates the attitudes of a producer in meta production based on the interest and needs of the consumers. Of the participant students, 28.5% indicated that they did not care about the consumers' interests and needs, 57.2% indicated that they cared about their interests and needs and 14.3% was undecided about this item. About 42.8% was negative or undecided about interests and needs matter and this is challenging ethically (Table 25).

**Item 4:** The advertisement of a product I designed may

**Table 22.** Students' opinion about institutions providing basic art/design education and raising artist/designer.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	2	1.6	1.6	1.6
	Disagree	21	16.7	16.7	18.3
	Undecided	37	29.4	29.4	47.6
	Agree	43	34.1	34.1	81.7
	Totally Agree	23	18.3	18.3	100.0
	Total	126	100.0	100.0	

**Table 23.** Students' opinion about the concept of "meta esthetics" for the first time.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	13	10.3	10.3	10.3
	Disagree	35	27.8	27.8	38.1
	Undecided	7	5.6	5.6	43.7
	Agree	53	42.1	42.1	85.7
	Totally Agree	18	14.3	14.3	100.0
	Total	126	100.0	100.0	

**Table 24.** Students' opinion about esthetic appearance and functionality.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	4	3.2	3.2	3.2
	Disagree	11	8.7	8.7	11.9
	Undecided	15	11.9	11.9	23.8
	Agree	67	53.2	53.2	77.0
	Totally Agree	29	23.0	23.0	100.0
	Total	126	100.0	100.0	

**Table 25.** Students' opinion about caring about the interests and needs of the crowd buying a product.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	22	17.5	17.5	17.5
	Disagree	50	39.7	39.7	57.1
	Undecided	18	14.3	14.3	71.4
	Agree	28	22.2	22.2	93.7
	Totally Agree	8	6.3	6.3	100.0
	Total	126	100.0	100.0	

be deceptive and may not sufficiently reflect the product I designed. However, I don't feel uncomfortable if the advertisement is effective and able to meet me with the target market and the money.

This item was placed into the scale to evaluate ethical attitudes of the students who are raised as designers within the triangle of their designs, advertisement and

money. Of the participant students, 38.1% preferred to reach money and target mass, 32.5% indicated their discomforts and 29.4% was undecided in this item. In this item, 61.9% majority was remarkable and unfortunately they were putting a meta ahead of the value (Table 26).

**Item 5:** It is possible to direct people without being noticed and to impose on them the elements of a culture.

**Table 26.** Students' opinion about advertisement of a product they design.

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Totally Disagree	10	7.9	7.9	7.9
	Disagree	31	24.6	24.6	32.5
	Undecided	37	29.4	29.4	61.9
	Agree	38	30.2	30.2	92.1
	Totally Agree	10	7.9	7.9	100.0
	Total	126	100.0	100.0	

**Table 27.** Students' opinion of the possibility of controlling people without being noticed.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	1	.8	.8	.8
	Disagree	7	5.6	5.6	6.3
	Undecided	23	18.3	18.3	24.6
	Agree	64	50.8	50.8	75.4
	Totally Agree	31	24.6	24.6	100.0
	Total	126	100.0	100.0	

**Table 28.** Students' opinion of being a famous artist/designer.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	1	.8	.8	.8
	Disagree	13	10.3	10.3	11.1
	Undecided	18	14.3	14.3	25.4
	Agree	36	28.6	28.6	54.0
	Totally Agree	58	46.0	46.0	100.0
	Total	126	100.0	100.0	

This item was written to bring anesthetic impact of meta esthetic forward. Of the participant student, 85.4% approved these characteristics, 18.3% was undecided and 6.4% denied this characteristic (Table 27).

**Item 6:** I wish to be an artist/designer known by everybody.

This item evaluates the attitudes of the students about fame. Of the participant students, 74.6% cared about fame, 14.3% was undecided and 11.1% did not care about being an artist/designer known by everybody (Table 28).

#### Frequency tables of section five (Opinions about creativity)

**Item 1:** I think that in order to develop a need for something requires creativity.

This item evaluates the effects of creativity on manipula-

tions of meta esthetics for human needs. Of the participant students, 84.1% indicated the effects of creativity, 8% indicated ineffectiveness of creativity and 7.9% was undecided about this item (Table 29).

**Item 2:** I think knowledge of meta esthetics by creative individuals is both necessary and significant in culture transfer.

This item investigates the role of meta-esthetics in culture transfer and none of the students indicated a total disagreement absolutely about this item. Of the participant students, 70.7% agreed with this opinion, 26.2% was undecided and only 3.2% indicated disagreement with this item (Table 30).

**Item 3:** I think advertisement is necessary to introduce a product that I produced with my creativity (artwork/design product) to large masses.

This item evaluates the effects of advertisement on the publicity of a product. Of the participant students, 75.5%

**Table 29.** Students' opinion about creativity.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	4	3.2	3.2	3.2
	Disagree	6	4.8	4.8	7.9
	Undecided	10	7.9	7.9	15.9
	Agree	66	52.4	52.4	68.3
	Totally Agree	40	31.7	31.7	100.0
	Total	126	100.0	100.0	

**Table 30.** Students' opinion about the knowledge of meta esthetics by creative individuals.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	3.2	3.2	3.2
	Undecided	33	26.2	26.2	29.4
	Agree	68	54.0	54.0	83.3
	Totally Agree	21	16.7	16.7	100.0
	Total	126	100.0	100.0	

**Table 31.** Students' opinion about the effects of advertisement on the publicity of a product.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		10	7.9	7.9	7.9
	Disagree	21	16.7	16.7	24.6
	Undecided	63	50.0	50.0	74.6
	Agree	32	25.4	25.4	100.0
	Total	126	100.0	100.0	

**Table 32.** Students' opinion about the material value assigned to an artwork.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	3	2.4	2.4	2.4
	Disagree	13	10.3	10.3	12.7
	Undecided	41	32.5	32.5	45.2
	Agree	47	37.3	37.3	82.5
	Totally Agree	22	17.5	17.5	100.0
	Total	126	100.0	100.0	

indicated positive response, 7.9% indicated negative response and 16.7% was undecided about this item. Nevertheless, there were not any students rejecting this item with an absolute language (Table 31).

**Item 4:** I think the material value assigned to an artwork commoditizes the art.

This item questions the relationship between the art work and money in meta esthetics. Of the participant students, 54.8% indicated positive response and agreed that money commoditizes art; 32.5% were undecided about

this item and 12.7% disagreed about this opinion (Table 32).

**Item 5:** The objective of making money draws the artist away from artistic creativity.

This item was included to point out that creativity did not have a material value. Of the participant students, 59.9% indicated that the objective of making money has drawn the artists away from creativity; 23.8% was undecided in this item and 16.7% indicated that artistic creativity was not deflated by ambition to make money (Table 33).

**Table 33.** Students' opinion about creativity not having a material value.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	14	11.1	11.1	11.1
	Disagree	7	5.6	5.6	16.7
	Undecided	30	23.8	23.8	40.5
	Agree	54	42.9	42.9	83.3
	Totally Agree	21	16.7	16.7	100.0
	Total	126	100.0	100.0	

**Table 34.** Students' opinion about the most remarkable difference between an artwork and design product.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Totally Disagree	2	1.6	1.6	1.6
	Disagree	18	14.3	14.3	15.9
	Undecided	25	19.8	19.8	35.7
	Agree	53	42.1	42.1	77.8
	Totally Agree	28	22.2	22.2	100.0
	Total	126	100.0	100.0	

**Item 6:** The most remarkable difference between an artwork and design product is uniqueness of the design product.

This item points out the most remarkable difference between an artwork and a design product. Of the participant students, 64.3% indicated that they knew about this difference; 15.9% indicated uniqueness of artwork and 19.8 was undecided in this item (Table 34).

### Cross tables

#### Section Item 1- Question 9

$H_0$ : There are no correlations between the statements "The courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically" and "Does the area you are studying currently meet your expectations?"

$H_1$ : There is a correlation between the statements "The courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically" and "Does the area you are studying currently meet your expectations?"

$H_0$  was rejected since  $P = 0.001 < \alpha = 0.05$ . There is a correlation between the statements "The courses about art and design had contents able to teach me artistic design principles both theoretically and practically" and "Does the area you are studying meet your expectations?" Such a correlation was about 28%.

When Tables 9 and 11 are evaluated closely, it is possible to indicate that about half of the participant students stated that the area they study met their expectations and the contents of the courses they took were both theoretically and practically satisfactory. This correlation was therefore apprehensible and having an overlapping character with each other (Table 35).

#### Section Item 2- Question 9

$H_0$ : There are no correlations between the statements "The art education courses did not have contents in which I can use my creativity and composition knowledge" and "Does the area you are studying currently meet your expectations?"

$H_1$ : There is a correlation between the statements "The art education courses did not have contents in which I can use my creativity and composition knowledge" and "Does the area you are studying meet your expectations?"

$H_0$  was not rejected since  $P = 0.155 > \alpha = 0.05$ . There are no correlations between the statements "The art education courses did not have contents in which I can use my creativity and composition knowledge" and "Does the area you are studying meet your expectations?"

Considering Tables 9 and 12, the case suddenly turned into a different state. This time the participant students indicated the insufficiency of the course contents in developing their creativeness – the ratio was almost half

**Table 35.** Correlation between the courses studied and meeting of students' expectations both theoretically and practically.

Correlations			
		Area-expect. 2-1	
Spearman's rho	Correlation Coefficient	1.000	-
	Sig. (2-tailed)	.	.286**
	N	126	126
2_1	Correlation Coefficient	-.286**	1.000
	Sig. (2-tailed)	.001	.
	N	126	126

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

**Table 36.** Correlation between art education courses does not have contents in which I can use my creativity and composition knowledge and meeting your expectations.

Correlations			
		Area-expect. 2-2	
Spearman's rho	Correlation Coefficient	1.000	.127
	Sig. (2-tailed)	.	.155
	N	126	126
2_2	Correlation Coefficient	.127	1.000
	Sig. (2-tailed)	.155	.
	N	126	126

of the students- but they were still satisfied with their expectations from the study program. Although such a finding seems like there is an inconsistency in students' opinions, the term "creativity" added to the item might be effective in this result (Table 36).

**Section Item 4 – Question 9**

H<sub>0</sub>: There are no correlations between the statements "I think we have not received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture" and "Does the area you are studying currently meet your expectations?"  
 H<sub>1</sub>: There is a correlation between the statements "I think we have not received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture" and "Does the area you are studying meet your expectations?"

**Table 37.** Correlation between sufficient education on the significance and necessity of esthetic values and it meeting your expectations.

Correlations			
		Area-expect. 2-4	
Spearman's rho	Correlation Coefficient	1.000	.229**
	Sig. (2-tailed)	.	.010
	N	126	126
2_4	Correlation Coefficient	.229**	1.000
	Sig. (2-tailed)	.010	.
	N	126	126

H<sub>0</sub> was rejected since P = 0.010 < α = 0.05. There is a correlation between the statements "I think we have not received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture" and "Does the area you are studying currently meet your expectations?" Such a correlation was about 23%.

Similarly in this comparison, half of the participant students indicated an opinion about insufficiency of esthetic value education, but they still exhibited an attitude that their field expectations were met (Table 37).

**Section Item 5 - Question 9**

H<sub>0</sub>: There are no correlations between the statements "I think art educators exhibited sufficient sincerity and sensitivity in art education" and "Does the area you are studying currently meet your expectations?"

H<sub>1</sub>: There is a correlation between the statements "I think art educators exhibited sufficient sincerity and sensitivity in art education" and "Does the area you are studying currently meet your expectations?"

H<sub>0</sub> was rejected since P = 0.001 < α = 0.05. There is a correlation between the statements "I think art educators exhibited sufficient sincerity and sensitivity in art education" and "Does the area you are studying currently meet your expectations?" Such a correlation was about 28%.

Considering Tables 9 and 15, the resultant values, as it was also indicated in Table 41, were negative but indicating a correlation. Together with undecided ones, 40.9% did not find the sincerity and sensitivity of the educators sufficient, but the majority still indicated that the study program have met their expectations (Table 38).

**Table 38.** Correlations between art educators exhibited sufficient sincerity and sensitivity in art education the area you are studying currently meet your expectations.

Correlations			
		Area-expect. 2-5	
Spearman's rho	Correlation Coefficient	1.000	-.285**
	Sig. (2-tailed)	.	.001
	N	126	126
2_5	Correlation Coefficient	-.285**	1.000
	Sig. (2-tailed)	.001	.
	N	126	126

\*\* . Correlation

**Table 39.** Correlations between art and design had contents that can teach me artistic design principles both theoretically and practically and art education courses not having contents in which I can use my creativity and composition knowledge

Correlations			
		2-1	2-2
Spearman's rho 2_1	Correlation Coefficient	1.000	-.167
	Sig. (2-tailed)	.	.062
	N	126	126
2_2	Correlation Coefficient	-.167	1.000
	Sig. (2-tailed)	.062	.
	N	126	126

**Section Item 1- II. Section Item 2**

H<sub>0</sub>: There are no correlations between the statements “The courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically” and “The art education courses did not have contents in which I can use my creativity and composition knowledge”.

H<sub>1</sub>: There is a correlation between the statements “The courses about art and design had contents that are able to teach me artistic design principles both theoretically and practically” and “The art education courses did not have contents in which I can use my creativity and composition knowledge”.

H<sub>0</sub> was not rejected since  $P = 0.062 > \alpha = 0.05$ . There are no correlations between the statements “The courses about art and design had contents able to teach me artistic design principles both theoretically and practically”

and “The art education courses did not have contents in which I can use my creativity and composition knowledge”.

In Table 13, 57.1% indicated positive opinions about the sufficiency of course contents. In Table 14, 56.4% indicated an opinion about problematic nature of the contents in utilizing creativity. These two opinions were conflicting among themselves (Table 39).

**Section Item 1- II. Section Item 3**

H<sub>0</sub>: There are no correlations between the statements “The courses I took about art and design had contents that were able to teach me artistic design principles both theoretically and practically” and “I think we took qualified art and design courses for us as an art producer or consumer to play the role of an artist or a designer properly”.

H<sub>1</sub>: There is a correlation between the statements “The courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically” and “I think we took qualified art and design courses for us as an art producer or consumer to play the role of an artist or a designer properly”.

H<sub>0</sub> was rejected since  $P = 0.000 < \alpha = 0.05$ . There is a correlation between the statements “The courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically” and “I think we took qualified art and design courses for us as an art producer or consumer to play the role of an artist or a designer properly”. Such a correlation was about 54%.

In Table 13, 57.1% indicated positive opinion about the sufficiency of course contents; In Table 15 on the other hand, 56.4% of the students indicated a parallel opinion about the qualified art and design education they received. Thus, a strong correlation was observed between these two items (Table 40).

**Section Item 1 - II. Section Item 4**

H<sub>0</sub>: There are no correlations between the statements “The courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically” and “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture”.

H<sub>1</sub>: There is a correlation between the statements “The courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically” and “I don’t think we have received sufficient education about the significance and necessity

**Table 40.** Correlations between the courses I took about art and design contents that were able to teach me artistic design principles both theoretically and practically” and “I think we took qualified art and design courses for us as an art producer or consumer to play the role of an artist or a designer properly.

Correlations			
	2-1	2-3	
Spearman's rho 2_1 Correlation Coefficient	1.000	.540**	
Sig. (2-tailed)	.	.000	
N	126	126	
2_3 Correlation Coefficient	.540**	1.000	
Sig. (2-tailed)	.000	.	
N	126	126	

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

that esthetic values should bear the characteristics of our culture”.

H<sub>0</sub> was not rejected since P = 0.519 > α = 0.05. There are no correlations between the statements “The courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically” and “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture”.

A conflict was identified between the positive attitudes of the majority of the students about course contents (Table 13) and negative attitudes of almost half of the students about esthetic value education (Table 41).

**Section Item 4- II. Section Item 6**

H<sub>0</sub>: There are no correlations between the statements “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture” and “I don’t think esthetic and meta-esthetic topics were sufficiently placed in course contents of education program”.

H<sub>1</sub>: There is a correlation between the statements “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture” and “I don’t think esthetic and meta-esthetic topics were sufficiently placed in course contents of education program”.

H<sub>0</sub> was rejected since P = 0.000 < α = 0.05. There is a correlation between the statements “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture” and “I don’t think esthetic and meta esthetic topics were sufficiently placed in course

**Table 41.** Correlation between the courses about art and design had contents that were able to teach me artistic design principles both theoretically and practically” and “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture

Correlations			
	2-3	2-4	
Spearman's rho 2_3 Correlation Coefficient	1.000	-.059	
Sig. (2-tailed)	.	.512	
N	126	126	
2_4 Correlation Coefficient	-.059	1.000	
Sig. (2-tailed)	.512	.	
N	126	126	

**Table 42.** Correlation between “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture” and “I don’t think esthetic and meta esthetic topics were sufficiently placed in course contents of education program”.

Correlations			
	2-4	3-6	
Spearman's rho 2_4 Correlation Coefficient	1.000	-.053	
Sig. (2-tailed)	.	.558	
N	126	126	
3_6 Correlation Coefficient	-.053	1.000	
Sig. (2-tailed)	.558	.	
N	126	126	

contents of education program”. Such a correlation was about 41%.

Student attitudes about the insufficiency of esthetic value education (50.8%) (Table 14) and insufficiency of esthetic and meta-esthetic content of the programs (42%) (Table 14) were considered as conflicting opinions. In this case, 58% was thinking that esthetic and meta esthetic courses were sufficiently placed in educational programs. On the other hand, they were also thinking that esthetic value education was not sufficiently placed in contents (Table 42).

**Section Item 6 - IV. Section Item 1**

H<sub>0</sub>: There are no correlations between the statements “I don’t think esthetic and meta esthetic topics were sufficiently placed into course contents of education program” and “I hear the concept of “meta esthetics” for the first time”.

**Table 43.** Correlations between the statements “I don’t think esthetic and meta esthetic topics were sufficiently placed into course contents of education program” and “I hear the concept of “meta esthetics” for the first time

Correlations			
		2-6	4-1
Spearman's rho 2_6	Correlation Coefficient	1.000	-.146
	Sig. (2-tailed)	.	.104
	N	126	126
4_1	Correlation Coefficient	-.146	1.000
	Sig. (2-tailed)	.104	.
	N	126	126

**Table 44.** Correlations between the statements “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture” and “I hear the concept of “meta esthetics” for the first time.

Correlations			
		2-4	4-1
Spearman's rho 2_4	Correlation Coefficient	1.000	.030
	Sig. (2-tailed)	.	.739
	N	126	126
4_1	Correlation Coefficient	.030	1.000
	Sig. (2-tailed)	.739	.
	N	126	126

H<sub>1</sub>: There is a correlation between the statements “I don’t think esthetic and meta esthetic topics were sufficiently placed into course contents of education program” and “I hear the concept of “meta esthetics” for the first time”. H<sub>0</sub> was rejected since P = 0.104 < α = 0.05. There is a correlation between the statements “I don’t think esthetic and meta esthetic topics were sufficiently placed into course contents of education program” and “I hear the concept of “meta esthetics” for the first time”. Such a correlation was about 14%.

In Table 16, 58% was thinking that esthetic and meta-esthetic topics were included in course contents sufficiently. Besides, in Table 23, 56.4% indicated they have heard the concept of meta esthetics for the first time. Such a correlation was in negative direction and it is a contradictory correlation (Table 43).

**Section Item 4 - IV. Section Item 1**

H<sub>0</sub>: There are no correlations between the statements “I don’t think we have received sufficient education about

the significance and necessity that esthetic values should bear the characteristics of our culture” and “I hear the concept of “meta esthetics” for the first time”.

H<sub>1</sub>: There is a correlation between the statements “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture” and “I hear the concept of “meta esthetics” for the first time”.

H<sub>0</sub> was not rejected since P = 0,739 > α = 0,05. There are no correlations between the statements “I don’t think we have received sufficient education about the significance and necessity that esthetic values should bear the characteristics of our culture” and “I hear the concept of “meta esthetics” for the first time”.

In Table 14, while 49.2% of the students was indicating insufficiency of education about esthetic values, 56.4% indicated that they heard about the concept of meta esthetics for the first time. However, 50.8% found the esthetic value education sufficient. Such a case again is conflicting (Table 44).

**Section Item 1 - III. Section Item 2**

H<sub>0</sub>: There are no correlations between the statements “I don’t feel uncomfortable buying products for which advertisement is made by exaggerating or distorting their characteristics although they are “nice” according to my senses” and “Appearance of a product to be purchased is more important than its functions”.

H<sub>1</sub>: There is a correlation between the statements “I don’t feel uncomfortable buying products for which advertisement is made by exaggerating or distorting their characteristics although they are “nice” according to my senses” and “Appearance of a product to be purchased is more important than its functions”.

H<sub>0</sub> was not rejected since P = 0.230 > α = 0.05. There aren’t any correlations between the statements “I don’t feel uncomfortable buying products for which advertise-

**Table 45.** Correlations between the statements “I don’t feel uncomfortable buying products for which advertisement is made by exaggerating or distorting their characteristics although they are “nice” according to my senses” and “Appearance of a product to be purchased is more important than its functions.

Correlations			
	3-1	3-2	
Spearman's rho 3_1	1.000	.108	Correlation Coefficient
			Sig. (2-tailed)
			N
3_2	.108	1.000	Correlation Coefficient
	.230		Sig. (2-tailed)
			N

ment is made by exaggerating or distorting their characteristics although they are “nice” according to my senses” and “Appearance of a product to be purchased is more important than its functions”.

In Table 17, 51.2% of the students indicated that they don’t feel uncomfortable buying products for which advertisement is made by exaggerating or distorting their characteristics although they “nice” according to my senses. Besides, in Table 18, 40.07% indicated the significance of functions of a product. Such opinions are also conflicting (Table 45).

**Section Item 5 - III. Section Item 6**

H<sub>0</sub>: There are no correlations between the statements “Because of art and design education I received, I look for initially the esthetic integrity and uniqueness in a product I purchase” and “I think the institutions providing basic art/design education and raising artists/designers are insufficient in raising conscious art consumers”.

H<sub>1</sub>: There is a correlation between the statements “Because of art and design education I received, I look for initially the esthetic integrity and uniqueness in a product I purchase” and “I think the institutions providing basic art/design education and raising artists/designers are insufficient in raising conscious art consumers”.

H<sub>0</sub> was rejected since P = 0.018 < α = 0.05. There is a correlation between the statements “Because of art and design education I received, I look for initially the esthetic integrity and uniqueness in a product I purchase” and “I think the institutions providing basic art/design education and raising artists/designers are insufficient in raising conscious art consumers”. Such a correlation was about 21%.

In Table 21, 78.2% great majority indicated that they prioritized esthetic integrity and specificity in purchasing a

**Table 46.** Because of art and design education I received, I look for initially the esthetic integrity and uniqueness in a product I purchase” and “I think the institutions providing basic art/design education and raising artists/designers are insufficient in raising conscious art consumers.

Correlations			
		3-5	3-6
Spearman's rho 3_5	1.000	.210*	Correlation Coefficient
			Sig. (2-tailed)
			N
3_6	.210*	1.000	Correlation Coefficient
	.018		Sig. (2-tailed)
			N

\*. Correlation is significant at the 0.05 level (2-tailed).

product however 52.4% found the institutions providing basic art/design education and raising artist/designer are insufficient in raising conscious art consumers. About half of the remaining students thought contrarily. That explains the significant relationship between the items (Table 46).

**Section Item 2 - IV. Section Item 3**

H<sub>0</sub>: There are no correlations between the statements “I think esthetic appearance and functionality are equally and highly important in design of every use intended product” and “In a product produced to express myself, I don’t care about the interests and needs of the crowd with which I share that product”.

H<sub>1</sub>: There is a correlation between the statements “I think esthetic appearance and functionality are equally and highly important in design of every intended use product” and “In a product produced to express myself, I don’t care about the interests and needs of the crowd with which I share that product”.

H<sub>0</sub> was not rejected since P = 0.128 > α = 0.05. There aren’t any correlations between the statements “I think esthetic appearance and functionality are equally and highly important in design of every intended use product” and “In a product produced to express myself, I don’t care about the interests and needs of the mass with which I share that product”.

In Table 24, 76.2% of the students preferred appearance over functions. On the other hand in Table 25, 42.8 of the students indicated that they didn’t care about the functions in production. It was expected that this item should have higher rates as parallel to the previous item. Student attitudes were also found conflicting here (Table 47).

**Table 47.** Correlations between the statements “I think esthetic appearance and functionality are equally and highly important in design of every use intended product” and “In a product produced to express myself, I don’t care about the interests and needs of the crowd with which I share that product.”

Correlations			
	4-2	4-3	
Spearman's rho 4_2	1.000	-.136	Correlation Coefficient
	.	.128	Sig. (2-tailed)
	126	126	N
4_3	-.136	1.000	Correlation Coefficient
	.128	.	Sig. (2-tailed)
	126	126	N

**Section Item 5 - V. Section Item 1**

H<sub>0</sub>: There are no correlations between the statements “It is possible to direct people without being noticed and to impose the elements of a culture on them” and “I think that creating a need for anything requires creativity of people as well”.

H<sub>1</sub>: There is a correlation between the statements “It is possible to direct people without being noticed and to impose the elements of a culture on them” and “I think creating a need for anything requires creativity of people as well”.

H<sub>0</sub> was rejected since  $P = 0.000 < \alpha = 0.05$ . There is a correlation between the statements “It is possible to direct people without being noticed and to impose the elements of a culture on them” and “I think that creating a need for anything requires creativity of people as well.” Such a correlation was about 39%.

Of the participant students, 85.4% approved the esthetic characteristic of meta esthetics to purchaser (Table 27) and 84.1% indicated that creativeness was effective in manipulations toward the human needs. Therefore, the correlation between them was significant (Table 48).

**Section Item 5 - V. Section Item 2**

H<sub>0</sub>: There are no correlations between the statements “It is possible to direct people without being noticed and to impose the elements of a culture on them” and “I think knowledge of metaesthetics by creative individuals is both necessary and significant in culture transfer”.

H<sub>1</sub>: There is a correlation between the statements “It is possible to direct people without being noticed and to impose the elements of a culture on them” and “I think knowledge of metaesthetics by creative individuals is both necessary and significant in culture transfer”.

**Table 48.** Correlations between the statements “It is possible to direct people without being noticed and to impose the elements of a culture on them” and “I think that creating a need for anything requires creativity of people as well.”

Correlations			
	4-5	5-1	
Spearman's rho 4_5	1.000	.395**	Correlation Coefficient
	.	.000	Sig. (2-tailed)
	126	126	N
5_1	.395**	1.000	Correlation Coefficient
	.000	.	Sig. (2-tailed)
	126	126	N

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

**Table 49.** It is possible to direct people without being noticed and to impose the elements of a culture on them” and “I think knowledge of metaesthetics by creative individuals is both necessary and significant in culture transfer

Correlations			
	4-5	5-2	
Spearman's rho 4_5	1.000	.126	Correlation Coefficient
	.	.159	Sig. (2-tailed)
	126	126	N
5_2	.126	1.000	Correlation Coefficient
	.159	.	Sig. (2-tailed)
	126	126	N

H<sub>0</sub> was not rejected since  $P = 0,159 > \alpha = 0.05$ . There are no correlations between the statements “It is possible to direct people without being noticed and to impose the elements of a culture on them” and “I think knowledge of metaesthetics by creative individuals is both necessary and significant in culture transfer”.

Of the participant students, 85.4% indicated that it was possible to direct people without being noticed and to impose the elements of a culture on them (Table 27) and 70.7% indicated that knowledge of metaesthetics by creative individuals was both necessary and significant in culture transfer (Table 30). These two statements indicated the same opinions and they were accepted independently by the majority of the students (Table 49).

**Section Item 4 - V. Section Item 5**

H<sub>0</sub>: There are no correlations between the statements “I think the material value assigned to an artwork commoditizes the art” and “The objective of making

**Table 50.** Correlations between the statements “I think the material value assigned to an artwork commoditizes the art” and “The objective of making money draws the artist away from artistic creativity

<b>Correlations</b>			
		<b>5-4</b>	<b>5-5</b>
Spearman's rho	5_4 Correlation Coefficient	1.000	.066
	Sig. (2-tailed)	.	.461
	N	126	126
	5_5 Correlation Coefficient	.066	1.000
	Sig. (2-tailed)	.461	.
	N	126	126

money draws the artist away from artistic creativity”.

$H_1$ : There is a correlation between the statements “I think the material value assigned to an artwork commoditizes the art” and “The objective of making money draws the artist away from artistic creativity”.

$H_0$  was not rejected since  $P = 0.461 > \alpha = 0.05$ . There aren't any correlations between the statements “I think the material value assigned to an artwork commoditizes the art” and “The objective of making money draws the artist away from artistic creativity”.

Of the participant students, 54.8% indicated that the material value assigned to an artwork commoditizes the art (Table 32) and 59.6% indicated that the objective of making money draws the artists away from artistic creativity (Table 33). Considering student opinions about money-meta-art relationship, they exhibited different and even conflicting attitudes from each other (Table 50).

## CONCLUSION AND SUGGESTIONS

The following conclusions can be drawn from the statements provided by the students about attitude scales:

Majority of the participant students were females of ages between 22-25 years and most of them were enrolled in freshman (1<sup>st</sup> class) year at Interior Architecture and Environmental Design Department (Tables 1, 2, 3 and 4). With regard to educational levels of parents, while fathers mostly had undergraduate and graduate level education, mothers mostly had high school education (Tables 5 and 6).

The courses in which the students were the least successful were in order: English, Esthetics, and Art History. The place of the two of four disciplines of art/design education such as Esthetic and Art History is extremely striking and this has characteristic to affect all results.

It was determined that most of the students agreed on most items almost as polarized and this situation led to

conflicting results in many tables. Accordingly, it was determined that the students agreed on the matters of the specificity of art or design product, multiplication of design product and advertising; however despite all the recognized knowledge, they developed an attitude to bring themselves forward or to disregard all ethical values for the sake of making money.

One of the striking conclusions has shown itself in judgments of university students about art educators. While the students' responses were not consistent about whether art educators were adequately sensitive and sincere in teaching art, substantial majority, ended with negative response (Table-14). In this case, unsatisfied expectations of the students can be considered as a negative attitude. The failure of faculty members to express their sincerity to the students was mainly because of heavy course loads and time limitations. Decreasing the course loads or increasing working hours may result in more effective relationships between the students and the faculty members.

Art students still have doubts about the nature of art courses (Table-12). Thus, majority of them expressed the instable nature of art courses and the rest were in dilemma about the sufficiency of art courses. Thus, art education curriculum should be rearranged.

Such outcomes brought forward initially the responsibility of higher educational institutes with regard to quality and practical characteristics of the education they provided and ultimately the responsibility of families in every case affecting the students.

The student failures in esthetic and art history classes supplementing art/design education should also be carefully evaluated and relevant measures should be taken. Negative attitudes toward the instructors and course contents might definitely be effective in such outcomes, but considering the age group of the students, they were mostly between 22-25 years of age. They were at ages to be able to mentally synthesize the theoretical knowledge however their attitudes putting the ethics behind the publicity and money is daunting. A value training starting from the lowest levels should be provided on this matter. Higher educational institutes of art and design faculties providing sensitivity education should focus more on esthetics, esthetic values, art history and critical theories. Otherwise, future instructors, artists, designers and even parents will turn into ethically-crippled generations and they will put exchange value of items over any values in time.

Physical and technological equipment to provide practical opportunities to students, and instructor attitudes, controlled, liberal, and cooperative and solid education and training methods will be crucial and mandatory for raising conscious youths. It is thought that inner happiness and sensual satisfaction of instructors from their professions is the primary effect and later on finding, discovering and using modern ways of awareness and protection and transfer to other generations of

national values will enable satisfaction of instructors secondarily. There are several internal and international publications on this issue. The common denominator of all these works is happiness, transformation, adaptation and motivation. This basic pattern is regarded as components to bring success to instructors; and it is suggested that providing these can be achieved only by a conscious programming and classification.

A higher education, which is conscious about cultural matters, and producing and consuming consciously, and which can control the entire media and most importantly can adapt their own self values and customs and make generalization, is the right of all youngsters. To achieve this, the present study and similar studies will illuminate us, and provide comparison opportunity and will allow us to make an evaluation and will open new ways. A comparison of this study and the doctorate thesis study, which was done previously and unpublished, will be made. It is hoped that new doors and study areas will be opened to youngsters in meta esthetic and objectivation matters.

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*Full Length Research Paper*

# Relationship between political discrimination and dissent behaviour displayed by teachers

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The aim of this study is to find out whether there is a significant relationship between perceived political discrimination and dissent behaviour displayed by primary school teachers. This study was designed with correlational research method and survey technique was used to collect data. Primary school teachers working in Tuzla, Istanbul constitute the research population of the study. 362 teachers willing to answer the scales participated in the study. The data were collected through the Political Discrimination Scale for Teachers developed by Keskinliç-Kara and Büyüköksüz (2013) and Dissent Behaviours Scale developed by Özdemir (2013). The results have shown that the level of discrimination in administrative issues perceived by teacher is "high" and the level of discrimination in social relations "medium". The level of political discrimination perceived by teachers does not significantly differ by gender, age, seniority or duration of employment at the institution. It has been found that there is a significant positive relationship between the administrative discrimination sub-dimension of political discrimination and the latent dissent sub-dimension of organizational dissent and that discrimination in administrative issues is a low predictor of latent dissent.

**Key words:** Discrimination, political discrimination, organizational dissent.

## INTRODUCTION

Discrimination is one of the most important problems faced by employees within the organization (Demir, 2011) and a phenomenon arising from prejudices, as a result of different treatment of employees who have the same knowledge, skills and performance (Clain and Leppel, 2001; Cüceloğlu, 2000; Elliot, 1997). The International Labour Organization (ILO) (1958) defines discrimination as "any distinction, exclusion or preference made on the basis of race, color, sex, religion, political opinion, national extraction or social origin". Different treatment of employees may confront us in different forms such as disregarding suitability and fairness in recruitment, career

planning, job descriptions, remuneration, rewards and penalties, the use of personnel rights, and the determination of the burden of work, and sometimes it can also take the form of giving some people more rights and privileges (Ataöv, 1996; Gül, 2006; Çetin and Özdemirci, 2013).

In the literature on discrimination, two types of discrimination are mentioned: direct and indirect. Direct discrimination means that an individual, a group or a section of society articulatedly receives unequal treatment due to language, religion, gender, political opinion, race or similar differences. Indirect discrimination refers

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to behaviour that is difficult to notice, that manifests itself through indirect forms of expression or that, although sometimes not apparently creating any problematic situation, exposes individuals or groups to discrimination in terms of its results. For this reason, direct discrimination is easier to distinguish than indirect discrimination (Doyle, 2007; Reingold and Merikle, 1988).

Although discrimination is prohibited by national and international laws and is not considered by people to be right, we face various types and forms of discrimination in organizations - gender, age, disability, race, political - (Reskin and Padavic, 2002; Baybora, 2006; Sarayönlü, 2003). National and international studies indicate that gender is the most common ground of discrimination (Asif et al., 2011). Gender discrimination is unfair behaviour applied to a person because of his/her gender (Patterson and Walcutt, 2013). There are a large number of studies on gender discrimination at work in Türkiye (Gönel et al., 2012; Özbek-Baştuğ and Çelik, 2011; Parlaktuna, 2010, Akın, 2007; İpek and Yazar, 2010; Dedeoğlu, 2009). After gender discrimination, another area of discrimination is racial discrimination. In addition to this, discrimination against the elderly, the disabled, and homosexuals is also among the extensively studied subjects. While there is a small number of studies in our country concerning political discrimination at work, another type of discrimination (Yeşiltaş et al., 2012), no study has been found concerning such discrimination in educational organizations. This may be because political discrimination is not focused on any particular group (Çetin and Özdemirci, 2013) and is prohibited by the Civil Servants Law numbered 657.

Political discrimination means unfair behaviour and attitudes faced by individuals at work as a result of their political opinions. According to ILO (2006), political discrimination is discrimination against people's opinions, including their political party membership and political, socio-political and moral attitudes. In certain cases, political discrimination may confront us in the form of granting privileges and more rights to individuals who have the same political opinion. The employees to be most affected by political discrimination in educational organizations are teachers. Discrimination to be suffered by teachers will cause their performance to fall and this will directly have a negative impact on the student and the quality of education. In addition, schools are organizations with considerable influence on society and on the individuals who constitute it. This makes it essential for all employees from the principal down to the teacher to behave in the framework of ethical principles because the behaviour that is justified by managers and teachers at school is quite likely to be justified one day in society, too (Strike, 2007).

It has been found that individuals who think they suffer discrimination at the institution where they work have lower levels of professional satisfaction and organizational commitment and loyalty than individuals who think

they do not suffer discrimination. In addition, individuals who suffer discrimination have a high level of professional exhaustion, slow career advancement and low morale, that they take less initiative and that they do not work at full performance (Gallinsky et al., 1993; Leasher and Miller, 2012; Demir, 2011; Esty et al., 1995). Differential treatment of individuals who are in equal status not only can reduce their productivity in every respect and weaken the sustainability of the organization but also, from the ethical point of view, is at variance with the criteria of justice (Fritzschke, 1997; Yamak and Topbaş, 2004; Demirel, 2011).

### **Organizational dissent**

Dissent in organizations is a form of communication that enables feedback concerning employees' dissatisfaction, unethical practices, and practices such as innovation, change and development (Kassing, 2011). With their climate, organizations can turn this form of communication to their advantage or disadvantage. Dissent is one of the basic factors to create a democratic, effective and efficient organization (Shahinpoor and Matt, 2007). What is acceptable and desirable in organizational terms is to turn dissent to an advantage in a manner that will ensure the dynamism and creativity of the organization. However, in order to obtain such an advantage, employees need to share with management the situations and practices they oppose (Kassing, 1997, 1998).

Kassing (1998) states that employees follow three ways to show their opposing behaviour. These are articulated dissent where the issue that the employee is uneasy about and wants to be put right is clearly and constructively expressed to managers; latent dissent that arises where employees are unable to communicate their views to managers and, as a result, share the matters they oppose with other employees who feel and think as they do; and, finally, whistle blowing that arises where employees share the issue they oppose not with managers and other employees within the organization but with persons outside it.

Schools are dynamic structures where knowledge is generated, and they are also the main organizations where different ideas, and criticisms, need to be found most. In schools, teachers need a democratic climate where they can express themselves to show the difference between what is and what ought to be, to state their expectations, and to speak out about incorrect practices. Democratic environments where matters opposed by the employee can be discussed with managers have organizational benefits such as correct decision-making, the emergence of a diversity of ideas, and having a healthy communication environment (Durak, 2013) and individual benefits such as increased motivation to work, high morale (Aydın, 2000), increased self-respect and increased commitment to and

confidence in the organization (Durak, 2013).

Dissent is the basic indicator of democracy in organizations and an important factor in bringing out organizational problems, shortcomings and mistakes (Kassing, 2002). It is also an important variable for the organization to develop and rest on ethical foundations (Shahinpoor and Matt, 2007). There may be different reasons for dissent by employees, which may be listed as unacceptable behaviour towards employees, organizational change, injustice in the distribution of resources, the incompetence of managers, unethical behaviour, conflicts, and inability to participate in decision-making (Kassing and Armstrong, 2002) and discrimination against employees (Akbaba and Taydaş, 2011).

In the light of these assessments, there is a need for surveys concerning political discrimination perceived by teachers and relating such discrimination to different variables. In this context, it may be considered that there is a relationship between political discrimination perceived and dissent behaviour displayed by teachers. Organizational dissent and political discrimination are among the new subjects dealt with by the discipline of organizational behaviour, and an examination of the literature shows that there are a limited number of studies on organizational dissent. Concerning political discrimination in educational institutions, on the other hand, no studies at all have been encountered. It is believed that the results of this survey will eliminate a gap in the literature.

The primary objective of the present study is to find out whether there is a significant relationship between perceived political discrimination and dissent behaviour displayed by primary school teachers. With this aim, answers have been sought to the following questions:

1. What is the level of political discrimination perceived by teachers? Does the level of political discrimination perceived by teachers significantly differ by gender, age, seniority, or duration of work at the school?

2. Is there a significant relationship between political discrimination perceived and dissent behaviour displayed by teachers?

## METHODOLOGY

This study is designed with correlational research method. Correlational research models aim at identifying the existence and/or degree of concomitant variation between two or more variables (Karasar, 2009).

### Population and sample

700 teachers employed in the primary schools in Tuzla, Istanbul constitute the research population of the study. Because the research population was accessible, no sample was taken. The teachers were given information concerning the aim of the study, and data were collected from those teachers who were willing to answer the scales. Of the scales distributed, 362 returned but 346

were evaluated because 16 of the scales that returned were invalid for reasons due to marking. The 346 teachers represent 49.42% of the population. According to Balcı (1999), quoting from Anderson, this sampling rate with a 5% margin of error was considered suitable.

Out of 346 teachers 27.5% of them are men and 72.5%, women. 37.9% of the participants are in the age interval of 21 to 30; 43.9% in the age interval of 31 to 40; 16.2% in the age interval of 41 to 50; and 2% in the age interval of 51 and above. 36.1% of the participants have 1 to 5 years professional experience; 28.9% 6 to 10 years; 15% 11 to 15 years; 12.7% 16 to 20 years; and 7.2% 21 years or more. When the durations of work of the participants at the institution are examined, it is found that 76.6% have 1 to 5 years institution experience; 13.6% 6 to 10 years; 4.9% 11 to 15 years; 4.6% 16 to 20 years; and 0.3% 21 years or more. In terms of the level of education, 85.3% of the participants have a bachelor's degree; 12.7%, a postgraduate degree; and 2%, an associate degree.

## Instruments

Two scales were used as the data collection instrument. The Political Discrimination Scale for Teachers (PDST) developed by Keskinç-Kara and Büyüköksüz (2013) was used to determine the level of political discrimination perceived by teachers. The PDST is a 5 point Likert scale consisting of 28 items and of 2 dimensions including Discrimination in Social Relations and Discrimination in Administrative Issues. The whole of the scale has a Cronbach Alpha coefficient of .97 while the Cronbach Alpha coefficients for the sub-dimensions of the PDST are .98 and .84 for discrimination in social relations and discrimination in administrative issues, respectively.

The Dissent Behaviour Sub-Scale (ODSS), a sub-scale of the Organisational Dissent Scale developed by Özdemir (2013), was used to determine dissent behaviour displayed by teachers. The ODSS is a 17 item self-report scale designed to measure dissent behaviours displayed by teachers on a 5 point Likert scale. The ODSS consists of 3 dimensions and the Cronbach Alpha coefficients for the sub-dimensions of the scale are .87 for whistle blowing, .86 for articulated dissent and .88 for latent dissent.

## Analysis of the data

Descriptive statistics such as frequency, percentage and arithmetic mean were used in the analysis of the data. The significance of the comparisons made between demographic variables was tested by t-test and one-way analysis of variance (ANOVA). Correlation and regression analysis was employed to determine the relationship between the dependent and independent variables.

## FINDINGS

As shown in Table 1, the average points for each sub-dimension of the PDST have been divided by the number of items and turned into an average between 1 and 5 to make them comparable with each other. As a result, it has been found that the level of Discrimination in Administrative Issues perceived by teachers is "high" ( $\bar{X}=3.46$ ) while the level of Discrimination in Social Relations is "medium" ( $\bar{X}=2.48$ ). Based on the total points of the PDST, it has been noted that the level of political discrimination perceived by teachers is "medium" ( $\bar{X}=3.29$ ).

**Table 1.** Descriptive statistics concerning political discrimination perceived by teachers and its sub-dimensions.

Variables	n	K	Min. Point	Max. Point	$\bar{X}$	$\bar{X}/K$	Ss
Discrimination in Administrative Issues	346	23	23.00	115.00	79.70	3.46	22.52
Discrimination in Social Relations	346	5	5.00	25.00	12.42	2.48	4.89
Political Discrimination Total	346	28	34.00	140.00	92.13	3.29	24.11

**Table 2.** Results of the t-test between the level of political discrimination perceived by teachers and the gender variable.

Dimensions	Gender	n	$\bar{x}$	Ss	Sd	t	P
Discrimination in Administrative Issues	Female	251	79.94	22.19	344	.317	.752
	Male	95	79.08	23.48			
Discrimination in Social Relations	Female	251	12.40	4.74	344	-.132	.895
	Male	95	12.48	5.29			
Political Discrimination Total	Female	251	92.35	23.61	344	.269	.788
	Male	95	91.56	25.51			

When Table 2 is examined, it is noted that the level of political discrimination perceived by teachers does not significantly differ according to the independent variable of gender [ $t(344)=.269$ ;  $p>.05$ ]. When the level of political discrimination perceived by teachers is examined according to the sub-dimensions of the scale, it is found that the level of discrimination in administrative issues perceived by teachers [ $t(344)=.317$ ;  $p>.05$ ] and discrimination in social relations [ $t(344)=-.132$ ;  $p>.05$ ] does not differ by the gender variable, either.

Table 3 showed there is no significant different between the levels of political discrimination perceived by teachers and the participants' age ( $p>.05$ ). However, the age group where the perception concerning the sub-dimension of discrimination in administrative issues is the highest 41 to 50 while the participants in the age group of 51 and above represent the age group where the perception concerning the sub-dimension of discrimination in social relations is the highest.

When Table 4 is examined, it is concluded that there is no significant differentiation between the levels of political discrimination perceived by teachers and the seniority variable ( $p>.05$ ).

When Table 5 is examined, it is concluded that there is no significant different between the levels of political discrimination perceived by teachers and the variable of seniority at the school ( $p>.05$ ).

Table 6 includes the results of the correlation analysis showing the relationship between dissent behaviour and the PDST sub-dimensions of discrimination in social relations and discrimination in administrative issues. The results indicate that there is a positive and significant relationship at a low level ( $r=.266$ ,  $p<0.01$ ) between the sub-dimension of political discrimination in administrative

issues and the dissent behaviour of latent dissent. No significant relationship has been found between political discrimination in administrative issues, on one hand, and articulated dissent and whistle blowing, the other sub-dimensions of dissent behaviour, on the other. Likewise, no significant relationship has been found between the social discrimination sub-dimension of political discrimination, on one hand, and the latent dissent, articulated dissent and whistle blowing sub-dimensions of dissent behaviour, on the other.

The results of the linear regression analysis performed in order to determine the effect of perceived discrimination in administrative issues on latent dissent are presented in Table 7. It has been found that discrimination in administrative issues has an effect, even if small, on latent dissent [ $R^2 = 0.023$ ]. It may be said that discrimination in administrative issues is a predictor of latent dissent ( $F=4.728$ ,  $p<0.05$ ) and predicts a small part of the variance such as 2.5%.

## DISCUSSION

This study examined the relationship between political discrimination perceived and dissent behaviour displayed by teachers. Because no previous research was encountered concerning the level of political discrimination perceived by teachers, it has also been investigated whether political discrimination significantly differs by age, gender, level of education, seniority, and duration of work at the institution. Results suggested that teachers working in primary schools have a "high" level of perceived discrimination in administrative issues, one of the sub-dimensions of political discrimination, and a

**Table 3.** Results of the one-way analysis of variance (ANOVA) between the level of political discrimination perceived by teachers and the age variable.

Sub-dimensions	Groups	$\bar{x}$	sd	Source of Variation	Ss	sd	Ms	F	p
Discrimination in Administrative Issues	21-30	77.19	25.11	Between Groups	2361.486	3	787.162	1.559	.199
	31-40	79.86	20.79						
	41-50	84.92	19.42						
	51 and above	79.42	27.69	Within Groups	172660.031	342	504.854		
	Total	79.70	22.52	Total	175021.517	345			
Discrimination in Social Relations	21-30	12.01	4.44	Between Groups	153.971	3	51.324	2.166	.092
	31-40	12.56	5.03						
	41-50	12.48	4.91						
	51 and above	16.71	8.01	Within Groups	8104.722	342	23.698		
	Total	12.42	4.89	Total	8258.694	345			
Discrimination Total	21-30	89.21	26.17	Between Groups	2812.295	3	937.432	1.61	.184
	31-40	92.52	22.79						
	41-50	97.41	21.15						
	51 and above	96.14	30.90	Within Groups	197840.321	342	578.480		
	Total	92.13	24.11	Total	200652.616	345			

**Table 4.** Results of the one-way analysis of variance (ANOVA) between the level of political discrimination perceived by teachers and the seniority.

Sub-dimensions	Groups	$\bar{x}$	sd	Source of Variation	Ss	sd	Ms	F	p
Discrimination in Administrative Issues	1-5	77.72	25.18	Between Groups	2361.486	3	787.162	1.559	.199
	6-10	80.09	21.81						
	11-15	77.80	20.24						
	16-20	84.63	18.98	Within Groups	172660.031	342	504.854		
	21 and above	83.36	21.15	Total	175021.517	345			
	Total	79.70	22.52						
Discrimination in Social Relations	1-5	12.27	4.65	Between Groups	153.971	3	51.324	2.166	.092
	6-10	12.49	4.73						
	11-15	11.84	5.02						
	16-20	12.86	5.12	Within Groups	8104.722	342	23.698		
	21 and above	13.40	6.06	Total	8258.694	345			
	Total	12.42	4.89						
Discrimination Total	1-5	90.00	26.60	Between Groups	2812.295	3	937.432	1.61	.184
	6-10	92.58	23.73						
	11-15	89.65	21.36						
	16-20	97.50	19.79	Within Groups	197840.321	342	578.480		
	21 and above	96.76	24.37	Total	00652.616	345			
	Total	92.13	24.11						

**Table 5.** Results of the one-way analysis of variance (ANOVA) between the level of political discrimination perceived by teachers and the variable of seniority at the institution.

Sub- dimensions	Groups	$\bar{x}$	sd	Source of variation	Ss	sd	Ms	F	p
Discrimination in Administrative Issues	1-5	78.23	23.44						
	6-10	84.46	18.09	Between Groups	2981.237	4	745.309		
	11-15	84.58	19.29					1.477	.209
	16-20	83.18	19.93	Within Groups	172040.280	341	504.517		
	21 and above	107.00							
	Total	79.70	22.52	Total	175021.517	345			
		1-5	12.24	4.76					
Discrimination in Social Relations	6-10	12.38	5.01	Between Groups	132.907	4	33.227		
	11-15	13.58	5.19					1.394	.235
	16-20	13.75	5.99	Within Groups	8125.786	341	23.829		
	21 and above	21.00							
	Total	12.42	4.89	Total	8258.694	345			
Discrimination Total	1-5	90.48	24.80						
	6-10	96.85	20.27	Between Groups	4041.046	4	1010.262		
	11-15	98.17	21.57					1.752	.138
	16-20	96.93	22.79	Within Groups	196611.569	341	576.574		
	21 and above	128.00							
	Total	92.13	24.11	Total	200652.616	345			

**Table 6.** Results of the correlation analysis of the relationship between political discrimination perceived and dissental behaviour displayed by teachers.

Variation	1	2	3	4	5	6
1. Latent Dissent	1					
2. Whistleblowing	-.093	1				
3. Articulated Dissent	-.003	.377*	1			
4. Disc. in Social Relations	.013	-.024	-.042	1		
5. Disc. in Administrative Issues	.266*	-.072	-.007	.228*	1	
6. Discrimination Total	.251*	-.015	-.015	.416*	.980*	1

p<.05.

**Table 7.** Results of the regression analysis concerning the prediction of latent dissent.

	B	t	p	R <sup>2</sup>	F	p
Regression Coefficient	15.302	11.833	0.000			
Latent Dissent	.151	2.174	0.031	0.023	4.728	0.031

p<.05.

“medium” level of perceived discrimination in social relations. This may be interpreted as meaning that school managers are not fair and ethical in their practices. Failing to accord equal treatment to equal individuals and carrying out discriminatory practices in educational

institutions is a matter that needs to be investigated from the point of values such as fairness and ethics (Fritzsche, 1997; Yamak and Topbaş, 2004; Demirel, 2011). Political discrimination is an important organizational problem that affects the professional satisfaction of teachers, their

commitment, their psychological condition and their levels of devotion, performance and exhaustion (Hopkins, 1980; Gallinsky et al., 1993; Leasher and Miller, 2012; Demir, 2011; Esty et al., 1995). Teachers who think that they suffer political discrimination may be likely to display dissent behaviour from a democratic point of view. A survey conducted by Akbaba and Taydaş (2011) has identified discrimination as one of the causes of organizational dissent but also found that there is a low positive relationship between the administrative discrimination sub-dimension of political discrimination and the latent dissent sub-dimension of organizational dissent and that discrimination in administrative affairs is a low predictor of latent dissent. In this case, one may speak of organizational silence in education organizations and of democracy, and this may be the subject of other studies.

The lack of research concerning political discrimination in Türkiye is notable. In future studies, researchers may work on issues such as the effects of political discrimination, ways of coping with discrimination, and measures to prevent political discrimination in organizations.

## Conflict of Interests

The author has not declared any conflict of interests.

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Full Length Research Paper

# Discourse markers in EFL setting: Perceptions of Turkish EFL teachers

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Discourse markers are seen as one of the fundamental units in spoken discourse due to their frequent and multifunctional use by native speakers of English. Discourse markers also have significance in foreign language instruction. In this respect, this study explored the perceptions of Turkish EFL teachers towards the use of discourse markers in terms of the pragmatic and pedagogic value and their representations in EFL classrooms. To this end, a questionnaire was administered to 104 EFL instructors working at seven different state universities in Turkey. The quantitative analyses of the data yielded that the teachers had positive perceptions towards discourse markers by finding them necessary for improving pragmatic competence of language learners. They also stated that discourse markers had teaching value so they highlighted them in their instruction. Moreover, the study also discussed the integration of discourse markers into language instruction. The study had some implications for further discussion over the issue of discourse markers in terms of investigating teacher talk, real classroom practices during language teaching instruction and teaching materials.

**Key words:** Discourse markers, English as a Foreign Language (EFL) teachers, spoken discourse.

## INTRODUCTION

Discourse markers (henceforth DM) are important features of spoken language in terms of their frequency and multi-functionality in spoken discourse. They are commonly preferred discourse items used by particularly native speakers of English. Due to their significance as 'sharing devices and intimacy signals in our everyday talk' (Quirk et al., 1985, p.179), their pragmatic and indispensable value is salient in spoken discourse.

DMs are defined as "sequentially dependent elements which bracket units of talk" (Schiffrin, 1987, p.31). In other words, DMs are seen as textual and cohesive elements in discourse by depending on the previous or

following units. Thus, connectivity is one of the fundamental features of DMs as they signal relationships between the utterances. Moreover, DMs can exist in several grammatical classes; verbs (*look, listen, see*), conjunctions (*and, but, nevertheless*) or non-finite clauses (*you know, i mean, to be honest*). Aijmer (2002) points out that they should be studied from functional and pragmatic perspective rather than grammatical classifications.

According to Louwse and Mitchell (2003), DMs mostly occur in spoken rather than written discourse. For example, Carter and McCarthy (2006) list the most

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**Table 1.** 1A core functional paradigm of DMs in pedagogic discourse.

Interpersonal	Referential	Structural	Cognitive
Marking shared knowledge: <i>See, you see, you know, listen</i>	Cause: <i>Because, cos</i>	Opening and closing of topics: <i>Now, OK/okay, right/alright, well, let's start, let's discuss, let me conclude the discussion</i>	Denoting thinking process: <i>Well, I think, I see, and</i>
	Contrast: <i>But, and, yet, however, nevertheless</i>		Reformulation/Self-correction: <i>I mean, that is, in other words, what I mean is, to put it in another way</i>
Indicating attitudes: <i>well, really, I think, obviously, absolutely, basically, actually, exactly, sort of, kind of, like, to be frank, to be honest, just, oh</i>	Coordination: <i>And</i>	Sequence: <i>First, firstly, second, secondly, next, then, finally</i>	Elaboration: <i>Like, I mean</i>
	Disjunction: <i>Or</i>	Topic shifts: <i>So, now, well, and what about, how about</i>	
Showing responses: <i>OK/okay, oh, right/alright, yeah, yes, I see, great, oh great, sure, yeah</i>	Consequence: <i>So</i>	Summarizing opinions: <i>So</i>	Hesitation: <i>Well, sort of</i>
	Digression: <i>Anyway</i>		Assessment of the listener's knowledge about the utterances: <i>You know</i>
	Comparison: <i>Likewise, similarly</i>		Continuation of topics: <i>Yeah, and, cos, so</i>

common DMs in everyday spoken language which are single words such as *anyway, cos, fine, good, great, like, now, okay, right, so, well* and phrasal and clausal items such as *you know, I mean, as I say, for a start, mind you*. Furthermore, DMs are also known as optional elements in spoken discourse. Their removal from the utterance may not change the grammaticality of the utterance. They do not influence the truth condition of the proposition (Schourup, 1999). In other words, they do not contribute to the content of the utterance. However, these criteria do not make them unnecessary elements in an utterance. They are peculiar as they “reflect choices of monitoring, organisation and management exercised by the speaker” (Carter and McCarthy, 2006, p. 208).

DMs are multi-functional and multi-categorical elements. Fung and Carter (2007) gather the functions of DMs in four categories: interpersonal, referential, structural and cognitive. As seen in Table 1, classifying a DM into only one functional category is difficult. Speakers may use these items for several purposes. For example, *you know* can be used not only for marking shared knowledge between the speaker and the listener but also for assessing the listener's knowledge about the utterances (Fung and Carter, 2007, p.418).

Due to their significance in native discourse, DMs have been of interest in second/foreign language teaching. They have been seen as necessary items in spoken discourse to promote communicative and pragmatic competence of the speakers (Hellermann and Vergun, 2007; Lam, 2009; Müller, 2005; O'Keeffe et al., 2007; Wierzbicka, 1991). Trillo (2002) states that pragmatic distance is not displayed to non-native speakers of English. According to Trillo (2002), pragmatic distance is defined as “the variants in the social, cognitive and contextual dimensions of linguistic communication that govern and systematize social relations in speech” (p. 771). Thus, the level of exposure of non-native speakers

to pragmatic items in discourse may limit their naturalness in the target language, especially in EFL setting. Non-native speakers also use DMs in their own language significantly, but they do not feel independent and confident when using DMs in the target language. This inability to use DMs in their spoken interaction may make the speakers “potentially disempowered and at risk of becoming a second-class participant” (O'Keeffe et al., 2007, p.39). Wierzbicka (1991) states, from a pedagogical perspective, failing to master the use of discourse particles may seriously impair the communicative competence of learners.

Furthermore, Trillo's comparative study (2002) investigates the use of pragmatic markers in speech of native and non-native speakers of English, in the case of children and adults. It concludes that if there is no consistent teaching of pragmatic markers in language instruction, the use of pragmatic markers becomes fossilized in quantity and the diversity. Similarly, Müller's studies (2004, 2005) point out that there are fewer and different functions of DMs used by German speakers of English when compared to the native data. Moreover, Fung and Carter's (2007) study compares a pedagogic sub-corpus of spoken British English and a corpus of classroom discussions in Hong Kong secondary schools. Thus, they find out that native speakers use DMs for a wider variety of pragmatic functions when compared to Hong Kong learners of English who used *yeah, really, say, sort of, I see, you see, well, right, actually* in relatively restricted sense.

How DMs should be taught or promoted in language classrooms have also been discussed and searched. In this sense, the role of teaching materials and the teacher in a language classroom are significant. Lam's (2009) study on investigating *well* in 15 textbooks concludes that none of the textbooks has a separate section to describe *well* for improving oral skills. This study reveals that

textbooks lack a detailed description and presentation of DMs as used in real-life contexts. Thus, “such textbooks are so detached from reality that they have ultimately lost their pedagogical value” (Lam, 2009, p.277). Sert and Seedhouse’s (2011) review on conversation analysis also discusses the authenticity of dialogues in language teaching materials. They suggest that although each ordinary conversation may not always be the best material in teaching, the textbooks should be able to include naturally occurring talk with the examples of scripted conversations.

Hellermann and Vergun’s (2007) study on the DMs *well, you know, like* which are not explicitly taught at beginning to adult learners of English also suggest some implications. They conclude that the teachers in language classrooms play a fundamental role in promoting DMs to language learners. They suggest that although the teachers do not need to spend a particular time on DMs, learners should be made aware of DMs and their pragmatic functions. Thus, it has been discussed that the DMs should be taught explicitly or implicitly in language classrooms by the teacher. Moreover, teacher talk during instruction may also be guiding while learners are not focusing on these items. In this sense, the attitudes of the teachers towards DMs need attention. Fung’s (2011) study investigates the attitudes of 132 Hong Kong teachers working in secondary schools towards the use of DMs in their classrooms. This study reveals that although the teachers have a certain positive sense of DMs in terms of pragmatic and pedagogic value, they state that DMs are underrepresented in materials and instruction.

As a result, the literature focusing on DMs in several aspects has been increasing and diversifying recently. Previous research has addressed several aspects of DMs such as DMs used by native speakers of English and their functions (Aijmer, 1987; Erman, 1987; Schiffrin, 1986; Schourup, 1999) and DMs in different languages rather than English (Bazzanella and Morra, 1990; Chen and He, 2001). Although the interest towards the pedagogical significance of DMs in ESL/EFL classrooms has been increasing (Fung and Carter, 2007; Lam, 2009; Müller, 2004; Trillo 2002), little attention has been given to the perceptions of teachers towards DMs (Fung, 2011). However, teachers’ beliefs can provide insights into the pedagogic practice of DMs. While the performance of language learners in using DMs and their awareness has been studied mostly, awareness, experience and viewpoints of EFL teachers about DMs should also be studied. Therefore, the present research attempts to explore the issue in the Turkish context by investigating the perceptions of Turkish EFL teachers towards the use of DMs in EFL classrooms. The questions guiding the research were as follows:

1. How do Turkish EFL teachers perceive DMs in terms of their pedagogic and pragmatic value?
2. What do Turkish EFL teachers think about how DMs

should be represented in the classrooms?

3. How do Turkish EFL teachers perceive the current representation of DMs in language classrooms?

## METHODOLOGY

### Participants

Participants were selected via convenience sampling (Dörnyei, 2007). They were 104 EFL instructors teaching students of different levels of language proficiency at English preparatory programs from seven different large state universities in four different cities of Turkey. Instructors were invited to fill in the online questionnaire by email. Thus, the teachers participated in the study on a voluntary basis. As for the demographics of teachers, 75% were females while 25% of the teachers were males. In terms of the qualifications, 79% of the teachers held a BA degree in English Language Teaching, 16 % of them a BA in English or American literature, 4% a BA in translating and interpreting, and only 1 % a BA in linguistics. 56% of the instructors held MA while 10 % held PhD degree in TEFL. As far as the years of experience in teaching are concerned, 34% of the respondents had 1-4 years, 23% of them had five to nine years and 43% of them had over 10 years of teaching experience. Regarding the teaching hours per week, 32% of them give English courses between 12-15 h weekly, 12 %, between 15-18 h; 56%, over 18 teaching h. Briefly, the participants were predominantly females, the graduates of English Language Teaching, qualified and mostly experienced teachers of English.

### Data collection

The data for the research objectives were collected through an online questionnaire adapted from Fung (2011). Permission to use the instrument was granted by the corresponding author via e-mail. The questionnaire consists of 48 items including the linguistic, pedagogic, cultural and pragmatic aspects of the use of DMs. The questionnaire was adapted by the researcher along with the viewpoints of 5 experts with PhD holder in ELT. In line with their feedback, some of the statements were clarified while some were re-arranged according to Turkish EFL context. The questionnaire is a five-point Likert scale which is helpful in terms of revealing teachers’ perceptions. Likert scales are used for measuring people’s attitudes for social issues (Busch, 1993) and how respondents feel about a number of statements (Brown, 2001). The scales included have the continuum as follows: 1: Strongly agree; 2: Agree; 3: Uncertain; 4: Disagree; 5: Strongly Disagree. Some of the statements in the questionnaire were positively worded while some were negatively worded to counter-check the reliability of the statements.

### Data analysis

The study employed two methods of quantitative analysis on the questionnaire through SPSSv 15.0 for Windows: reliability analysis and (confirmatory) factor analysis. For the reliability analysis, Cronbach’s Alpha was calculated as 0.789 which displays that the questionnaire has moderately acceptable reliability. Moreover, an item-total correlation test was performed to check if any item in the set of tests is inconsistent with the averaged behaviour of the others, and thus can be discarded. This analysis displayed that no item had value smaller than .30, which displays that the list of the items or items were reliable.

Factor analysis was done to identify the internal consistency of the questionnaire. Factor analysis is conducted to “reduce the number of variables submitted to the analysis to a few values that

**Table 2.** Factor 1: Pragmatic value of DMs.

Items	Mean	Std. Dev.	Factor loadings
1. DMs can oil the wheels of communication.	1.55	.83	.750
2. Knowledge of DMs helps processing information in listening.	1.75	.82	.746
3. DMs can display the speakers' attitude.	1.69	.78	.686
7. The sequence of the speakers' mental thoughts can be displayed clearly through DMs.	1.93	.77	.539
12. Showing responses with DMs can yield a softening and facilitative effect.	1.71	.71	.513
26. Students can benefit in public examinations, especially in listening comprehension, if they know what DMs are.	1.86	.76	.636
28. Students can follow a university lecture better in the future, especially those conducted by native speakers, if they know the meanings DMs point to.	1.72	.71	.657
29. Students can understand native speakers better in their future workplace if they know what DMs are.	1.73	.81	.716

will still contain most of the information found in the original variables" (Dörnyei, 2007, p.233). After the first Component Factor Analysis, item 9 was excluded from the analysis as its factor load of .22 was below 0.40, the accepted value for correlation between the factor and item. The KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy was .686, above the recommended value of .6 and Bartlett's test of sphericity was significant ( $p = 0,000 / \chi^2 = 2464.716; p < 0.01$ ).

The results of the factor analysis revealed that seven factor loadings were rotated through the responses of the teachers. Appendix A shows the factor loading matrix including the factor loadings of all variables on each factor. The factor loading matrix displays similarities with Fung's (2011) results. Similar items were mostly represented under the same factor. Some of the factors were named similarly with Fung's (2011) study while some were re-named according to the adapted versions of the items. Each factor is presented with the relevant items in the corresponding tables.

## RESULTS

*RQ1. How do Turkish EFL teachers perceive DMs in terms of their pedagogic and pragmatic value?*

Factor 1, 2 and 3 display how Turkish EFL teachers perceive DMs in terms of pedagogic and pragmatic value. The items under Factor 1, named as *the pragmatic value of DMs*, investigate the attitudes of the teachers towards the DMs in terms of their communicative and pragmatic competence aspect, stated in Table 2.

These items correspond with the multi-functionality of DMs in spoken discourse; such as turn-taking, responding, listening and cognitive processing in interactional exchanges. Moreover, the items (26, 28, 29) clearly display that how knowledge of DMs help and facilitate language learners in real life; such as in future workplaces, in future exams which include testing listening proficiency and following a university lecture. The results of the means (1.55-1.93) and the small magnitude of the standard deviations (0.71-0.83) indicate that the teachers have considerably positive perceptions

about the pragmatic value of DMs.

Furthermore, Factor 2, in Table 3, deals with mainly the optionality and non-truth conditionality characteristic of DMs in spoken discourse. These items question whether DMs are optional and influence the truth conditions of the utterances or not.

There are different viewpoints about the dispensable value of DMs. As items 4, 5 and 8 reflect, the teachers accept that DMs are useful and necessary devices to assist listeners to comprehend the conversation, to have coherence and to relate the ideas in talk. On the other hand, they also accept the subsidiary role of DMs in spoken discourse. Since the results of the items 6, 10, 13 and 14 indicate, they have a tendency to accept that the conversation can still be understood by means of other linguistic clues such as grammar and vocabulary without DMs. Moreover, item 19 also reflects that the teachers accept that the use of DMs by the students in spoken language is fairly less when compared to the use of discourse connectives (namely conjunctions) in their written discourse.

Factor 3 in Table 4 presents the items related to the pedagogic value of DMs in terms of their significance to teach and learn during language teaching and learning process. Particularly, according to the items 23, 24 and 25 (mean: 4.19-4.25), the teachers in the study accept that DMs have teaching value. They disagree that DMs are small, redundant and meaningless words.

Moreover, they agree that linguistic awareness about DMs should be developed (item 20) and the language learners should have proficiency of DMs to improve their speaking and listening skills (items 22 and 27). These results imply that the teachers have positive attitudes towards teaching DMs in language classrooms. However, they have uncertain attitudes towards whether to leave the idea of learning DMs in the future on their own to the students (item 38, mean: 3.28). They are also not clear about the level that the students should be able to speak DMs as native speakers do.

**Table 3.** Factor 2: Dispensable value of DMs.

Items	Mean	Std. Dev.	Factor loadings
4. DMs are not very useful devices to guide listeners to understand the conversation.	4.01	1.14	-.702
5. DMs do not necessarily help to orientate the listener to the overall idea structure and sequence in talk.	3.91	.99	-.514
6. It is an effective listening strategy for listeners to focus closely on the key words in talk without referring to DMs.	2.89	1.11	.464
8. Without DMs the conversation would become bitty and incoherent.	2.11	.94	.449
10. I can still understand the conversation using other linguistic clues rather than referring to the DMs.	2.50	.98	.630
11. DMs do not necessarily help to signal relationships between ideas in talk.	3.77	.88	-.505
13. Without DMs the conversation is still coherent and interpretable.	3.20	.98	.620
14. DMs appear to be redundant in the conversation.	3.23	.96	.623
19. Students have traditionally been taught to speak in written language form (e.g. using conjunctions in their writing) and they seldom display DMs in their speech.	2.01	.91	.441

**Table 4.** Factor 3: Pedagogic value of DMs.

Items	Mean	Std. Dev.	Factor loadings
20. It is necessary to create and develop linguistic awareness of DMs and promote proficiency in the actual use of them.	1.73	.79	.712
21. There is no need to promote spontaneous understanding of DMs as a fluency device in spoken language.	3.84	1.00	-.495
22. Students should be helped to exploit DMs to improve their speaking and listening skills.	1.83	.78	.728
23. DMs are only small words in conversation and it is not worth the time to teach them.	4.19	1.04	-.502
24. DMs do not carry specific meaning and there is not much teaching value.	4.28	.87	-.732
25. DMs are redundant and sub-standard features in speech and there is not much teaching value.	4.25	.80	-.692
27. It is important for students to learn to incorporate DMs in their speech which is an essential skill for the oral English exams in the future.	1.86	.90	.454
38. Students should decide for themselves to choose whether to learn to speak with DMs in the future when other interaction opportunities arise.	3.28	1.13	.542
39. My students do not need to speak with DMs as frequently as most native speakers do, but only need to progress to a speaking proficiency level capable of fulfilling their communicative purpose.	3.06	1.19	.415

*RQ2. What do Turkish EFL teachers think about how DMs should be represented in the classrooms?*

Factor 4, in Table 5, presents the items including the issues regarding the attitudes of the teachers towards the use of DMs by native speakers of English and its reflection in language classrooms. Although the teachers agree that DMs to be taught as how native speakers use (item 30, mean: 1.83), they are not certain that being competent speakers of language mean speaking like its natives. The teachers are also unsure about that their students will be able to use DMs as native speakers do (item 40, mean: 3.45). Moreover, items 42 and 46 (mean:

3.10-3.04) reveal that there is not a clear consensus among the teachers on the issue which of DMs should be a model; American or British way.

Furthermore, Factor 5 which has loadings from the items 43-47 reflects the opinions about which norms of DMs should be accepted by Turkish non-native speakers of English. According to the results of the items 45-47, the teachers mostly agree that different varieties of DMs should be recognized and accepted rather than sticking only to the native speaker norm of using DMs. The findings suggest that there should be acceptance of the local usages of DMs. The teachers also agree that exposing students to different varieties of DMs may be

**Table 5.** Factor 4: Identification with the native speaker norm.

Items	Mean	Std. Dev.	Factor loadings
30. Students should be taught how native speakers use DMs and follow their way of using them.	1.83	.89	.545
31. Students should be taught to speak like a native in order to become competent speakers.	2.69	1.20	.762
40. It is realistic to require my students to use DMs like native speakers of English.	3.45	1.17	.746
41. The American way of using DMs should serve as a model for my students.	3.22	.99	.681
42. The British way of using DMs should serve as a model for my students.	3.10	1.02	.653
46. It is justifiable to require my students to use DMs like native speakers of English.	3.04	1.10	.738

**Table 6.** Factor 5: Acceptance of the local usage.

Items	Mean	Std. Dev.	Factor Loadings
43. It can be regarded as a wrong usage when Turkish learners use DMs differently from native speakers.	2.74	1.16	-.646
44. We should respect and accept a Turkish style of using DMs.	3.09	1.14	.683
45. We should help students to recognize and accept different national and regional use of DMs.	2.29	.99	.706
47. It is necessary to expose students to different varieties of using DMs for purpose of comprehension, though not of production.	2.27	1.03	.513
48. It is not necessary to stick to the native speaker norm of using DMs because English language teaching should seek relevance to local culture while trying to enable global transaction.	2.60	1.15	-.413

**Table 7.** Factor 6: How DMs should be highlighted in EFL classrooms.

Items	Mean	Std. Dev.	Factor Loadings
32. It is an appropriate time to highlight DMs in spoken text at pre-intermediate and intermediate levels.	2.26	.95	.458
33. It is an appropriate time to highlight DMs in spoken text at upper-intermediate and advanced levels.	2.94	1.29	.445
34. It is too ambitious to expect students to learn DMs for both listening and speaking purposes at pre-intermediate and intermediate levels.	3.50	1.08	.700
35. At pre-intermediate and intermediate levels, we should prioritize teaching DMs mainly for listening purpose.	2.73	.90	.479
36. DMs as a linguistic device for both listening and speaking purposes should be introduced at the same time at pre-intermediate and intermediate levels.	2.35	.89	-.490
37. DMs as an aspect of speaking skill should be delayed until awareness of DMs as a listening skill has been grasped.	3.18	1.13	.654

necessary to improve their comprehension skills. However, regarding the acceptance of Turkish style of using DMs, they are uncertain about it as it is reflected in items 43 and 44 (Table 6).

Regarding the issue of how and when DMs should be highlighted in EFL classrooms, Factor 6 (items 32-37) displays the opinions about the proficiency levels and receptive or productive skills. According to the results of the item 32, the teachers agree that pre-intermediate and intermediate levels are appropriate time to highlight DMs in spoken text when compared to upper-intermediate and advanced levels (item 33, mean: 2.94). On the other

hand, they were nearly moderate about expecting students at pre-intermediate and intermediate levels to learn DMs for both listening and speaking purposes (Table 7).

Moreover, the results of the items 35 and 37 reveal that they were also uncertain about prioritizing DMs for receptive purposes at pre-intermediate and intermediate levels. The results of the item 36 are consistent with the ones of 34, 35 and 37 by reflecting that the teachers agree on the promotion of DMs for both receptive and productive purposes from the pre-intermediate and intermediate levels.

**Table 8.** Factor 7: Representation of DMs in EFL classrooms.

Items	Mean	Std. Dev.	Factor loadings
15. DMs have been presented as a listening skill in most listening materials I am using.	2.49	1.10	.701
16. DMs have been presented as a speaking skill in most oral materials I am using.	2.22	.92	.718
17. I always highlight DMs in oral lessons. (not necessarily separate oral lessons but also oral sections in my courses)	2.13	.90	.708
18. I always highlight DMs in listening lessons. (not necessarily separate listening lessons but also listening sections in my courses)	2.27	.94	.657

**Table 9.** Summary of the perceptions of EFL teachers towards DMs with seven factors.

	Min	Max	Mean	S.Dev.
<b>Factor 1: Pragmatic value of DMs</b>	1,00	3,88	1.74	.50
<b>Factor 2: Dispensable value of DMs</b>	2,11	4,11	2.26	.41
<b>Factor 3: Pedagogic value of DMs</b>	2,00	4,00	2.12	.34
<b>Factor 4: Identification with the native speaker norm</b>	1,17	5,00	2.89	.76
<b>Factor 5: Acceptance of the local usage</b>	1,60	3,80	2.85	.51
<b>Factor 6: How DMs should be highlighted in EFL classrooms</b>	1,00	3,83	3.04	.51
<b>Factor 7: Representation of DMs in EFL Classrooms</b>	1,00	4,50	2.28	.74

*RQ3. How do Turkish EFL teachers perceive the current representation of DMs in language classrooms?*

Factor 7 investigates whether the teachers and the course materials present DMs in EFL classrooms. The results indicate that the teachers accept the representation of DMs in the oral materials during speaking and listening skill activities. The teachers also accept that they highlight DMs in speaking and listening activities (items 17 and 18, mean: 2.13 and 2.17) (Table 8).

As an overall evaluation of the factors specified, Table 9 displays the summary of the seven factors with their overall mean and standard deviations. Table 9 shows that Turkish EFL teachers had positive attitudes towards the pragmatic competence, dispensable value of DMs and pedagogic value of DMs. However, there are relatively neutral attitudes regarding the norm of DMs to be taught or used and how DMs should be included in language classrooms. Moreover, the highest standard deviations in Factor 4 (SD: 0.76) and 6 (SD: 0.74) show the diverse opinions regarding the representation of DMs in classrooms and the norm issue of DMs to be used or learned.

## DISCUSSION

Data analysis of the questionnaire displays a detailed identification of the perceptions of Turkish EFL teachers towards DMs in several aspects. In terms of the pragmatic value of DMs in discourse, the findings

suggest that the teachers agree on the contribution of DMs to communicative and pragmatic competence of their students. Moreover, the findings reveal that DMs are found significant in language classrooms, e.g. for comprehension of the lectures. In this sense, Chaudron and Richards (1986) report that overusing micro-markers (*so, actually, well, right*) may be distracting within the overall coherence of the lecture while macro-markers (*to begin with, this meant that and in this way*) increase the level of comprehension of lectures. However, the teachers agree on the contribution of DMs to future interactions as well. The positive perceptions of the teachers are in consistent with the results of Fung (2011) and several studies which discussed the pragmatic value of DMs in spoken discourse such as Fung and Carter (2007), Lam (2009) and Trillo (2002).

Furthermore, the results indicate that there are inconsistent views on the issue of dispensable value of DMs in conversation. Although the teachers accept that DMs contribute a lot to overall conversation, they are uncertain about the dispensable component of DMs. The teachers also accept that students use discourse connectives in written discourse compared to the use of DMs in spoken language. Yet, DMs have a characteristic of orality. Louwerse and Mitchell's (2003) research supports this characteristic of DMs by concluding that the DMs in spoken discourse are 10 times more than that in written discourse. Moreover, the studies about the use of DMs in non-native spoken discourse (Aşik and Cephe, 2013; Buysse 2010; Müller, 2005; Fung and Carter, 2007) reveal that the types of the DMs used by non-

native language learners are mostly textual featured DMs probably because of a kind of transfer from their experiences in written English discourse. For instance, Buysse (2010) reports that when compared with their native speaker peers foreign language learners use hardly interpersonal DMs such as *you know*, *like*, *kind of/sort of* and *I mean*. The reasons can be various in this respect, such as students' engagement mostly to the language of the written texts in English rather than spoken interactions in classrooms or lack of activities to raise awareness on the use of DMs.

In terms of the pedagogic value of DMs, there is a strong consensus stated by the teachers. The perceptions of the teachers towards both the pragmatic and pedagogic value of DMs are consistent. However, the teachers reflect a kind of ambivalent certainty of their implementation in the classroom. They are unsure about the implementation of DMs in teaching in terms of the model, local usage, levels of proficiency and receptive or productive skills. Thus, it can be concluded that there is a need to raise awareness of the EFL teachers about how DMs should be taught in language classrooms. Literature on DMs reports several implications. The pedagogical implications may be summarised as implicit or explicit teaching, inductive or deductive method, noticing application or output-based application (Jones, 2011). Jones's (2011) study points out that both noticing (language awareness) and output-based application (presentation and practice) have clear influence on teaching DMs. Similarly, Wichmann and Chane (2009) also support the idea that learners' awareness towards these pragmatic items should be increased as the learners may not understand the real functions of DMs in spoken interaction.

The findings also raise these questions: Should the native speaker model be the ideal one for language learners? or Can a non-native speaker become a native speaker?. In this aspect, the results are in consistent with Lee (2005) and Andreou and Galamantos (2009). They claim that during language teaching, it is necessary to be realistic about the expectations. They suggest that the learners should be treated as what they are rather than potential native speakers. Moreover, Fung and Carter (2007) suggest that in teaching DMs to non-native speakers, the aim should be to help them be competent speakers in the target language, feel secure in it similar to the easiness in their native language. Moreover, House's (2013) study points out that ELF (English as a lingua franca) users use DMs (*yes/yeah*, *so* and *okay*) effectively and differently from native speakers by re-interpreting them both for their own and their interlocutors.

Furthermore, the results show that there is a consistency between the perceived value of DMs and the actual representation by the teachers. The teachers accept that DMs are represented in language classrooms in course-books and their classrooms. However, in Fung's (2011)

study, there is a large gap between two in Hong-Kong context. Thus, in Turkish EFL context, the findings yield that the teachers are aware of the significant values of DMs and they accept that they highlight them in speaking and listening classes. This result is hopeful in terms of the use of DMs in EFL classrooms. But it should also be noted that the results can be peculiar to the context of the study, which is university context. Moreover, these four items and the study itself cannot signify alone that DMs are represented in EFL classrooms by the teachers and course materials. Since this kind of investigation is not the main focus in the scope of the study, the findings can be interpreted as only guiding, rather than concrete outputs.

## Conclusion

This study aimed at investigating the perceptions of Turkish EFL teachers towards the use of DMs in the EFL classrooms. Particularly, the research objectives were to search how Turkish EFL teachers perceive DMs in terms of its pedagogic, pragmatic value of DMs and their current representations in classrooms and to find out their opinions about how DMs should be represented in the classrooms. With the help of a questionnaire adapted from Fung (2011), the study collected the data from 104 Turkish EFL instructors. The findings revealed seven particular components: pragmatic value of DMs; dispensable value of DMs; pedagogic value of DMs; identification with the native speaker norm; acceptance of the local usage; representation of DMs in EFL Classrooms and how DMs should be highlighted in EFL classrooms.

The findings revealed that Turkish EFL instructors had positive perceptions about the pragmatic and pedagogic value of DMs. They also accepted that DMs were represented in classrooms by themselves and materials. It is really hopeful that the suggestion and implications postulated by the researchers in the field are also supported by Turkish EFL teachers in terms of the pragmatic and pedagogic value of DMs. However, the study also concluded that the issue of norm of DMs, whether local usage, American or British usage or other regional usages should be promoted, and how and when DMs should be included in the curriculum, remained ambivalent.

Lastly, representation of DMs in the classroom was not the direct main focus of this study. But it is hoped that this study may contribute to the field by providing perceptions of Turkish EFL teachers, which can be guiding for future research. Further research can be done regarding the aspects which are investigating teachers' knowledge of DMs, actual classroom practices, teacher talk, methodologies on how DMs should be included and their representation in coursebooks. It should be noted that this study has some limitations. The discussion of the conclusions drawn from the findings were restricted due

to the lack of replication in other EFL contexts. This study is limited in terms of its sampling, which is a university context. Thus, apart from this academic context, the perceptions of the teachers working at high schools or other institutions need to be studied.

### Conflict of Interests

The author has not declared any conflict of interests.

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**Appendix A.** Factor Loadings of the Questionnaire.

Variant	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI	Factor VII
Item 1	,750						
Item 2	,746						
Item 3	,686						
Item 7	,539						
Item 12	,513						
Item 26	,636						
Item 28	,657						
Item 29	,716						
Item 4		,702					
Item 5		,514					
Item 6		,464					
Item 8		,449					
Item 10		,630					
Item 11		,505					
Item 13		,620					
Item 14		,623					
Item 19		,441					
Item 20			,712				
Item 21			,495				
Item 22			,728				
Item 23			,502				
Item 24			,732				
Item 25			,692				
Item 27			,454				
Item 38			,542				
Item 39			,415				
Item 30				,545			
Item 31				,762			
Item 40				,746			
Item 41				,681			
Item 42				,653			
Item 46				,738			
Item 43					,646		
Item 44					,683		
Item 45					,706		
Item 47					,513		
Item 48					,413		
Item 15						,701	
Item 16						,718	
Item 17						,708	
Item 18						,657	
Item 32							,458
Item 33							,445
Item 34							,700
Item 35							,479
Item 36							,490
Item 37							,654

Total Variance: 69,212; KMO: ,686; App. Chi-Square : 2464,716; Sig.: 0.00; N: 104.

*Full Length Research Paper*

# The impact of physics laboratory on students offering physics in Ethiope West Local Government Area of Delta State

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**The impact of Physics laboratory on students was carried out among senior secondary school students offering Physics in Ethiope West Local Government Area of Delta State using descriptive survey. Five public schools were random-even sampling technique was adopted for precision. Fifty questionnaires were distributed to students in each school, making it a total of 250 students in all schools and retrieved immediately to avoid alteration of information. Percentage analysis was to evaluate the collected data. The findings revealed that physics laboratory helps in the teaching of physics students in senior secondary schools, in Ethiope West L.G.A. of Delta State, because 80.4% of the respondents agreed to the statement while 19.6% disagreed. Also, 87.2% accepted that physics practical improve learning that stimulate positive impact while 12.8% disagreed. 92.2%, 75.9% and 88.3% agreed while 7.8%, 24.1% and 11.7% disagreed with the statements; there is a significant relationship between students and teachers during experimental classes, physics laboratory helps to inculcate scientific reasoning among physics students and physics laboratory enhances students' performance in physics in senior secondary schools in Ethiope West L.G.A. of Delta State respectively.**

**Key words:** Physics, laboratory, positive impact, scientific reasoning, Ethiope West.

## INTRODUCTION

Science is the tap root upon which the bulk of present day technological breakthrough is built. All over the world, nations including Nigeria are striving hard to develop technologically and scientifically, since the world is turning scientific and all the proper functioning of lives depend greatly on science. Ogunleye (2000) observed that science is a dynamic human activity concern with understanding the working of our world. Owolabi (2004) defined science as an integral part of human society. Its

impact is felt in every sphere of human life, so much that it is intricately linked with a nation's development. Science as a field of study is divided into other discipline such as Physics, Chemistry and Biology.

Physics as one of the branches of science is one of the science subjects in the secondary school curriculum, like other subjects, it performs some vital roles which help in the achievement of some national goals. In fact, physics is the basic science subject that deals with those

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fundamental questions on the structure of matter and interaction of elementary constituents of nature that are susceptible to experimental investigation and theoretically inquiry.

Physics as one of the science subject has remained one of the most difficult subject in the school curriculum (NERDC, 2004). A study by Owolabi (2004) revealed that the performance of Nigeria student in ordinary level Physics was generally poor, which he attributed to many factors including teaching strategy; it was consider as an important factor. Jegede et al. (1992) reported factors responsible for student general poor performance in Physics as; poor laboratory facilities, inability of the physics teacher to put across ideas clearly to the students and inadequate numbers of learning facilities in school as against consistent increase in the number of students.

Physics as a science subject is activity oriented and the suggested method for teaching it which is guided discovery method is resource base (NTI, 2007). This suggests that the mastery of physics concepts cannot be fully achieved without the use of the laboratory. The teaching of physics without learning materials (laboratory equipment), will certainly result to poor performance in the subject.

The laboratory consists of various tools and equipment used by scientists/science students either for the finding of new knowledge or to ascertain previous findings. Physics laboratory is a place where different types of experiment and researches concerning all the discipline of physics take place. Physics laboratory has been described as a room or a building specially built for teaching by demonstration of theoretical phenomenon into practical terms. Laboratories have been found to be the scientist workshops where practical activities are conducted to enhance a meaningful learning of science concept and theories (Seweje, 2000; Oluber and Unyimadu, 2001). They have also been found to be a primary vehicle for promoting formal reasoning skill and students understanding, thereby enhancing desired learning out come in students (Ogunleye, 2002).

The laboratory has helped in increasing the performance of students in learning and understanding the subject physics. Beside, researchers have found science laboratories to be central to the teaching of physics in secondary schools that is why we have to consider this work "The Impact of physics Laboratory on students offering physics in Ethiope West Local Government Area of Delta State".

## STATEMENT OF THE PROBLEM

Throughout the years, developing countries performance in physics among Senior Secondary School students has not being encouraging hence thorough investigation into the factors that could be responsible for the poor performance of students in physics need to be conducted.

To guide the study, some questions need to be asked in order to have a critical look at the Impact of Physics Laboratory on Students Offering physics in Ethiope West L.G.A. of Delta State

## Purpose of the study

The purpose of the research study is to identify the factors that affect students' performance in physics among senior secondary school students in Ethiope West Local Government area of Delta State.

1. To improve learning that stimulates positive impact towards the study of physics in Ethiope West L.G.A of Delta State.
2. To inculcate scientific reasoning among Physics students in Ethiope West L.G.A of Delta State.
3. To build a relationship between students and Physics teachers during lesson in Ethiope West L.G.A of Delta State.
4. Most importantly to enhance performance in Physics, among Senior Secondary School students in Ethiope West L.G.A of Delta State.

## Significance of the study

The findings from this study will pre-informed and post inform counselors, teachers curriculum planners, school administrators and the government, the problem facing student in the study of Physics. This would enable them take quick actions in view of this problem that has emanated. Parents/ Guardians would also get to know the problem encountered by their children and help them to correct these challenges. Hopefully the students would come out successfully in their various schools examination in physics.

## Research question

1. Does physics laboratory help in the teaching of Physics in senior secondary school in Ethiope West L.G.A of Delta State?
2. Does physics practicals improve learning that stimulates positive impact towards the study of physics in Ethiope West L.G.A of Delta State?
3. Is there any significant relationship between students and teachers during physics practical classes in Ethiope West L.G.A of Delta State?
4. Does physics laboratory helps to inculcate scientific reasoning among physics students in Ethiope West L.G.A of Delta State?
5. Does physics laboratory enhance the students' performance in physics, in Ethiope West L.G.A of Delta State?

## Scope of the study

This research work is the impact of laboratory equipment on student performance in physics among secondary school students in Ethiopia West Local Government area of Delta State, is restricted to only five secondary schools in the L.G.A.

## METHODOLOGY

The research design, population of the study, sample and sampling techniques, research instrument, validity of the instrument, method of data collection and method of data analysis will be discuss below:

### Research design

The design of the study is descriptive survey, because it is only interested in describing and collecting data on facts about "The impact of physics laboratory on students offering physics in Ethiopia West L.G.A of Delta State in Nigeria".

### Population of the study

The population of the study consists of five public secondary schools in Ethiopia West L.G.A of Delta State with 2500 numbers of students.

### Sample and sampling techniques

The simple was drawn from five (5) secondary schools in Ethiopia West Local Government Area. A total of Two hundred and fifty (250) students were randomly selected from the five (5). The five (5) schools were selected for an even spread.

### Research Instrument

The research instrument used for the study was structured students questionnaire (SSQ). The questionnaire consists of 18 items constructed on a two point scare. "YES" or "NO". It was divided into section A and B.

Section A dealt with background information: the name of the school, Age, Sex and the present class.

Section B solicited for the information on the "The Impact of physics laboratory on students offering physics as a subject". The questionnaire designed with 18 items covering all areas of how physics laboratory contributes to the learning of physics among secondary schools students.

### Validity of the Instrument (SSQ)

The instrument was validated by experts in physics who ascertain whether the questions were relevant, clear and unambiguous, and also if the items were sufficiently inclusive of major factor that lead to the effective "Impact of physics laboratory on student offering physics in senior secondary school in Ethiopia West L.G.A.

### Method of data collection

The questionnaire was distributed by the researcher to the students

(respondents) in the selected senior secondary schools in Ethiopia West L.G.A of Delta State. The questionnaire was administered to them to tick their responses and they were also collected immediately to avoid alteration. Two hundred and fifty questionnaires were administrated and recovered.

### Method of data analysis

The response to the items posed in the questionnaire were collected and tabulated with regards to the response from each school, in order to answer each research question. In the analysis of the data collected simple percentage was used.

## RESULTS AND DISCUSSION

This section is concerned with the analysis of data collected from the five senior secondary schools. The summary tables show the results of the analysis, while all the calculations leading to the results are in the appendices section of this work.

### Data analysis and presentation of results

#### *Research questions 1*

Does physics laboratory help in the teaching of physics in senior secondary school in Ethiopia West L.G.A of Delta State?

The responses used in analyzing this research questions are item 1, 2, 3 and 4 of the students' questionnaire. The responses of the five secondary schools are shown in Table 1.

#### *Research question 2*

Does physics practical improve learning that stimulates positive impact towards the study of physics in Ethiopia West L.G.A. of Delta State?

The responses used in analysing this research question are item 5, 6, and 7 of the students' questionnaire. The responses of the five secondary schools are shown in Table 2.

#### *Research question 3*

Is there any significant relationship between students and teachers during Physics practical classes in Ethiopia West L.G.A. of Delta State?

This responses used in analyzing this research question are item 8, 9, 10, 11 of the students questionnaire. The responses of the five secondary schools are shown in Table 3.

#### *Research question 4*

Does physics laboratory helps to inculcate scientific

**Table 1.** Students responses.

S/N	Names of schools	Numbers of respondents			
		YES	%	NO	%
1	Mosogar Secondary School, Mosogar.	200	66.7	100	33.3
2	Oreki secondary school, Oghara	300	85.7	50	14.3
3	Ogini grammar school, Oghara	230	73.0	85	27.0
4	Idjerhe Grammar school, Jesse	270	80.6	65	19.4
5	Ighoyota secondary school, Ugbokpa	370	96.1	15	3.9
<b>TOTAL</b>		1370	81.3	315	18.7

**Table 2.** Students responses.

S/N	Names of schools	Numbers of respondents			
		YES	%	NO	%
1	Mosogar secondary school, Mosogar.	110	53.7	95	46.3
2	Oreki secondary school, Oghara	300	100	-	-
3	Ogini grammar school, Oghara	230	73.0	85	27.0
4	Idjerhe grammar school, Jesse	260	92.9	20	7.1
5	Ighoyota secondary school, Ugbokpa	250	90.9	25	9.1
<b>TOTAL</b>		1150	83.6	225	16.4

**Table 3.** Students responses.

S/N	Names of schools	Numbers of respondents			
		YES	%	NO	%
1	Mosogar secondary school, Mosogar.	270	80.6	65	19.4
2	Oreki secondary school, Oghara	400	100	-	-
3	Ogini grammar school, Oghara	400	100	-	-
4	Idjerhe grammar school, Jesse	400	100	-	-
5	Ighoyota secondary school, Ugbokpa	270	80.6	65	19.4
<b>TOTAL</b>		1740	93.0	130	7.0

**Table 4.** Students responses.

S/N	Names of schools	Numbers of respondents			
		YES	%	NO	%
1	Mosogar secondary school, Mosogar.	170	59.6	115	40.4
2	Oreki secondary school, Oghara	400	100	-	-
3	Ogini grammar school, Oghara	240	75.0	80	25.0
4	Idjerhe grammar school, Jesse	300	85.7	50	14.3
5	Ighoyota secondary school, Ugbokpa	170	59.6	115	40.4
<b>TOTAL</b>		1280	78.0	360	22.0

reasoning among Physics students in Ethiopie West Local Government area of Delta State?

The responses used in analyzing this research question are items 12, 13, 14, and 15 of the students' questionnaire. The responses of the five secondary schools are

shown Table 4.

*Research question 5*

Does physics laboratory enhance the students'

**Table 5.** Students responses.

S/N	Names of schools	Numbers of respondents			
		YES	%	NO	%
1	Mosogar secondary school, Mosogar.	210	82.4	45	17.6
2	Oreki secondary school, Oghara	260	92.9	20	7.1
3	Ogini grammar school, Oghara	260	92.9	20	7.1
4	Idjerhe grammar school, Jesse	240	88.9	30	11.1
5	Ighoyota secondary school, Ugbokpa	220	84.6	40	15.4
<b>TOTAL</b>		1190	88.5	155	11.5

performance in physics in Ethiope West Local Government area of Delta State?

The responses used in the analyzing this research questions are item 16, 17, and 18. The responses of the five secondary schools are shown Table 5.

## DISCUSSION OF FINDINGS

*Does physics laboratory help in the teaching of physics in senior secondary school in Ethiope West Local Government area of Delta State?*

The findings in the Table1 revealed that physics laboratory helps in the teaching of physics students in senior secondary schools, in Ethiope local government area of Delta State, because 80.4% of the respondents agreed to the statement while 19.6% disagreed to the statement which is in consonance with Tatli (2009) whose findings that laboratory equipment reduces or eliminate individual difference in a way, because all equipment and methods used in doing experiment in laboratory studies are also elements of individual training.

*Does physics practical improve learning that stimulates positive impact towards the study of physics in Ethiope West L.G.A of Delta State?*

Table 2 revealed that Physics practical improve learning that stimulate positive impact towards the study of physics among students' in senior secondary schools, because 87.2% agreed with the statement while 12.8% disagreed with the statement. This can also be related with the work of Kallats (2001) that sees practical work as a means to verify a science principle or theory already known to the students.

*Is there any significant relationship between students and teachers during Physics practical classes in Ethiope West L.G.A of Delta State?*

From Table 3, 92.2% agreed and 7.76% disagreed with the statement that there is a significant relationship

between students and teachers during experimental classes. The result reveals that there is significant relationship as compared with the work of Huan et al. (2001), which state that the laws of physics are founded on experiment and that experiment are an integral part of physics education and it takes a great deal of effort to pursue students to be more enthusiastic towards laboratory learning.

*Does physics laboratory helps to inculcate scientific reasoning among physics students in Ethiope West L.G.A. of Delta State?*

Table 4 reveals that physics laboratory helps to inculcate scientific reasoning among physics students in senior secondary schools, as the results show that 75.9% agreed, while 24.0% disagreed with the statement that physics laboratory helps to inculcate scientific reasoning among physics students. Vilay and Popou (2008) stated also that practical activities enhance the understanding of physics theory and phenomena.

*Does physics laboratory enhance the students' performance in Physics, in Ethiope West L.G.A. of Delta State?*

The finding in Table 5 reveals that physics laboratory enhances students' performance in physics in senior secondary schools, in Ethiope West L.G.A., the table discloses that 88.3% are in agreement while 11.7% opposed the statement. This also helps to authenticate the works of Adam (1988) and Mustapha (2002) which state the importance of practical activities in school, that provides learners with the opportunities to use scientific equipment to develop basic manipulative skills and practice investigative or inquiry activities and develop problem solving attitudes needed for future work in science.

## Conclusion

Based on the finding of the study, the following

conclusions are drawn.

- The non-availability of laboratory equipment has great effect on the performance level of students' in schools.
- Students' interests or motivation for the subject is affected by the numbers of practical classes they are exposed to, per week.
- Students' acquisition of skills is enhanced by their participation in practical classes.
- There are inadequate laboratory equipment in most of the secondary schools in Ethiopia west L.G.A.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

## Water awareness scale for pre-service science teachers: Validity and reliability study

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The role of teachers in the formation of environmentally sensitive behaviors in students is quite high. Thus, the water awareness of teachers, who represent role models for students, is rather important. The main purpose of this study is to identify the reliability and validity study outcomes of the Water Awareness Scale, which was developed to determine the water awareness of pre-service science teachers. The study sample consists of 246 undergraduate senior class pre-service science teachers, who are educated as science teachers in different universities. Expert opinions were obtained for the content validity of the scale. Exploratory and confirmatory factor analyses were conducted to ensure the construct validity. As a result of the factor analysis, it has been demonstrated that the scale is centered around 11 items and 3 factors. The variance explained by the total scale is 59.023%, and Cronbach's alpha is .81. As a result, the scale has a valid and reliable structure.

**Key words:** Water awareness, scale, validity, reliability, pre-service science teachers.

### INTRODUCTION

The total water amount on earth is 1.4 billion km<sup>3</sup> which covers three-fourths of the sphere. However, achieving access to and using this entire amount is not possible because of technical and economic aspects. Because, 97.5% of this water exists as salty water in seas and oceans, only 2.5% of it is fresh water (Shiklomanov and Rodda, 2003). Today, water enhances its importance as an indispensable part of our lives and ecosystem. In addition to meeting the basic needs of humans, water is the source of sustainable agriculture, energy production, industry, transportation and tourism, as well as development. An increasing demand, pollution and bad management of water resources make water an

increasingly scarcer resource. The uneven distribution of water on the sphere also adds to these characteristics; thus, water management has been transformed into one of the most important problematic areas of our era. Approximately 1.3 billion individuals, which corresponds to nearly 20% of the world population, lack adequate amounts of drinking water; 2.3 billion individuals long for healthy water. Some forecasts indicate that more than 3 billion individuals will face water scarcity by 2025 (Cosgrove and Rijsberman, 2000). For this reason, raising water awareness in individuals is an important element. As the population and life quality increase on earth and in Turkey environmental pollution increases

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and the water quantity decreases each day. Among most solutions suggested for water shortage, which we sense its effect minimally closer day by day, one critical solution is to create “water awareness” among individuals (Ergin et al., 2009). The concept of “awareness” is defined as the promotion of awareness and susceptibility to social communities, individuals and the environment (Braus, 1995; Keles, 2007). Because water and the problems associated with water are predominately examined in Science courses, the development of awareness of candidate science teachers regarding the sustainability of water utilization is critical. Thus, teachers who have an increased awareness will be effective in the development of the susceptibility of the next generation to water.

When we examine the literature, we identified studies regarding water awareness at different educational levels. In his research, Pinaroglu (2009) discussed the attitudes and behaviors of families regarding water consumption and the facts that affect them. The evidence indicates that the behaviors of families on water consumption that are affirmative also affect their attitudes. When education, level of income, age and sex are considered the criteria, they fail to create a meaningful difference level in water consumption attitude. Furthermore, the attitudes of women are more positive than the attitudes of men, and an increase in educational level and revenue attenuates attitudes related to water consumption.

In a study designed to determine the environmental awareness of primary school students, Sharmin (2003) also examined water awareness. He evaluated the awareness levels regarding subjects such as the definition of fresh water, the causes of water pollution, the problems induced by water pollution, how drinking water is obtained and ways to prevent water pollution according to the school types and sex of the students. In total, 52% of the students defined fresh water correctly, and there was no considerable difference between the schools. Among male and female students, a considerable difference is present in favor of male students. 59% of the students correctly answered the causes of water pollution, no considerable difference is present between the schools or sex of the students. A considerable difference is present between the state and private schools in favor of the state schools regarding this matter, 90% of the students provided the answer “They cause diseases.” to problems of water pollution. 50% of the students provided a correct answer regarding how to supply the drinking water and a considerable difference is present between male and female students in favor of the male students. Finally, while 75% of the students provided the expected answer to the question “how shall water pollution be prevented?”, no considerable difference is present between the school types or sex of the students”.

Forsyth et al. (2004) conducted awareness evaluation studies regarding the development of positive attitudes and behaviors in individuals regarding water sources and

water pollution. In a study conducted with individuals, - who live in two different cities-, the evidence suggests that knowledge regarding water sources is determined; the quality of water sources is evaluated; a value is given to preserve the water sources, and relevant behaviors are determined and evaluated; and individuals, -who have an awareness on water sources and water pollution-, exhibit behaviors to preserve water and are willing to become more effective.

When the existing scales in the literature regarding the water issue are analyzed, quite a few studies were identified (Gürbüz et al., 2009; Ergin et al., 2009). However, in the formation of these scales, the factor analysis was not beneficial from or only an exploratory factor analysis was conducted. Simsek (2007) notes that a scale that does not have strong theoretical foundations may provide very good results in the exploratory factor analysis; however, the same result cannot be obtained in a confirmatory factor analysis. Departing from the fact that the role of teachers is critical for the new generation’s susceptibility to the environment, in this study, the aim was to develop a valid and reliable criterion to determine the awareness of candidate teachers regarding water. Because of this reason, the water awareness scale is assumed to close a gap in the literature.

## METHODS

### Study group

The study comprised senior class pre-service teachers who continue their education in science undergraduate programs in different universities. The research data includes 277 senior class pre-service teachers randomly selected who studied in the 2011 to 2012 academic year in universities. The universities that participated in the research and the numbers of participants are provided in Table 1.

Thirty-one of the 277 forms completed by the student participant have not been included in the evaluation because of reasons such as incomplete forms and the selection of more than one option. The answers of 246 students have been included in the evaluation, via the removal of the students who have not been included in the evaluation from the scope of the research.

### Scale development process

A water awareness scale was developed to determine the water awareness levels of the students who participated in the research, before and after the application. In the development of the water awareness scale, the following phases were included: (a) the formation of scale items, (b) the content validity study, (c) the item total correlation calculation, (d) the construct validity study, (e) the Cronbach’s alpha internal consistency reliability, and (f) the analysis of the correlations between the sub-scales.

### Formation of scale item phase

Water awareness is the increase in the water knowledge levels of individuals, and the gain in consciousness and sensitivity in the use and protection of water. In this context, existing scales have been examined through literature reviews regarding the gain in

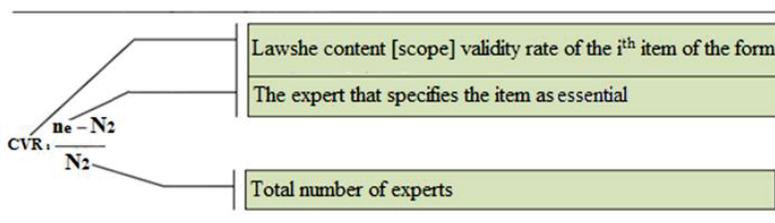
**Table 1.** Distribution of participant students according to universities.

	Number of participants	Percent
Pamukkale University (Denizli)	125	0.45
Mugla University (Mugla)	100	0.36
Eskisehir Osmangazi University (Eskisehir)	52	0.19
Total	277	1.00

**Table 2.** Content validity compliance level form: sample of water awareness scale.

Items	0	1	2	3	4	5	6	7	8	9	10
Water saving is unnecessary because 2/3 of the World is covered by water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The insertion of filters in factory chimneys has no effect on water protection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is sufficient water for everyone in the World.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify your thoughts with an (x) mark regarding how much the items satisfy the grammar and understandability requirements; (0) indicates it does not satisfy the requirements at all, and (10) indicates it completely satisfies the requirements.



**Figure 1.** Lawshe content (scope) validity rate formula.

awareness (Erten, 2004; Ergin et al. 2009; Gürbüz et al., 2009). Twenty-six positive and negative behavior items, which are accepted as directly or indirectly related and can measure the water awareness levels of individuals, have been compiled via the examined scales.

**Content validity phase**

The scale items were first analyzed by a language expert in terms of grammar rules and understandability. The developed draft scale was subsequently examined by nine voluntary experts, who study science as a specialty and primary education in general. A 10-grade scale was used to indicate the Content Validity Compliance Level (Table 2).

Regarding the content validity, the experts were asked to read each item in the water awareness scale and assess the ability of each item to measure the water awareness level of the pre-service science teachers.

The experts were asked to assess the items between 10 if the item perfectly measures the teacher competency feeling and 0 (zero) if it does not measure the item at all. The Lawshe Content Validity Rates (CVR) have been calculated, to determine the content validity of the scale. How the experts evaluated each item is taken into consideration in the Lawshe content [scope] validity rates. How high or low the Lawshe coefficient is calculated according to the coefficients of compliance the experts have

assigned to each item. Lawshe content [scope] validity rate formula used in the research is presented in Figure 1 (Lawshe, 1975; Yurdugül, 2005).

A percent value was obtained for each item; from the results of Lawshe content [scope] validity rate formula. This coefficient varies between -1 and +1. The minimum Lawshe content [scope] validity rates, which have been provided by Lawshe (1975) for the sizes of different numbers of experts with p=.05 confidence interval, have been presented in Table 3 (Lawshe 1975; Yurdugül, 2005).

As shown in Table 3, if the items of a study in which 10 experts participate have a Lawshe content [scope] validity rate lower than .62, the item must be removed from the data collection tool.

**Item total correlation calculation phase**

A Pearson product moment correlation analysis was performed, with the goal to determine the item total coefficients for the item discrimination of the scale items.

**Construct validity study (Exploratory and Confirmatory Factor Analyses)**

The construct validity of the scale was tested in 2 different ways. First, an exploratory factor analysis was conducted, to determine the structure of the scale. This approach was followed by a confirmatory factor analysis study.

**Table 3.** Lawshe minimum content validity rates.

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

### Cronbach's alpha internal consistency

The Cronbach's alpha internal consistency coefficient was used to determine the internal consistency level of the scale and the heterogeneity of the items.

### Analysis of correlations between Sub-Scales

A Pearson product moment correlation analysis was used in the determination of the average and standard deviation values of the scale sub-scales, and the correlations between the sub-scales.

## FINDINGS

### Findings regarding the water awareness scale validity study

Both the content and construct validities were examined for the validity study.

### Studies regarding the content validity

Expert opinions were obtained regarding the content validity, depending on whether the items in the measurement tool are appropriate for the measurement tool, and whether they represent the area aimed to be measured. The content validity of the Water Awareness Scale was evaluated by the educational science experts with the help of the form, whose details have been provided in the methodology section; the evaluation scores varied between 6.49 and 9.00. In the grading that belongs to the experts who participated in the content validity study; if an expert scored an item less than 5, the item was considered not suitable, and the CVR was calculated for each item. In the Lawshe content validity rate, how experts evaluate each item is taken into consideration, as well as, how high or low the Lawshe coefficient is calculated according to the compliance coefficients that the experts provided to each item. A percent value is obtained for each item, from the result of the Lawshe content validity rate. This coefficient varies between -1 and +1. The minimum Lawshe content validity rate, which has been provided by Lawshe (1975) for

sizes of different numbers of experts in  $p=.05$  confidence interval, is .62 for 10 participant experts. According to this criterion, the CVRs of the 26 item scale vary between .40 and 1.00, and items 1., 9., 11., 13., 14., 15., 19. and 21 were removed from the scale because they could not satisfy the content validity, whereas item 16 was removed based on expert opinions. The content validity coefficients of all items are presented in Table 4.

### Determining the Item total correlations

The item total correlations were calculated regarding the data collected from 246 students, with the aim to specify the adequacy of item criteria, which occurs in the scale that completed its content validity, in the differentiation of individuals in terms of characteristics. The correlation coefficients obtained in the item-total correlations are between -.019 and .680. Because the item total correlation of item 8 was not significant, it was removed from the scale. The item-total correlation coefficients of all items have been provided in Table 5.

### Studies regarding the construct validity

#### *Exploratory factor analysis*

The suitability of the data for the factor analysis was examined via a Kaiser-Meyer Olkin (KMO) coefficient and Barlett Sphericity test. The KMO coefficient is a statistical method used to identify the suitability and adequacy and sample size for the selected analysis. A KMO larger than .60 and a significant Barlett test indicate that the data are appropriate for the factor analysis. As the KMO coefficient approaches 1, the data are accepted to be suitable for the analysis: when the value equals 1, a perfect compliance exists (Sharma, 1996, p.116). As a result of the analysis performed, the KMO value was 0.826. The Barlett Sphericity test is a statistical technique that can be used to control whether the data originate from a multivariate normal distribution. Chi-square test statistic obtained as a result of this test to determine significance is an indicator that the data originate from a

**Table 4.** Water awareness scale content validity rate values.

Item No	X	SD	CVR	Item No	X	SD	CVR
Item 1	7.87	2.87	0.6	Item 14	6.49	4.26	0.4
Item 2	8.61	3.15	0.8	Item 15	7.32	3.79	0.6
Item 3	8.61	2.85	0.8	Item 16	8.25	2.81	0.8
Item 4	8.70	3.02	0.8	Item 17	8.07	2.85	0.8
Item 5	8.43	2.82	0.8	Item 18	8.25	3.11	0.8
Item 6	8.72	2.72	1	Item 19	7.96	2.99	0.6
Item 7	8.25	3.08	0.8	Item 20	8.45	2.65	1
Item 8	8.72	2.76	1	Item 21	8.23	3.10	0.6
Item 9	8.23	3.16	0.6	Item 22	8.63	2.69	1
Item 10	7.98	3.07	0.8	Item 23	8.25	3.05	0.8
Item 11	7.87	3.07	0.6	Item 24	8.54	2.76	1
Item 12	7.70	2.87	0.8	Item 25	7.89	2.85	0.8
Item 13	7.14	3.67	0.6	Item 26	9.00	2.68	1

CVR (Lawshe Content Validity Rate).

**Table 5.** Results of the Pearson product moments correlation analysis, performed to determine the item total correlations of the awareness scale.

Item no	Item-total <i>r</i>	Item no	Item-total <i>r</i>
Item 1	0.318**	Item 10	0.632**
Item 2	0.532**	Item 11	0.607**
Item 3	0.276**	Item 12	0.541**
Item 4	0.542**	Item 13	0.505**
Item 5	0.464**	Item 14	0.612**
Item 6	0.666**	Item 15	0.485**
Item 7	0.680**	Item 16	0.454**
Item 8	-0.019**	Item 17	0.493**
Item 9	0.529**		

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

multivariate normal distribution. As a result of the analysis conducted within the study, the Bartlett test was significant ( $\chi^2=755.754$ ;  $p<0.05$ ). These results have proven that the data are suitable for the factor analysis.

The Water Awareness Scale factor analysis study was conducted via the application of the Principal Component Analysis technique. With the aim to support this study and correctly determine the factor number, the Scree test chart which depends on the eigenvalues of the factors was also examined (Büyüköztürk, 2002). The scale structure was collected in three factors, considering the discontinuities identified in the graphic in this examination. In the subsequent step, a varimax rotation technique, was used to collect items that exhibit a high correlation with each other in a factor together, which has been deemed suitable (Büyüköztürk, 2002; Kalaycı, 2005). In the identification of the items that measure the

same structure, an item that has at least .35 load value in the factor it occurs, and the difference between a factor load value of an item that has a load value of .35 or greater in a factor and other load values in other factors that are at least .10 have been identified. Figure 2 shows the maximum significant factor number, as a result of the Cattell's "scree" test (Kline, 1994).

The Water awareness scale item analysis, and the results of the rotation process obtained by the Varimax Rotation technique also support the findings regarding the three dimensional feature of the scale. The factor analysis results related to the scale are shown in Table 6. The loads of items in one factor prior to rotation are between 0.49 - 0.74. After rotation, it has been determined that the items in the scale scatter to three factors, and the factor loads are between 0.54 - 0.85.

Three factors explain 59.023% of the total variance. The loads that items take in factors other than the ones that they occur in are visibly low. The basic components value of the first factor is 4.198, the basic components value of the second factor is 1.366 and the basic components value of the third factor is 0.929. Thus, the basic components values are over 1, with the exception of the third factor. These results indicate that the scale, which consists of eleven items, has construct validity. These factors have been named in consideration of the literature (Gürbüz et al., 2009; Ergin et al., 2009). Factor 1 has been referred to as water protection, factor 2 has been referred to as water scarcity, and factor 3 has been referred to as water pollution and water education.

**1. Factor: Water protection:** After the elimination of items via factor analysis, the items that compose this factor in the scale were 5, 7 and 15.

**2. Factor: Water scarcity:** After the elimination of items via factor analysis, the items that compose this factor in the scale were 2, 9, 11 and 17.

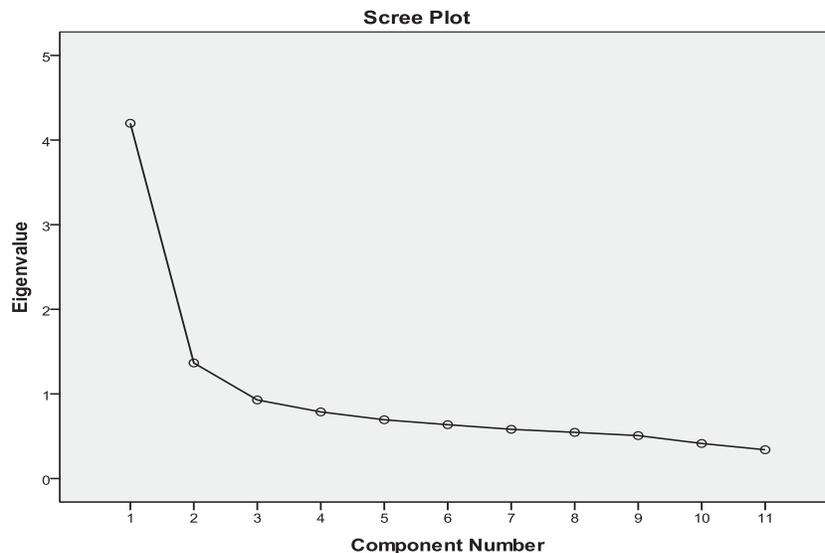


Figure 2. Scree plot test.

Table 6. Factor analysis results.

Item	The only factor	Factor 1	Factor 2	Factor 3
I5	.645	.802		
I7	.634	.704		
I15	.504	.667		
I2	.662		.804	
I17	.521		.694	
I9	.491		.561	
I11	.542		.544	
I12	.740			.857
I14	.579			.700
I10	.580			.632
I6	.594			.615
Value of Principal Components		4.198	1.366	.929
% of variance		<b>38.163</b>	<b>12.418</b>	<b>8.442</b>
Cumulative %		<b>38.163</b>	<b>50.582</b>	<b>59.023</b>
Alpha Consistency	.81	.61	.70	.78

**3. Factor: water pollution and water education:** As a result of the factor analysis, the items that form this factor in the scale continued to be 6, 10, 12 and 14.

### Confirmatory factor analysis

A Confirmatory factor analysis (CFA) was applied to determine the factor structures of the Water Awareness Scale. The analysis was initiated with 11 items. No items were removed from the scale, as a result of the CFA performed with the purpose to assess how much the three factor structure was established via the exploratory

factor analysis and the data obtained in this study comply with each other. The path diagram regarding the factor loads of the items is presented in Figure 3. The factor loads of the scale items vary between 0.80-1.11. While the first factor is composed of three items, the second and third factors are composed of four items.

The results of the confirmatory factor analysis are shown in Table 7. According to these results, the chi-square was determined as  $\chi^2=70.88$ ; ( $sd=41$ ,  $p<.01$ ); ( $\chi^2/sd$ )= 1.72. Additionally, the following results were obtained; Root Mean Square Error of Approximation (RMSEA)=0.053; Root Mean Square Residual (RMR) and Standardized RMR (SRMR)=0.046; The Goodness-of Fit Index (GFI)=

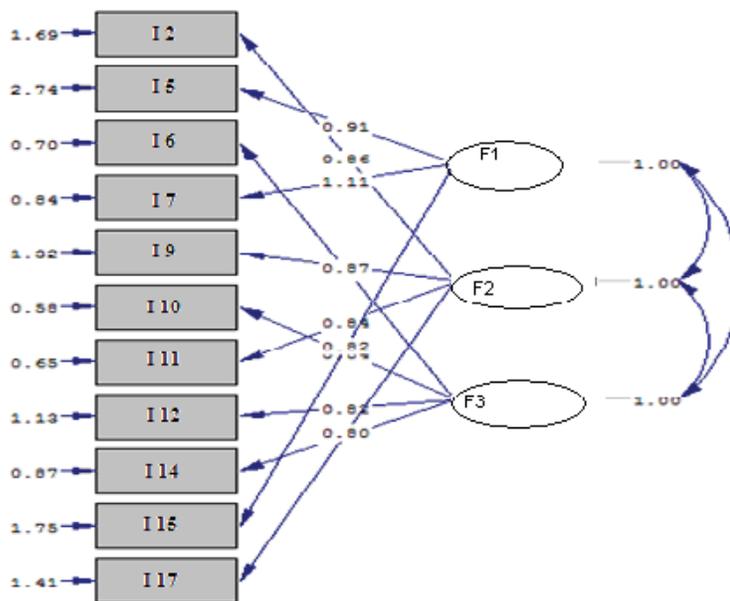


Figure 3. Path diagram reveals the relationships between factor loads and factors.

Table 7. Comparison of the standard goodness of fit criteria and research results.

Convergence measures	Good convergence	Acceptable convergence	Convergence values obtained in the research
$\chi^2$	$0 \leq \chi^2 \leq 2df$	$2df \leq \chi^2 \leq 3df$	70.88
P value	$0.05 \leq p \leq 1$	$0.01 \leq p \leq 0.05$	0.00
$\chi^2/df$	$0 \leq \chi^2/df \leq 2$	$2 \leq \chi^2/df \leq 3$	1.72
RMSEA	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$	0.053
RMR			0.10
SRMR	$0 \leq SRMR \leq 0.05$	$0.05 \leq SRMR \leq 0.10$	0.046
NFI	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$	0.95
NNFI	$0.97 \leq NNFI \leq 1.00$	$0.95 \leq NNFI \leq 0.97$	0.97
CFI	$0.97 \leq CFI \leq 1.00$	$0.95 \leq CFI \leq 0.97$	0.98
GFI	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$	0.95
AGFI	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$	0.92
RFI	$0.90 < RFI < 1.00$	$0.85 < RFI < 0.90$	0.93

Schermelleh-Engel-Moosbrugger (2003).

0.95; The Adjusted Goodness-of-Fit Index (AGFI) =0.92; Normed Fit Index (NFI)= 0.95; The Comparative Fit Index (CFI)=0.98; Relative Fit Index (RFI)= 0.93. The closer the RMSEA value is to zero, the fitter the model is (Fidell and Tabacnick, 2001). For a good model, the CFI and GFI values need to come close to 1 (Akbaba, 2015). The RMSEA, CFI and GFI values obtained in the study were at good levels.

In conclusion, the Water Awareness Scale is composed of 11 items, and three factors have also been determined via the alignment markers of the confirmatory factor analysis, thus this model has been theoretically and

statistically approved.

**Findings regarding the reliability study of the water awareness scale**

*Studies intended to determine the internal consistency (Cronbach's Alpha Coefficient)*

The Cronbach's alpha coefficient, which was determined for the scale that was reduced to 11 items as a result of the reliability study, was  $\alpha=0.81$ . This reliability coefficient

**Table 8.** Correlation coefficients between the factors that compose the scale.

		Water protection	Water scarcity	Water pollution and water education	
Factor 1	R	1.000	.277**	.408**	
	P	.	.000	.000	
	N	244	244	244	
Spearman's rho	Factor 2	R	.277**	1.000	.555**
		P	.000	.	.000
		N	244	244	244
Factor 3	R	.408**	.555**	1.000	
	P	.000	.000	.	
	N	244	244	244	

is evaluated as a measure that has high reliability in educational and social sciences.

### Findings regarding the correlation study between the factors that compose the water awareness scale

The correlation coefficients between the factors that form the scale are shown in Table 8. The correlation coefficients between the sub-factors obtained from the attitude scale vary between 0.277 and 0.555. These coefficients have been accepted as significant at the .01 significance level.

A significant relationship between water protection and water scarcity is present ( $r=.277$   $p<.001$ ). Moreover, a significant relationship between water protection, and water pollution and water education is demonstrated ( $r=.408$   $p<.001$ ). A significant relationship between the water scarcity factor and the water pollution and water education factors exists ( $r=.555$   $p<.001$ ). Based on these findings, the factors that compose the scale measure structures related to each other, and they will be valid in the measurement of behaviors oriented to water.

## DISCUSSION AND CONCLUSION

The sustainability of water for a sustainable environment has great importance. Water, which is essential to life, is a strategically and limited natural resource. As it is known that an artificial substance that can replace water in the future does not exist; thus, the importance of water will increase daily. Global climate changes and improvements in technology parallel to an increasing population have negative effects on water resources. These negative effects intensify the problem of water not being homogeneously distributed on the sphere. Because of this reason, there is a need to pay attention more than ever to balances in the usage and distribution of water, and to use resources for new strategies wisely (Pamuk Mengü and Akkuzu, 2008).

In the classification of countries according to presence of water and in the determination of the current situations regarding water, countries that have an average amount of usable water per individual per year between 1700 - 5000 m<sup>3</sup> are categorized as “countries with water shortages”. Turkey is in the “countries with water shortages” category, with 1735 m<sup>3</sup> water per individual per year (Türkyılmaz, 2010). According to the data of Turkish Statistical Institute, the amount of usable water per individual as of 2030 will decrease to 1120 m<sup>3</sup>/year. Moreover, this prediction is valid in the case of transferring current water resources without subversion until 2030. Therefore, to leave clean and healthy water to future generations, resources must be well protected and used rationally. Because of this reason, one of the most important things that can be done is to provide water education to individuals (SHW, 2011). According to Nasr (1998), the purpose of water education is to make the individual responsible for water, sensitive to water problems, and change his/her gestures and behaviors in the direction of water protection. In the delivery of an effective environment education to individuals and making them gain environmental consciousness; knowledge regarding the specific types of prior knowledge, awareness and attitudes they have towards the environment is very important (İlgar, 2009). In this research, the reliability and validity studies of the Water Awareness Scale, which was developed to determine the awareness of pre-service teachers regarding water, have been investigated.

Validity and reliability studies regarding the scale have been performed with the participation of 246 pre-service teachers. The sample size can be evaluated as at a “good” level (Şencan, 2005). The correlation coefficients obtained from the item total correlations of the scale are above 0.28, and all items with the exception of item 8 have been identified as significant. The KMO value of 0.826 as a result of the exploratory factor analysis applied to the scale indicates the sample size is adequate; and the Bartlett’s Test of Dimensionality was identified as significant and has been evaluated as an

indicator of the dimension existence in the scale (Büyüköztürk, 2007, p. 172; Şencan, 2005, p. 364). As the factor loads of the sub-dimensions that compose the scale are analyzed, the fact that the values identified for each sub-scale are not below 0.30 indicates that the factor analysis validity is high. Additionally, the explained variance percent of the scale is 59.023. A rate of explained variance greater than 30% is an indicator of the assurance for the construct validity of scales (Tosun and Karadağ, 2008). The identification of a Cronbach's Alpha coefficient of 0.81 in the reliability analysis is perceived as a proof of scale reliability (Büyüköztürk, 2007). In the literature review regarding the confirmatory factor analysis, it has been identified that the goodness of fit range may exhibit changes (Okur and Yalçın- Özdilek, 2012; Ingles et al., 2005). In the evaluation performed within this framework, it has been determined that the scale has also demonstrated appropriate values in the confirmatory factor analysis (RMSEA: 0.053, SRMR: 0.046, NFI: 0.95, CFI: 0.98, GFI: 0.98, AGFI: 0.92, RFI: 0.93), and an opinion has been formed that the scale has strong theoretical foundation (Şimşek, 2007). The item factor loads obtained in the exploratory and confirmatory factor analyses to have close values to each other point to the strength of the construct validity of the scale (Baloğlu et al., 2008). The final version of the scale is predicted as "valid, reliable and has a strong theoretical foundation", by the experts.

In conclusion, because a water awareness scale that has been used with both exploratory and confirmatory factor analyses has not been identified in the literature, this research may be helpful for researchers to attain their goals and gain time. Testing the scale on different samples (for example teachers) will enable the identification of stronger indicators. The scale may represent a beneficial tool that can be used, especially in studies conducted with pre-service teachers. Moreover, conducting studies that use this scale will provide important contributions to the measurement power of this scale.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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**Appendix 1.** Final version of the scale.

<b>Water awareness scale</b>		<b>Strongly disagree</b>			<b>Totally agree</b>			
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1	There may be wars in the future because of water scarcity.							
2	Individual behaviors will not be useful for resolving the water shortage on Earth.							
3	Water saving habits should be acquired at young ages.							
4	Water saving is unnecessary, because 2/3 of the World is covered by water.							
5	Leakages may cause serious water losses.							
6	Whether factories give their waste waters to receiver environments by refining them should be controlled.							
7	An increased urbanization rate increases water pollution.							
8	If human feces are removed in a healthy way, water-borne diseases will decrease.							
9	More time should be allocated to water protection in education and training programs.							
10	The inserting of filters in factory chimneys has no effect on water protection.							
11	If we cannot protect it, drinking water will run out in the near future.							

Full Length Research Paper

# The effect of quality of school life on sense of happiness: A study on University students

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This study investigated the relationship between quality of school life and happiness among university students. For this purpose, 326 students from five different faculties in Çankırı Karatekin University participated in the study. Participants filled in the 'scale for quality of school life' and 'scale for Oxford happiness-Compact form'. Data were analyzed by using methods of arithmetical mean, standard deviation, t-test, confirmatory factor analyses (CFA), ANOVA, ANCOVA and multivariate regression analyses. Findings showed that participants' views about the quality of school life and happiness were at moderate level. In addition, it was found out that being a student in different faculties did not display any significant difference on their happiness. It was also revealed at the end of this study that students' views about the quality of school life were not a significant predictor of students' happiness. Based on these findings, it was concluded that students' happiness was independent of the quality of their school life.

**Key words:** Happiness, school satisfaction, quality of school life, university, student.

## INTRODUCTION

Human beings are said to have been in search of happiness throughout history. In fact, the philosophers who have expressed an opinion on human nature claim the idea that human beings are always inclined to the objects of pleasure which make them happy. For instance, according to Aristoteles, happiness is the meaning and the aim of whole life. However, Freud proposed that sense world of human works according to the principle of pleasure (Hall and Lindzey, 1985, p. 33). In other words, while human beings run after pleasure, they tend to escape from pain. Despite such opinions, the

academic attention paid to the search of the factors related to happiness of human beings and the empirical studies carried out in this regard are relatively new. It can be said that the academic attention for positive psychology including the happiness got intensity during the last quarter of twentieth century. It is clear that the researches carried out in these years focused on *subjective well-being* which is described as "cognitive and sentimental evaluation of human related to his own life" (Diener, 2000).

Besides subjective well-being, it may be said that the

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researchers have carried out studies on *life satisfaction* which is a similar psychological structure (Diener et al., 1985). Life satisfaction is described as “a general evaluation of a person’s life quality according to the standards chosen by himself” (Dost, 2007, p. 133). On the other hand, the industrial psychologists have been studying on *job satisfaction* for a long time (Organ et al., 2004). However, one of the research areas of marriage psychologists is *marriage satisfaction* (Gottman and Krokoff, 1989). Similarly, students’ satisfaction about school life at schools where people spend most of their lifetime is one of the most popular subjects studied by educators and psychologists (Baker, 1999).

In this regard, *happiness* has been the major research topic of scholars during the last decades. Happiness is generally described as the sense of pleasure and satisfaction about life (Yang, 2008). There are three important components in the definition of happiness. The first one is the relative existence of positive senses, second one is inexistence of negative senses and the third one is the existence of cognitive variables such as life satisfaction (Hills and Argyle, 2001a). It is seen that a part of studies which address happiness focuses on the relation between happiness and personality variables, and it is understood that there is a close relation between personality and happiness (Brebner, 1998). Similarly, it is reported that there is a relation between extroversion as a characteristic and happiness (Furnham and Brewin, 1990). Argyle and Lu (1990) concluded in their study that social-skill and happiness are related to each other. On the other hand, Diener and Diener (1996), asserted that many people are happy. Bülbül and Giray (2011) analysed the relational structure between socio-economic variables and happiness, and they found out that when young and married housewives consider their whole life, their life satisfactions are at mid-upper level. In the same study, it is also concluded that males with a low level of education who live and work in cities, and who are in lower income groups have a mid-upper happiness level. In another study which is carried out on happiness with participants from different cultures, it has been indicated that qualities of friendship and social skills of people have positive relation with happiness (Demir et al., 2012). Hills and Argyle (1998) came to the conclusion that happiness, music and religious experiences have a relation among them. However, it is reported that emotional stability is an important variable which predicts happiness (Hills and Argyle, 2001b).

There are three kinds of theories of happiness. One of them is *hedonism*. According to hedonism, happiness is a matter of raw subjective feeling. That is to say, a happy person smiles a lot, bright eyed and bushy tailed; his pleasure is intense and high in quantity, his pains are few and far between. This approach to happiness has its modern conceptual roots dating back to Bentham’s utilitarianism. The second theoretical approach to happiness is *desire theory*. According to desire theory,

happiness is a matter of getting what you want. Based on desire theory, it can be said that fulfillment of a desire contributes to one’s happiness regardless of the amount of pleasure. The third approach to happiness is *objective list theory*. This theory lodges happiness outside of feeling and onto a list of “truly valuable” things in the real world. It holds that happiness consists of a human life that achieves certain things from a list of worthwhile pursuits: such a list might include career accomplishments, friendship, freedom from disease and pain, etc (Seligman and Royzman, 2003).

With the increasing tendency in researches focusing on happiness, it is observed that certain researchers are trying to develop a valid and reliable method to measure happiness. For instance, Oxford Happiness Inventory (OHI) (Argyle et al., 1995) and Life Satisfaction Scales (Diener et al., 1985; Pavot and Diener, 1993) have been developed with this purpose. Similarly, certain researchers have been observed to be trying to measure happiness with only a question (Abdel-Khalek, 2006). By organizing the scales of aforementioned adaptations, it is aimed to measure the perception of happiness in different cultures (Doğan and Sapmaz, 2012; Doğan and Cotoş, 2011).

As it is seen, happiness has turned out to be a fundamental area of research within the tradition of positive psychology. However, it has been concluded at the end of the literature review that students’ perceptions about the quality of their school life and its gradual effect on their happiness at schools where people spend most of their lifetime have not been studied yet. On the other hand, the quality of school life which can be described as a state of well-being coming out as a result of students’ participation in school life and their engagement in school environment is expected to have an effect on students’ happiness (Karatzias et al., 2001, p. 91). The studies related to the quality of school life can be said to have been carried out depending on life quality to a great extent. In this regard, life quality is described as a perception related to the physical and psychological health status of the person (Wong et al., 2001). Life quality is a concept related to the person’s own sense of wellness, conditions of developing the potentials and positive social attendance sense (Lunenbergh and Schmidt, 1988). From this point of view, conceptualizing quality of school life may also be said to be fed by life quality. According to Epstein and McPartland (1976a), the quality of school life is an umbrella concept which consists of “school satisfactions”, “in-class studying dependence” and “students’ attitudes to their teachers”.

The school satisfaction which is a sub-dimension of school life quality ends with the students’ participation in school life substantially as a result of related factors and educational experiences; therefore it is a “mood” which supports the subjective wellness of student (Karatzia et al., 2002). It is stated that lower school satisfaction has negative results on some students (Ainley, 1991). On the

other hand, it is reported that relatively high school satisfaction causes students to love school more and increase their sense of attachment to school (Goodenow and Grady, 1992). Besides, the school satisfaction, their attachment to in-class studies is one of the most important components of their perceptions about the quality of school life. In this regard, students' attachment to in-class studies is expected to be influential on their perceptions about school quality. For instance, in a research carried out about school attachment, it has been found out that the students whose attachment level to school is low have a tendency to come to school late, and they have attendance problems, and their academic successes are low and they have problematic behaviours at school (Firestone and Resenblum, 1988). On the other hand, students' attitudes to the teachers are important indicators of the school life quality (Epstein and McPartland, 1976b). The researches indicate that positive attitudes to teachers are related to learning, the feelings of hate or like about the courses and academic successes of the students (Miller et al., 1975; Roorda et al., 2011).

In a research carried out in Australia about school life quality, it has been found out that curriculums especially positive teacher attitudes, fellows attitudes, in-school activities and school rules have positive effects on students' perception of school life quality (Batten and Girling-Butcher, 1981). In a study carried out in Scotland and Greece, it is seen that female students have more positive thoughts about school life quality than male students (Karatzia et al., 2001). In a research carried out in Italy, it has been concluded that the quality of service rendered at schools causes students to have positive perception about school life quality (Petruzzellis et al., 2006). In another research, it is seen that socio-economic differences have effect on school satisfaction (Grodem, 2009; Sarı et al., 2007). In another research carried out in Turkey, the life quality perceptions of university students are determined to be at middle and lower levels (Doğanay and Sarı, 2006). In a research carried out about school satisfactions of students who are in different faculties of university, it is seen that the school life quality perceptions of students having education in different faculties are different (Çokluk-Bökeoğlu and Yılmaz, 2007). Similarly, Özdemir (2012) who has analysed the faculty life quality perceptions of university students according to different varieties, has found out that students' perceptions related to faculty life are different according to faculties and genders.

As it is seen, the researches related to school life quality have been carried out at different school levels and types. Researches generally indicate that perceptions of students related to school life quality are different according to different variables. However, the effects of the perceptions of students related to school life quality on their happinesses have not been searched yet. This case is the problem of this study. As it is mentioned

before, relatively good school life quality has positive results on students. We hope that the result of the present study will contribute to the literature and fill in the gap within.. The knowledge which will be produced in this specific study will help the policy makers and educators to rehabilitate the school conditions. Namely, good school conditions mean better student well-being and happiness. In this regard, it is wondered how university students' perceptions about school life quality will affect their happiness. The general purpose of this research is to discover the relative effect on the happinesses of students. In this regard, the research questions are as follows:

1. Are the quality of school life and the perception of happiness significantly different according to the gender and faculties of the participants?
2. When the perception points related to school life quality are controlled, are the happiness perceptions of the participants significantly different according to their faculties?
3. Does the quality of school life predict participants' happiness?

## METHOD

This research which aims to determine the effect of university students' perceptions of school life quality on their happiness, is a correlational study. It has been carried out according to quantitative research approach.

### Participants

This research is carried out with 326 students who study at five different faculties of Çankırı Karatekin University during the second semester of 2012 to 2013 academic year. 109 of the participants are male, and 217 of them are female. The age group of participants is between 18 to 30, and the average age is 21.53. 38 of the students are freshmen, 103 of them are sophomore, 133 of them are junior, and 52 of them are senior students. However, 172 of the participants study in Literature, 45 of them study at Faculty of Economics and Administrative Sciences, 51 of them study at Forestry, 34 of them study Science and 24 of them study at Faculty of Engineering. 110 of the participants study in daytime Education and the other 216 study in evening Education.

### Data collection tools

In this research, in order to determine the participants' perceptions of their school life qualities, "Faculty Life Quality Scale (FLQS)" is used. In order to determine the happiness perceptions of participants, "Oxford Happiness Scale (OHS)" is used. The detailed information about psychometrical characteristics of scales are indicated below.

*Faculty Life Quality Scale (FLQS)*. The original form of FLQS is developed by Epstein and McPartland (1976b). The adaptation study of FLQS to Turkish culture is carried out by Yılmaz and Çokluk-Bökeoğlu (2006). FLQS has three main sub-dimensions such as 'Satisfaction from Faculty (15 articles)', 'Satisfaction from Lecturers (15 items)' and 'Satisfaction from Class Environment and

**Table 1.** Confirmatory Factor Analysis (CFA) results of OHS-S and FLQS.

Scales	$\chi^2$	Sd	$\chi^2/Sd$	AGFI	GFI	NFI	CFI	IFI	RMR	RMSEA
OHS-S	14.38	12	1.16	0.97	0.99	0.98	1.00	1.00	0.03	0.02
FLQS	2433.34	588	4.13	0.67	0.71	0.91	0.93	0.93	0.10	0.09

**Table 2.** Aritmethical averages and standard deviation points of FLQS and OHS-S according to gender and faculty varieties.

		Gender		Faculty				
		F	M	Literature	Science	SEAS	Engineering	Forestry
SLQS	M	2.9	3.0	2.7	3.4	3.3	2.9	3.4
	SD	.63	.61	.58	.52	.64	.38	.48
OHS-S	M	3.4	3.2	3.4	3.4	3.3	3.1	3.2
	SD	.70	.64	.67	.76	.75	.54	.68

Student Relations (7 items). FLQS is a Likert type scale which has values varying from 'Strongly Disagree (1)' to 'Strongly Agree (5)'. The borders of the options and the values in sub-scales of FLQS are as stated here: '1=strongly disagree, 1.00-1.79'; '2=A little agree, 1.80-2.59'; '3=Do not agree 2.60-3.39'; '4=Agree, 3.40-4.19'; '5= Strongly Agree 4.20-5.00'. The Croanbach alpha coefficient related to sub-dimensions of FLQS is calculated to be .75 for sub-dimension of 'Satisfaction from Faculty', .83 for Satisfaction from Lecturers, and .67 for "Satisfaction from Class Environment and Student Relations'. In the calculations for the whole scale, Cronbach alpha reliability coefficient is stated as .87. The validity of the scale is tested according to confirmative factor analysis of scale in the current research (CFA); the reliability of the scale is tested according to Croanbach alpha internal consistency parameter. In this test, Croanbach alpha value is calculated as .95. CFA results are indicated in Table 1.

*Oxford Happiness Scale-Short Form (OHS-S)*. OHS-S is developed by Hills and Argyle (2002) with the purpose of evaluating the happiness levels of human. OHS-S has eight items in total. The Turkish adaptation studies of OHS-S are carried out by Doğan and Akıncı-Çötök (2011). OHS-S has a single factor structure. During the Turkish adaptation studies, OHS-S Cronbach alpha value is determined as .74, and test-retest reliability parameter is determined as .85. OHS-S is tested again to see whether it is valid and reliable or not in this study. The validity studies are carried out by confirmatory factor analysis (CFA), and the reliability studies are carried out by Cronbach alpha coefficient, and Cronbach alpha value is determined as .75. The results of CFA are indicated in Table 1.

As it is seen in Table 1, goodness of fit indexes for both scales are at acceptable levels (Byrne and Campbell, 1999; Kline, 2005; Meyers et al., 2006). The results indicate that the model established for OHS-S is compatible at a fine level; the model established for FLQS is relatively at a fine level.

### Processes and data analysis

The data collection tools are directly applied to the participants in the research before their lessons at the faculties. The participants participate in the research voluntarily. In the research, the data collected from 326 participants are analysed by arithmetical

average, Standard deviation, t-test, one-way variance analyses (ANOVA), one factor covariance analysis (ANCOVA), Confirmative factor analysis (CFA), and multi-regression analysis. In the analysis of data, SPSS 18 and LISREL 8.0 programs are used, and their meaning tests are carried out in .05 level.

### FINDINGS

In this research, as a result of the analysis of collected data from the participants, the findings stated below are reached:

#### 1. Findings on the point of views about school life quality and happiness perceptions of the participants

The mean and standard deviations calculations carried out with the purpose of determining the point of views about school life quality and happiness perceptions of the participants according to the demographic varieties are indicated in Table 2.

As it is seen in Table 2, the point of views of male and female participants about school life quality have near average values [F= 2.9; M= 3.0]. This finding states that both of these two genders are satisfied with school life at moderate level. In t-test carried out according to the gender variables related to school life, it is determined that there is not a significant difference between two groups [t(324)= 1.66 p > .05]. On the other hand, the happiness point averages of the participants are seen as 3.4 among females, and 3.2 among males. Therefore, it is again determined that the participants are happy at moderate level. In t-test analysis carried out related to the differences between the happiness points of two groups, it is seen that the average difference between two groups are statistically significant [t(324)= -2.72 p < .05]. Thus, the female participants are happier than the males. As it is seen in Table 2 again, the views of participants who

**Table 3.** The descriptive statistics of happiness test points according to faculties.

Faculty	N	Average	Corrected average
Faculty of Literature	172	3.49	3.53
Faculty of Science	34	3.44	3.15
Faculty of Engineering	24	3.18	3.17
Faculty of Forestry	51	3.25	3.09
Faculty of SEAS	45	3.39	3.46

study at different faculties about school life quality indicate different average points [Literature= 2.7; Science= 3.4; SEAS=3.3; Engineering= 2.9; Forestry= 3.4]. Thus, the views of participants who participate in the research from different faculties about school life quality are seen to be at a moderate level.

The significance of the difference among the point averages of faculties is tested by one-way variance analysis (ANOVA). According to this analysis, the point of views of participants who participate in the research from different faculties about school life quality are significantly different [ $F_{(4-321)} = 21.70$ ;  $p < .05$ ]. According to Scheffe test results carried out to determine the source of difference, the students of Forestry and Science Faculties are more satisfied with their faculties than the students from Literature Faculty. On the other hand, when the happiness points of participants are analysed, the findings stated below are received: [Literature= 3.4; Science= 3.4; SEAS= 3.3; Engineering= 3.1; Forestry= 3.2]. According to this result, it is understood that the participants are moderately happy. However, the difference between groups are not significant [ $F_{(4-321)} = 1.91$ ;  $p > .05$ ].

*2. When the perception points related to school life quality are controlled, are the happiness perceptions of the participants significantly different according to their faculties?*

With the purpose of finding out an answer to the second question of the research, one-way factor covariance (ANCOVA) analysis is applied on data set. Thus, at first it is analysed that whether there is a direct relation between FLQS nad OHS-S and whether the data set meets the ANCOVA assumptions or not. Correlation parameter is calculated to see whether there is a relation between two variables on ( $r = .18$ ;  $p < .001$ ) level with the purpose of analysing. The relation between the variables is analysed by scatter diagram, and it is seen that whether aforementioned relation is direct or not. On the other hand, the equalities of leanings of regression lines, the common effect meaningfulness of "school life quality x faculty" on "happiness" points is tested by ANCOVA.

In the calculations carried out with this purpose, it is determined that the effect of "school life quality x faculty"

on happinesses of students is ineffective [ $F_{(4-316)} = 0.75$ ,  $> .05$ ]. This finding received indicate that the leanings of regression lines calculated related to predicting the happiness based on the point of views on school life quality of students who study in five different faculties are not equal. In this regard, the corrected happiness test average points according to the points of faculty life quality scale of students are seen in Table 3.

As it is seen in Table 3, happiness test points averages are calculated to be 3.49 for Faculty of Literature, 3.44 for Faculty of Science, 3.18 for Faculty of Engineering, 3.25 for Faculty of Forestry, and 3.39 for Faculty of SEAS. However, when the school life quality scale points are checked, it is seen that there is difference among the happiness test points. According to this, happiness test corrected average points are 3.53 for Faculty of Literature, 3.15 for Faculty of Science, 3.17 for Faculty of Engineering, 3.09 for Faculty of Forestry, and 3.46 for Faculty of SEAS. According to corrected happiness test average points, happiness level is seen to be the highest among students of Faculty of Literature. Respectively, students of SEAS, Faculty of Engineering, Faculty of Science, Faculty of Forestry are in order. The significance of this difference seen among happiness average points of students studying in different faculties is tested by ANCOVA. The results are indicated in Table 4.

As it is seen in Table 4, there is not a significant difference among the corrected performance test average points of school life quality scale of students who study in different faculties [ $F_{(4-316)} = 1.17$ ,  $p > .05$ ]. The happinesses of students are not related to the quality of faculties of them. However, according to the Benferroni test results, happiness level of students of Faculty of Literature (3.53), is seen to be significantly higher than students of Faculty of Forestry (3.09) ( $p < .05$ ).

*3. Does the quality of school life predict participants' happiness?*

It is analysed by multi variable regression analysis whether the point of views related to school life quality of participants are a significant predictor of happiness perceptions. The multi variable regression analysis results which are received with this purpose are indicated in Table 5.

**Table 4.** ANCOVA results of corrected happiness test according to faculty life quality scale.

Variance source	Total square	Sd	Square average	F	P
FYNÖ (Reg)	7.03	1	7.08	15.75	.000
Faculty	2.12	4	0.52	1.17	.321*
Error	141.157	316	0.47		
Total	3953.980	326			

\*p &gt; .05.

**Table 5.** Multi-regression Results Related to Prediction of Happiness.

Variable	B	Standard error B	$\beta$	t	p
Stable	2.80 4	.181		15.475	.000
Satisfaction from school	.054	.078	.052	.689	.489
Satisfaction from lecturer	.153	.061	.173	2.509	.013*
Satisfaction from class environment and student relations	-.013	.064	-.015	-.207	.836

\*p < .05, R = .19, R<sup>2</sup> = .04, F<sub>(3-322)</sub> = 92.821, p = .005.

As it is seen in Table 5, the three sub-dimensions of “school life quality scale” have a low level and significant relation with students’ happiness (R=0.19, R<sup>2</sup>=0.04, p<.01). However, it is determined that each three dimensions explain 4% of variance in happinesses of students.

According to standardized regression parameter ( $\beta$ ), the relative order of predictor variables on happinesses of students are in this order; “satisfaction with the lecturer”, “satisfaction with the school”, and “satisfaction with class environment and student relations”. When t-test results related to regression parameters are analysed, it is determined that “satisfaction with lecturer” is a significant predictor of happinesses of students, but “satisfaction with school”, and “satisfaction with class environment and student relations” dimensions have not significant effects on happiness of students.

## RESULT AND DISCUSSION

In this study carried out with university students, the multiple relational structure between students’ views about the faculties where they get education and their levels of happiness has been analysed. In this regard, at first, it is seen that the participants are satisfied with school life at a moderate level. In another study which analyses students’ satisfaction with their school life, it is determined that the perceptions of students related to school life quality are at moderate level. For instance, in

a similar study, Özdemir (2012) determines that the participants think that their school life qualities are at moderate level. This finding seems to comply with another research finding (Doğanay and Sarı, 2006; Bilgiç and Sarı, 2010; Sarı et al., 2007). Depending on the finding gained at the end of this research which supports the literature, it is seen that the students are satisfied with the schools moderately. This result can be evaluated to be neither too positive nor too negative. The purpose of all investments in education is to develop cognitive, affective and psycho-motor competences of students. One of the conditions of achieving this purpose is to prove the satisfaction with school life for students. Therefore, in the direction of the findings indicating that students perceive school life quality at middle level, transforming the schools into living spaces where students are happy may be suggested. Definitely, it is important that such studies shall be supported by government, private sector and parents.

It is seen that the happiness perception as second variable of the research is also at the moderate level. It may be thought that many parameters have roles related to realization of happiness perception as a psychological structure. The most important of these parameters is the characteristics of human (Brebner, 1998). In this current study, one of the factors related to the realization of happiness perception of students at middle level may be their characteristics. One of the most remarkable points of this study indicate that female participants are happier

than males. Therefore, this finding may be thought to support the research finding of Brebner (1998). Because, having male or female identity biologically and socially may be thought important for occurrence of different characteristics. For instance, the raising styles of females and males may be different on the basis of social gender. These differences may be assumed to have an effect on their happiness perceptions. In this regard, it is determined that there are significant differences between participants' views related to school life quality according to genders in this current study. This finding also seems to support the relevant literature (Batten and Girling-Butcher, 1981; Çokluk-Bökeoğlu and Yılmaz, 2007; Verkuyten and Thijs, 2002).

Another finding gained at the end of this research is that the qualities of faculties where students study do not cause significant change on their happiness perception. In other words, although there are relative differences among the happiness levels of students who study at different faculties, the reason of these differences is not the perception of them related to their school lives. Although there are significant differences among the faculties related to school life quality perceptions of students, these differences have important and significant effects on their happiness. Students' happiness is independent of their faculties. In some other researches, it is determined that school life quality perceptions of students at different faculties are different among the faculties (Doğanay and Sarı, 2006; Özdemir, 2012). However, in the current study, the point of views of students related to qualities of faculties do not seem to predict their happiness significantly. One of the basic reasons of this finding is that happiness perception may be based on whether the individual live according to his own standards or not. Hence, the findings of the present study support the *desire theory of happiness*. As it was mentioned in the introduction section, desire theory sees happiness as a matter of getting what one wants.

Çankırı Karatekin University where the research is carried out is a newly-established university. Because this reason, the students who attend this university have relatively low socio-economic backgrounds. Therefore, the sub-construction problems, scarcity of sports and cultural activities and other similar disadvantages resulting from the fact that it is a newly-established university are not much influential on students' happiness or unhappiness. The results of the multiple regression analysis indicate supportive results for his argument. Although the results of regression analysis indicate that there is a significant effect on the happinesses of children, it is seen that this effect is at a lower level. Moreover, it is determined that the school life quality is not a meaningful predictor of satisfaction with school and satisfaction with class environment and student relations, and happinesses of students. As a result, when this study is evaluated as a whole, the happiness of students does not depend on the qualities of faculties where they study.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# An investigation of English Language teachers and students' views on ethical principles towards students

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The purpose of this study is to raise the quality of teaching English language and to contribute to the improvement of ELT Teachers profession by investigating the extent to which English teachers at Muğla Sıtkı Koçman University apply the ethical code towards students during their teaching process. The study was conducted in Preparatory School of English at Muğla Sıtkı Koçman University. The participants of the study were both teachers and students of the departments concerned. The data gathered from the study were analyzed both quantitatively and qualitatively. To analyze the results of the quantitative data, SPSS (version 20) was used. Classroom observations and interviews were also carried out to support quantitative data. Classroom observations and interviews were analyzed qualitatively. According to the results of quantitative data, it was found that there are significant differences between the views of the students and the teachers of English about the application of those ethical principles such as catering for varied learning needs of diverse learners, dealing considerately and justly with each student and seeking to resolve problems, including discipline according to law and school policy.

**Key words:** English Language Teachers, ethical principles, students.

## INTRODUCTION

At Muğla Sıtkı Koçman University, Preparatory School of English (PSE) is an intensive one. Due to this intensive program, the students' interest and participation is very low and so is the level of success. By investigating the extent to which English teachers at Muğla Sıtkı Koçman University are aware of ethical code towards students and determining the extent to which those teachers apply ethical code towards students during their teaching process, the study will make a contribution to the quality

of teaching English in Sıtkı Koçman University, PSE. Considering that ethics is a social and psychological dynamic, driving teachers to make instructional choices in and outside the classroom, it is important to unravel how ethical codes of the teachers are constructed and enacted. However, the literature of both pre-service and in-service teacher education lacks scholarly insights on this issue. To this end, the present study tries to offer a comprehensive understanding of what ethical code is and

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why it counts in pedagogical practices, specific to English language teaching context in the present study. In addition, yet another purpose of this study is to raise the quality of English language teaching at Muğla Sıtkı Koçman University and to contribute to the profession of ELT teachers by investigating the extent to which English teachers at Muğla Sıtkı Koçman University are aware of ethical code towards students and determining how much those teachers apply ethical code towards students during their teaching.

Over the past twenty years or so, there have been numerous articles exploring one or another aspect of the ethical or moral nature of teaching. These articles used a variety of descriptors such as ethics and teaching, teacher values, teacher beliefs, ethical issues in teaching, teaching and moral development to attend to the ethical and moral dimensions of teaching.

In a study by Oktay et al. (2010), it is reported that morality has been an area of study in such diverse areas as religion, philosophy and psychology from Socrates to present day. It is also reported in the same study that morality has been defined in several ways. According to the definition, the researchers borrowed from Oktay et al. (2010), morality is a cognitive structure that includes not only conscious judgment, decision-making but also behavior about justice and injustice, right and wrong, good and bad.

For that reason, the researchers claim that moral development should be taught at the personality shaping years of preschool in order to raise individuals with a strong sense of morality because people with highly developed moral judgment can listen to and critically evaluate ideas other than their own, instead of blindly rejecting them; and they consequently delay, revise or change their own ideas (Oktay et al., 2010). In that sense, considering the issue of moral development from a perspective of democracy, the researchers believe that raising individuals with a strong sense of moral development is a pre-requisite for the establishment of democratic citizenship in a society. So the researchers draw attention to the role and responsibility of teachers in establishing a society whose individuals can think rationally and critically, make free decisions, and take responsibility for their decisions and actions, too. Therefore, it is of utmost importance that teachers involved in morality education act as models for children by displaying ethical and moral behavior (Oktay et al., 2010).

While Oktay et al. (2010) point to the significance of raising individuals with a strong sense of moral development for the establishment of democratic societies, Luttenberg et al. (2004) draw attention to the problem that, as far as moral aspects of teaching are concerned, too little work has been done towards a clear definition of concepts. According to them, the concept of moral responsibility has been insufficiently analyzed and

too little attention has been paid to the real motivation of teachers.

We must carefully and continuously cultivate in our students that living in an ethical life is an achievement. Children first develop the rudiments of skills like language fluency, maths, and reading literacy at home and then they are enriched and honed at school with additional training and practice. Moral literacy too is an ability that is acquired through parents, religious institutions and, Tuana (2007) believes that it is best developed with careful instruction and practice at school. Education, in this respect, is regarded as something that reinforces and enhances the skills whose rudiments are begun at home. So it is hoped that home and community environments will support and augment the learning that is happening in the schools.

Ethics cannot be conceptualized as moralizing or dictating what is to be done, ethics is not another form of dogmatism, either. Rather than that, ethics offers us some tools for thinking about difficult matters (Weston, 1997). For that reason, struggle and uncertainty should be deemed to be parts of ethics.

In conjunction with ethics, professional ethics in teaching, on the other hand, can be defined as the realization of good and the struggle for the ideal during every day practices of teachers as individuals and collective professional groups. Therefore, rather than the identification of particular interpretations, the focus is placed on general terms of ethics such as fairness and honesty. Teachers need to have an awareness of moral issues, a sense of right and wrong, good judgment, integrity, and courage as students acquire the importance of personal virtues such as honesty, respect and sensitivity to others in the course of interaction with others. What is more, scientific research shows that students are influenced by the teachers whose personal values they admire (Campbell, 2003).

Providing that a teacher is aware of the moral messages he might convey into the classroom, the teacher should start moral classroom with respect for children, their interests, feelings, values and ideas. DeVries and Zan (1994) state that this respect can be expressed in teacher's interaction with children, classroom organization as well as classroom activities. Respect, on the part of a teacher, can be manifested by avoiding negative actions or unprofessional behavior

Related to the above mentioned ethically acceptable conduct of a teacher, the virtue of acting in a reasonable manner comes to our minds. A teacher who is able to act in a reasonable manner in all cases is an autonomous person. The ethic of autonomy is an intuition of knowing what is right or wrong in a given situation (Starratt, 1994). Rather than acting the way others tell them or out of fear of the people in authority, an autonomous teacher acts in accordance with his own personal choices of what is right or wrong. Because an autonomous teacher makes

informed decisions of his own free will, he is ready to take responsibility for those decisions.

Another principle of the ethical teacher is the ethic of justice which dates back to Aristotle, Rousseau, Hegel, Marx and Dewey who viewed society as a place where individuality develops. In their point of view, one learns the lessons of morality through experience and through living in society. Because individuals participate in the life of community, they learn to adjust their behavior to the common good of the community. Morality, in that sense, is grounded in practice within society because the ability to form a responsible selfhood in order to cooperate within the society develops through living in a society (Starratt, 1994). Hence, the individual develops the moral quality of establishing good relationships to protect human dignity.

## METHODOLOGY

### Research question

1. Are there any significant differences between teachers' and students' views about teachers' application of the ethical principles towards students at a tertiary preparatory English program?
2. Are teachers of Preparatory School of English (PSE) and ELT Department at Muğla Sıtkı Koçman University aware of ethical code towards students?
3. Are instructors of the ELT Department at Muğla Sıtkı Koçman University aware of ethical code towards students?
4. Are there any significant differences amongst teachers in their application of ethical code towards students at Muğla Sıtkı Koçman University, Preparatory School of English (PSE)?

### Participants

The first participants were nine teachers of Preparatory School of English (PSE) who teach English at preparatory school to students who will study departments of engineering and political sciences. Those participants were chosen on a voluntary basis and via a convenient sampling method. The age of the participants in the study ranged from 30 to 45 and had language teaching experience ranging from 15 to more than 20 years.

In the questionnaire survey phase, 180 students were chosen randomly and were asked about their teachers' applications of ethical principles towards them. Among the surveyed participants, 22 students were randomly chosen from PSE for the student interviews. Those interviewed students were instructed by the nine participant teachers of the study.

### Instruments

The design of this study was mixed-method research. Mixed-method research is an approach that attempts to yield multiple viewpoints, perspectives and positions. In that sense, the mixed research in the present study secured to cross check the quality of the data obtained and to strengthen the weaknesses of offering merely a questionnaire survey. In addition, a triangulation was performed via collecting both qualitative and quantitative data.

There were three types of instruments used in the study. One of them was a questionnaire, the other was a classroom observation rubric, and the third one was interviews both with teachers and

students. The questionnaire derived from the Association of American Educators and New Zealand Teachers Council was used to gather data about the study.

### Questionnaire

In order to get a deeper understanding how much English teachers at Muğla Sıtkı Koçman University, Preparatory School of English (PSE) apply ethical principles towards students during their teaching process, a questionnaire designed by the Association of American Educators and New Zealand Teachers Council was used (Appendix A). The questionnaire was also used in Symposium Papers for Nzare (2007). The same questionnaire was used both for teachers and students at PSE. There were 13 items in the questionnaire conspiring ethical principles towards students.

There was a five Likert Scale to determine the frequency of application of ethical principles used by each teacher during their teaching hours. The choices ranged on a five point scale from never to always. The teachers were asked to mark the best choice that corresponds to their application of each ethical principle towards students.

The questionnaire which was designed by the Association of American Educators and New Zealand Teachers Council was also used to gather data from the students of the participant teachers from PSE about their teachers' application of ethical principles towards students.

### Classroom observation

In order to get a deeper understanding of how much English teachers at Muğla Sıtkı Koçman University, PSE apply ethical principles towards students during their teaching process, the same questionnaire designed by the Association of American Educators and New Zealand Teachers Council was also used to observe the classes of those teachers who were teaching the departments of engineering and political sciences to collect data about the application of ethical principles by each of the nine participant teachers (see Appendix B).

### Teacher interviews

The questionnaire designed by the Association of American Educators and New Zealand Teachers Council was also used as an open ended questionnaire to interview teachers teaching English at PSE in order to gather data about the frequency of application of ethical principles towards students (see Appendix C).

### Students' interviews

The same questionnaire designed by the Association of American Educators and New Zealand Teachers Council was also used as an instrument to interview students at PSE from departments of engineering and political sciences to ask for their views about their teachers' application of ethical principles towards students. There were 22 students from those two departments in the student interviews. The questionnaire was used during the interviews with 22 students learning English at PSE (see Appendix D).

### Procedure

During the fall term of 2013, the teacher interviews were conducted at PSE. In October, 2013 classroom observation were conducted.

The questionnaire designed by the Association of American Educators and New Zealand Teachers Council was used to interview the teachers and to observe the classes of those teachers. The same questionnaire was also administered to all of the students of the participant teachers to gather data from those 180 students about those teachers' application of ethical principles towards students. The same questionnaire was also used as an instrument to interview students at PSE. In December, 2014 the questionnaire was first translated into Turkish by the researcher for the students to be able to answer each item in the questionnaire clearly. The questionnaire was also used in Symposium Papers for Nzare (2007). Then, one week later, the translated version of the questionnaire was piloted in a classroom of 20 students which was arranged by the researcher before. During the piloting, the students whom the questionnaire was administered were asked to comment on each of the item to test if every participant will understand the same thing from each of the item in the questionnaire. Necessary corrections were made to the translated version of the questionnaire in accordance with the feedback provided during the piloting.

At the beginning of January, 2014 the student interviews started and they were conducted during the spring term of 2014. In February, 2014 the tape recorded student interviews were transcribed and content analysis of the transcription was made. In March, 2014 the content analysis of the teacher interviews was compared to the content analysis of student interviews to see the differences in teacher and student views about the application of ethical principles towards students.

The researchers then analyzed the qualitative data gathered from interviews conducted with both the students and the teachers in PSE. After transcribing the interviews, the researchers analyzed the teacher and student interviews for their content to see how many of the teachers and the students think the ethical principles toward students are actually applied by the teachers. Lastly, the content of the student and teacher interviews were compared.

## FINDINGS

In Table 1, significant differences between Preparatory School of English (PSE) teachers and students in PSE teachers' application of ethical principles towards students are analyzed. According to the table, in item 2 ( $t=2.316$ ,  $p<.05$ ), in item 3 ( $t=3.106$ ,  $p<.05$ ) and in item 4 ( $t=4.046$ ,  $p<.05$ ). Statistically speaking, there are significant differences between the teachers and the students for ethical principles item 2 which is catering for the varied needs of diverse learners, item 3 which is dealing considerably and justly with each student and item 4 which is seeking to resolve problems, including discipline, according to law and school policy. In other words, the mean values of PSE teachers for ethical principles 2, 3 and 4 are higher than those of the students there.

No significant differences have been found between the students and the teachers of PSE for ethical principle 1 which is developing and maintaining professional relationships with learners based upon the best interest of those students, item 5 which is establishing open, honest and respectful relations with students, item 6 which is promoting equality of opportunity for all of the students, item 7 which is teaching and modeling those positive values which are widely accepted in society, item

8 which is presenting facts without distortion, bias or personal prejudice, item 9 which is promoting physical wellbeing of learners, item 10 which is promoting emotional wellbeing of learners, item 11 which is promoting social wellbeing of learners, item 12 which is protecting the confidentiality of information obtained in the course of professional service and item 13 which is encouraging learners to think critically about significant social issues.

## Comparing questionnaire, student / teacher interviews and class observation for PSE

Developing and maintaining professional relations with your students based upon their best interest: while there is no significant difference from the questionnaire for this principle, most of the interviewed 22 students believe that their teachers develop and maintain professional relationships with students and all the interviewed teachers state that they develop and maintain professional relations with students, too. Class observations show that all of the teachers try to make students feel comfortable.

Catering for the varied learning needs of diverse learners: While quantitative data from the questionnaire shows that there is significant difference, 3 of the 22 interviewed students do not think their teachers cater for varied learning needs of diverse learners and 5 of the 11 teachers do not think they can cater for varied learning needs of diverse learners due to the time constraint and crowded classes. Classroom observations show that all of the teachers are careful about answering different questions.

Dealing considerably and justly with each student: While quantitative data from the questionnaire shows that there is significant difference, 20 of the interviewed students report that their teachers deal considerably and justly with each student and 6 of the 11 teachers do not think that they can deal considerably and justly with each student as they feel that they have to pay more attention to linguistically disadvantageous or slow learners. Class observations show that most of the teachers put in extra effort to involve all of the students into the process by addressing all of the students.

Resolving problems, including discipline, according to law and school policy: While quantitative data from the questionnaire shows that there is significant difference, the students report that the teachers are divided into two about resolving problems, including discipline, according to law and school policy. They report that while almost half of the teachers are strict about resolving those problems according to law and school policy, the other half of them try to resolve the problems on their own. However, all of the interviewed teachers are against resolving problems including discipline according to law and school policy. There are no problems to be solved during the observations.

**Table 1.** Preparatory School of English (PSE) Teachers and Students' views about the Teachers' Application of Ethical Principles towards Students.

Items	Groups	N	Mean	Sd	t	Sig.
I1	student	207	4.74	3.60	.853	.394
	teacher	11	3.81	.98		
I2	student	207	4.48	2.24	2.316	<b>.022</b>
	teacher	11	2.90	.83		
I3	student	206	4.53	.84	3.106	<b>.002</b>
	teacher	11	3.72	.78		
I4	student	206	4.50	.75	4.046	<b>.000</b>
	teacher	11	3.54	.93		
I5	student	207	4.76	.55	.211	.833
	teacher	11	4.2	.46		
I6	student	205	4.49	.82	.532	.596
	teacher	11	4.36	.67		
I7	student	207	4.16	.90	1.536	.126
	teacher	11	3.72	1.19		
I8	student	206	4.73	3.62	.917	.360
	teacher	11	3.72	1.00		
I9	student	203	3.23	1.31	-1.426	.155
	teacher	11	3.81	1.32		
I10	student	204	3.85	1.05	.656	.512
	teacher	11	3.63	1.20		
I11	student	206	4.01	1.02	.638	.524
	teacher	11	3.81	.98		
I12	student	207	4.71	2.95	.399	.690
	teacher	11	4.36	.67		
I13	student	202	4.31	2.91	.866	.387

Establishing open, honest and respectful relationships with students: While quantitative data from the questionnaire shows that there is no significant difference, all of the students except for one believe that their teachers are open, honest and respectful to them. All of the interviewed teachers believe that they are open, honest and respectful in their relations with students. During the observations, all of the teachers were open to their students; they were treating their students kindly.

Promoting equality of opportunity for all of the students: While quantitative data from the questionnaire shows that there is no significant difference, all of the interviewed students report that their teachers promote equality of opportunity for all of the students in different ways but six interviewed teachers do not promote equality of opportunity as students are reluctant and they need to spend more time with low achievers. Observations show that promoting equality of opportunity for all of the learners was changing from teacher to teacher.

Teaching and modeling those positive values which are widely accepted in society: While quantitative data from the questionnaire show that there is no significant difference, all, except 2, of the students report that their

teachers are interested in widely accepted positive values in society while 3 of the teachers are against teaching those positive values which are widely favored in society as they believe everybody can create his/her own values. The teachers were just modeling the values during the observations.

Presenting facts without distortion, bias or personal prejudice: While quantitative data from the questionnaire shows that there is no significant difference, 12 students state that although their teachers give their personal views about the facts stated above but they say their teachers do not distort the reality. 10 students report that their teachers present facts about us without giving their personal views. 9 of the teachers, on the other hand, do not deny giving their personal prejudices as they think that it is unavoidable or not always possible to give facts without personal judgments. However, they say that they avoid distorting reality by being respectful to different student ideas. There was no data about it during the observations.

Promoting physical wellbeing of learners: While quantitative data from the questionnaire shows that there is no significant difference, 17 students state that their

teachers give them advice on sleeping properly, playing sports, and healthy nourishment. All of the interviewed teachers, except for 1, remember giving advice about students' nourishment and hygiene; telling them to do sports, to sleep well in order to be mentally fit as well as giving advice on studying methods and saving time for their private times. Few teachers were promoting students physical wellbeing in the observations.

**Promoting emotional wellbeing of learners:** While quantitative data from the questionnaire shows that there is no significant difference, all the students report that their teachers try to have students do activities that alleviate language related stress, that some of the teachers meet the students both outside and inside class to give them advice on how to overcome language related difficulties. All of the interviewed teachers state that they promote emotional wellbeing of learners by giving the chance to express themselves, by watching out for their ups and downs of students and helping those who need emotional support. All of the teachers were careful enough about promoting emotional wellbeing of students in the observations.

**Promoting social wellbeing of learners:** While quantitative data from the questionnaire shows that there is no significant difference, 20 of the interviewees believe that their teachers promote their social wellbeing in different ways. All of the interviewed teachers say that they promote social wellbeing of learners by socializing with students for them to socialize with each other and respecting their social identities, by integrating the socially or economically disadvantaged groups into classroom atmosphere, by teaching and modeling a positive social attitude that instills social responsibility into learners, by encouraging learners to do group work activities. During the observations, the teachers were organising pair or group work activities to encourage the learners to communicate with each other.

**Protecting the confidentiality of information about learners obtained in the course of professional service:** While quantitative data from the questionnaire shows that there is no significant difference, all of the interviewees trust their teachers and are sure that their teachers protect the confidentiality of information obtained in the course of teaching profession. There is no disagreement between the students and the teachers as all of the interviewed teachers believe that it is essential that they protect the confidentiality of information obtained in the course of teaching profession. No data was revealed during the observations.

**Encouraging learners to think critically about significant social issues:** While quantitative data from the questionnaire shows that there is no significant difference, 12 students state that they did not have the opportunity or that their teachers rarely encourage them to think critically about significant social issues, 10 students believe that their teachers encourage them to think critically

about significant social issues. However, all of the interviewees, except for one, say that they encourage learners to think crucially about significant social events. During the observations no data was obtained about the principle (Table 2).

## DISCUSSION

The data analysis has also shown that there are significant differences between the students and the teachers of PSE in the actual implementation of ethical principles by the teachers for ethical principles such as item 2 which is catering for the varied learning needs of diverse learners, item 3 which is dealing considerately and justly with each learner and item 4 which is seeking to resolve problems, including discipline, according to law and school policy.

For dealing considerately and justly with each student, catering varied learning needs of learners, the literature suggests that the ethical principles teachers underpin during their interactions with students provide the basis of their moral responsibilities (Campbell, 2003). For that reason, teachers who are of their moral responsibilities have an awareness of moral issues, a sense of right and wrong, good judgment, integrity, and courage. Moral or ethical principles of a teacher which influence the classroom and school context can be exemplified out of his conduct or beliefs. More precisely speaking, an ethical teacher should be tolerant to students, act in a reasonable manner, be willing to explain things to students, be free from prejudice and should be sensitive to the needs of the students (Starratt, 1994).

Of all the moral qualities a teacher might possess, a habit of being fair is surely one of the most highly praised one by students. It is widely accepted by teachers that the best way to achieve fairness is being equally attentive to each student's capacity and needs. As the needs and capacities of students differ, the level of attention to their needs and capacities will quite naturally differ. However, no matter what the good intention and motive might be, widely differing treatment to some students may be unfair in the eyes of the other students. In that case, the ethical teacher should make endeavors to balance the need to be fair to certain students and the need to be fair to the others because the ethical teacher consciously and continually weighs, and balances, between the specific needs of individual students and the general common good of the whole class. The intent of the ethical teacher in applying the lenses of equality, impartiality is being fair-minded and just in one's actions.

Another principle of the ethical teacher is the ethic of justice. In order to apply the ethic of justice to the school setting, to promote a just social order in the school, school communities must re evaluate, with a critical lens, those structural features of the school that work against

**Table 2.** Quantitative/qualitative data about teacher / student interviews and class observations.

Ethical principle	Questionnaire	Teachers interviews	Students interviews	Class observations
Developing and maintaining professional relationships with learners based upon the best interests of those learners	No significant difference	All of them: yes	All of them:yes	All of Ts do
Catering for the varied learning needs of diverse learners	significant difference	19/22 Ss: yes	6 /11 Ts: yes	All Ts do
Dealing considerately and justly with each student:	significant difference	19/22 Ss: yes	5/11 Ts: yes	Most of Ts do
Seeking to resolve problems, including discipline, according to law and school policy	significant difference	All of them: yes and no	None of Ts: yes	No problems
Establishing open, honest and respectful relationships with students	No significant difference	All of them: yes	All of Ts:yes	All of Ts do
Promoting equality of opportunity for all of the students	No significant difference	All of them: yes	5 /11 Ts: yes	Not all of Ts do
Teaching and modeling those positive values which are widely accepted in society	No significant difference	20/22 students: yes	9/11 Ts: yes	Modeling
Presenting facts without distortion, bias, or personal prejudice	No significant difference	21 / 22 Ss: yes	3/11 Ts: yes	No data
Promoting physical wellbeing of learners	No significant difference	17/22 Ss: yes	10/11 Ts: yes	Few Ts do
Promoting emotional wellbeing of learners	No significant difference	All of Ss: yes	All of Ts: yes	All of Ts do
Promoting social wellbeing of learners	No significant difference	20/22 Ss: yes	All of Ts: yes	All of Ts do that
Protecting the confidentiality of information about learners obtained in the course of Professional service	No significant difference	All of Ss: yes	All of Ts: yes	All of Ts do
Encouraging learners to think critically about significant social issues	No significant difference	12/22 Ss: yes	All of Ts: yes	No data

students and must make amendments (Starratt, 1994). By way of example, issues of testing should be examined from the perspective of justice in order to develop alternatives that will serve the benefit of the disadvantaged students. Teachers should treat students equally during classroom routines such as treatment to late comers, proportion of students' participation in in-class activities, error correction and prompt return of assignments. An ethical teacher who takes the ethic of justice as his motto in daily teaching practice, is tolerant to all of his students, is consistent in acting in a reasonable manner to all students. It is also the moral responsibility of a just teacher to be willing all the time to explain things to all of his students and to be free from prejudice regardless of students' racial, political and ethnical origin as well as gender.

According to the ethic of care there is a reciprocal relationship between the 'one caring' and the 'cared for' in which the teacher has the role of the one caring while the students are those who the teacher cares for. In this relationship Owens and Ennis (2005) suggest that

teachers should approach student needs from the perspective of 'I must do something' rather than 'something must be done'. The student in the role the one cared, on the other hand, shares the responsibility to establish caring relations by means of being both receptive and responsive to the efforts of the one caring (Owens and Ennis, 2005).

The ethic of care is demonstrated by relationships with the pupil. It requires fidelity to persons, a willingness to acknowledge their right to be who they are, openness to encounter them in their authentic individuality, a loyalty to the relationship (Starratt, 1994). It demands a caring relationship that honors the dignity of students. Contrary to the image of the teacher as a severe authoritarian, suspicious and disdainful of students, teachers can establish this kind of relationship by projecting an image of a king and caring person.

Teachers take responsibility for meeting the needs of children and young people, establish positive relationship with every child and are attentive to the learner as an individual. Successful relationships with children are

based on being warm and affectionate, setting clear limits, being quick to recognize pupils' needs, accepting their failures, being predictable and consistent, respecting the individual and recognizing a child's good qualities (Thompson, 1997). Inconsistent care, being cold, hostile and unresponsive, rejecting, unpredictability or lack of respect and emphasizing a child's bad qualities affect relationships adversely.

Knowledge of pedagogy should be viewed as the moral imperative of the profession since it is the duty of schools and teachers to demonstrate that learning takes place due to their expertise (Thompson, 1997). Pedagogy requires an understanding of children, of human motivation, development and learning, of factors influencing learning, of the dynamics of human interaction as well as an understanding of the principles governing the efficient planning, implementation and evaluation of learning experiences (Eraut, 1993). The ultimate purpose of teachers' pedagogical knowledge is to pave the way for self-confident and self-regulating learners who can day by day take responsibility for their own learning (Thompson, 1997).

For resolving problems, including discipline, according to law and school policy literature suggests that in a well-controlled school in which teachers can teach and students can learn, one of the necessary things is school rules as a good set of school rules or regulations which provide good expectations (Rosen, 1992). According to research, school rules have certain benefits: they let students understand what is expected of them and makes it possible for students to understand the learning task better, teaching process in the classroom continues smoothly with less confusion and students understand clearly what they should do to perform something.

There are some criteria for good school rules. Literature suggests that good school rules are clear and specific, are easily understood and appropriate for the age group they are intended to, the process for people who break them are clearly described, they are well designed to achieve the intended purpose, they should not be discriminatory, they should be possible to apply and fair to all concerned (Rosen, 1992). Teaching students self-discipline, teaching students the standards, compatibility of the standards with occasions and environment are certain recommendations to be followed to prevent problems from happening are determined in literature (Logan, 2003).

First, teachers should teach students self-discipline. If we do not teach our students how to learn self-discipline, we cannot correct any inappropriate behavior and the inappropriate behavior will be happening again and again. While doing this, one think that we need to keep in our minds that criticizing or punishing students will not make them change the inappropriate behavior for the better. In that sense, our definition discipline must also include efforts to teach students appropriate behavior that

will help them learn to be self-disciplined.

Secondly, the standards we have in classroom should be taught to our students since they cannot learn those standards we hold in the classroom by transference or by trial. As we have different teachers in our schools, our standards may be so different that they may change from teacher to teacher, from class to class and from year to year. Therefore, in our definition of discipline efforts should also be made to teach our students the standards which are held in our classrooms.

Thirdly, our standards must be compatible with the occasion and the environment. To put it in a different way, we can never expect our students to behave the same way in the classroom as they do in the gymnasium. Certain type of a behavior that is appropriate in one place or on one occasion might not be that appropriate in another place or on another occasion. For that reason, we must get together to decide about expectations from our students about appropriate behavior and teach our students these differences about appropriate behavior in different places.

More practical steps for teachers who are having problems with their classes are also recommended in literature by Logan (2003). One of those steps is about the teacher. The teacher should fully understand what he or she is teaching and should anticipate beforehand the problems students may have. Those problems might be about the difficulty of the presented material, about how much the presented material is related to the students and how much the material is presented in a caring manner by the teacher. Teachers should also be careful about the impression they give while they present the material. If the teacher presents the material in an insecure way, students can really sense this state of insecurity and this might cause problems.

Logan (2003) suggests that rather than complaining about how horrible some students are, teachers should invite someone they trust to their classroom. Having someone visit our classroom to give ideas about the lesson structure, our presentation and sitting arrangements in our classroom will provide the help and support we need to solve problems in the classroom. If students find out that their teachers complain about them, things will get worse. While getting help from someone we trust, however, we should pay particular attention to be ourselves rather than the teacher next door as the type of discipline approach we use should make us feel comfortable.

Given the afore mentioned practical steps to solve classroom problems, one think we need to remember the fact that there might be some behaviors that can never be tolerated and need immediate intervention. Immediate action must be taken if the teacher or any of the students are threatened. In cases where the teacher cannot handle the situation on her own, she should immediately seek help. Teachers should be knowledgeable about

discipline procedure and should never allow any student give harm to others.

The concluding remarks about discipline problems would be reminding the fact that even after many years of teaching, there will be good days and bad days. Although teaching is very challenging, it can get better. We need to remember that a clear lesson structure presented fairly and in a caring non-threatening atmosphere with clear expectations can make a good teaching.

### Suggestions for further studies

This study can be replicated with a larger number of participants in other contexts across the whole country or regions. In addition, the training that was given to the participant teachers would also be given to the participant students to collect more data about the implementation of ethical values towards students. Another suggestion would be evaluating the effectiveness of ethical code towards students by designing another experimental study. The results of the control group and the experiment group would be compared to see how effective ethical code towards students is in teaching language.

It has been found in the study that there are significant differences between the teachers in their application of ethical principles catering for varied learning needs of diverse learners and seeking to resolve problems, including discipline, according to law and school policy. Further studies could also be conducted to evaluate how these two ethical codes towards students is implemented by teachers in different contexts.

### Conclusion

The result of statistical data about the application of ethical principles towards students by English teachers of Muğla Sıtkı Koçman University, PSE shows that there are mismatches between application of ethical principles towards students and the relevant literature for ethical principles. The analysis of qualitative data from classroom observations for catering the varied learning needs of diverse learners shows that all of the teachers at PSE are careful about answering different questions that are asked by different students when they do not understand the presentations.

The analysis of qualitative data gathered from teacher and student interviews shows that the majority of the students think their teachers cater for varied learning needs of diverse learners while half of the teachers do not think that they can cater for varied learning needs of diverse learners due to time constraint and crowded classes. The analysis of data from classroom observations for dealing considerately and justly with each learner shows that although most of the teachers put in extra effort to involve all of the students into the process; there are exceptional situations where teachers

cannot push reluctant students as they are concerned with following the curriculum.

The analysis of qualitative data from teacher and student interviews shows that majority of the interviewed students report that their teachers deal considerately and justly with each student while some teachers do not think that they can deal considerately and justly with each student due to the fact that they feel that they have to pay more attention to linguistically disadvantaged or slow learners.

For seeking to resolve problems, including discipline according to law and school policy the analysis of qualitative data from classroom observations shows that there seemed to be no problems to be resolved by the teachers.

According to the results of qualitative data from teacher and student interviews, the students report that the teachers are divided into two about resolving problems, including discipline, according to law and school policy. They report that while almost half of the teachers are strict about resolving those problems according to law and school policy, the other half of them try to resolve the problems on their own. However, all of the interviewed teachers are against resolving problems including discipline according to law and school policy. In a well-controlled school in which teachers can teach and students can learn, one of the necessary things are school rules as a good set of school rules or regulations which provide good expectations. The absence of expectations will cause practical problems and when the expectations of teachers are not met by students, there will be an atmosphere in which students in the classroom are confused and uneasy due to the frustration and hostility experienced by teachers as a result of expectations that are not fulfilled.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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## APPENDICES

### Appendix A: Questionnaire for ELT Teachers

Think about your teaching while reading the statements below. Respond by indicating **with an X** Please mark **only one (X)** for each item.

Never: 1; Rarely: 2; Sometimes: 3; Often: 4; Always: 5.

No	AS A teacher I try to:	1	2	3	4	5
1	develop and maintain professional relationships with learners based upon the best interests of those learners,					
2	cater for the varied learning needs of diverse learners					
3	deal considerately and justly with each student					
4	seek to resolve problems, including discipline, according to law and school policy					
5	establish open, honest and respectful relationships with students					
6	promote equality of opportunity for all of the students					
7	teach and model those positive values which are widely accepted in society					
8	present facts without distortion, bias or personal prejudice					
9	promote physical wellbeing of learners					
10	promote emotional wellbeing learners					
11	promote social wellbeing of students,					
12	protect the confidentiality of information about learners obtained in the course of professional service					
13	encourage learners to think critically about significant social Issues					

### Appendix B: Questionnaire for Classroom Observation

Never: 1; Rarely: 2; Sometimes: 3; Often: 4; Always: 5 .

N o	The teacher tries to:	1	2	3	4	5
1	develop and maintain professional relationships with learners based upon the best interests of those learners,					
2	cater for the varied learning needs of diverse learners					
3	deal considerately and justly with each student					
4	seek to resolve problems, including discipline, according to law and school policy					
5	establish open, honest and respectful relationships with students					
6	promote equality of opportunity for all of the students					
7	teach and model those positive values which are widely accepted in society					
8	present facts without distortion, bias or personal prejudice					
9	promote physical wellbeing of learners					
10	promote emotional wellbeing learners					
11	promote social wellbeing of students,					
12	protect the confidentiality of information about learners obtained in the course of professional service					
13	encourage learners to think critically about significant social Issues					

**Appendix C: Teacher Interview Questions**

1. Do you develop and maintain professional relationships with learners based upon the best interests of those learners?
2. Do you cater for the varied learning needs of diverse learners?
3. Do you deal considerately and justly with each student?
4. Do you seek to resolve problems, including discipline, according to law and school policy?
5. Do you establish open, honest and respectful relations with students?
6. Do you promote equality of opportunity for all of the learners?
7. Do you teach and model those positive values which are widely accepted in society?
8. Do you present facts without distortion, bias or personal prejudice?
9. Do you promote physical wellbeing of learners?
10. Do you promote emotional wellbeing of learners?
11. Do you promote social wellbeing of learners?
12. Do you protect the confidentiality of information about learners in the course of professional service?
13. Do you encourage learners to think critically about significant social issues?

**Appendix D: Student Interview Questions**

1. Öğretmeniniz sizin en iyi derecede faydalanabileceğiniz şekilde sizinle profesyonel ilişkiler kurup bu ilişkileri sürdürür mü?
2. Öğretmeniniz farklı öğrencilerin çeşitli öğrenme ihtiyaçlarını dikkate alır mı?
3. Öğretmeniniz adil ve düşünceli bir şekilde her öğrenciyle ilgilenir mi?
4. Öğretmeniniz disiplin dâhilindeki sorunları kanunlara ve okul kurallarına göre çözmeye çalışır mı?
5. Öğretmeniniz sizinle açık, dürüst ve saygıya dayalı ilişkiler kurar mı?
6. Öğretmeniniz bütün öğrenciler için fırsat eşitliği sağlar mı?
7. Öğretmeniniz toplumda geniş kabul gören değer yargılarını öğretip bu değer yargılarını bir model olarak sergiler mi?
8. Öğretmeniniz gerçekleri çarpıtmadan ön yargısız olarak şahsi hükümlerini katmadan sunar mı?
9. Öğretmeniniz öğrencilerin bedensel sağlığını geliştirir mi?
10. Öğretmeniniz öğrencilerin duygusal sağlığını geliştirir mi?
11. Öğretmeniniz öğrencilerin toplumsal huzurunu geliştirir mi?
12. Öğretmeniniz profesyonel hizmet esnasında öğrenciye dair edindiği bilgilerin gizliliği ilkesini korur mu?
13. Öğretmeniniz öğrenciler önemli toplumsal konularda eleştirel düşünmeye teşvik eder mi?

*Full Length Research Paper*

# Evaluating high school students' anxiety and self-efficacy towards biology

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**Anxiety and self-efficacy are among the factors that impact students' performance in biology. The current study aims to investigate high school students' perception of biology anxiety and self-efficacy, in relation to gender, grade level, interest in biology, negative experience associated with biology classes, and teachers' approaches in the class. The research was designed as a survey model. The study group consisted of 160 students in 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grades at 4 different high schools in Ankara during 2014 Spring Semester. Biology Anxiety Scale and Biology Self-Efficacy Perception Scale, both developed by the researchers, were used as data collection tools. Data were analyzed through t test, ANOVA, and Pearson Correlation in SPSS software package. The research results show that interest in biology and negative past experience were significant predictors of students' biology anxiety and that students' biology self-efficacy percepts significantly differed on gender, grade level, interest in biology, past experiences, and teachers' approaches in the classes. Considering the relationship between anxiety and self-efficacy, activities must be organized at schools in order to reduce students' biology anxieties.**

**Key words:** High school students, biology subject, perception, anxiety, self-efficacy.

## INTRODUCTION

Biology, an important branch within science, is among the basic courses in secondary education curricula. Biology, whose general content is about recognition of living things by all their characteristics, is a subject with a wide coverage. It is important to discover factors affecting the learning of biology, for increasing efficiency in this course (Yüksel, 2004). Increased interest in the biology science today provided increased importance for biology classes at schools (Kelerman, 1995). Developments in science impact people's lives through many fields, such as medi-

cine, defense industry, and agriculture (Kutlu, 2010). The relationship between biology and the daily life will reveal the necessity of biology education (Kılıç, 2004).

Anxiety is described as subjective feelings associated with worries, nervousness, and tension (Spielberger, 1976, p. 5). Anxiety is a complex psychology term including many variables. Simply put, anxiety is the feeling of worries along with increased vigilance, increased sympathetic nervous system, and difficulty in concentrating (Kelly, 2002). Anxiety is the state of

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alertness brought up with feelings of tension, fear, and worries that people show when they consider themselves threatened (Spielberg and Gorsuch, 1970).

Increased anxiety levels invite the individual to retreat to flatter and simpler behaviors; to have anxiety; and to be over-focused on pleasing others. However, mid-level anxiety stimulates and protects the organism and provides motivation. When managed well, anxiety helps the individual to work more to be successful and to take measures against the unfavorable (Akgun et al., 2007).

A literature review showed many studies investigating anxiety on demographic variables such as gender and age. Mousavi et al. (2008) investigated the effect of gender on test anxiety. Zanakis and Valenzi (2010) studied the effect of grade level on anxiety. Torkzadeh and Dyke (2002) examined the relationship between computer self-efficacy and computer anxiety. Nomura et al. (2008) evaluated the relationship between attitude and anxiety. Muris (2002) investigated the relationship between students' learning experiences and their anxieties.

Self-efficacy, on the other hand, is one of the basic concepts of social learning theory. Self-efficacy belief is described as "individual's judgment on whether s/he has the skills to complete a task" (Bandura, 1986). In other words, it is individual's own opinion about whether s/he can achieve. Efficacy beliefs consist of two different structures such as self-efficacy and expectation to get results. Self-efficacy belief is about individual skills impacting tasks and the expectation to get results is about the belief that certain actions will result in certain way (Gibson and Dembo, 1984).

It is known that self-efficacy beliefs have four basic sources. These are successful experiences, indirect experiences, oral persuasion, and individual's physical and affective status (Bandura, 1986). Self-efficacy beliefs impact people's targets set for themselves, how strong their efforts are in reaching those targets, how long they can face the challenges in reaching their targets, and their reaction to failure (Bikmaz, 2004). High-level self-efficacy belief positively impacts the individual's later behaviors. An important factor for individuals to affect motivation and behaviors is the increase in individuals' confidence about their own capacity (Tschannen-Moran et al., 1998).

According to Schunk (1990), self-efficacy belief is the most important predictor of human behaviors. When individuals believe that they have the skills and the power of control to complete a task, they will be more eager to prefer this task, voice their decision, and exhibit the required behaviors (Gibson and Dembo, 1984; Sharp, 2002). Zimmerman (2000) states that self-efficacy belief is responsive to subtle changes in the context of students' performance; to interaction with personally-regulated learning methods; and to paving way to students' academic achievement. In other words, changes in performance affect learning methods,

academic achievement, and self-efficacy belief.

Individuals with high levels of self-efficacy may be more comfortable and efficient when facing tasks with high-level difficulties. On the other hand, individuals with low levels of self-efficacy believe that the tasks to be completed were harder than they actually are. Such belief increases anxiety and stress and limits the view that an individual requires in order to solve a problem. Therefore, self-efficacy belief strongly impacts individuals' achievement levels (Pajares, 2002).

A review of literature reveals some case studies that investigated the relationship between the self-efficacy perception and the demographic variables such as gender, grade level, and age (Wilson et al., 2007; Marlino and Wilson, 2003; Torkzadeh and Dyke, 2002).

It is observed in the literature that research on the effect of self-efficacy and anxiety on students' performance includes studies on general self-efficacy and anxiety (Muris, 2002; Wang and Liu, 2000; Haycock et al., 1998), the issues in the mathematics education (Bursal and Paznokas, 2006; Ertekin et al., 2009; Swars et al., 2006) and in the computer education (Sam et al., 2005; Mueller et al. 2008; Durndell and Haag, 2002), and the test anxiety and self-efficacy (Pajares and Schunk, 2001).

## Purpose

When the related literature is reviewed, it is observed that there are not enough studies on anxiety towards biology and biology self-efficacy. Thus, the current research aims to investigate high school students' levels of anxiety and self-efficacy beliefs towards biology. The following questions were put forward for the purposes of the current study:

1. Do high school students' levels of anxiety towards biology significantly differ on gender, grade level, biology achievement grade, interest in biology, teachers' interest in students, students' past negative experiences with biology, and teachers' approaches in the classes?
2. Do high school students' self-efficacy percepts significantly differ on gender, grade level, biology achievement grade, interest in biology, teachers' interest in students, students' past negative experiences with biology, and teachers' approaches in the classes?
3. Is there a significant relationship between students' biology anxiety and their percepts of self-efficacy?

## METHODS

### Research model

The current study was designed as the survey model. Survey models are appropriate for studies aiming to describe a past or present case as it was or is (Karasar, 1999).

**Table 1.** Descriptive information of the sample.

Variable	Frequency (f)	Percentage (%)
Gender		
Female	86	54
Male	74	46
Grade level		
9	52	33
10	48	30
11	60	37
Past negative experience with biology		
Yes	95	59
No	64	41
Teacher's approach		
Appreciating	74	46
Disorderly	20	13
Authoritarian	47	29
Indifferent	19	12

### Sample

Purposeful sampling was used in the current research. This sampling method consists of a typical phenomenon from among many, associated with the research problem, in the population (Büyüköztürk, 2012). Therefore, four schools to represent the population were selected in Ankara. In the current research, the study group consisted of 160 students that attended four high schools in Ankara during 2013-2014 academic years. Demographic information on students is presented in Table 1.

A review of Table 1 reveals that 54% of the students participating were females; 46% were males; 33% of the students participating were in 9<sup>th</sup> grade; 30% in 10<sup>th</sup>; and 37% were in 11<sup>th</sup> grade; 59% had a past negative experience with biology; 41% did not have such experience; 46% had an appreciating biology teacher; 13% had a disorderly teacher; 29% had an authoritarian teacher; and 12% had an indifferent teacher.

### Data collection tools

Personal information form, Biology Anxiety Scale, and Biology Self-Efficacy Percept Scale were used as data collection tools in the current research.

Personal data form was prepared in order to reveal demographic information on the participant students. The form included sections such as gender, grade level, biology achievement grade, interest in biology, teachers' interest in students, students' negative experiences of biology such as failures or students unable to respond to teacher's questions in the class, and teachers' approaches in the classes.

In the process of creating the Biology Anxiety Scale, first of all, the related literature was reviewed (Aydın, 2013; Petridou and Williams, 2007; Duman, 2008; Selkirt, Bouchey and Eccles, 2011) and an item pool was formed by selecting items thought to be relevant. Later, a group of 30 students were asked open-ended questions. Student responses were content-analyzed and the items picked were included in the item pool. Draft Biology Anxiety Scale was created by selecting items from the pool, with an expert. Draft scale included 25 items. The draft scale was analyzed in terms of validity and reliability upon administration with study group. The scale was finalized after validity and reliability analyses.

Biology Anxiety Scale with single factor consisted of 14 items. It is a 5-point Likert scale with options such as *Strongly Disagree*, *Disagree*, *Neutral*, *Agree*, and *Strongly Agree*. The scale had a KMO value of .80;  $p < 0.00$  and Cronbach's alpha was found to be .86.

In the process of creating the Biology Self-Efficacy Scale, first of all, the related literature was reviewed (Köksal and Taşdelen, 2008; Ekici, 2008; Akkoyunlu and Kurbanoglu, 2003; Bıkmaz, 2004; Yılmaz et al., 2006) and an item pool was formed by selecting items thought to be relevant. Later, a group of 30 students were asked open-ended questions. Draft Biology Self-Efficacy Scale was created by selecting items from the pool, with an expert. The created draft scale included 26 items. The draft scale was analyzed in terms of validity and reliability upon administration with study group. The scale was finalized after validity and reliability analyses.

Biology Self-Efficacy Percept Scale with single factor consisted of 13 items. It is a 5-point Likert scale with options such as *Strongly Disagree*, *Disagree*, *Neutral*, *Agree*, and *Strongly Agree*. The scale had a KMO value of .91;  $p < 0.00$  and Cronbach's alpha was found to be .93.

When data obtained through Biology Anxiety Scale was examined, each item was assigned points from 1 to 5. The lowest possible score on the scale was 14 and the highest possible score was 70. Scores examined show that anxiety level increases from 14 to 70.

When data obtained through Biology Self-Efficacy Percept Scale was examined, each item was assigned points from 1 to 5. The lowest possible score on the scale was 13 and the highest possible score was 65. Scores examined show that anxiety level increases from 13 to 65.

### Data analysis

Data obtained in the research were analyzed through SPSS 20 software. For anxiety and self-efficacy scores, t test was used in order to find differences on negative experience associated with biology; ANOVA test was used in order to find differences on grade level, level of interest in biology, and level of biology knowledge; and Pearson correlation was used in order to define the relationship between anxiety and self-efficacy scores.

**Table 2.** Information on high school students' biology anxiety and self-efficacy scores.

	N	Minimum	Maximum	$\bar{x}$	SS
Anxiety	160	14,00	55,00	25,31	9,08
Self-Efficacy	160	13,00	65,00	44,46	11,16

**Table 3.** Anxiety and self-efficacy scores t test results.

			N	$\bar{x}$	SS	df	t	p
Self-efficacy	Gender	Female	86	47,81	9,85	158	2,753	0,02*
		Male	74	41,82	10,20			
Anxiety	Past experiences	Yes	95	27,50	8,99	157	3,674	0,00*
		No	64	20,85	7,63			
Self efficacy	Past experiences	Yes	95	42,36	11,78	157	2,939	0,00*
		No	64	49,00	8,03			

## FINDINGS

This section presents the findings obtained from students' responses. Table 2 indicates that high school students' average anxiety score was  $\bar{x}=25.31$ . This finding shows that students' anxiety towards biology was low-level. Students' self-efficacy average score was  $\bar{x}=44.46$ . This finding indicates that high school students' self-efficacy percept was between mid and high levels.

A review of Table 3 shows female students' average self-efficacy scores as  $\bar{x}=47.81$  and male students' average scores as  $\bar{x}=41.82$ . T test scores indicate that female students' self-efficacy beliefs toward biology significantly differ from those of male students ( $t(160)=2.753$ ;  $p<0.05$ ). Anxiety towards biology score of those with negative past experiences with biology was  $\bar{x}=27.50$  and that of those with no negative past experiences with biology was  $\bar{x}=20.85$ . A review of t test results indicate that anxiety towards biology of students with negative past experiences with biology significantly differs from that of students with no negative past experiences ( $t(157)=3.674$ ;  $p<0.05$ ). Average self-efficacy scores of students with negative past experiences with biology was  $\bar{x}=42.86$  and that of students with no negative past experiences with biology  $\bar{x}=49.00$ . T test results show that self-efficacy scores of students with no negative past experiences with biology was significantly higher than that of students with negative past experiences with biology ( $t(157)=2.934$ ;  $p<0.05$ ).

In Table 4, high school students' biology self-efficacy percepts significantly differed on grade level ( $F_{(2-157)}=4,166$ ;  $p<0,05$ ). Scheffe results indicate that the difference between self-efficacy scores was in favor of 9<sup>th</sup> and 11<sup>th</sup> grades. And their scores of self-efficacy percepts

significantly differed ( $F_{(3-156)}=6,381$ ;  $p<0,05$ ). Scheffe results showed that the difference in self-efficacy scores was between students with low biology achievement and students with high and very high biology achievement. Table 4 shows that high school students' biology anxiety and biology self-efficacy scores significantly differed on the interest in biology ( $F_{\text{anxiety}(4-155)}=4,846$ ;  $p<0,05$ ;  $F_{\text{self-efficacy}(4-155)}=4,945$ ;  $p<0,05$ ). According to Scheffe results, the difference in anxiety scores is found between students with low interest in biology and students with mid, high, and very-high level interest in biology. Their biology self-efficacy percepts significantly differed on teachers' approaches in class ( $F_{(3-156)}=4,580$ ;  $p<0,05$ ). According to Scheffe results, the difference in self-efficacy scores was in favor of students with teachers having appreciating approaches between students with teachers having appreciating approaches and students with teachers having disorderly approaches.

A review of Table 5 shows that there was a mid-level negative relationship between students' anxiety scores and self-efficacy scores ( $r=-0,335$ ;  $p<0.05$ ). In other words, it may be said that as students' anxiety levels increase their biology self-efficacy percepts will decrease.

## DISCUSSION

The results of the current research showed that high school students' biology anxiety levels were low and their biology self-efficacy percept levels were between mid and high levels.

It was found that, grade level significantly predicted the biology self-efficacy. Pajares (2002) pointed out that self-efficacy percept differed on grade level. However, Kahyaoglu and Yangin (2007) defined that high school

**Table 4.** Anxiety and self-efficacy scores ANOVA results.

Score	Group		Sum of squares	df	Mean square	F	p	Scheffe
Self-efficacy	Grade	Between Groups	965,801	2	482,901	4,116	,019*	9-11
		Within Groups	11379,039	157	117,310			
		Total	12344,840	159				
Self efficacy	Achievement	Between Groups	1953,527	3	651,176	6,381	,01	Low-high, Low -very high
		Within Groups	8572,791	156	102,057			
		Total	10526,318	159				
Anxiety	Interest	Between Groups	1351,773	4	337,943	4,846	,001*	Very low-mid Very low- high Very low-very high
		Within Groups	6346,185	155	69,738			
		Total	7697,958	159				
Self efficacy	Interest	Between Groups	4673,568	4	1168,392	4,945	,000*	Very low-Very high
		Within Groups	7256,390	155	79,741			
		Total	11929,958	159				
Self efficacy	Teachers' approach	Between Groups	1525,352	3	508,451	4,580	,005*	Disorderly- appreciating
		Within Groups	10324,833	156	111,020			
		Total	11850,186	159				

**Table 5.** Pearson correlation results of high school students' biology anxiety and self-efficacy.

		Anxiety	Self-efficacy
Anxiety	r	1	-,355**
	p		,000*
	N	160	100
Self-efficacy	r	-,355**	1
	p	,000*	
	N	160	100

\*p&lt;0.05.

students' self-efficacy did not differ on grade level. Biology self-efficacy results indicate that biology self-efficacy percept significantly differed on gender and female students had higher biology self-efficacy percepts than male students had. This result is in parallel with Wilson et al. (2007) and Marlino and Wilson's (2003) research results. However, Yaman et al. (2003) showed in their research that grade level was not significant in determining self-efficacy.

It was found that students' biology anxiety levels significantly differed on their interest in biology. Biology anxiety levels of students with low interest in biology were significantly higher than those of students with higher levels of interest in biology. It was observed that students who liked biology as a subject had less biology anxiety. This result shows that interest in biology is an important predictor of biology anxiety. Zanakis and Valenzi (2010)

stated in their study that participants with interest in statistics had low statistics anxiety. When the self-efficacy percepts are examined, it is observed that students' self-efficacy percepts significantly differed on interest in biology and students with higher interest in biology had higher levels of self-efficacy percepts than students with lower interest in biology. Torkzade and Van Dyke (2002) in their research defined a positive relationship between computer attitude and self-efficacy. These results show that students' interest in biology is among important factors that impact their biology anxiety and self-efficacy percepts.

Experience with a subject is among the elements affecting students' performance in that subject. Significant differences in biology anxiety and self-efficacy percepts of students, who had negative experience with biology in the past, were pointed out. It was found that biology anxiety in students with past negative experience with biology was higher than that in students without a past negative experience. Bekdemir (2010) found in his/her research that the unfavorable experiences in the class increased students' mathematics anxiety. In addition, students with negative experiences with biology had lower levels of self-efficacy than students without those. Bandura (1986) stated that one basic source of self-efficacy beliefs was experience. It may be said, in other words, that past negative experiences increased students' anxiety and decreased their self-efficacy in a subject. Brinkerhoff (2006) in a study found that experience was a significant predictor of self-efficacy.

Biology self-efficacy of students with higher biology knowledge levels was found to be higher than that of students with lower biology knowledge levels. Based on this, it may be said that knowledge level is a significant

variable in determining students' self-efficacies. Tenaw (2013) in a study defined a mid-level relationship between self-efficacy and achievement scores. However, Valentine et al. (2004) emphasized that the relationship between self-efficacy and achievement cannot be generalized to every country.

The results associated with self-efficacy showed that students' self-efficacy significantly differed on teachers' approaches in class. It was found that self-efficacy percepts by students with appreciating-approach teachers were higher than those in students with disorderly-approach teachers. This result indicates that teachers' approaches towards students in class had an important role in students' formation of self-efficacy percepts. Studies conducted emphasize that self-efficacy is associated with teachers' approaches and skills used in class management (Ekici 2008; Henson, 2001; Savran and Çakıroğlu, 2001).

A mid-level, negative relationship was found between high school students' biology anxiety and self-efficacy percepts. This result may indicate that increasing levels of biology anxiety in students will decrease their self-efficacy percepts. Fagan et al. (2003) found a negative relationship between students' computer self-efficacy and their anxiety. Yıldırım (2011) in a study found that increase in students' anxieties reduced their self-efficacy beliefs.

## CONCLUSION and RECOMMENDATIONS

In conclusion, biology anxiety and self-efficacy percepts are among significant factors impacting students' biology performance. The current study found that interest in biology and past negative experiences with biology were significant predictors of students' biology anxiety and gender, grade level, interest in biology, past negative experiences, and teachers' approaches in class were significant predictors of students' biology self-efficacy percepts.

The following suggestions are put forward in consistence with the study results:

Considering that students with higher interest levels in biology have lower biology anxiety levels, teachers must conduct activities to raise students' interest in biology.

One of the results obtained in the current research is that anxiety levels of students with past negative experiences with biology were higher and their self-efficacy percepts were low. Therefore, learning environments must be organized to motivate students for achievement.

The negative relationship between biology anxiety and self-efficacy requires activities to eliminate the anxiety in students.

Considering the teachers' approaches in class significantly impacting students' self-efficacy percepts, teachers must have encouraging approaches in class.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

## Exploring the different trajectories of analytical thinking ability factors: An application of the second-order growth curve factor model

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**The purposes of this study were 1) Compare analytical thinking ability by testing the same sets of students 5 times 2) Develop and verify whether analytical thinking ability of students corresponds to second-order growth curve factors model. Samples were 1,093 eighth-grade students. The results revealed that 1) Analytical thinking ability scores of 5 tests are significantly different at .01 level and the means score rises consecutively 2) Second-order growth curve factors model of analytical thinking ability for the analysis of elements and analysis of organizational principles corresponds to piecewise growth model while the analysis of relationship corresponds to linear growth model, and that second-order growth curve factors model of analytical thinking ability is in accord with empirical evidence.**

**Key words:** Second-order growth curve factors, growth curve, MANOVA, longitudinal studies, development, analytical thinking.

### INTRODUCTION

Analytical thinking is an essential skill in developing a country's youths to have a capability and potential to compete internationally. Several researchers have studied and shown that analytical thinking is correlated positively with academic success including Greene et al. (2004), Zhang (2005), Grootsohn et al. (2008), Dunn et al. (2009) and Kuhn and Holling (2009). In a study of giftedness (Sternberg, 1997), analytical thinking skill together with

synthesis skill and problem solving skill are three essential attributes. Analytical thinking also forms part of a higher-ordered complicated thinking which is essential in an individual's learning and living. If such individual has an analytical mind, he/she can evaluate, plan and decide what is the best option and direction for the future (Munkham, 2008).

Results of national compulsory education assessments

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of Thai students found that students' analytical thinking needed improvement (Office for National Education Standards and Quality Assessment, 2010), which was in line with the result of PISA (Program for International Student Assessment Thailand, 2013) that Thai students were categorized in the low achievement group in mathematics, science and reading when compared with other countries in the OECD (Organization for Economic Co-operation and Development). These results show that Thailand's education management was below standard, which prompts several education researchers to seriously study how to effectively educate students to think analytically.

Perusing educational research publications in developing analytical thinking, the researchers discovered that there were three types: the first type (about 45%) concentrated on developing education innovation or teaching methods (Yen and Chen, 2004; Kongros, 2007), trying to find effective and efficient tools. The second type (about 5%) stressed development of teachers (Drysdale, 2001) while the third type (about 50%) tried to find factors affecting analytical thinking (Athman, 2003; Wu, 2008). All three types (about 95%) studied at a fixed evaluation period, which was contrary to the recommendation of Ma and Ma (2004) who advocated longitudinal study which could provide essential data that indicated more accurate trend than one-time observation. Furthermore, education process must undergo continuous development and that educators must periodically observe changes and adapt to cope if there are problems in hindering students' analytical thinking ability development (Damrongpanit, 2009).

The analytical thinking ability is innate, cannot be directly observed due to its abstract nature. Therefore, to measure analytical thinking ability it must be measured indirectly by observing innate ability that corresponds to observable/measurable behaviors (Kanjawasee, 2009). Bloom's analytical thinking measurement comprises three aspects 1) analysis of elements, 2) analysis of relationship, and 3) analysis of organizational principles (Bloom, 1981). To study the shape and growth rate of analytical thinking ability, it is appropriate to employ the second-order latent growth curve model (Hancock et al., 2001; Day and Lance, 2004; Hong and Ho, 2005; Sayer and Cumsille, 2006; Grimm et al., 2009), which applied second-order factor model and latent growth curve model to explain unusual measurement errors of these indicators whereby measurement variables would be culled at the first level while the growth model was jointly composed by variables at the second level. This helped to identify the studied variables and their growth and can explain measurement errors (Hancock et al., 2001). But the weak point was the failure to identify shape and growth rate of observable factors.

Therefore, it was deemed suitable to switch growth model of observable factors to be raised to level 1 while initial and slope of factors to be culled at level 2 (Shelton, Saengprom et al. 995

2010). This method was called second-order growth curve factors model, which included examining data distribution of observable factors under the principle that long-term growth score of each individual varied from each other. The present research studied three aspects 1) linear growth model 2) quadratic growth model and 3) piecewise growth model (Akihito, 2012). This method should point out the change shape and growth rate of each observable variable, which would yield relevant specific variables to be used to determine development policy and to deploy education resources effectively.

The researchers, thus, were interested in studying the shape and growth rate of students' analytical thinking ability by analyzing second-order growth curve factors model in order to obtain accurate, relevant, specific facts and information that benefit parties concerned with developing students' analytical thinking ability. This research also aims to expand knowledge in analyzing second-order growth curve factors model.

## Objective

The two research objectives were 1) Compare analytical thinking ability by testing the same sets of students 5 times, and 2) Develop and verify whether analytical thinking ability of students corresponds to second-order growth curve factors model.

## Research hypothesis

Based on the literature review, the analytical thinking ability was innate and could not be directly measured. This study measured analytical thinking ability in line with Bloom's 3 observable aspects 1) analysis of elements, 2) analysis of relationship, and 3) analysis of organizational principles. Analysis of elements is the ability to indicate or categorize elements of communication, distinguishing what is essential, necessary or play the largest role. Analysis of relationship is the ability to distinguish in details how communication elements relate, decide relationship and what relationship that affects each other by finding what are related, how are they related and the degree of relationship, corresponding or opposing by linking causes and consequences. Analysis of organizational principles is the ability to realize and see organizational principle behind elements that are combined to communicate the total picture by finding related rules and principles that differentiate situations or prescribed objects. Therefore, it was hypothesized that 1)

Analytical thinking ability scores of analysis of elements, analysis of relationship and analysis of organizational principles differ in all 5 tests, 2) Second-order growth curve factors model of analysis of elements, analysis of relationship, and analysis of organizational principles is backed by empirical evidence with difference in shape and growth rate.

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## LITERATURE REVIEWS

### Second-order growth curve factors

Second-order growth curve factors model was developed from second-order factors model and latent growth curve model to explain the measurement errors of indicators by filtering variable factors at level 1 while the growth model is determined by elements at level 2, which reflect the growth of studied factors and can explain measurement errors (Hancock et al., 2001). However, the weakness was ignoring the shape and growth rate of observable factors. Therefore, it was deemed necessary to apply second-order growth curve model which had latent variables by switching growth model of observable factors to level 1 while initial and slope of factors were filtered at level 2 (Shelton, 2010). This included examining data distribution of observable variables under the principle that long-term growth scores (at least 5 tests) of individuals varied from each other (Akihito, 2012). Such analysis is called second-order growth curve factors model, which could enhance knowledge on specific factors.

### Growth curve

The early growth measurement was based on traditional prior and after-learning tests to get observed difference score. This method was easy and popular and the obtained scores were unbiased (Raykov, 1993). However, the weakness of this method was the way-ward scores of prior and after tests were not related. Several researchers tried to overcome this weakness by conducting at least 3 tests applying Structural Equation Model (SEM) to measure progress (Hancock et al., 2001; Day and Lance, 2004; Hong and Ho, 2005). The most used and popular model was Latent Growth Curve Model (LGCM) due to its several strong points including the ability to estimate parameter values even with incomplete samples, the ability to obtain progress scores when testing was done at different time or how often, including wayward scores as parameters to obtain progress scores, and there was ample data/information to determine whether the progress was linear or curved (McArdle and Hamagami, 1995). It could be said the more tests were conducted, the more accurate growth

score of each student, reflecting overall growth test accuracy (Willett, 1994).

### Analytical thinking

Analytical thinking is the ability to distinguish, categorize elements out of events/things to see what are important,

how the elements are related, what is cause/effect, and what is the underlying reason. Analytical thinking is higher-ordered complicated thinking (Munkham, 2008) and constitutes one of the three attributes of giftedness (Sternberg, 1997), comprising analytical thinking skill, synthesis skill, and problem solving skill, which are essential for learning and conducting daily business/life of each individual because if such individual can think analytically, he/she can estimate, plan, decide and forecast what is likely in the future (Charoenwongsak, 2003). Bloom (1981) explained that analytical thinking comprised three aspects 1) analysis of elements, 2) analysis of relationship, and 3) analysis of organizational principles.

Analysis of elements is the ability to specify and categorize elements of communication. Illustrative educational objectives as 1) the ability to recognize unstated assumptions, 2) skill in distinguishing facts from hypotheses, 3) the ability to distinguish factual from normative statements, 4) skill in identifying motives and in discriminating between mechanisms of behavior with reference to individuals and groups, and 5) ability to distinguish a conclusion from statements which support it.

Analysis of relationship is the ability to distinguish in details how communication elements relate, decide relationship and what relationship that affects each other by finding what are related, how are they related and the degree of relationship, corresponding or opposing by linking causes and consequences. Illustrative educational objectives as 1) skill in comprehending the interrelationships among the ideas in a passage, 2) ability to recognize what particulars are relevant to the validation of a judgment, 3) ability to recognize which facts or assumptions are essential to a main thesis or to the argument in support of that thesis, 4) ability to check the consistency of hypotheses with given information and assumptions, 5) ability to distinguish cause-and-effect relationships from other sequential relationships, 6) ability to analyze the relations of statements in an argument, to distinguish relevant from irrelevant statements, 7) ability to detect logical fallacies in arguments, and 8) ability to recognize the causal relations and the important and unimportant details in an historical account.

Analysis of organizational principles is the ability to realize and see organizational principles behind elements that are combined to communicate the total picture by finding related rules and principles that differentiate

situations or prescribed objects. Illustrative educational objectives as 1) ability to analyze, in a particular work of art, the relation of materials and means of production to the "elements" and to the organization, 2) the ability to recognize form and pattern in literary or artistic works as a means of understanding their meaning, 3) the ability to infer the author's purpose, point of view, or traits of thought and feeling as exhibited in his work, 4) ability to

infer an author's concept of science, philosophy, history, or of his art as exemplified in his practice, 5) ability to see the techniques used in persuasive materials, such as advertising, propaganda, etc, and 6) ability to recognize the point of view or bias of a writer in an historical account.

## METHODOLOGY

### Participants

The data were collected from 1,093 eighth-grade students who enrolled in the academic year of 2013, in the north-east area of Thailand. The subjects were selected by multi-stage random sampling.

### Instruments

The analytical thinking ability test was of multiple choices with 4 alternatives. There were 2 parallel test versions, each with 30 items, designed to measure analytical thinking ability (Bloom, 1981) on 3 aspects 1) analysis of elements, 2) analysis of relationship, and 3) analysis of organizational principles, with 10 items for each aspect.

Out of the 150 eighth-grade students who enrolled in the academic year of 2013, in the north east area of Thailand, and the results (No.1, No.2) showed that the difficulty of items ( $p$ ) and the discrimination ( $r$ ) were ranged from 0.248-0.762, 0.267-0.772 and 0.783-0.815, 0.760-0.779 respectively, and the reliability (KR-20) was 0.801, 0.775.

### Data collection and analysis

Tests were carried out 5 times from 4 November 2013 to 28 March 2014 so that the obtained model would be flexible and be able to analyze growth with proper data distribution in accord with Tisak and Meredith (1990), McArdle and Hamagami (1995) and Wiratchai (1999). One-hour test followed the previous one after 5 weeks. Tests 1, 3 and 5 were used the first version while tests 2 and 4 were used the second version.

Scores were computed on 1) analysis of elements, 2) analysis of relationship, and 3) analysis of organizational principles with 10 maximum scores for each aspect. Missing data comprised 5.78% which were filled with phantom representatives using Mplus program version 6.12 (Muthén and Muthén, 2009).

To test the first hypothesis whether scores of analysis of elements, analysis of relationship, analysis of organizational principles were statistically significant in all 5 tests, repeated measures MANOVA was used. Testing the second hypothesis whether the result corresponded to second-order growth curve factors model of analytical thinking ability, and that analysis of

elements, relationship and organizational principle is in accord with empirical evidence with different shape and growth rate. To study the shape, the researchers analyzed variation within group and derived shape from the average scores whether they were in accord or not. If they were, they would be selected to analyze growth. If not, data were subjected to analysis to select the most appropriate to determine shape either by analyzing variation in group or considering average scores. This was done by looking at blending statistics whereby  $\chi^2/df$  is less, CFI > 0.90, TLI > 0.90, RMSEA < 0.079, and SRMR < 0.079 (Wiratchai, 1999). Studying  
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growth rate of analytical thinking ability, the researchers employed second-order growth curve factors model using Mplus program version 6.12.

## FINDINGS

The results are as follows:

1) Analytical thinking ability scores of 5 tests using repeated measures MANOVA revealed centroid point of analysis of elements ( $F = 1568.381$ ,  $p = 0.000$ ), analysis of relationship ( $F = 1051.732$ ,  $p = 0.000$ ), and analysis of organizational principles ( $F = 2101.229$ ,  $p = 0.000$ ) are significantly different at .01 level. Measuring using Bonferroni's method revealed that means scores of every pair of analysis of elements, analysis of relationship, and analysis of organizational principles are statistically significant at .01 level in all 5 tests. Means scores of analytical thinking ability scores of 5 tests rose consecutively (Table 1).

2) Testing development and conformance to second-order growth curve factors model of analytical thinking ability from the analysis of variation within group yielded scores of analysis of elements (Linear = 5605.734, Quadratic = 832.430,  $p = 0.000$ ), analysis of relationship (Linear = 4193.600, Quadratic = 38.968,  $p = 0.000$ ), and analysis of organizational principles (Linear = 7316.247, Quadratic = 129.280,  $p = 0.000$ ), showing linear growth. However, when considering shape of average scores of 5 tests, the scores of analysis of relationship ( $\bar{x}_1 = 4.11$ ,  $\bar{x}_2 = 5.26$ ,  $\bar{x}_3 = 6.19$ ,  $\bar{x}_4 = 7.10$ ,  $\bar{x}_5 = 7.86$ ) revealed data distribution as linear growth model in line with analysis of variation within group, while scores of analysis of elements ( $\bar{x}_1 = 4.29$ ,  $\bar{x}_2 = 6.02$ ,  $\bar{x}_3 = 7.38$ ,  $\bar{x}_4 = 8.06$ ,  $\bar{x}_5 = 8.44$ ) and analysis of organizational principles ( $\bar{x}_1 = 4.03$ ,  $\bar{x}_2 = 4.73$ ,  $\bar{x}_3 = 5.12$ ,  $\bar{x}_4 = 6.49$ ,  $\bar{x}_5 = 7.27$ ) showed data distribution as piecewise growth model, which was contrary to analysis of variation within group. To ascertain selecting suitable growth model, the researchers compared the growth model of variation within group and average scores to see which model yielded the most compatible index. It was found that scores of analysis of elements and analysis of organizational principles yielded higher compatible index when used with piecewise growth model than linear growth model (Table 2).

The study found that second-order growth curve factors model of analytical thinking ability was in accord with empirical evidence ( $\chi^2 = 438.140$ ,  $df = 59$ ,  $CFI = 0.978$ ,  $TLI = 0.961$ ,  $RMSEA = 0.077$ ,  $SRMR = 0.055$ ) with all parameters were statistically significant at .01 level.

Latent variables of analysis of elements had low initial value (2.754), had high growth rate during Week 1-10 (2.194), but declined during Week 11-20 (0.818). Latent variables of analysis of relationship had low initial value

**Table 1.** Results of repeated measurements of 5 tests of analysis of elements (AOE), analysis of relationship (AOR), and analysis of organizational principles (AOP).

Multivariate tests								
Effect		Value	F	Hypothesis	df	Error df	p-value	
AOE	Pillai's trace	0.852	1568.381	4		1089	0.000	
AOR	Pillai's trace	0.794	1051.732	4		1089	0.000	
AOP	Pillai's trace	0.885	2101.229	4		1089	0.000	

(I) time	(J) time	Mean Difference (I-J)			Std. Error			p-value
		AOE	AOR	AOP	AOE	AOR	AOP	
5	4	0.382	0.755	0.785	0.029	0.034	0.039	0.000
	3	1.061	1.673	2.158	0.042	0.049	0.035	0.000
	2	2.418	2.598	2.546	0.051	0.052	0.039	0.000
4	1	4.153	3.749	3.246	0.053	0.059	0.038	0.000
	3	0.679	0.919	1.373	0.035	0.036	0.041	0.000
	2	2.036	1.844	1.761	0.045	0.042	0.044	0.000
3	1	3.770	2.995	2.461	0.052	0.053	0.046	0.000
	2	1.357	0.925	0.388	0.037	0.036	0.033	0.000
2	1	3.091	2.076	1.088	0.049	0.052	0.039	0.000
	1	1.735	1.151	0.700	0.041	0.041	0.036	0.000

Pairwise Comparisons.

**Table 2.** Compatible index values of linear growth model and piecewise growth model.

Variable	Shape	$\chi^2$	df	$\chi^2/df$	p-value	CFI	TLI	RMSEA	SRMR
AOE	Linear	1752.240	10	175.224	0.000	0.696	0.696	0.399	0.235
	Piecewise	105.328	6	17.555	0.000	0.983	0.971	0.123	0.040
AOP	Linear	658.509	10	65.851	0.000	0.803	0.803	0.244	0.201
	Piecewise	179.097	6	29.850	0.000	0.947	0.912	0.162	0.055

(2.582), rose to the highest (2.457), and continued to rise continuously. Latent variables of analysis of organizational principles had high initial value (3.931), had low growth rate during Week 1-10 (1.652), but rose during Week 11-20 (2.483). Measured variables' scores in all 5 tests could explain latent variables very well. (Table 3, Figures 1 and 2).

= 438.140,  $df = 59$ ,  $CFI = 0.978$ ,  $TLI = 0.961$ ,  $RMSEA = 0.077$ ,  $SRMR = 0.055$

### Conclusion

Scores of analytical thinking ability of analysis of elements, analysis of relationship, and analysis of

organizational principles in all 5 tests are statistically significant at .01 level with average scores rising consecutively. This may be due to the fact that students have more time to accumulate knowledge and exercise their brains constantly (Khammanee, 2001). Human brain can be trained and developed. Humans distinguish from other animals with larger brain, usage, and thought-process training (Khammani et al., 2006), which is backed up by studies of brain growth (Compton, 2003), which shows what factors play important role in analytical thinking ability growth.

Second-order growth curve factors model of analytical thinking ability is in accord with empirical evidence ( $\chi^2 = 438.140$ ,  $df = 59$ ,  $CFI = 0.978$ ,  $TLI = 0.961$ ,  $RMSEA =$

0.077, SRMR = 0.055). Analytical thinking ability of analysis of elements, analysis of relationship, and analysis of organizational principles exhibit different shape and growth rate. Analysis of elements and analysis of organizational principles correspond to piecewise growth model while analysis of relationship corresponds to linear growth model. This may be due to the flexibility of conducting 5 tests, which makes it possible to analyze what is the most appropriate model for the data

distribution (Tisak and Meredith, 1990; McArdle and Hamagami, 1995; Wiratchai, 1999), enabling the possibility of more than one growth curve model (Akihito, 2012). Data analysis of analytical thinking ability growth shows that all parameters are statistically significant at 0.1 level. The average latent variables have low initial value, growth rate rising during Week 1-10, declining during Week 11-20, and measured variables in all 5 tests

**Table 3.** Results of second-order growth curve factors model of analytical thinking ability.

Latent Variable	$\bar{x}$	SE	Z-test	Observed Variable	Initial		Slope1		Slope2		$r^2$				
					b	$\beta$	b	$\beta$	b	$\beta$					
IAOE	2.754	0.080	34.588**	AOE1	1	0.950	0	-	0	-	0.902				
				AOE2	1	0.763	1	0.351	0	-	0.769				
				SAOE1	2.194	0.090	24.506**	AOE3	1	0.682	2	0.628	0	-	0.961
				SAOE2	0.818	0.041	20.109**	AOE4	1	0.725	2	0.667	0.5	0.292	0.850
							AOE5	1	0.796	2	0.733	1	0.641	0.947	
IAOR	2.582	0.070	36.681**	AOR1	1	0.970	0	-	-	-	-	0.940			
				AOR2	1	0.739	1	0.173	-	-	-	0.658			
				SAOR1	2.457	0.104	23.556**	AOR3	1	0.630	2	0.295	-	-	0.601
							AOR4	1	0.625	3	0.440	-	-	0.758	
							AOR5	1	0.612	4	0.572	-	-	0.926	
IAOP	3.931	0.128	30.675**	AOP1	1	0.789	0	-	0	-	-	0.622			
				AOP2	1	0.678	0.5	0.231	0	-	0.616				
				SAOP1	1.652	0.102	16.186**	AOP3	1	0.635	1	0.434	0	-	0.774
				SAOP2	2.483	0.122	20.311**	AOP4	1	0.622	1	0.425	1	0.252	0.523
							AOP5	1	0.877	1	0.599	2	0.711	0.854	

Endogenous Latent Variable	Exogenous Latent Variable	b	$\beta$	SE	Z-test	$r^2$
IATA	IAOE	1.000	0.777	0.023	33.744**	0.604
	IAOR	0.573	0.435	0.040	10.816**	0.396
	IAOP	0.713	0.836	0.020	42.450**	0.698
SATA1	SAOE1	1.000	0.667	0.032	20.549**	0.445
	SAOR	0.709	0.908	0.037	24.312**	0.824
	SAOP1	0.728	0.493	0.053	9.353**	0.244
SATA2	SAOE2	1.000	0.402	0.038	10.471**	0.162
	SAOP2	0.694	0.836	0.047	17.840**	0.699

$\chi^2 = 438.140$ ,  $df = 59$ ,  $CFI = 0.978$ ,  $TLI = 0.961$ ,  $RMSEA = 0.077$ ,  $SRMR = 0.055$ . Note: \*\*p-value<0.01.

can explain latent variable very well. This may be due to the fact that all humans have different thinking abilities and attributes that contribute to such difference (Munkham, 2008). Human's analytical thinking ability is innate, abstract and directly unobservable. To measure, it must be done indirectly using hypotheses and measuring theory (Kanjanawasee, 2009). Bloom (1981) proposed measuring analytical thinking ability in 3 aspects 1) analysis of elements, 2) analysis of relationship, and 3) analysis of organizational principles, pointing out that analysis of elements comes first because if one can

analyze elements, one can analyze their relationship, which tells what element relating to what, and how they are related. Analysis of organizational principles comes last because it is the ability to realize and see what behind the structural order when elements are combined to form a total picture, trying to find the principle behind the relationship and the difference in the event or prescribed object (Bloom, 1981; Banks, 1985; Michaelis, 1992; Khammani et al., 2006). Therefore, the study of shape and growth rate of analytical thinking ability is well served by second-order growth curve factors model due

to its outstanding attributes in showing the shape and growth rate of observable variables (Shelton, 2010).

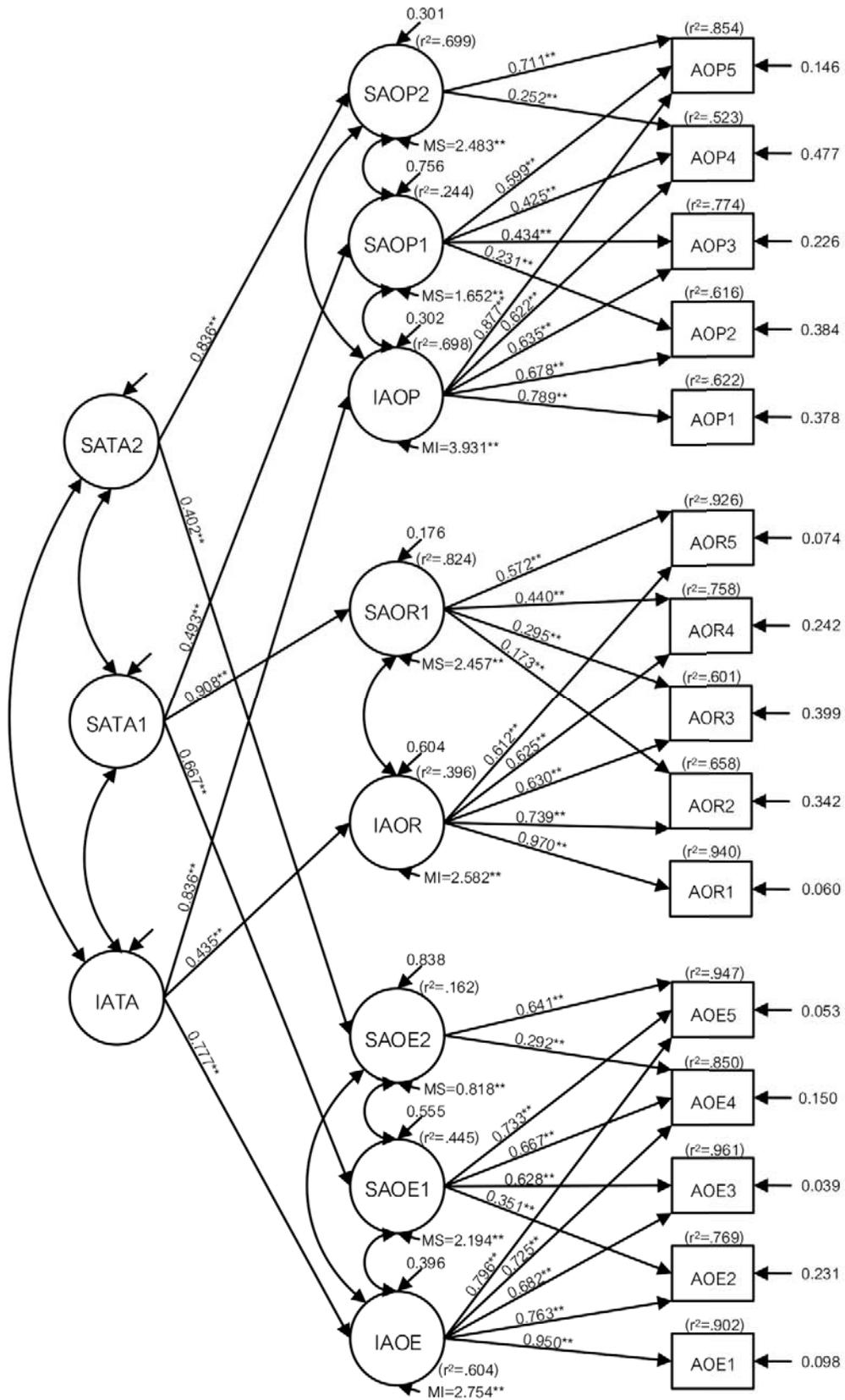
## **RECOMMENDATIONS**

Teachers or education administrators should organize learning activities during Week 1-10 that emphasize analysis of organizational principles while during Week 11-20 more emphasis should be placed on analysis of elements in order to properly develop students' analytical thinking ability.

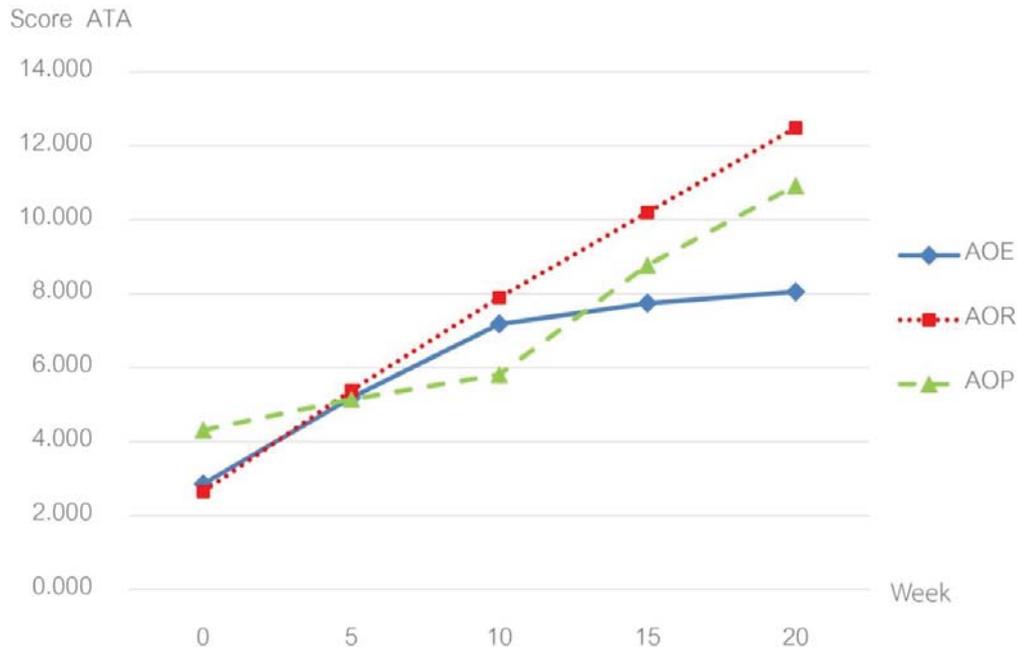
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Since long-term education learning activities with at least 5 tests show a variety of changes (Akihito, 2012), it is advisable to study nature of growth before undertaking data analysis so as to obtain appropriate and accurate results.

The researchers observe that in analyzing variation within group, if linear/quadratic  $< 60$ , it is advisable to inspect shape of the growth from average value, and then analyze to compare the more compatible index in determining the growth shape from within group variation



**Figure 1.** Second-order growth curve factors model of analytical thinking ability. Note: 1) \*\*p-value<0.01, 2) Parameters in the model show standard values.



**Figure 2.** Analytical thinking ability growth in analysis of elements, analysis of relationship, and analysis of organizational principles.

analysis or from average value.

This research on second-order growth curve factors model of analytical thinking ability still lacks several variables mentioned in the theory including learning attitude, self-concept, learning styles and motivation. Nor does it include teacher-related variables such as classroom and school climate, teaching and school styles. If future research includes more of such variables, the obtained data will be more robust, relevant and effective.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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= 438.140, df = 59, CFI = 0.978, TLI = 0.961, RMSEA = 0.077, SRMR = 0.055

*Full Length Research Paper*

# Impact of terrorism on managerial efficiency of heads of secondary schools in Khyber Pakhtunkhwa, Pakistan

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**Terrorism has adversely affected the educational environment in Khyber Pakhtoon Khwa Province. This study was conducted to know the impact of Terrorism on managerial efficiency of heads of secondary schools in Khyber Pakhtoon Khwa that included Malakand, Mangawara, Dir, Hangu, Bannu and D I Khan which are the highly affected areas of terrorism. Sample of the study comprised 120 Heads of Secondary schools, 60 males and 60 females. A five point scale was designed for data collection. The study concluded that Terrorism has badly affected the managerial efficiency of secondary school heads. The morale of the school Heads is low. Government has to immediately devise a strategy to control the terrorism and the school heads are to be given administrative and managerial training to improve their managerial efficiency.**

**Key words:** Impact, terrorism, managerial efficiency, head, secondary schools.

## INTRODUCTION

Terrorism is an act of violence used by the individual group and state to achieve some political goals. The incident of World Trade Centre brought drastic changes in the world political scenario. Since Sept 11, 2001, the Geo Strategic Policies of the Asian countries have been facing ups and down. Resultantly, priorities and interests of the world community have changed. Foreign policies, defense strategies and economic relationship were made according to the world existing situation. Terrorism spread at various parts of Pakistan in general and at Khyber Pakhtoonkhwa Province (KPK) in particular. KPK has borders with tribal areas which links Pakistan with Afghanistan. Presentably, in Afghanistan, the NATO forces are fighting against Taliban and war has been extended up to the tribal areas of Pakistan.

Educational Management plays a key role in the education system of any country. Monroe (2012) considers educational management as a comprehensive effort dealing with the educational process. It deals with educational institutions and is concerned with human, material resources like: students, parents, teachers and other employees. Educational managers work as District Education Officers, Principals and Heads of the schools. The students' achievement always depends upon the effective and efficient performance of the school managers. They show their performance and efficiency when they are capable of fulfilling managerial responsibilities and when they are provided with ideal working environment. In Khyber PakhtunKhwa, the war on Terror has adversely affected the infrastructure of all

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the organizations in general and of education in particular.

### Impact

A marked effect or influence to have a strong and often bad effect on someone or something is called impact. Impact is defined as striking of one thing against another. Afghan war and Taliban factor has greatly affected the social, economic and law and order situation at Khyber Pakhtunkhwa Province.

### Head

In secondary schools, principals, head masters and head mistresses are also called heads of secondary schools. Head, within the school, is a person responsible for education of students, planning and organizing the activities for the school and involves the community in the affairs of the school. Louis and Wahirstrom (2011) argued that heads have collective responsibility for student learning, help students in their academic achievements and express higher levels of professional satisfaction. Louis (2011) further added that heads improve students' achievement, their professional practice and at the same time they promote shared leadership. Govinda (2002) stated that heads are accountable for school educational programs, student support, school councils, parents and community involvement and organization of the school activities. School Head act as a leader, controller, administrator and manager of the school. Alvi (2005) has supported this statement that head is a person who interacts with staff in five leadership domains i.e. Human relations, instructional leadership, control, conflict resolution and decision making. School heads act as instructional leaders. They guide their teachers in class room activities which directly affects students' learning. Elmore (2004), Haline (2009 and Fullan, 2010) stated that when members of a team make the results from their common assessments, transparent, analyze those results collectively and discuss which strategy seem most effective, based on actual evidence of students' learning, they are using most powerful catalysts for improving instruction. A school head controls, organizes, manages the activities of the school and guides the teachers in instructional activities. He manages the accounts and financial matters, maintains liaison with the community for achieving the desired objectives of the school.

Reddy (2006) visualized that head of secondary school is in a position to affect attitude, social climate, morale, progress, cooperation and direction of efforts in the school. School head is responsible for all the activities of the school. School performance and effectiveness in achieving the educational out comes always depends upon the effectiveness and efficiency of the school head.

Branch et al. (2013) argued that teachers affect only students while heads affect all the students and the staff in the school. They further elaborated that management of teacher quality is an important pathway through which school head affects the school quality.

### Terrorism

Terrorism is the systematic use of terror especially used to achieve some political games. It is a state of mind rather than activity. According to Hoffman (1998; Numberg, 2001; Martyn, 2002; Deen, 2005), terrorism is the unlawful use of force or violence by a person or an organized group against people or property with the intention of intimidation or coercion of societies or governments often for ideological or political reasons. Terrorism is as old as humans. It is willingness to use violence to affect politics. It is random violence against innocent people in order to intimidate them for political or other goals. Charles (2002) has defined terrorism as the calculated use or threat of violence to inculcate fear, intended to intimidate governments or societies. It is the result of extremism which results in different forms of manifestation of violence. Rana (2005) described terrorism as a kind of violence or threat designed to create an atmosphere of fear and a trigger of clue to start war and thereby bring about some political change. Michael (2007) further elaborated terrorism as an organized system of intimidation especially for political ends.

In 2003, the US led NATO forces entered Afghanistan to curb the wave of terrorism and revenge the destruction of World Trade Centre in United States of America. A new era of destruction and chaos started in the region. The Talibanization Movement expanded terrorism in the region. Irshad (2011) stated that the 9/11 terrorist attacks, subsequent US invasion in Afghanistan and joining the US led coalition, "War on Terror" by Pakistan changed the priorities of Jihadis. They turned their guns towards Pakistan. Pakistan became their strategic focal point as they regarded Pakistan as the main obstacle in their jihad against the occupation in Afghanistan. Abbas (2007) and Daraz (2008) argued that Taliban leadership disfavored Pakistan's support to United States. They embarked their journey to express their rage with the support of local people in different parts of the country especially in KPK.

The strategy of terrorists is to commit acts of violence that draws attention of the local population, government and world to their cause. Self Defense Training Homeless Security Terrorist Research Center (2003) described three perspectives of terrorism, the terrorist, the victims and the general public. Terrorists do not see themselves doing evil. They believe, they are legitimate combatants, fighting for what they believe in by whatever means possible. These terrorists have spread a wave of terror and fear among the various segments of the society. No

one can work freely as the common man and government officials are afraid of Taliban attacks.

### **Types of terrorism**

Terrorism and its various types have been defined by various writers in different ways and times. Amy (2010) has described different types of terrorism as State Terrorism, Bio Terrorism, Cyber Terrorism, Eco terrorism, Nuclear Terrorism and Narco terrorism.

#### **State terrorism**

States can use force or threat without declaring war to terrorize citizens and achieve some political goals.

#### **Bio-terrorism**

Bio-terrorism is the intentional release of toxic biological agents to harm and terrorize civilians in the name of a political or other cause. It includes the viruses, bacteria and toxins that could be used in an attack.

#### **Cyber terrorism**

The use of information technology to attack civilians and draw attention to their cause is called cyber terrorism. Computer and telecommunication systems are used as means of cyber terrorism.

#### **Eco-terrorism**

It is a kind of terrorism which describes violence in the interests of environmentalism.

#### **Nuclear terrorism**

It refers to different ways of using nuclear material as a terrorist tactics. It includes attacking nuclear facilities, purchasing nuclear weapons or finding ways to disperse radio-active material.

#### **Narco terrorism**

Violence used by the drug traffickers to influence government or prevent government efforts to stop drug trade. Terrorist groups use trafficking of drugs to fund their operations. This wave of terrorism has adversely affected the educational system in KPK province, especially in secondary education. School Heads cannot

perform their duties freely. Resultantly, the academic duties of secondary school cannot achieve the students' achievements effectively.

### **Secondary schools**

Secondary school is an institution where secondary education is imparted to the students from class VI to class X. Sadaf (2011) views secondary school as a school where students are prepared for obtaining Higher education or vocational training. The term secondary school is used in different areas and regions of the world. In Pakistan, at provinces of the Punjab, Sindh, Khyber Pakhtunkhwa, Baluchistan and Islam Abad capital territory, high schools impart secondary education from class VI to class X. These schools are controlled by Directorate of Secondary Education. Examination system of these schools is conducted by Boards of Intermediate and Secondary Education Peshawar, Mardan, Swat, Abbott Abad, Kohat, Bannu and DI Khan.

### **Managerial efficiency**

Management is an act, manner or practice of managing and controlling the resources of the organization to achieve the desired output. It is a social process which is designed to ensure the cooperation, participation, invention and involvement of others in the achievements of the desired objectives. Dovell (2006) states that management is the process of achieving organizational goals through planning, organizing, leading, controlling the human, physical and financial resources of the organization in effective and efficient manner. School heads act as managers of the school. School manager interacts with staff in five leadership domains like instructional leadership, control and conflict resolution. Chris et al. (2009) described that school head is a person with balanced roles. He manages and controls the activities of the school through communication, motivation and Human Resource Management. School head is the manager of the school and responsible for achieving the students' achievements. He does all these activities through his management functions within the school. Khan (2009) supports the above statement that communication, motivation and human resource management are the three main equipment which helps to regulate the activities of the school managers. Efficiency of the school heads play key role in successful working of the school. Efficiency means getting maximum output by using minimum available resources within the organization. Marica (2013) has defined efficiency as obtaining maximum possible output for any given expenditure of the resources. In secondary schools, the heads utilize the government funds and the services of the teachers and the staff to get students' achievements.

According to Mouer (2006), managerial efficiency is the full measure of the combined effects of management, Teaming and leadership skill on corporate productivity. In Managerial Efficiency, the concept efficiency is a numerical score achieved by multiplying the score achieved on managerial skills by the score achieved on leadership skill and teaming skill. Jennis and Geipele (2006, p.175) are of the view that managerial efficiency is a comparative valuation of the utilized resources with the result achieved by the manager with in the school. In this study the available and utilized resources like buildings, teachers and other facilities were examined and compared with the students' success rate.

### **Terrorism in Khyber Pakhtoon Khwa**

In 1979, the Russian forces entered Afghanistan. The world was divided in two blocks at that time i-e Capitalist and communist. USA and her allies reacted against USSR intervention in Afghanistan. They started war against USSR in Afghanistan and used Pakistan as front line state. The Province of KPK at that time NWFP directly touches the border with Afghanistan. Mujahdeen was created, trained and used to fight against Russian forces in Afghanistan. Headquarters of these Mujahedeen groups were at Peshawar. Thirty five lacs (3.5M) Afghan Refugees were given shelters at various places of KPK. Resultantly, the enemy agents started bomb blast at Peshawar and interior KPK. A huge quantity of Russian arms was smuggled. It led to a wave of terrorism, since that the overall infrastructure of KPK in general and of education in particular was destroyed.

In 2003, NATO forces entered Afghanistan and launched operations against Taliban. This war extended up to the Province of Khyber Pakhtoon Khwa. Since 2003, till the date about 3000 schools buildings have been destroyed fully or partially. A large number of principals, teachers and students have been killed. According to Alan (2005) Al Qaeda forces that fled from Afghanistan with their Taliban supporters remained active on Pakistan's territory. Al Qaeda is believed to have links with indigenous Pakistani terrorist groups. A significant portion of Pushtun population is reportedly having sympathies with Taliban and Al-Qaeda. According to CSR Report for Congress (2003), Al-Qaeda has reportedly made alliance within indigenous Pakistan terrorist groups that have been implicated in both anti – Western attacks in Pakistan and Khyber Pakhtoon Khwa Province. Various research studies have proved that terrorism is a criminal act that influences an audience beyond the immediate Igwe (2004) and Obanya (2006) have identified inadequate number of qualified teachers, irregular payment of teachers' salaries and dissatisfaction with the conditions of service as obstacle to Heads managerial efficiency in Public secondary schools. In addition to their salary and other problems, terrorism has

badly affected their professional performance and their managerial efficiency.

### **Impact of terrorism**

Terrorism has adversely affected the organizational structure of the secondary schools in KPK. According to Lunenburg and Ornstein (2008), the principals work with students, teachers, parents and other school staff to set up organization's structures and help to develop other people of school by delegating powers and very carefully monitoring the management functions in the school. Pakistan is a front line state in a war against terrorism and confronting severely terrorist attacks. These attacks have shaken the social fabric, hampered economic progress and weakened the political system. Michael (2007) elaborated that terrorism is a political phenomenon with special reference to Pakistan. Irshad (2011) described that terrorism is a great hurdle in our socio-economic prosperity, political stability and geographic sustainability. Bachar (2006) and Bhatto (2008) argued that inclination to use terrorism is thought to be reduced when the political process is open to the expression of diverse viewpoints. In Pakistan, the political system is not still mature. The politicians do not play key role in strengthening the political system of the country. They cannot decide how to deal with terrorism issues and to minimize its impacts. Saigol (2010) pointed out that terrorism has brought enormous crisis in South Asian countries through the adverse impacts on the social, economic, political and physical infrastructure. Since 2003, the physical infrastructure of the school buildings has been damaged by the terrorists' bomb blasts. Daraz (2008) stated that terrorism has threatened internal and external security where the crime-corruption nexus adds to the political complexities. The settled and FATA regions in Pakistan are not safe due to internal threats of the security. Terrorists are killing law enforcement officials, civilians and destroying the physical infrastructure of educational institutions and government buildings. Khan (2009) highlighted that Pakistan was unfamiliar to terrorist activities prior to 9/11 but when Pakistan decided to participate in the "Global War on Terror" (GWOT) it led to serious blow to domestic security and instability in the country. Since 2007, 12456 innocent people were killed, 14775 injured and 10,000 militants killed. 733 school buildings have been destroyed or partially damaged

Siddiqui (2007) considered that adverse impacts of terrorism are observable upon the social, economic, political, financial and infrastructural aspects of the area. The increasing terrorist attacks led to military operations in the terrorism affected areas like Swat, Dir, Khyber Agency and South Waziristan. This led to various social problems. Thousands of people became homeless and the people migrated from one place to another. Daily The

NEWS article published in (2009) supported this statement that military operation worsened the condition in the form of huge mass-displacement and migration in Khyber Pakhtun Khwa

### Objectives of the study

- i To investigate the managerial efficiency of heads of secondary schools in Khyber Pakhtunkhwa Province.
- ii To know the impact of terrorism on managerial efficiency of heads of secondary schools in KPK
- iii To make recommendations for improving managerial efficiency of secondary school heads in KPK

### Statement of the problem

In Pakistan in general and Khyber PakhtoonKhwa in particular, terrorists' activities have damaged the entire infrastructure of education. The buildings are damaged and teachers have been killed. There is uncertainty within the educational administration and management. It was needed to analyze the impact of terrorism on managerial efficiency of secondary school heads in KPK.

### METHOD

#### Population

According to Eisenberg et al. (2007) population is a statistical form which means all the units (people, items, and events) from which the sample can be drawn. Naizaro, (2012) further elaborated that population is an accessible group of people who meet a well defined set of eligibility criteria. Population of the study included 321 Heads of Secondary Schools (both genders) from 06 districts of KPK Province, Pakistan namely Swat, Dir, Malakand, Hangu, Bannu and DI Khan.

#### Sample

Kennedy (2005) viewed that sampling in educational research is generally conducted in order to permit the detailed study of the part rather than the whole of the population. Mertens (2005) added that sample size may be determined on the basis of the judgment of the researcher. Sample of the study comprised 06 districts of Swat, Dir, Peshawar, Hangu, Bannu and DI Khan. 120 Heads of secondary school Heads were selected out of 321 secondary schools. Sample was taken on the basis of highly affected districts of terrorism.

#### Instrumentation and Data Collection

A Questionnaire was developed on 5 points Likert's scale. Jackson (2009) stated that many researchers prefer to use a Likert type scale because it is easy to statistically analyze the data. Validity of the Questionnaire was confirmed by calculating the Cronbach Alpha value. The questionnaire was administered to 120 Heads of Schools. Researcher personally visited, collected and recorded the data. The data was analyzed through a statistical means. Means and Standard Deviation were calculated (Table 1).

**Table 1.** Mean and standard deviation of school heads on managerial efficiency scale.

Variable	F	Means	SD
Motivation	120	2.90	0.7
Teachers' facilitation	120	2.10	1.01
Organization	120	4.29	0.8
Coordination	120	2.60	1.09
Liaison with Heads	120	3.20	1.05
Liaison with community	120	2.9	0.9
Commitment	120	3.98	1.01
Morale	120	2.46	0.83
Terrorism impact	120	3.94	1.02

### FINDINGS

It was found that heads of secondary schools failed to motivate teachers and students for better results, to plan and organize the activities of the school and facilitate teachers for improving the instructional activities; they could not coordinate with the community as well as the neighboring school heads. Heads agreed that they were committed to their job but disagreed that their morale was high. They agreed that terrorism has adversely affected the managerial efficiency of secondary school heads in KPK.

### Conclusion

It was concluded that terrorism is the main issue which has directly and indirectly affected the performance of the Heads of secondary schools. Terrorism is the main hurdle in improving the managerial efficiency of school Heads. School heads are to concentrate on motivation of their teachers, coordinate with their colleagues and take steps to keep up the morale of their staff. Government needs to take steps to control terrorists' activities and train the heads according to the existing situation. The heads need administrative and managerial trainings and the management academies are also to be established by the KPK Government.

### RECOMMENDATIONS

Government has to take immediate steps to resolve terrorism problem and bring Peace in KPK and FATA regions. Management academies for educational management are to be established where administrative and managerial training will be given to the secondary school heads. It will improve the managerial efficiency of secondary school heads

### Conflict of Interests

The author has not declared any conflict of interests.

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*Full Length Research Paper*

## A study on high school students' perceptions of "geographical environment"

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**This research investigates how high school students perceive the concept "environment". The research was conducted on 191 Social Science High School students from 9 to 12th grades in Istanbul and Denizli within 2012 to 2013 academic year. In the study, students were asked to draw a picture of the "environment". The research results indicated that metaphors such as "tree", "settlement area", "road", "mountain", "sun", "human", "house", "river", "cloud", "animal", and "forest" were among the most frequent ones used by the students.**

**Key words:** Environment, perceptions, high school, drawing.

### INTRODUCTION

Human beings have been taught ideas about the earth. They are always curious on how the earth, especially its surface and its land formation is formed. At first, geography was just investigated and its phenomena were defined. Later, its area was broadened; the relationship between human beings and other habitats was investigated. Geography and its content methods have changed many times due to geographer's knowledge, geographic conditions and level of development in all centuries till date. Before 2100, some geographers showed different locations of places on map (Babylonia B.C) because at this time people should know how to get shelter, protection and food. So they must be interested in nature. When humans began settlement, population increased naturally because of the highest living standards. Because of these, people want to migrate to different places and gain new knowledge of where they have gone. So they changed their life pattern due to

topographic conditions. Some researches show that many years ago, human beings migrated from tropical region in South Africa to the other continents except the Antarctic in late pleistone age (B.C. 25000) (Haggett, 2001).

Geographic explorations are the main step for starting geographical perception. When it started most captains went to unknown places; they discovered continents, learned climate types and vegetation. Some of them wrote some books about what they have seen. After, they started interacting with different civilizations. So, geographical knowledge supplies new perception about the world to people. After the industrial revolution, geographical perception changed and it is much more significant for the industry, because factories need raw materials for sustainable development. People need to know geography to find better material sources. So definition of geography changed again. Later, in schools,

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in geography course basic phenomena like climate and vegetation types are taught. In addition the concept of teaching pattern also changed. Students went to the field and investigated topography. Geography has had a strong bond with fieldwork since the origin of the discipline (Jacobs, 1904). Field studies are used as a medium for the integration of many theoretical and practical concepts and the acquisition of geographic knowledge through multisensory experience (Clark, 1996). In the 20th century, geography area spread to human beings, because human beings influence all other habitats and they damaged them very quickly. So, geography perception goes toward people's behaviors. People consume natural resources very quickly and need new areas. Geography is divided into four main sub-disciplines like physical geography (geomorphology) human geography (settlement) regional geography (world regional geography) and geography education.

After the World War II, perception of geography changed because of climate change and environmental pollution. Quick urbanization and separating people around the core of the cities change the silhouette of the cities. People see concrete construction everywhere and they need green areas for fresh air. Due to this, people's perception changed from physical geography to human geography. It naturally changed the definition. It is a science which investigates natural, human behavior and economic activities to link the people on the earth surface (Doğanay, 1993). In the 1960s, technology was included in geography like GIS (geographic information system), GPS (ground position system) and Remote Sensing. These innovations changed the subject of the geography and they supply many opportunities in learning and teaching of (no need "the") this course. They gain some conveniences like collecting, analysis and storing the information about the places.

Nowadays, perception of geography entirely changed and it influenced directly human life. People watch television and they have seen much news about the natural disasters and climate change issues. If the people do not want to influence these issues they have to know or recognize geography and environment but not as well scientists. Geography, earth and environment are very much in media at present (King, 2007). It is a scientific method used to solve economic, social, political and environmental issues (Malone, 2003). In the last decade, especially in developed countries, conception of geography has changed. They try new teaching methods and try to increase consciousness of geography in school.

Many researchers have defined metaphor to explain geography. It is a way of thinking and seeing (Morgan, 1988). It is used to see human life, environment, events and things and figure of speech to explain phenomena (Çelik and Ozgen, 2008). Metaphors supply different

**Table 1.** Demographic features.

Variable		f	%
Gender	Female	93	47
	Male	98	53
Grade	1 <sup>st</sup>	47	25
	2 <sup>nd</sup>	46	24
	3 <sup>rd</sup>	66	35
	4 <sup>th</sup>	32	16
<b>Total</b>		<b>191</b>	<b>100</b>

dimension to analyze things.

### Aim of the study

In the last century, many students and academicians made researches on geography. In geographical perception, different methods and metaphors are used to explain things in primary school, high school and university. They explain many results according to researches, but most of them are the same. This research aims at first to use metaphors to explain geography perception to the students; secondly, to draw geographical sub-disciplines (physical or human geography) and thirdly, to show the perception of geography by genders.

### METHODOLOGY

The research was conducted on 191 Social Science High School students (from 9 to 12th grades) in Istanbul and Denizli in 2012-2013 academic years. It is a qualitative research which uses phenomenology pattern or model. In phenomenology, people recognize something, but they do not have much information about the phenomena, concepts and subjects (Yıldırım and Şimsek, 2008 :72). We can have more or little information about what we see in our life. If we are asked some questions in subject we do not have enough information, we cannot explain entirely. We can use some metaphors to define or explain the phenomena. Phenomenology reveals some ideas on specific phenomena and these ideas categorize some different classifications (Çepni, 2010). To explain our study better, we choose phenomenology model; other model is statistic. Giving some numerical information about the result of the research, metaphors are used for gender, class and frequency (Table 1).

In this study, metaphors are used to explain some things the students perceive about environmental geography. Previously, most of or all geographic metaphor studies have been like what is geography, explain in one word geography? This study tries to use different method for collecting data. Student must express their metaphors not using word; they draw pictures of what they understand or think about environmental geography. Fundamental information about the students like class, gender etc is studied here. Every student should not draw one picture; they draw many different metaphors and they must use papers. Answers of students are source in this study.

**Table 2.** Using metaphors and frequency ratio in drawing study.

No	Metaphor	f	%	No	Metaphor	f	%
1	Tree	84	9.6	20	Snow cover	17	2
2	Settlement area	65	7.4	21	Valley	15	1.7
3	Road	64	7.3	22	Recreation	15	1.7
4	Mountain	58	6.6	23	Litosphere	13	1.5
5	Sun	56	6.4	24	love	12	0.4
6	Human	55	6.3	25	Hydrosphere	8	0.9
7	Home	43	4.9	26	Shopping mall	6	0.7
8	River	39	4.5	27	Rain	5	0.6
9	Cloud	37	4.2	28	Boat	5	0.6
10	Animal	36	4.1	29	Fence	5	0.6
11	Forest	30	3.4	30	Social problems and crimes	5	0.6
12	Bridge	29	3.31	31	Turkey	4	0.5
13	Flower	28	3.2	32	Moon	3	0.4
14	Sea	23	2.7	33	Family	3	0.4
15	World	23	2.7	34	Natural Hazard	2	0.2
16	Vehicle	22	2.5	35	Lake	1	0.1
17	Traffic	22	2.5	36	Star	1	0.1
18	Environmetal issues	22	2.5	37	Water	1	0.1
19	Atmosphere	19	2.2				

In this research, content analysis technique was used for interpreting the metaphors. It evaluates the data in detail. Most people describe objects using metaphor; however it does not explain objects entirely. Content analysis helps to evaluate datum deeply. Four different ways were used to evaluate the data: 1) naming of picture metaphors, 2) collecting all metaphors, 3) categorizing based on class and gender, 4) entering the information in computer and table. Frequency and percentages of metaphors are shown.

## FINDINGS

This section shows the results of the secondary school students' ideas about geographical perceptions. All metaphors are analyzed according to different meanings. All tables and metaphors are categorized, using subtitles.

### *The findings from secondary school students' metaphors about geographical perceptions*

Secondary school students used 37 different metaphors to explain (drawing pictures) their own geographical perceptions. These are: tree, settlement area, road, mountain, sun, people, home, river, cloud, animal, forest, bridge, flower, sea, world, tool, traffic, environmental problems, snow cover, valley, recreation, lithosphere, love, hydrosphere, shopping mall, rain, small ship, hedge, social crime and results, Turkey, moon, family, natural

hazard, lake, water, star, atmosphere. In this study, the metaphors used frequently are: Tree (f=84), settlement area (f=65), road (f=64), mountain (f=58), sun (f=56). This result shows that most secondary students draw picture or think about geography. The common five metaphors are physical geography elements. Table of the all metaphors and frequency ratio are in Table 2.

### *Perception of the students about geography based on four traditions of geography*

This category is about the fundamental geography approaches. These are locational tradition, field (regional) tradition, human environment tradition and geology tradition. The aim of this category is to understand geography in order to give some concrete metaphors and to show which tradition is used usually by the student, scientist, academician and someone who is not interested in geography.

### *Perception of the students about geography based on gender*

This category mentions the gender of the students: which gender group draws or concentrates on metaphors? Which draw more using different metaphor? To show the frequency ratio, girls used tree (44), settlement area (33),

**Table 3.** Distribution of metaphors due to gender.

Girls			Boys			Girls			Boys		
No	Metaphor	f	No	Metafor	f	No	Metaphor	f	No	Metafor	f
1	Tree	44	1	Tree	40	20	Valley	7	20	Atmosphere	8
2	Settlement area	33	2	Road	37	21	Environment issues	7	21	Valley	8
3	Sun	32	3	Settlement Area	32	22	Litosphere	6	22	Litosphere	7
4	Mountain	29	4	Mountain	29	23	Love	5	23	Love	7
5	Road	27	5	Human	29	24	Snow cover	4	24	Recreation	4
6	Human	26	6	Sun	24	25	Hydrosphere	4	25	Shopping mall	5
7	Cloud	23	7	Home	20	26	Rain	2	26	Socisl problems and crime	4
8	River	23	8	Animal	19	27	Boat	2	27	Hydrosphere	4
9	Home	23	9	Bridge	19	28	Fence	2	28	Rain	3
10	Flower	19	10	River	16	29	Natural hazard	2	29	Boat	3
11	Forest	17	11	Sea	15	30	Turkey	2	30	Family	3
12	Animal	17	12	Cloud	14	31	Lake	1	31	Fence	3
13	World	13	13	Environmantal issues	14	32	Moon	1	32	Moon	2
14	Traffic	11	14	Forest	13	33	Water	1	33	Turkey	2
15	Bridge	10	15	Snow cover	13	34	Shopping Mall	1	34	Star	1
16	Atmosphere	10	16	Wehicle	13	35	Star	0	35	Lake	0
17	Wehicle	9	17	Traffic	11	36	Family	0	36	Water	0
18	Recreation	9	18	World	10	37	Social problems and crime	0	37	Natural hazard	0
19	Sea	8	19	Flower	9						

sun (33), mountain (29) and road (27); boys used tree (40), road (37), settlement area (32), human (29) and sun (29). The table of results shows all the details about the gender perceptions (Table 3).

#### ***Perception of the students about geography based on level of class (9th and 10th)***

This category shows what the 9th and 10th students draw about geography. When we check the questionnaire, though most of them teach geography initially, they have different phenomena. They generally draw physical geography metaphors (Table 4).

#### ***Perception of the students about geography based on level of the class (11th and 12th)***

This category shows the third and fourth class students' perception about geography. When examining the metaphors, they draw both physical and human objects (Table 5).

## **RESULTS AND DISCUSSION**

The importance of the geography has been improved day by day due to development of the World. Many researchers make do study to measure the perception of people about geography, because it comprises general life style (climate, location special features) and relates to other sciences which people are interested in directly and indirectly. We know that many studies or articles have shown the perception of people, from primary to undergraduate students, even academicians and teachers. Aydın (2010) and Aydın et al., (2010) have measured the perception of people about Karabuk. 110 secondary education students participated in this research and 44 different valid metaphors were used. Another study was done about Rize (Yılmaz et al., 2010) in Department of Primary Education. 130 student participated in the study and they used 52 valid metaphors. In our research, 191 secondary education students participated and they drew 37 valid metaphors. The one used most is tree followed by settlement area and road. It is the most interesting result; human geography metaphors are drawn by the students to show their geography perception. So this

**Table 4.** Distribution of metaphors due to high school level (grade 9 and grade 10).

Grade 9			Grade 9			Grade 10			Grade 10		
No	Metaphor	f	No	Metafor	f	No	Metaphor	f	No	Metafor	f
1	Tree	20	20	Recreation	4	1	Mountain	25	20	Atmosphere	4
2	Sun	14	21	Snow cower	3	2	Sun	21	21	Love	4
3	World	14	22	Love	3	3	Tree	19	22	Rain	3
4	Atmosphere	14	23	Valley	1	4	Cloud	14	23	Moon	2
5	Cloud	10	24	Moon	1	5	River	13	24	Vehicle	2
6	Flower	10	25	Traffic	1	6	Human	13	25	Fence	2
7	River	9	26	Türkiye	1	7	Home	12	26	Hydrosphere	2
8	Environment problem	9	28	Lake	0	8	Road	12	27	Lake	1
9	Mountain	8	29	Star	0	9	Forest	11	28	Star	1
10	Human	8	30	Rain	0	10	Settlement area	10	29	Water	1
11	Animal	7	31	Water	0	11	Valley	9	30	Boat	1
12	Settlement area	7	32	Vehicle	0	12	Flower	9	31	Family	1
13	Litosphere	7	33	Boat	0	13	Animal	8	32	Traffic	1
14	Forest	6	34	Family	0	14	World	6	33	Natural hazard	1
15	Sea	6	35	Shopping mall	0	15	Sea	5	34	Shopping mall	0
16	Road	6	36	Fence	0	16	Litosphere	5	35	Environment issues	0
17	Hydrosphere	6	37	Social problems	0	17	Snow Cover	4	36	Social problems	0
18	Home	5		Natural hazard	0	18	Bridge	4	37	Turkey	0
19	Bridge	4				19	Recreation	4			

reality shows that geography does not define or explain one metaphor. According to this research results, three main subjects are used to explain students' perceptions.

First, in the past especially late twenty century, people made many researchers about geography and generally they used physical geography metaphors, like tree, climate, country name, river, mountain etc. However in this research, there are some human geographic subjects like traffic, shopping mall, community problems, environmental pollution, settlement area, road etc. People's perceptions have changed and the objects are what we see in daily life. Settlement area (f=65) and road (f= 55) traffic (f=22) home (f=43) bridge (f=29) used as metaphors show human beings are surrounded by artificial objects. Concrete constructions are used to know where people want to go. Because of this, people are psychologically influence and aggressive when they encounter situations. When people make city planning, they do not notice people's fundamental needs. Human beings are suboptimal to concrete and they far away from natural environment. If the students draw the traffic,

shopping malls etc. instead of the environment, city planners must think about green area in land use planning. We destroy the green area or parks for the open new settlement area.

Secondly, both boys (f=40) and girls (f=44) draw tree metaphor to explain their perception of t geography. In addition, the other general terms used commonly mountain, river, climate, flower etc. This is a boring situation. Because the education system does not improve, it cannot catch complementary level. Nowadays, especially in developed countries geography is generally related to globalization, sustainable development, population, natural resources etc. Tree climate is a basic phenomenon. In secondary education level, geography course is very easy when we compare it to that of the World level. Lack of time for the course directly affects this situation. Geography comprises more subjects so teachers do not decide on which one to teach. Also course books do not include present geographic information. How will the students improve their geographic skills?

**Table 5.** Distribution of metaphors due to high school level (grade 11 and grade 12).

Grade 11			Grade 11			Grade 12			Grade 12		
No	Metaphor	f	No	Metafor	f	No	Metaphor	f	No	Metafor	f
1	Settlement area	35	20	Shopping mall	3	1	Road	16	20	Social problem	3
2	Tree	32	21	World	3	2	Human	15	21	Love	3
3	Road	31	22	Turkey	3	3	Tree	13	22	Rain	2
4	Human	18	23	Valley	2	4	Animal	13	23	Boat	2
5	Home	16	24	Boat	2	5	Settlement area	13	24	Family	2
6	Mountain	15	25	Fence	1	6	Sun	12	25	Fence	2
7	Bridge	13	26	Social problems	1	7	Mountain	11	26	Recreation	2
8	Traffic	12	27	Natural hazard	1	8	Home	10	27	Sea	1
9	Sea	11	28	Atmosphere	1	9	Vehicle	10	28	Lake	0
10	Vehicle	11	29	Lithosphere	1	10	Environment problem	9	29	Moon	0
11	Sun	10	30	Love	1	11	Traffic	8	30	Star	0
12	Cloud	10	31	Lake	0	12	Bridge	8	31	Water	0
13	Forest	10	32	Moon	0	13	River	7	32	Natural hazard	0
14	River	10	33	Star	0	14	Valley	5	33	world	0
15	Animal	8	34	Rain	0	15	Flower	5	34	Atmosphere	0
16	Snow cover	6	35	Water	0	16	Snow cover	4	35	Lithosphere	0
17	Recreation	6	36	Family	0	17	Cloud	3	36	Hydrosphere	0
18	Environment problem	5	37	Hydrosphere	0	18	Forest	3	37	Turkey	0
19	flower	4				19	Shopping mall	3			

Thirdly, both gender used similar frequency for the metaphors. Generally, physical metaphors used by girls (f=21 physical, 13 human) and boys (f= 19 physical, 15 human) are maximum ones used by second class and minimum first class students. All class used physical objects more than humanistic objects. These results show that students learn about both nature and world basic information in school. In addition, it is important that students to interact with nature and humans. Environment is the most important phenomenon to people's life. There is no information about globalization and development, because teachers do not use technologic devices for the course.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# Attitudes towards substance addiction: A study of Turkish University students

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Substance addiction has become one of the important issues in the world. The studies concerning substance use reveal the extent of the problem. According to the results of such studies, the number of the people using illicit drugs has increased profoundly in recent years. In this study, it was tried to find out how common substance use among Turkish university students. Moreover, it was aimed to determine the students' attitudes towards addicts. In order to measure the students' attitudes towards addicts, the revised version of "Attitude Scale towards Individuals with Drug Abuse Problems" developed by Tansel (2006) was used. Totally 572 university students responded the survey. The results showed that nicotine and alcohol were the substances most frequently used by the students. Besides, it was seen that university students' attitudes towards addicts were reasonably negative. What is more, it was determined in the study that, the students' gender, faculty that they attended, students class level, their parents educational backgrounds, students' smoking and drinking habits were the factors influencing the students' attitudes towards addicts.

**Key words:** Substance use, drug, addiction, university students, attitude.

## INTRODUCTION

Drug or substance is a kind of chemical which influence and cause changes in human mind by leading a state of intoxication. There are various kinds of substances which are commonly used by people. It is possible to classify these substances as licit or illicit. Thus, it might be stated that not all drugs are illegal. For example, caffeine, alcohol and tobacco are technically legal drugs. Although they damage both body and mind, their uses are legally permitted. Moreover there are lots of substances listed by WHO and which are used illegally as brain depressant and effect the users negatively like opioids, cannabis, cocaine, stimulants, inhalants and so forth. Illegal substances are so harmful that countries across the

world have been trying to control them (Ambekar and Deb, 2009; UNODC, 2008). Mainly four terms frequently encountered in the related literature when we search on drug or substance use as: substance use, misuse, abuse and dependence/addiction. Substance use refers using alcohol, nicotine or drugs without having any negative consequences. Generally, it might used in a social occasion (like a party), for recreational purposes, just for a trial as an experimental use or for some other reasons like religious rituals. If an individual experiences negative consequences due to his/her alcohol or drug use, it is termed as misuse. One step beyond misuse is generally called substance abuse which might be defined as

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carrying on using the substance in spite of its negative effects. Dependence or addiction is a kind of behavioral phenomena in which substance use takes priority than other behaviours (Ambekar and Deb, 2009). As human beings we are actively involved in different activities in our daily lives, consciously or unconsciously these activities might be pervasive and they might become habitual. Some of these habitual activities are regarded as addictive. The degree of addictiveness differs depending on the kind of activity and individual. Today, we see various forms of behaviours in social life which is counted as addictions; such as, gambling, sex, work, food, shopping, internet and computer gaming (Ross et al., 2008).

As one of the most common addiction types, substance addiction is considered as a brain disease because of substances influence on brain. These influences could be long lasting, and might lead to harmful behaviors seen in people who abuse drugs (NIDA, 2007). Early studies on substance abuse and addiction misconceived these concepts and people who used drugs were thought to be a kind of morally defective and lack determination, so they were not able to control their behaviours. Likewise, people saw drug use as a kind of moral failure rather than a health problem. However, scientific researches showed that addiction must be seen as a kind of disease influencing both brain and human behaviour (Volkow, 2007).

## RESEARCHES ON THE PREVALENCE OF SUBSTANCE ADDICTION

Substance addiction has become one of the most important social problems not only in Turkey but in the whole world in recent years. Drug-related problems are seen as major threat to the security and social well being. The increase in the rates of substance use among young people has been started to be regarded as one of the outstanding social problems. Thus, researches on this issue have been made to come to understand the prevalence of substance addiction. It should be noted that in different studies prevalence rates of various licit or illicit substances were researched. In the existing study it was aimed to show how prevalent licit (e.g., nicotine and alcohol) and illicit substance (e.g., drug, inhalers and so forth) use among Turkish university students was in the following paragraphs various studies depicting the prevalence of substance addiction from different parts of the world were mentioned.

The findings of international studies on addiction have similar conclusions showing the increasing rate and negative consequences of substance related problems on the social life. To illustrate, the European Commission has been searching on the extent of drug-related problems in the member states of EU with the help of Eurobarometer studies. As a result of these studies it was

seen that young people in EU found it easy to access some illicit drugs and easier to have substances like alcohol and tobacco (European Commission, 2008). Similarly, 25% of adults were estimated to use illicit substances at least once in their lives. Levels of drug use varied based on the country. While in Denmark, France and the UK about one-third of adult population were estimated to use drugs at some point in their lives, these rates decreased to less than 10% in Bulgaria, Greece, Cyprus, Hungary, Portugal, Romania and Turkey (EMCDDA, 2014). Although alcohol and drugs are taboos in Islamic states, alcohol consumption and drug using rates have risen sharply in the recent years. Drug use is an important problem in Iran as well. According to the national authorities, Iran is among the countries with the highest prevalence of opiate use. The use of crystallized heroin and amphetamine-type stimulants has increased. Moreover, the drug addiction has expanded in social groups like younger adults and women (UNODC, 2014). The studies carried out by Merchant et al. (1976) and Sahraian et al. (2010) proved that the alcohol consumption and drug addiction rates were lower than western states. Although the rates were comparatively lower, the problem has been getting severe. As one of the crowded Islamic countries, Turkey has been experiencing the same problem and it is a known fact that prevalence of drug use has increased dangerously during the recent years. According to the formal reports by Turkish Monitoring Centre for Drugs and Drug Addiction (TUBİM, 2011), around 2.7 % indicated use of any illicit substance during their lifetime, and cannabis was the most prevalent one of these illicit substances. The rates of lifetime tobacco and alcohol use were found out to be around 57% and 44% respectively.

## Attitudes towards addicts

Attitude is an essential concept in social studies. Social studies focus on attitude and the related concepts since attitudes are believed to influence individuals' thoughts, feelings and behaviors (Baron and Bryne, 1977; Allport, 1935). There are researches on addiction supporting before mentioned views that attitudes on addiction might influence individuals' decisions and views. People have stereotypes about individuals who are addicted to some illicit substances. Stigma, rejection and punitive responses to addicts are common in society. Generally, these negative responses make it difficult for addicts to recover and integrate into the social life (Grace, 2006).

Researches to find out about the views of medical professional towards addicts are of the most common type of studies (e.g., Grace, 2006; Vargas and Luis, 2008; NCETA, 2006; Vogt et al., 2005; Greenwood, 1992; Roche et al., 1991; Abed and Neira-Munoz, 1990). The findings of these studies did not seem to be coherent. For instance, Grace (2006) stated in his study

that medical professionals may be biased regarding substance abuse. In the study carried out by Vargas and Luis (2008), nurses expressed their personal conceptions towards alcoholic drinks and their statements showed ambivalent conceptions. While some nurses conceive alcoholic drinks as something negative, some of them attribute beneficial characteristics. In another study by Abed and Neira-Munoz (1990), it was reported that the majority of doctors were prepared to help despite the fact that they consider substance addicts as unreliable; they saw the addicts as the addicts themselves were responsible for their problem and the doctors did not treat substance addiction as a medical problem.

Education is another field in which the attitude towards addicts is concerned. In such studies sometimes educators (e.g., Broadus et al., 2010) and sometimes students from different class levels (e.g., Mousavi et al., 2014; Shrestha, 2010; Martin et al., 2007; Tansel, 2006; Tekten, 2006; Çirakoğlu and Işın, 2005; Altintas et al., 2004; Türkşen and Atakan, 2003; Tot et al., 2002; Lindström and Svenson, 1998; Herken et al., 1997) were investigated. Broadus et al. (2010) discovered in their study that educators viewed substance abuse as a coping mechanism rather than a moral failure; but they had contradictory beliefs about regarding it as a disease. Because it was found out in the study that educators with less college education were likely to see addiction as an inheritable disease. Another study by Mousavi et al. (2014) reinforced the idea that positive attitudes towards drugs, having friends who use drugs, unsupportive parents, individual characteristics and impulsiveness were the risk factors increasing the liability. Correspondingly, Shrestha emphasized based upon the result of his study that peer group influence was one of the factors for using drugs and having positive attitudes towards drug use. The studies carried out in Turkey (e.g., Tansel, 2006; Tekten, 2006; Çirakoğlu and Işın, 2005; Altintas et al., 2004; Tot et al., 2002; Herken et al., 1997) also had clues about the factors influencing attitudes towards drug use or addiction. In these studies it was indicated that students' gender, field of study, parents' educational background, being in drug friendly environments, using/or not using drugs were the factors affecting their attitudes towards drugs and drug use.

In some other studies, people's views on the issue were tried to be determined from different parts of the world (e.g., New Zealand Ministry of Health, 2009; Yen et al., 2007; Yanakiev, 1999; Hakkarainen, 1996). According to the results of the study done by Ministry of Health in New Zealand (2009), half of the participants considered that drug problems were community problems which could only be resolved through the active support of the entire community. Especially the parents with dependent children were likely to consider that drug problem was an important social issue. Yen et al. (2007) found that substance use could be included in the group of behavioral problems syndrome. It was stated that family based preventive approaches for substance use

should be implemented for adolescents with negative family environments.

In the present study, it was aimed to find out about Turkish university students' attitudes towards addiction. The overall purpose of this research was to investigate university students' attitudes towards drugs and individuals with drug abuse problems. This study was guided by three research questions:

1. What were the students' attitudes towards substances under different boundary conditions?
2. What were the university student's attitudes towards individuals with substance abuse problems under different boundary conditions?
3. To what extent students' attitudes towards substances influenced their attitudes towards individuals with substance abuse problems?

## METHODOLOGY

### Study sample

The target population of the study (N= 4628) included the students studying at first cycle programmes (bachelor degree) of one of the newly founded Turkish universities during 2012 to 2013 academic year. The university was selected as research site because of practical reasons (its accessibility for the researcher).

There were 4628 bachelor degree students attending five different faculties at Bozok University during 2012 to 2013 academic year. Four of these faculties provided regular daytime education and evening education programmes. Faculties in the scope of the study were selected randomly and the paper surveys were distributed to the students who agreed to participate in the study. As a consequence, students from three selected faculties (Faculty of Arts and Science, Faculty of Economics and Administrative Sciences and Faculty of Theology) administered the surveys (Since the Faculty of Theology was newly founded and it had limited number of students compared to the other faculties, it was tried to reach quite a few students. The detailed information concerning the participants was shown in the Table 1. Seen in the table, there were more female participants (62.1%) than male participants (37.9%). 47.4% of the participants were from the Faculty of Arts and Sciences, 43.7% were from the Faculty of Economics and Administrative Sciences and 8.9% were from the Faculty of Theology. Nearly the half of the participants (47.2%) were the 1st grade students, 20.6% were the 2nd graders, once again 20.6% were the third grade students and 11.5% were the 4th grade students.

### Data collection instrument

In order to measure the students' attitudes towards addicts, the "Attitude Scale towards Individuals with Drug Abuse Problems" developed by Tansel (2006) was revised by the researcher. The instrument was a five-point-Likert scale and had the responses like (1) Disagree; (2) Somewhat agree; (3) Agree; (4) Highly agree; and (5) Completely agree. The scale had five subscales (see Table 3) and 22 statements (originally the scale had 23 statements but one statement was omitted after the analysis). Exploratory Factor Analysis showed that the scale explained 53.52% of total variance; internal consistency coefficient alpha was .88. Factor loadings ranged from .34 to .69; item total correlations ranged from .34 to .60. According to EFA results KMO was .92 and the Barlett test (0.00)

**Table 1.** Personal details about the participants.

Variable	Type	N	%
Gender	Female	355	62.1
	Male	217	37.9
Faculty	Faculty of Arts and Sciences	271	47.4
	Faculty of Theology	51	8.9
	Faculty of Econ and Adm. Sci.	250	43.7
Grade	1 <sup>st</sup>	270	47.2
	2 <sup>nd</sup>	118	20.6
	3 <sup>rd</sup>	118	20.6
	4 <sup>th</sup>	66	11.5

**Table 2.** Construct validity and reliability analysis of the scale.

Subscales	Number of items	Explained variance %	Factor loadings range	Reliability coefficient	Item-total correlations range
1. Personal relations with addicts	6	32.044	.33 - .72	0.80	.30 - .43
2. Perceived characteristics of addicts	5	8.874	.46 - .71	0.45	.30 - .54
3. Social relations with addicts	4	8.714	.39 - .76	0.76	.38 - .74
4. Personal manners against addicts	4	7.257	.54 - .62	0.75	.36 - .54
5. Social and family interactions	3	5.982	.71 - .73	0.80	.56 - .59
Total Variance Explained: 62.870		KMO: 0.854	Reliability coefficient for the scale: 0.857		

**Table 3.** Descriptives depicting university students' attitudes towards addicts.

Subscales	N	X	Sd
1. Personal relations with addicts	572	1.86	.919
2. Perceived characteristics of addicts	572	2.88	.818
3. Social relations with addicts	572	2.56	1.143
4. Personal manners against addicts	572	3.19	1.083
5. Social and family interactions	572	1.83	1.054
Composite scale	572	2.46	.696

was statistically significant (Table 2). Therefore it might be stated that the scale was satisfactorily valid and reliable.

#### Data analysis

The data were analyzed by SPSS (Version 20). Percentages and frequencies were used to analyze demographic variables. To describe students' attitudes toward addicts, descriptive statistics such as mean and standard deviation and to compare participants' responses in terms of demographic variables, independent samples t-test and One-Way-ANOVA were used. The skewness index of scale was 0.168 and kurtosis index was -0.624. These results indicated that parametric statistical procedures to analyze the data were suitable.

#### FINDINGS

Descriptive statistics depicting the existing situation of the participants' substance addiction showed that 49.5% of the students stated that they never used cigarette; 24.8% stated that they just tried; 5.1% stated they quit smoking; 20.6% stated they were smoking regularly. As for alcoholic drinks, 73.3% of the students stated that they never used alcohol; 18.4% stated that they just tried; 1.4% stated they quit drinking alcohol; 6.9% stated they were still using alcohol. None of the students stated that they were using drugs; 98.4% stated they never used; 0.9% stated they just tried and 0.7% stated they quit

using drugs. Just a few students (0.3%) stated that they used other types of stuff (like antidepressants) except for the ones mentioned above.

As for the descriptive statistics showing university students' attitudes towards addicts (Table 3), it was found out that students' attitudes towards addicts were reasonably negative ( $X = 2.46$ ). Out of five subscales, the most negative responses were in the subscale titled "social and family interactions" ( $X = 1.83$ ) subscale while relatively the most favourable responses were in the "personal manners against addicts" ( $X = 3.19$ ).

When the statements existed in the scale were analyzed in details (Table 4); the statements that the students agreed most were "I believe addicted individuals take pleasure from distressing other people" ( $X = 3.54$ ) and "I am not rude to addicted individuals" ( $X = 3.52$ ). The statements which the participants least agreed upon were "I want to get married to an addicted individual." ( $X = 1.55$ ) and "My friend's being addicted does not disturb me." ( $X = 1.64$ ).

### Comparing attitudes towards addicts according to the participants' demographic characteristics

There was a statistically significant difference in students' attitudes towards addicts based on the participants' gender [ $t_{(570)} = 6.549$ ;  $p < 0.05$ ] (Table 5). It was seen that male students' attitudes towards addicts were more positive than the female students.

Similarly the variables like the faculty that the students attended [ $F_{(2,569)} = 3.486$ ;  $p < 0.05$ ] students' class level [ $F_{(3,568)} = 5.266$ ;  $p < 0.05$ ], students' smoking habits [ $F_{(3,568)} = 34.611$ ;  $p < 0.05$ ] (see Table 6) were seen to influence their attitudes towards addicts.

Mother's educational background [ $X^2_{(4)} = 29.441$ ;  $p < 0.05$ ], father's educational background [ $X^2_{(4)} = 12.325$ ;  $p < 0.05$ ], students' drinking alcohol [ $X^2_{(3)} = 42.420$ ;  $p < 0.05$ ] were also of the factors influencing the students' attitudes. On the other hand it was found out that students' parents' marital status (students' fathers' and mothers' being alive and living together or separately) [ $X^2_{(2)} = 2.752$ ;  $p > 0.05$ ] did not influence the students' attitudes (see Table 7).

## DISCUSSION

This study examined the university students' attitudes towards addiction in Turkey. Therefore, it might be stated that the findings of the research contributed to the studies in the field. The specific purposes of the study were (1) to find out about the university students' attitudes towards substances (2) to investigate their attitudes towards addicts (3) to analyze the personal factors influencing students' attitudes towards addicted people. The results showed that nicotine and alcohol were the substances

most frequently used by the students. Besides, it was seen that university students' attitudes towards addicts were reasonably negative. Moreover, it was found that there were statistically significant differences between the students' responses based on their gender, faculty, class level, using substances like alcohol and nicotine, mothers' and fathers' educational backgrounds.

Present study found that nicotine and alcohol were of the substances which were most frequently used by the students. 20.6% of the students participating in the study stated that they were regularly smoking; the rate of the students who responded that they were drinking alcohol was 6.9%. As for drugs, the rates of drug users were seen to be lower; none of the students expressed that they were using drugs or inhalers regularly; just 0.3% replied that they were taking antidepressants. Based on the results it might be claimed that the rate of the students who were using substances was below the average of national statistics. The results of the researches on this issue also proved our claim. For instance, Tot et al. (2002) determined the rate of the smokers between university students as 35% in one of the crowded cities in Turkey. Likewise, Turksen et al. (2003), Yilmaz (2007) and Yildirim (1997) found out the rate of the smokers higher than our findings. When it comes to alcoholic drinks, the researches by Kaya and Çilli (2002) and Yildirim (1997) revealed that the students who were using alcoholic drinks were above 20%. An international comparison between the rates of substance use would show that the students' participated our study had lower liability to substance use as well. In the study carried out by Mousavi et al. (2014) in the USA, 4.80% of the pupils indicated using drugs and almost 2.80% of them said that they used drugs regularly (like weekly, monthly, every two months or sometimes). Martin et al. (2007) stated that of the young people between the ages of 12 to 18 surveyed in Australia, 54% used drugs. Tobacco use was prevalent and the rate of high school students who regularly used nicotine was seen to be 31%. The rate of the ones who used alcohol at least once a year was found to be about 60%.

Additionally, it appeared that students' attitudes towards addicts were reasonably negative. The students who responded in the survey were not in favour of having friendly relationships with the individuals who were addicted. They were even disturbed by their friends being addicted. The research results regarding the aspect were similar to the previous studies (e.g., Tansel, 2006; Tekden, 2006). It is a known fact that people are usually against substance use not only in Turkey but in other states. As a matter of fact, there are research results showing that people strictly opposed substance use. To illustrate, even though the substance use rates were high, in Finland, Norway and Sweden almost 90% of the people said they were against substance use and opposed the idea of legalizing it (Hakkarainen, 1996). It was explained in some studies that even medical professionals,

**Table 4.** Descriptive statistics showing the students' responses to the statements in the scale.

Subscales	Statements	n	X	S
Personal relations with addicts	My friend's being addicted does not disturb me.	572	1.64	1.152
	I want to have a girl/boyfriend who is addicted	572	1.76	1.306
	I want to have a sexual intercourse with an addicted individual.	572	1.68	1.253
	I support addicted individuals' getting married.	572	2.34	1.468
	I do not feel uncomfortable if I have an addicted friend.	572	2.19	1.424
Perceived characteristics of addicts	I want to get married to an addicted individual.*	572	1.55	1.063
	I do not mind addicted individuals.	572	2.78	1.553
	I think addicted individuals regard social values.	572	2.88	1.468
	I believe addicted individuals take pleasure from distressing other people.	572	3.54	1.394
Social relations with addicts	I think addicted individuals do not lack personal development.	572	2.76	1.514
	I think addicted people are not risky for social life.	572	2.45	1.372
	I do not break off when I learn an individual whom I just meet is addicted.	572	2.78	1.540
	I get in touch with an addicted individual.	572	2.89	1.551
Personal manners against addicts	I do not break off if my housemate brings drugs to home.	572	2.20	1.456
	I eat out with an individual whom I know that he/she is addicted	572	2.35	1.404
	I do not despise addicted individuals.	572	3.15	1.425
	I think addicted individuals are member of the public.	572	3.11	1.449
Social and family interactions	I am not rude to addicted individuals.	572	3.52	1.387
	I treat addicted individuals with tolerance.	572	3.02	1.428
	I might employ an addicted individual	572	1.82	1.170
Total	I do not hesitate introducing an addicted fellow to my family.	572	1.75	1.233
	I do not hesitate introducing an addicted fellow to my friends.	572	1.93	1.324
		572	2.46	.696

**Table 5.** Students' attitudes towards addicts based on the participants' gender.

Groups	n	X	Sd	Df	t	P
Female	355	2.31	.645	570	6.549	.000
Male	217	2.69	.714			

as key people to help addicted people, were biased regarding substance use (e.g., Grace, 2006; Vargas and Luis, 2008).

Furthermore, it was determined in the study that the students' gender, faculty that they attended, students class level, their parents educational backgrounds, students' smoking and drinking habits were the factors influencing the students' attitudes towards addicts. There are findings of the studies suggesting gender as one of the important factors affecting attitudes towards drugs and drug addicts (e.g., Martin et al., 2007; Tekten, 2006; Çırakoğlu and Işın, 2005; Herken et al., 1997). Mousavi et al. (2014) counted gender, family, friends and individual characteristics as the factors related with drug use. The results of the study by Tansel (2006) also indicated significant differences between attitudes of

students with drug abuse problems depending on students' gender, field of study, parents' educational status, being or not being close to drug containing environment, using or not using substances.

## IMPLICATIONS AND CONCLUSIONS

There are lots of factors influencing the university students' attitudes towards addiction. In this study it was found that the students' gender, faculty, class level, parents' educational status, students using or not using substances impacted their attitudes towards addicts. Considering the results, it might be stated that male students and students who smoked or drank alcohol tended to be more permissive towards addiction. What's

**Table 6.** Students' attitudes towards addicts based on the participants' faculty, class and smoking habits.

Variable	Groups	n	X	sd	Sum of squares	df	Mean square	F	P
Faculty	Faculty of Econ. and Adm. Sci.	250	2.50	.723	3.352	2	1.676	3.486	.031
	Faculty of Arts and Science	271	2.46	.700	273.814	569	.481		
	Faculty of Theology	51	2.22	.467	277.166	571			
Class	1 <sup>st</sup>	270	2.46	.705	7.500	3	2.500	5.266	0.01
	2 <sup>nd</sup>	118	2.32	.563	269.667	568	.475		
	3 <sup>rd</sup>	118	2.43	.714	277.166	571			
	4 <sup>th</sup>	66	2.74	.772					
Using cigarette	Never used	283	2.31	.612	42.836	3	14.279	34.611	.000
	Just tried	142	2.28	.623	234.330	568	.413		
	Quit	29	2.58	.823	277.166	571			
	Still using	118	2.98	.683					

**Table 7.** Students' attitudes towards addicts based on the participants' parents' marital and educational status and participants drinking habits.

Variable	Groups	n	Mean rank	df	X <sup>2</sup>	P
Parents' marital status	Parents' living together	531	283.88	2	2.752	.253
	Parents' got divorced	17	291.65			
	Has lost father/mother (or both)	24	340.90			
Mother's educational background	Elementary	58	286.40	4	29.441	.000
	Lower sec.	316	297.14			
	Upper sec.	116	260.19			
	Undergraduate	66	227.85			
Father's educational background	Graduate	16	96.97			
	Elementary	13	366.58	4	12.325	.015
	Lower sec.	201	308.52			
	Upper sec.	142	286.33			
Using alcohol	Undergraduate	150	267.43			
	Graduate	66	247.37			
	Never used	419	267.66	3	42.420	.000
	Just tried	105	295.85			
	Quit	40	451.75			
	Still using	8	426.28			

more, the students who attended faculty of theology (as they were to be more conservative and strict in obeying religious practices) and students who were not at the beginning or final stage of higher education had negative attitudes and reject substance use. Furthermore, the students whose parents had higher education degrees were seen to be less permissive about using substances and had negative perceptions about addicts. Parents' bias against substances and addicts could impact the students' perceptions as well. As a result of the study, it might be claimed that students or parents' moral standards and students' tendencies towards substance use also affected their attitudes towards addicts. Finally,

further studies on a larger scale might be done to have better understanding about the factors influencing substance use and attitudes regarding substance use. Designing a qualitative study would help to be more informed about the factors influencing addiction.

### Conflict of Interests

The author(s) have not declared any conflict of interests.

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