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WJEIS appears on your screen now as Volume 6, Number 2. In this issue it publishes 10 articles.

Colleagues that are in editorial board worked hard to determine the articles of this issue. There are also some articles that were presented in International Congress on New Trends in Education- ICONTE 2015, International Congress on Education, World Conference on Educational and Instructional Studies- WCEIS 205 and Distance Education and Educational Technology- ICDET 2016. Articles are evaluated by the referees that are either in editorial board or outside the board.

Although WJEIS is a new journal, it has been welcomed with interest. A lot of journals from various universities are in the evaluation process. We would like to thank cordially our colleagues who work hard in editorial board to evaluate the articles, writers who contribute to our journal and all readers.

1<sup>st</sup> May, 2016

Best regards

Prof. Dr. Zeki Kaya  
Prof. Dr. Ugur Demiray  
Assoc. Prof. Dr. Murat Hismanoglu



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## UNDERGRADUATE STUDENTS' PERCEPTIONS ABOUT BLENDED EDUCATION: A QUALITATIVE APPROACH

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### Abstract

In information age of 21<sup>st</sup> century, adapting developing technologies and serving better education service for students from varying countries with different personal characteristics have become much more difficult for universities. The age where traditional student-instructor interaction is called passive education brought forward new approach called as "blended education" which is a part of distance education and combination of face-to-face education & online courses. Considering support on distance education by 80% of universities in Turkey, the positive and negative ways and perspectives of students to this system will be understood better. This study is conducted to 10 undergraduate students of blended education in Sakarya University. As a result of in-depth interview with students, their perspectives on blended education are analyzed by qualitative method. With its uncommon Turkish literature on blended education, this study is expected to be loadstar for other studies.

**Keywords:** Distance education, blended education, higher education.

### INTRODUCTION

Rapid changes brought by the transition to the global information society, gave rise to a number of fundamental changes in all areas of life. Such as; new information technologies, learning organizations, rising values and etc.. According to Fındıkçı (1988) by the information changes and new perspectives; personal, corporate and social transformations has accelerated too. To keep up with these transformations is only possible with the educational environment that adapts to the era.

Education in information society should not be considered as a closed system that it was defined before. It should be considered as a dynamic system which can develop new approaches and can apply these approaches to the life. According to Drucker (1992), the concept of "completed education" do not included in the information society. In this context rising education paradigm opposes idea of performing education only in the environment within the certain limits. Moreover, teaching and learning is no longer leave its institutionalized form and take non-institutionalized form (Şimşek, 1997; Aktaran:Parlar, 2012).



Increasing importance of implementing the learning everywhere and every time has brought a new educational approach. This new approach named as a "Distance education", defined as a technology-driven online training system by leaving traditional teacher-student relationship. Also, detailed definition of distance education is; delivering education to the students by the help of satellite, video, audio, graph, computer, multimedia technology (United States Distance Learning Association, 2004). Education concept that is mentioned above is only covers higher education institutions; such a system of education has not yet implemented primary and secondary schools. Considering the population which can receive traditional higher education in the world, it is seen that the ratio is almost %17 (Irvine, 2003; Aktaran: Van Hook, 2005). For the various reasons individuals cannot reach higher education. So that; distance education helps individuals to reach higher education and importance of it increase day by day.

By explaining the phenomenon of distance education, classifications are made depending on place and time variables. The first of this classifications is traditional education system which is made face to face. Second is, education which is made at different time in same place. The practices carried out in training centers are not included in this classification. Third is, education which is made different time and different place. The aim of this type of education is asynchronous distance learning by eliminating the borders completely. It is known as distance education in the literature. Last one is, blended education which is performed at same time and different places. Blended education is usually performed by the help of technology (virtual classroom, video conference and etc.). These are synchronous educations. The scope of this study constitutes blended education. Blended education is also known as mixed or hybrid education in the international sources.

Even if different definitions is made by different authors about blended education (Troha, 2002; Aworuwa, 2004; Allen & Seaman, 2007; Picciano, 2009), basically it is a form of combining traditional education system and information and communication technologies. Blended education includes some learning models which can be regulated according to the shape and speed of the individual learning. Each individual's learning style and speed of learning is different. That's why, traditional education which made face to face or distance education (online) is not enough alone. So that importance of blended education has increased recently. Singh (2003) revealed that by blended education, more effective education environment has been occurred. Nevertheless the acquisition of this efficiency and effectiveness is possible by adaptation and understanding of participants to this system. Otherwise, there will be hitches in the process and planned positive developments will create a potential threat.

Transition process to the distance education has started between 1927-1960 years in or country by the way of communication. Nowadays distance education applications are available in the universities at the rate of %80. Especially for the new universities distance education has become a tool of competition and importance of this concept has been increasing day by day.

The aim of this study, evaluation of general opinion of students about this program whom is studying blended education at Sakarya University. For this purpose, comprehensive interviews were conducted with 10 students who are studying blended education in different departments. The interview touched upon issues such as; satisfaction of students from blended education, awareness level, expectations of students from the future and situations that they feel themselves advantageous and disadvantageous.

## LITERATURE REVIEW ON BLENDED EDUCATION

Some changes in education concept have occurred with the wide spreading technology. Traditional approach in face-to-face education has yielded to technology integrated new educational models. Blended education concept that examined in this study is one new educational trend, and described in different ways by different researchers. Driscoll (2002) has described this concept as using varying methods in order to reach educational goals, but Garrison and Kanuka (2004) have stated as the blending classroom learning with online experiences. Although these descriptions are quite different, generally accepted definition of blended education is using face-to-face and online educational materials in order to complete one another (Graham et al., 2013). Figure 1 will provide more explanatory information on blended education with other educational methods:



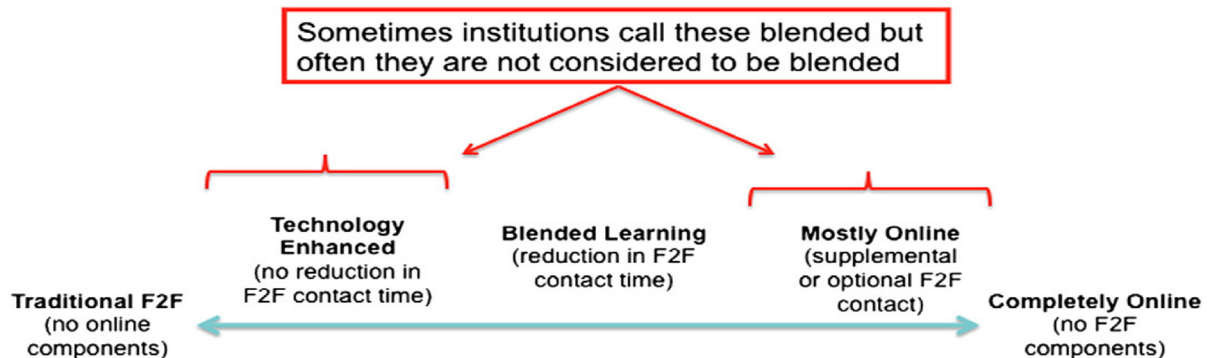


Figure 1: Educational Methods used in Higher Education (Graham, Woodfield, & Harrison, 2013)

Despite its simple and limpid definition, there are many debates on planning, implementing and acceptance of blended education. Although three application method (skill based, attitude/behavior based, and talent based) of Valiathan (2002) or hypothesis of Graham (2006) that claims the applicability of blended education to different educational levels were providing outline to practitioners for blended education planning, Halverson et al. (2014) have pointed out the ongoing serious disagreements in 41% of the studies on blended education in last decade about how education models, strategies, implements, environment and education context should be. Thus, all strategical plans have to be carried out in order to apply blended education in any course (Mortera-Gutiérrez, 2006; Sharpe et al., 2006).

Researchers described the significance of blended education by emphasizing the removal of geographical and situational borders and thus increase in learning quality with increasing interaction between lecturer and students (Bates, 2000; Garrison & Anderson, 2003). The studies applied in Tennessee and Stanford Universities are also supporting this thought with findings about positive effects of blended education on learning outcomes (Boyle et al., 2003)

Little, Passmore and Schullo (2006) tried to measure the perception of people in their study to investigate efficiency of virtual classes. The feedbacks from students revealed that education and communication levels increased due to hand lifting, voting and simultaneous class participation in synchronous class environments. Rovai and Jordan (2004) have claimed that blended education system with technological opportunities can provide sense of reality and so sense of belonging to both class and friends. With its elasticity (Macedo-Rouet et al., 2009; Porter, 2014) and cost saving (Dziuban et al., 2006), blended education has become more preferable than traditional education methods.

In 2014, Giannousi and her colleagues have chosen 60 students as a sample for their experimental study. Students were split into two groups; first group has taken 12 weeks face-to-face education, while second group was having 7 weeks face-to-face education and 6 weeks online courses. The provided course material and content are intended to be similar as possible for both two groups. At the end of course, students successes are evaluated by "knowledge test" derived from literature. Although there were obstacles in online education due to technical issues, second group is concluded more successful from the result of analyses. The most crucial reason for this result is that increasing opportunities in taking responsibilities have led students in second group to have increasing self-sufficiency and to become active learner. The findings of Di Napoli (2004) are also coinciding with our results.

In recent years, the scope of blended education researches has changed from student dimension to instructive and corporate dimensions. Moreover, the reasons behind the failure of blended education implements despite the positive feedback from students are tried to be determined. In one thesis (Mackinven, 2015) blended education is examined its student, instructive and corporate dimensions, extensive research is applied via both quantitative (survey) and qualitative (interview) techniques. In this study similar with other studies, both student and instructors are satisfied with student centered education system where responsibility is transferred from instructor to student. In corporate adaptation, there are serious lacks despite willingness. According to "blended learning adoption framework" suggested by Graham et al. (2013), the requirements of

stage 1 (awareness/exploration) and stage 2 (adoption/early implementation) are provided by university, necessary structuring and strategies have not been preferred level yet. Another study (Tshabalala et al., 2014) is claiming that the insufficiency of possibilities provided by institution (lack of policy, lack of personnel training, obstacles about computer connections, etc.) decreases the likelihood of success of blended education. Today, many educational institutions show a tendency to give a place to blended education in strategic plans (Garrison & Kanuka, 2004; Garrison & Vaughan, 2007).

Almost all studies mentioned above are showing positive ways of blended education, there are studies in the literature highlighting also negative ways. Koppelman and Vraklen (2008) have stated that student do not feel “real” due to technical failures. This finding is supported by also other studies (Gillies, 2008; Karal et al., 2011). This isolation feel poses problems like decrease in success, “attrition”, instructional ineffectiveness and dissatisfaction with the learning experience (Park & Choi, 2009). Face-to face communication seems like motivating factor by many students, some complains about decrease in the attention due to feeling of stress (Karal et al., 2011). Lee and Lee have mentioned about negative attitudes of students against blended education because of insufficient encouragement. Furthermore, Reeves (2003) has stated that blended education is considered as negative due to higher work load than traditional methods.

## METHODOLOGY

When examining the literature, there is not found such a subject which is studied at Sakarya University about blended education. That’s why, it is thought by authors that blended education should be handled detailed. In this study, the interview technique is decided as a qualitative research analysis method, because Creswell (2011) is defending an opinion that one who wants to go deep research on a specific subject should benefit from one of qualitative research methods. Furthermore, another reason is that in this method researchers have a possibility to involve in research process (Yıldırım & Şimşek, 2006).

There are different types of interviews. Interview used in this study can be an example of both group interviews and individual interviews. First of all pilot study have been performed with 3 student to control the intelligibility of questions. Then, individual interviews have been realized with 10 student and it is tried to be find out personal opinions of students about blended education.

### The Study Group

When determining the participants, all samples are tried to be taken into account which show all different situations existing in the universe. Rather than making generalization, the aim of this study is revealing common ideas of participants. To achieve this goal, maximum variety sampling has been used in this study. To identify it more explicitly, not only students who is studying same department but also students from different departments have been selected for interviews. In this context, interviews have been performed with 10 students from different departments such as finance, international trade, human resources management (HRM) and etc.. General information about participants have been situated on Table 1.

Table1: Information of Participants

Participant No	Gender	Age	Grade	Interview Duration	Department
1	Woman	26	2	17.09	HRM
2	Man	23	4	10.13	International Trade
3	Woman	21	4	08.06	International Trade
4	Woman	22	4	08.45	International Trade
5	Man	21	4	10.16	International Trade
6	Man	20	3	09.05	Finance
7	Woman	21	3	16.09	HRM
8	Woman	22	4	09.10	International Trade
9	Man	21	3	05.48	Finance
10	Man	24	3	08.23	Finance

### Data Collection

While preparing the form which is used as a data collection tool, literature has been examined about blended education. Most of the studies tried to touch upon the subject from the perspective of both student and technical perspective of online courses. This study focused on students. In addition to the literature review, pilot study has been performed with 10 students and then it has been tried to decide which questions should be asked to the participants. Finally, 10 questions have been selected and asked to 10 students. All participants have been informed about the aim of study and it has been allowed by the authors to make audio recording. Questions are as follows:

**Question 1.** What it comes first to your mind when you think blended education?

**Question 2.** Did you have any information about content of blended education before you select the program?

**Question 3.** Why did you prefer blended education?

**Question 4.** What is the advantages and disadvantages of blended education?

**Question 5.** Do you prefer again the same blended education program if you have second chance **Question 6.** Which type of courses following courses are more effective, online courses or face to face courses?

**Question 7.** Which types of courses are more suitable for blended education?

**Question 8.** Have you had any problems during the online courses? If yes, what are they?

**Question 9.** Did your expectations before you select the program and current situation match each other?

**Question 10.** Do you think, students who are studying formal education are more advantageous than you while applying for work?

First three the question focuses on the general opinions of students about blended education. Following four questions is asked in order to learn their views on the content of blended education. Question 8 is about technical problems and last two questions is asked to learn future expectations of students.

### RESULTS

Data which is obtained from the participants have been analyzed in this part of study. The results concerning about the study has been collected in 4 groups. These groups are related with general opinions, the content of education, technical problems and expectations. Every answer given by the participants has not been included to the study. Only more explanatory answers have been included to be clearer.

#### General Opinions of Participants about Blended Education

Responses of participants to the question of "What it comes first to your mind when you think blended education?" (Question 1):

-- *When I heard blended education for the first time, I thought that I can participate the courses both with day time education students and evening education students. I thought that if I do not attend the day time education I can attend the courses at evening education. (P8)*

-- *I have known al little information before I came to courses. First think that come to my mind that we would get a few course as an online. I did not like this style of education but I had to select blended education. (P3)*

-- *Main definition of blended education is, girls and boys got education together. I think they chose the wrong name for this type of training. It is a good system for students who have already a job. We don't have to come to school during five days. (P2)*

-- *The first thing that came to mind is not to go to school, lack of courses, excessive tuition fees. (P1)*

-- *Leisureliness (P9).*

Responses to the questions which are about content of education and why did they choose this program. (Question 2-3).

-- *I could not get good grades from the university exams because of graduating from vocational high school. Achieves scores of blended education was lower. So that I chose this program. (P2)*

-- *I had already a job so that I chose blended education. I thought that courses would only be online but I learned that I had to go to school two days a week. In addition I had to come to some courses weekdays and I had to quit work. (P1)*



- My score was low and I wanted to evaluate myself by participating other trainings. I could participate the courses also with day time education students and it was an advantage for me. (P4)
- I have already a job and I wanted to study in Sakarya. I thought that I will join the courses only as an online but I felt happy when I learned that the courses would also be face to face. (P5)
- I did not choose day time education and evening education. I only chose blended education. Even if I had high scores, in order to find another job I chose this program. (P7)

### Content of Blended Education

Advantages and disadvantages of blended education according to participants (Question 4):

- The biggest advantage that we have is online education. There is not any advantage of blended education except online courses. We have no right to get the state scholarship, we have no right to go Erasmus, we cannot benefit from state dormitory and these are disadvantage for us. (P2)
- We save the time but I feel alone. My other friends who study blended education have already a job and I cannot meet them. I have difficulty to make friends. (P1)
- I am satisfied, videos and lecture notes are on the system but tuitions are too much. (P3)
- I want to work in public sector so that I will study other courses in weekdays. I will evaluate myself. Documents that we have are enough to pass these courses but face to face courses are very limited. (P6)
- We spend very few times in university and we don't know teachers very well. It is disadvantage for us. We only come to school in Friday and Saturday and our sense of faithfulness to the school declining. (P7)

Responses to the question of "Do you prefer again the same blended education program if you have second chance?" (Question 5)

- No, I never want to study blended education again. If I had already a job it would be nice. But it will not help me. (P2)
- No. I chose because I am working but I prefer to leave the job. (P3)
- When someone asks my department I say blended education. But no one understands and they underestimate my department. Just because people behave like this I do not choose blended education again. (P5)
- If I knew that the courses are performed only in two days I would not chose blended education. (P6)
- I would never choose because I feel myself less effective than day time education students. They have to come to school every day but I sometimes do not come to school during one month. (P4)
- Even if success level of my friends who study at the same classroom with me is low, I have higher scores than them. Because I participate the courses also with day time education students. (P7)

Opinions about face to face courses and online courses (Question 6-7): Most of the students prefer online courses for qualitative subjects and face to face courses for quantitative subjects. Responses to the question of "which courses are more effective?" are as follows:

- Of course face to face courses are more effective. We have difficulty to adapt online courses because we face some technical problems. (P4)
- Because of the advantage of asking questions to the teacher easily, online courses are more effective. (P5)
- We don't have enough communication with teacher and other students in online courses. (P6)
- Face to face courses are more effective because I can communicate with teacher easily but it is a good thing to watch the courses again and again as an online. (P2)
- Online courses can be watch again and again but teacher cannot explain the subject ten times. Online courses can be sometimes weak in respect of asking questions. (P7)

### Technical Problems

- The time of lectures can be changed by lecturers and We cannot be informed. Normally lecture times are determined but lecturers sometimes change it. (P2)
- I always have connection problems. (P1)
- Because of technical problems the courses always start late. (P3)
- The sound of teacher's microphone and image quality is not very good. Attendance is very low. (P6)

-- I live in dormitory so that I have connection problems frequently. (P8)

### Expectations

Responses to the question of "Did your expectations before you select the program and current situation match each other?" (Question 9)

-- I expect equal proceeding, but it did not. Courses that day time education students and blended education students study are different from each other. We participate the courses which is irrelevant with our department. (P2)

-- I have associate degree from human resource management. Students were not active in my old school. But the situation is different here. Students are very active. I came to school only two days and I cannot meet with day time education students. I feel unhappy. I did not think like this before coming the university. (P1)

-- I was expecting it to be different that the lecturer's approach to us. They sometimes behave like "I don't have to tell you detailed, study before coming to classroom." (P3)

-- I started with a lot of dreams but I am disappointed. Neither my work life nor my school life is not like I dreamed. (P5)

-- I thought the courses would be more attentive but it was not. I think blended education will be removed in future. (P6)

-- I have never regretted because I chose my program deliberately but I feel bad because my class's success level is low. (P7)

Responses to the question of "Do you think, students who are studying formal education are more advantageous than you while applying for work?" (Question 10):

-- When I graduate from this department name of blended education program will be written in my diploma. This is not problem for employers but if they know content and simplicity of courses they do not hire us. (P2)

-- If employer knew that I graduate from blended education program it will be disadvantage for me. Because day time education students are more active than us and I jealous of them. (P1)

-- I do not think like this. I think I am more advantageous from day time education students. Because I can both study and can get public sector experience. (P10)

-- Kind of education do not make people more advantageous or disadvantageous. I think that more you improve, more advantageous you become. (P3)

-- If blended education is written on our diploma employers would not want to hire us. Employers cannot know our education style if we don't say. (P4)

-- Since it is not fully developed system, it is more disadvantageous in our country (P5).

-- I am not telling people that I am studying blended education. I am telling that I am studying day time education (-smiles-), I will also not mention about this situation in job application, because it will be disadvantageous for me (P6).

-- It will be deterrent factor if "blended education" is written on my diploma. I do not want to be evaluated as one of Open University students.

### RESULTS AND DISCUSSION

In today's technology area, having computers and smart phones of all most all students caused increase in digital divide among youth. Unlike traditional methods, technology-based applications like e-health, e-commerce and e-government have necessitated the changes in education. This process has started with changes in distance education, and continued with blended education that is huddling e-learning and face-to-face education together. There are literature espousing the positive effects of online learning methods with traditional education in many areas from medical to physical training and sport (Scherl et al., 2012; Leong et al., 2012; Maloney et al., 2013; Stanescu et al., 2014). According to some studies, blended education does not always have to provide advantages. For instance, Vaughan and Garrison (2005) have concluded their study with no evidence proving positive effects of blending education on students' cognitive presences. Park and Choi (2009) stated that negative prejudice of students on system results as refusal of usage of system.





In this study, students' comments are stated as the most significant factor of blended education. In-depth interview is conducted to 10 students from varying departments and results are showing that all participants except P7 are dissatisfied with blended education. The causes behind this situations are high tuition fee, nonuse of opportunities provided by government and university (scholarship, Erasmus, loan etc.), indignity of lecturers and other reasons. Furthermore, the obstacles in using online course portal are accepted as the negative factor on students' choice of blended education by Wai and Seng (2015) similarly with literature.

In almost all interviews, participants used "nice though" expression, but only P7 answered "do you choose blended education once more?" question as yes. General perception is that blended education suits for employed individuals and makes individuals feel deficient. Although according to Ilgaz (2014) the question-answer issue in online courses is solved by instant answering technique, the expected utility could not be taken from questions in written form according to our participants. Besides all these negativity, participants stated that they are pleased with time and place-free online courses and more time spared for themselves.

First blended education students have been admitted since 2008 in Sakarya University, but today many blended education program are decided to be closed. There may be many reasons lying under this situation, yet the most significant reason is unwillingness of lecturers for all day courses. The real cause of failure of this system is direct application of blended education without waiting adaptation of all components of university (Deveci, 2015). Since only the perspective of students is stated in this study, these conclusions are lying on students' comments. In further studies, the comments of lecturers and university administration can be researched for more detailed information about blended education.

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## TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE (TPACK) OF ENGLISH LANGUAGE INSTRUCTORS

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### Abstract

The aim of the study is to investigate the perceptions of English language instructors' Technological Pedagogical Content Knowledge (TPACK) within the context of teaching EFL. The participants of the study consist of 127 language instructors teaching English at different levels at different state universities in Turkey. Data were collected by means of TPACK-EFL Survey (Baser, Kopcha & Ozden, 2015) with some demographic questions and other questions included by the researcher to gather in-depth information about technology use in teaching. According to the results of the study, English language instructors feel themselves the most competent in their subject matter, English language. However, they do not think that they are highly competent in integrating technology into their content teaching with sound pedagogy.

**Keywords:** language teaching, self-assessment, technology integration, TPACK.

### INTRODUCTION

As an international phenomenon, technology is an important part of our everyday lives and efforts to improve teaching and learning (Roblyer, 2006). Recently, technology has been increasingly used for educational settings and technology integration is using computers effectively and efficiently in the general content areas to allow students to learn how to apply computer skills in meaningful ways. Rather than seeing it like a foreign invader, we should use it to overcome the obstacles that stand in the way of a better and more productive way of life (Roblyer, 2006). As we look at what is happening with technology in classrooms, we see that some of the most innovative and promising practices in education involve technology which provide great benefits for teachers. However, integrating technology into classroom instruction means more than teaching basic computer skills and software programs in a separate computer class. Effective technology integration must happen across the curriculum in ways that research shows deepen and enhance the learning process. As O'Bannon (2011) indicated that it must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts. Effective technology integration is achieved when the use of technology is routine and transparent and when technology supports curricular goals.

With the help of multimedia and Internet, integrating computer in teaching and learning languages has also become more effective and useful. Along with its various tools and being an effective instructional aid, technology has been a crucial element in the process of teaching and learning languages. Using technology in teaching foreign languages learners can serve several functions. It can increase interaction among students and with "real-life audiences" outside the classroom; meet the different learning styles of students; make learning authentic through providing students with materials and activities relevant to the real world; and create a positive learning environment that are supportive and open (Young, 2003). Using it in the teaching and learning process can facilitate communication among students and build language skills that students need not only in but also outside the classroom and it makes classes more interesting. Using technology in EFL teaching can



encourage students to be more responsible for their EFL learning, increase their confidence, and motivate them by providing them with interesting materials (Lee, 2000).

As for potential benefits of technology integration in teaching English as a foreign language, the researches conducted on the benefits of Computer Assisted Language Learning (CALL) on ELT has acknowledged that using technology was beneficial in many aspects. It was found out that successful implementation of technology brought about innovative changes such as the opportunity for authentic communication, fostered student motivation and autonomy, and increased attendance of the unwilling and shy students; as a result, the students felt more confident to communicate through a medium and had more time to think during communication (Lee, 2000; Yang, 2001; Young, 2003).

Technology is becoming an inseparable part of language education day after day and has the power to improve teaching and learning, but it can also make a teacher's life more complicated. Therefore, teachers' knowledge has become very important for successful integration of technology in education (Jeong So & Kim, 2009). Acquiring proficiency with instructional technology is crucial and necessary to integrate technology into education effectively. As van Olphen put forward (2008), without the experience and expertise needed to effectively engage with technology, pre-service and practicing teachers, if they use technology at all, tend to use it in superficial, low-level ways. The resultant absence of meaningful technology integration in classrooms has led to a disconnection between the current generation of students who have spent their formative years immersed in technology (digital natives), and their teachers (digital immigrants) whose experience with and knowledge of the digitized world may be underdeveloped (Prensky, 2001). What is expected from today's schools is to raise individuals who are equipped with the skills of access to information and use it effectively. Teachers and teacher education programs play a very important role in teaching technology in the most productive way and making both teachers and learners to keep up with the rapid developments in technology and education to satisfy the constantly changing expectations of learners (Akkoyunlu, 2002). In the teaching process, teachers are the key for applying new technologies efficiently and successful integration of technology depends mostly on the teachers and their understanding of how it can help the students to enhance their learning. Therefore, it is essential not only how you teach (pedagogy) and what you teach (content), but also which materials (technology) you use while teaching (Koehler and Mishra, 2008).

#### **Technological Pedagogical Content Knowledge (TPACK)**

Building upon the work of Schulman (1986), which introduced the construct of Pedagogical Content Knowledge (PCK) applicable to the teaching of specific content, Koehler and Mishra (2006) proposed a framework to add technology competency as one of the foundational components that 21<sup>st</sup> century teachers should have to effectively integrate technology into teaching and learning. The framework of Technological Pedagogical Content Knowledge (TPCK, later changed to TPACK) (figure 1) consists of three main components of knowledge: content, pedagogy and technology and emphasizes the importance of the interactions and the complexities among all three basic knowledge domains including pedagogical content knowledge (PCK), technological content knowledge (TCK), technological pedagogical knowledge (TPK) and technological pedagogical content knowledge (TPACK). It refers to the complex interrelationship between a teacher's technology use, instructional methods, and understanding of the subject matter. TPACK knowledge types and their descriptions are listed in Table 1 (Mishra & Koehler, 2006).

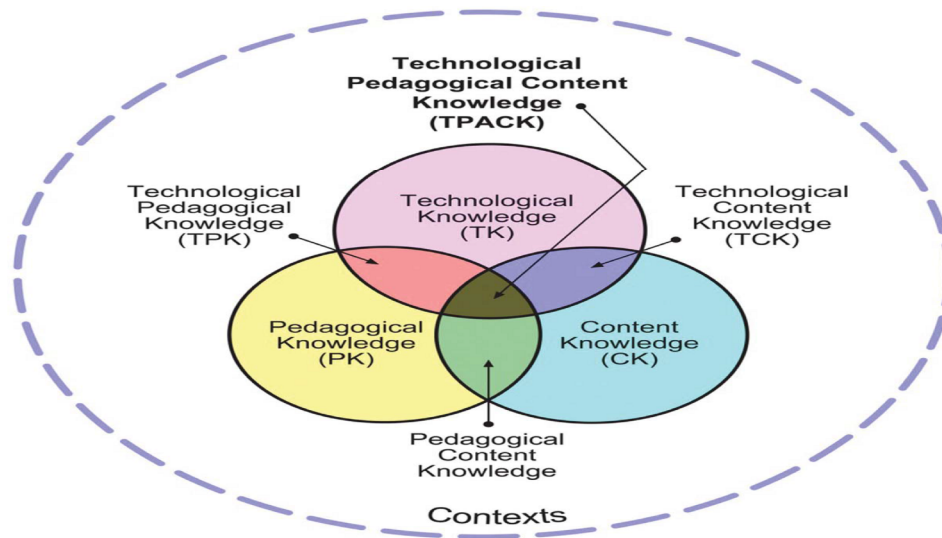


Figure 1: The TPACK framework (reproduced by permission of the publisher, ©2012 by <http://tpack.org>)

Table 1: TPACK Knowledge Types and Their Descriptions

Knowledge Type	Description
<b>Technological Knowledge (TK)</b>	Knowledge and skills of traditional, current and emerging technologies
<b>Content Knowledge (CK)</b>	Knowledge about the subject matter for teaching and learning.
<b>Pedagogical Knowledge (PK)</b>	Knowledge about methods and process of teaching, such as classroom management, assessment and student teaching
<b>Pedagogical Content Knowledge (PCK)</b>	The tacit of blending content and pedagogy for developing better teaching practices
<b>Technological Content Knowledge (TCK)</b>	The tacit of blending content and technology for developing better teaching practices.
<b>Technological Pedagogical Knowledge (TPK)</b>	Knowledge of the affordances of technologies and what teaching strategies can be combined with those affordances to leverage learning outcomes
<b>Technological Pedagogical Content Knowledge (TPACK)</b>	Teachers' understanding of the interplay among content, pedagogy and technology as well as the procedural knowledge of integrating technologies into their teaching routines.

Integrating technology into teaching is a complex issue requiring a broader and deeper understanding of complicated interactions among multiple types of knowledge such as content, pedagogy, technology and context (Koehler et al., 2007). For an effective and successful language learning and teaching, it is important to reveal the perceptions of the language teachers' self-efficacy on technology integration into language teaching and how they use technology in relation with content and pedagogy. In addition, the underlying factors that can foster and hinder technology integration are needed to be understood and studied to help the teachers effectively integrate innovative technology into their teaching. In this way, TPACK framework is helpful to fulfill these goals and by using this framework, this study hopes to shed some new light on this topic by trying to find out the perceptions of English language instructors' about their TPACK in a Turkish context.

## METHOD

### Purpose of the Study

The purpose of this study is to investigate the perceptions of English language instructors' Technological Pedagogical Content Knowledge (TPACK) within the context of teaching EFL.

### Research Design

This study is descriptive and employs a quantitative survey approach on the perceptions of English language instructors' within the context of teaching EFL. However, it also employs a qualitative approach by having some open-ended questions added by the researcher about technological tools the instructors used in language teaching and about the contribution of using technology in language teaching.

### Population and Sample

Population of the study is all the English language instructors teaching at university level; however, the sample of the study consists of only 127 English language instructors working in different universities and teaching English at different levels chosen by purposeful and convenience sampling. Demographics of the participants are given below in Table 2.

Table 2: Demographics

Demographics	N		Demographics	N	
	f	127 %		f	127 %
<b>Gender</b>			<b>Education</b>		
Male	39	69.3	B.A.	60	47.2
Female	88	30.7	M.A. /M.Sc	53	41.7
			PhD	14	11
<b>Age (years)</b>			<b>Major</b>		
20-25	4	3.1	ELT	84	66.1
26-30	36	28.3	ELIT	32	25.2
31-35	43	33.9	TRANSLATION	3	2.4
36-40	25	19.7	ALIT	3	2.4
41+	19	15	ELING	5	3.9
<b>Experience(years)</b>			<b>Technology Use</b>		
1-5	21	16.5	Yes	125	98.4
6-10	47	37	No	2	1.6
11-15	37	29.1			
16-20	9	7.1			
21+	13	10.2			

### Data Collection and Analysis

Data were collected via TPACK-EFL Survey (Baser, Kopcha & Ozden, 2015) which intends to assess foreign language teachers' knowledge of TPACK addressing subject-specific pedagogies and technologies. The content validity of the TPACK-EFL Survey was established through expert and pre-service teacher reviews, literature and document analysis. The construct validity was provided via exploratory factor analysis (EFA) showing a seven-factor structure explaining 70.42% of the variance in the model. As a result, the survey included a total of 39 items referring to the categories of TPACK framework were, 9 technological knowledge (TK); 5 content knowledge (CK); 6 pedagogy knowledge (PK), 5 pedagogical content knowledge (PCK), 7 technological pedagogical knowledge (TPK), 3 technological content knowledge (TCK) and 4 technological pedagogical content knowledge (TPACK) descriptively. It employs a nine-point rating scale that ranged from 'nothing/ none' (1) to 'very little' (3) to 'some' (5) to 'quite a bit' (7) to 'a great deal' (9). Evidence for internal consistency was maintained through reliability coefficients calculated as TK: .89, CK: .88, PK: .92, PCK: .91, TCK: .81, TPK: .91 and TPACK: .86, which was satisfactory as Fraenkel and Wallen (2008) suggested that values are above .70 are acceptable. Therefore, this survey proved to be valid and reliable for further studies.

Descriptive statistics were used to analyze the quantitative data. Means, standard deviations and percentages were calculated. To analyze the open-ended questions added by the researcher about technological tools the instructors used in language teaching and about the contribution of using technology in language teaching, the answers were coded and categorized qualitatively.

## FINDINGS

### Results of the Qualitative Data

Before conducting the descriptive analysis, factor analysis of the survey for this study was performed and the results revealed that there were seven factors as in the main study explaining 35.4% of the covariance among items (Baser, Kopcha & Ozden, 2015). Before EFA, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity values were performed. These tests provided evidence of the appropriateness of factor analysis and the presence of correlations among variables. The KMO value was calculated as .89. Tabachnick and Fidell (2001) suggest that when this value is relatively large (greater than .60), there is an underlying structure of the survey and that factor analysis is warranted for the sample size associated with the measure. Bartlett's test of sphericity (BTS value= 3397.59,  $p < 0.001$ ) was found to be significant, showing that correlations among factors were not zero. The internal consistency reliability coefficients (Cronbach's alphas) within each construct were also satisfactory as calculated, TK: .87, CK: .88, PK: .84, PCK: .85, TCK: .83, TPK: .80 and TPACK: .81, which are all above .70 (Fraenkel and Wallen, 2008).

Table 3: The Descriptive Results of the TPACK Knowledge Types

TPACK Knowledge Types	<i>M</i>	<i>SD</i>
Technological Knowledge (TK)	7.14	1.30
Content Knowledge (CK)	8.65	.53
Pedagogical Knowledge (PK)	7.45	1.18
Pedagogical Content Knowledge (PCK)	7.89	1.07
Technological Content Knowledge (TCK)	6.41	1.94
Technological Pedagogical Knowledge (TPK)	7.15	1.43
Technological Pedagogical Content Knowledge (TPACK)	6.30	1.91

The mean scores of the validated TPACK-EFL survey range from 6.30 to 8.65. According to the results, the mean score of CK is the highest one ( $M=8.65$ ,  $SD=.53$ ) perceived by the English language instructors which is between "7-quite a bit" and "9- a great deal", but closer to "9- a great deal". This means that the participants see themselves in their content area, which is English language, competent. The highest mean in CK is the item "I can understand texts written in English" ( $M=8.82$ ,  $SD= 0.51$ ) the lowest is "I can understand the speech of a native English speaker easily" ( $M=8.29$ ,  $SD= 1.01$ ). CK has the lowest SD, which indicates that this knowledge type did not vary greatly with respect to other knowledge types. On the other hand, the lowest mean score was in TPACK ( $M=6.30$ ,  $SD=1.91$ ) which is between "5-some" and "7-quite a bit". In other words, participants do not think that they are highly competent in integrating technology into their content teaching with sound pedagogy. The highest mean in TPACK is for the item "I can support my professional development by using technological tools and resources to continuously improve the language teaching process." ( $M=7.33$ ,  $SD= 1.82$ ). Whereas, the lowest mean perceived by the participants is for the item "I can use Web 2.0 tools (animation tools, digital story tools, etc.) to develop students' language skills." ( $M=5.22$ ,  $SD= 2.67$ ).

All the other knowledge types, TK ( $M=7.14$ ,  $SD=1.30$ ), PK ( $M=7.45$ ,  $SD=1.18$ ), PCK ( $M=7.89$ ,  $SD=1.07$ ), and TPK ( $M=7.15$ ,  $SD=1.43$ ) were slightly above "7-quite a bit" except for TCK ( $M=6.41$ ,  $SD=1.94$ ) which is slightly below "7-quite a bit". The highest mean score for TK is for the item "I can use computer peripherals such as a printer, a headphone, and a scanner" ( $M=8.40$ ,  $SD=1.14$ ), whereas the lowest one is "I can use collaboration tools (Wiki, Edmodo, 3D virtual environments, etc.) in accordance with my objectives" ( $M=5.04$ ,  $SD= 2.76$ ). As for PK, the item which has the highest mean score is "I can design a learning experience that is appropriate for the level of the students" ( $M=7.95$ ,  $SD= 1.37$ ); on the contrary, the lowest one is "I can collaborate with school stakeholders (students, parents, teachers, etc.) to support students' learning." ( $M=6.81$ ,  $SD= 1.99$ ). When we look at the PCK results, the highest mean is in the item "I can evaluate students' learning processes" ( $M=8.14$ ,  $SD= 1.09$ ) and the lowest one is "I can prepare curricular activities that develop students' language skills" ( $M=7.54$ ,  $SD= 1.57$ ).

In TCK, the highest mean score is for the item "I can take advantage of multimedia (e.g. video, slideshow, etc.) to express my ideas about various topics in English" ( $M=7.88$ ,  $SD= 1.58$ ) and the lowest one is "I can use



collaboration tools to work collaboratively with foreign persons (e.g. Second Life, wiki, etc.)" (M=5.37, SD=2.67). Finally, for TPK the highest mean score is for the item "I can manage the classroom learning environment while using technology in the class" (M=7.83, SD= 1.40) and the lowest one is "I can support students as they use technology such as virtual discussion platforms to develop their higher order thinking abilities" (M=6.43SD=2.44).

### Results of the Qualitative Data

Besides assessing the self-perceptions of the English language instructors' TPACK in EFL context, they were also asked what kind of technologies they used in language teaching. Based on the results, the answers were categorized as Learning Management Tools, i.e. Schoology, Moodle; Social Networking and Bookmarking Sites like Facebook, Twitter, Instagram; Blogs and Wikis as Edmodo, Edublogs, online journals on ELT; Presentation preparing tools like Animoto, Prezi, Powerpoint; Resource Sharing tools as Google Sites, Google Docs, Dropbox, Voice Thread, Flickr, Slideshare, TeacherTube, SchoolTube and mostly YouTube and other video channels; Web Exercise/ Activity Creation tools like ESL Video, Kahoot, Hot Potatoes, Quizlet, Online Quiz Creator, Wordle, Digital Story Telling, Spelling City. There are also basic technological tools widely used by the language instructors which are projector, computers, tablets, mobile phones, tape recorders, course book softwares (I-tools). Moreover, the participants were asked in what ways integrating technology promotes language learning and teaching. Based on the results, the following ideas emerged.

Integrating technology into language learning and teaching...

- makes learning process more vivid and attracts students' attention
- increases motivation, interest and recalling
- sparks learners enthusiasm to learn a language
- increases participation in class activities
- can appeal to the students with different learner styles and intelligences
- saves time and energy
- helps access authentic and intercultural materials and real-life experiences directly
- gives faster feedback to the students
- promotes self-study and autonomous learning skills
- provides freedom for the teacher and the student
- gives chance to new ideas and suggestions

### DISCUSSION AND CONCLUSIONS

The purpose of this study is to investigate the perceptions of English language instructors' Technological Pedagogical Content Knowledge (TPACK) within the context of teaching EFL. Based on the data obtained from the TPACK-EFL Survey, English language instructors feel themselves the most competent in their subject matter, English language. This result is not very surprising because they should have the necessary knowledge in all four skills in their content area so that they can teach well. Their pedagogical knowledge also supports the results of the content knowledge that the English language instructors feel themselves sufficient in planning the courses, designing learning activities, using the necessary teaching methods and techniques that are appropriate for a learning environment, supporting students' learning inside and outside the classroom and managing the classroom for an effective teaching and learning process. When we look at the technological knowledge, the participants can use the basic hardware of the computer and tools, like projectors, OHPs, CD recorders, printer, scanner, smart boards, office programs, etc. However, they felt less competent in troubleshooting the computer or Internet problems independently; or creating multimedia and using collaboration tools in accordance with their objectives.

As stated in the findings, the lowest mean scores are in TPACK because the English language instructors do not think that they are highly competent in integrating technology into their content teaching with sound pedagogy. Although they believe that they can improve themselves in using technological tools and resources to improve the language teaching process via professional development, they do not feel themselves secure in



using Web 2.0 tools, collaboration tools or virtual worlds. It may be due to the lack of training they had during their pre-service education or lack of professional development and motivation to use technology.

In conclusion, in order to provide a better and effective language teaching, firstly we should equip the teachers with the required skills and knowledge. This can be achieved by devoting more time and effort for professional development for technology integration. In addition, teacher education programs should offer pre-service teachers with courses teaching technology in contexts that focus on the relationship among technology, content and pedagogy, mainly TPACK. Rather than giving superficial theoretical knowledge for technology integration, they should be provided more practice both in class and in practicum at schools. By having the sufficient knowledge and skills for technology integration, the teachers will have high self-confidence and motivation which will enable them to integrate technology more into their lessons. Finally, the technological infrastructure and facilities at schools and faculties should be improved so that teachers can apply their knowledge and skills for a better and effective learning environment.

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## SMARTPHONES AS TOOLS FOR DISTANCE EDUCATION

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### Abstract

Needs of students become so sophisticated that they refuse to carry heavy weight laptops or books; and they save everything in their phones. After observing that all the students taking the course have Smartphones and are already using these for educational purposes like note taking and googling; some courses at the British University of Nicosia are started to be delivered as a distance education course via Smartphones; and these devices are also used for assessment and evaluation. Purpose of this study is to find the attitude of students to mobile education and to measure the difference of success between traditional education students, blended education students and mobile education students. Also, paper discusses application problems and suggest solutions. Students were astonished to see their results and mistakes at the end of mobile exams and teachers were happy that they do not have to read lots of papers for hours.

**Keywords:** Smartphones, Students, Distance Education, Mobile Education.

### INTRODUCTION

Smartphones combine multiple features; give mobility and entertainment to its users that these advanced technological devices become unavoidable part of most people's lives. A high percentage of students at universities have a latest technology Smartphones and are professionals using its facilities like finding their ways with GPRS, taking pictures, creating albums, using specially the following programs like Gmail, Viber, WhatsApp, and Facebook perfectly with their phones. Due to the reasonable mobile internet connection plan prices, this usage increases day by day. According to eminent pedagogy expert Scott P. Simkins, as far as technological innovations is concerned, it is not pedagogy itself that mattered, but how pedagogic innovation is used by taking into account the specific environment in which it is adopted (George, 2014). Distance education aim is making courses available to students every time and Smartphones are making this goal easy to achieve. They combine multiple features as well as giving more mobility and entertainment to its users that these advanced technological devices become unavoidable part of most students' lives.

The Smartphones are "the hand held computers" for configuring the daily schedules, saving large documents, for watching videos, listening music, using internet, using world wide web, video conferencing and lots of other things that they weren't doing a decade before. Now days, they even turn their Smartphones to Projectors; share video or audio and make multimedia presentations with their high megapixel cameras. What is important is motivating students to our courses, and this process is easier when we refer to their own education equipment choices. The Activity Theory states clearly that all human activity is oriented towards goal attainment and that this process is mediated by tools (Kirkwood, 2005). Training of learners through activities is a sure way of inculcating the requisite and desired skills (Rajesh, 2015); and it easier with the use of Smartphones in education.

By 21<sup>st</sup> century, it is well known that distance education courses are as good as the traditional ones. Without convincing people that distance education courses are successful and without providing the necessary infrastructure; we cannot expect them to be successful (Tuncay & Poyraz, 2013; Tuncay&Öznacar, 2014). For example, Russell (2002) based on his study of an extensive database of 355 citations to educational articles over the past century that document no significant difference in student achievement when distance learning is compared to traditional modes (Gaudelli, 2006); where personal outcome of distance education students is connected positively to the self-determined forms of motivation and negatively to those which are less self-determined. The achievement of personal goals through a combination of needs, tension, tendencies, forces



and urges, which lead the individual to express and maintain a voluntary activity (Hoy and Miskel, 1982; Weinberg & Gould, 2003; Goulimaris, 2015) relate with the desire of an individual to satisfy a need, to achieve a goal or to try and surpass him/herself or somebody else (Harrison, et. al., 1996) which also is the tendency of individuals to try and satisfy their needs and achieve their goals (Robbins, 1998; Goulimaris, 2015) which brings out the results that students and their motivation are the most important part of the success of our courses. Therefore, educators should choose the tool which motivates students most.

Despite the bandwidth limitation, many researchers agree that videoconferences add a human touch to online learning and decrease the psychological distance between students (Lim, et.al. 2012). Thanks to the new technologies like Samsung S6 or iPhone6, videoconferencing is now possible with Smartphones. The heavy desktop computers or laptops are losing attraction among students and educators. Communication through live videos also enhances authentic student-student interaction (Smyth, 2011) and this is unavoidable part of distance education courses. There are several different ways of free video conferencing that people today are using for different purposes, but mainly for communicating with their families, friends and colleagues. Some examples of these are: TeamViewer, AnyMeeting, Google+ Hangout, Skype, Spreed Meeting, ooVoo, GoToMeeting Free, Room.co, BigMarker, Gruveo, magnocall, vline, LiveCage, Veeting, Teembox, Ninchat, liveminutes, camdip, meetfm, hall, emeet.me, faceflow, livecage, mebeam and VSee. Of course distance educators are keen on downloading these mainly web-based video conferencing tools and holding one-to-one or group video calls. Among these BigMarker, Skype, Veeting, Ninchat, Google Hangouts, Zoom.us, Livecage, ooVoo are good for group-calls up to 10 students. Thus, distance educators can divide easily their students to groups of 10 and have their students present their group work face-to-face! However, we have again the obstacle that our students do not like carrying their laptops with them and instead of buying a laptop, most of them prefer buying a latest technology Smart Phone and insist on not using a laptop for any project. They even use online office programs like Word, Excel and PowerPoint for preparing their homework's, instead of using them with a laptop computer. That is for, distance educators start selecting video conference programs like Skype, ooVoo, Tango, Hangouts, Viber, Video Chat, Mico and SOMA which work perfectly with for Smartphones and which are preferred by students due to their being fast and easy. Everything start changing one by one by the time that Smartphones are introduced to the education life. Educators and researchers start discussing this new technology in their reports (Wagner, 2008; Nawi et al., 2012; Shuib, 2010; Aliff & Isa, 2014; Nawi, et. al., 2015). It's clear that portable equipment like mobile phones makes m-learning possible at any time, and any place compared to the use of a notebook that can easily be damaged and does not last long (Wagner, 2008; Nawi et al., 2012; Shuib, 2010). As a result of some research studies among Islamic Education teachers, that are delivered for using mobile phones in secondary schools; it is seen that there is potential for m-learning produced for Islamic Education in secondary schools (Aliff & Isa, 2014; Nawi, et. al., 2015).

In the literature, it is found that there are lots of distance educators who have used mobile devices such as laptops and PDA's in distance education; some used digital media file called podcast, that plays sound; is accessed from a website, and can be opened and/or downloaded to play on a computer or portable player in which learners are active creators of the content knowledge and active participants in their learning (Salmon, et.al., 2008; Bell, 2011; Dianne Forbes & Elaine Khoo, 2015) and in these for feedback to be formative, participants must be willing to learn from each other within a community of inquiry (Garrison, Anderson, & Archer, 2000); some used learning management systems like Moodle and Blackboard (Servonsky, 2005; Bradford, 2007); some used blogs like Wiki, Blogger and WordPress; and very few of them used Smartphones as main distance education tool. What is more, there could not be found any information in the literature about the Smart Phone Exam experiences of distant learners. Student perspectives are a vital guide for future directions in teaching and learning (Dianne Forbes & Elaine Khoo); therefore in this research study aimed first finding students attitudes to Smart Phone usage; and delivered 3 different groups of education to measure if there is any significant difference between students having Mobile Courses or other courses; and then the research is directed to students perspectives of Mobile Education. This research is significant in its own ways of research and the findings.

## METHOD

75 Comp 111 (Information Technology course) Students in British University of Nicosia, are divided to three groups: Traditional Group, Blended Group and Mobile Group. This division is done according to students their own choices and preferences. Students which have an old version of Smartphone and do not trust their skill of using it, opt for Traditional Group; students which have the latest technology of Smartphone, and are already doing lots of learning with it, opt for Mobile Group. Some of the students which work in part time jobs opt for Blended Group and some opt for Mobile Group. Thus, 3 groups of students have the Comp 111 course for 4 months (October 2015- January 2016) accordingly in the groups that they have chosen. Table 1 shows group statistics according to sex of students. In traditional group there were 18 Male, and 7 Female students; in Blended group there were 15 Male and 10 Female Students. Some researches stated that there may be difference between female and male students (Ozyurt, 2015, Stoilescu, 2010), e-device usage skills and preferences. Therefore, this is also taken into consideration in the study.

Table 1: Groups Statistics

		Female	Male	Total
<b>Mobile Group</b>	<i>Traditional</i>	7	18	25
	<i>Blended</i>	10	15	25
	<i>Mobile</i>	13	12	25
<b>Total</b>		30	45	75

**Traditional Group students** have face-to-face education with computers and projectors. “Traditional” name is used for this group, since traditionally all computer courses take place face-to-face in a class with computers called labs. This group students had to come to the class every day. These students have a paper exam as a midterm exam and 2 mobile exams as an end of the course exam. An example of a mobile exam is shown in Figure 1. Students come to the classroom, and take only their smartphones with them. When the time comes, course teacher sends the exam to the student’s phones and they start solving it. After the students starts the exam, every attempt of the students is send as a message to the teacher. Teacher monitors the exam also from the Smartphone. As soon as the student finishes the exam, the students score comes to the screen and the analysis of the quiz also. An example from the end of page can be seen at the figure below.

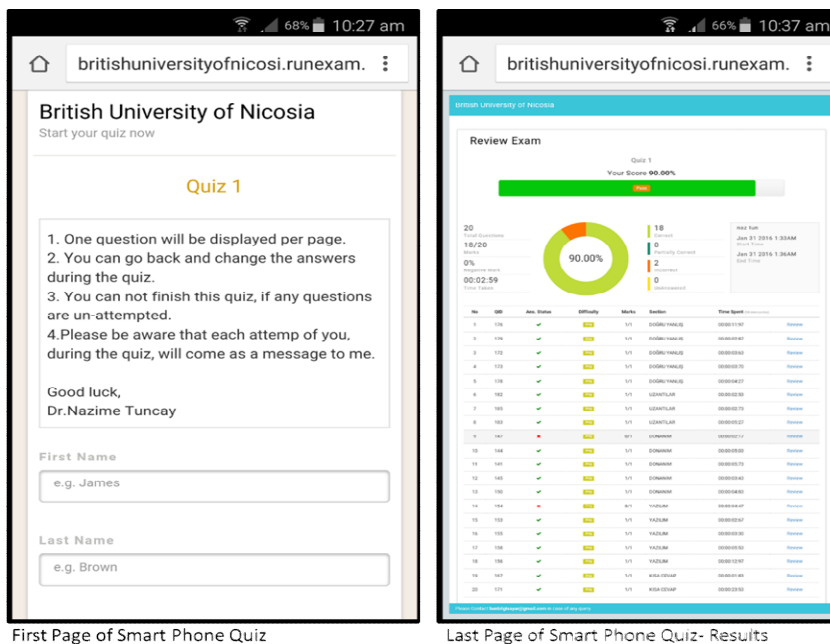


Figure 1: First and Last Page of a Smart Phone Quiz - in Vertical Layout

**Blended Group students** come to class some days and follow the courses that they do not come from their Smartphones (see Figure 2). These students have a paper exam as a midterm exam and a 2 mobile exams as an end of the course exam.

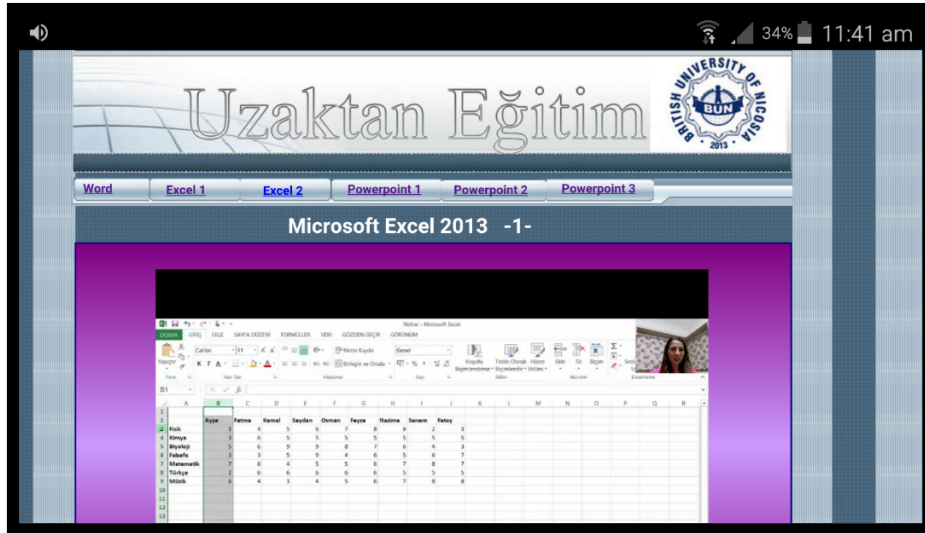
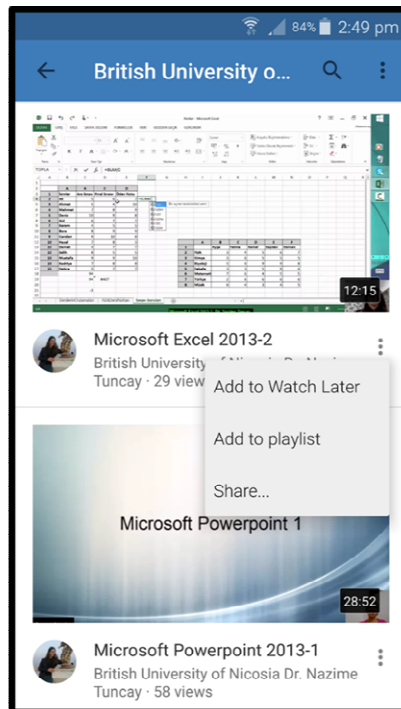


Figure 2: Videos in a Smartphone with Smartphone Horizontal Layout

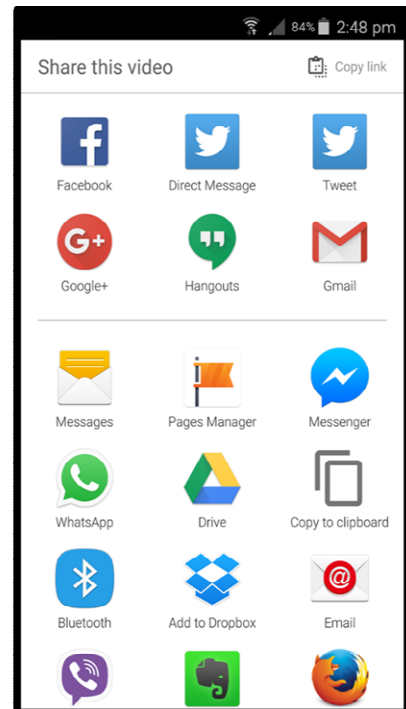
**Mobile Group students** do not come to the class at all and they follow course blog as well as the course videos that the course teacher have recorded for the Comp 111 students. Thus instead of listening to the course teachers explanations face to face in traditional classroom, the students were accessing to the course videos (see Figure 2) and doing the assignments that were announced in the course blog (Figure 3). These students were called only to the classroom twice for the examinations: A paper exam and a 2 mobile exams.



Some Examples of SmartPhone Classwork



Some Examples of SmartPhone Videos



Sharing Classwork and Videos

Figure 3: Blog- Video Page and Sharing in a Smartphone

Purpose of this study is to find the attitude of students to Smartphone education and to measure the difference of success between traditional students, blended students and mobile students. For this purpose, a modern traditional course, a mobile course and a blended course is delivered to three groups of students in the British University of Nicosia. In the mobile courses all courses and exams are delivered to students via Smartphones; where in the blended courses, only some of the courses and the exam was with Smartphones.

## RESULTS AND DISCUSSIONS

### 1. Students' Smartphone Usage Statistics and Attitude towards Smart Phone Usage

An online questionnaire is prepared to collect data about students Smartphone usage. Some results from this questionnaire is listed below.

**1 Number of Hours that Students use Smart Phone:** It is found that 12 students use Smartphones less than 4 hours, 41 students use Smartphones less than 10 hours; and 22 students use Smartphones more than 10 hours a day which is really a lot. If we think that a human being spends at least 10 hours for his personal needs like, sleeping, eating, bathing,... than it means that they are today's student not only carry these devices in their pockets or handbags but they are really busy with some type of work with their Smartphones. In other words, %84 of the students were using Smartphones more than 4 hours a day (see Table 2). This means, if you want to reach a student, than with a greatest probability they would see your messages in 8 hours. This is a really good probability if we think about working students in a full time job.

Table 2: Smart Phone Facilities and Students Preferences

Hours Spend	Number of Students	Percentages (%)
Less than 4h	12	16
4<=h<=10	41	55
More than 10	22	29

**2 Smart Phone Facilities and Students Preferences:** Another interesting item of the online questionnaire was reasons of students being so engaged with this media. They are asked to write what they are mainly using Smartphones for. It is found that students these days instead of using a laptop to access to social media, they were accessing to Facebook (%25) and YouTube (%5) from this media. Only %24 of them were using these devices for a phone's old-fashioned purposes like "Calling and Texting". It was really interesting to see that the university students were not as keen on as games as they were thought to be; and only 11% of them were keen on playing games with their Smartphones. %7 of students said that they were using Smartphones for watching Movie; %11 of the students said that they were Googling for things that they do not know. % 4 of the students said that they were happy surfing through the internet with their Smartphones without exactly knowing what they are doing. Nonetheless, all students stated that Smartphones were very useful for them in their daily lives. You can see the number and percentages and the keywords that students used to answer this question item in the questionnaire in Table 3.

Table 3: Smart Phone Facilities and Students Preferences

Smart Phone Facilities	N	P
Facebook	19	%25
Calling and Texting	18	%24
Googling	8	%11
Games	8	%11
WhatsApp	6	%8
Watch Movie	5	%7
YouTube	4	%5
Surfing	4	%5
Instagram	3	%4



**3 Smart Phone and Motivation:** Students’ attitude to mobile learning is taken with a questionnaire and one of the items in this questionnaire is “Does having some course with Smartphones improve students’ motivation towards learning?”

It’s seen that in total %20 of the students do not agree with this idea; and totally %58, 66 of them agreed that using smartphones in education would increase their motivation towards learning. More than half of the students were towards using the Smartphone and this was very encouraging for the start of using them the in the education. The percentages can be seen in Figure 4.

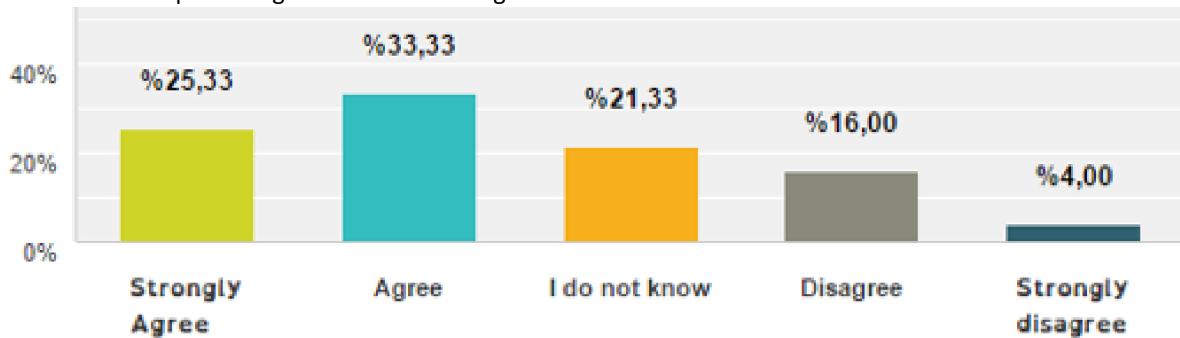


Figure 4: Smart Phone and Motivation

**4 Obstacles in Smart Phone Learning and Smart Phone Exams:** What are the biggest obstacles in Smart Phone Learning and Smart Phone Exams? The biggest obstacle in Smartphone courses and Smartphone exams are seen by students’ as Internet access problems (%38, 67). Also, insufficient skills of using Smartphones, Not everyone’s having a Smartphone, Students Negative Attitudes and some other reasons. The percentages can be seen in Figure 5.

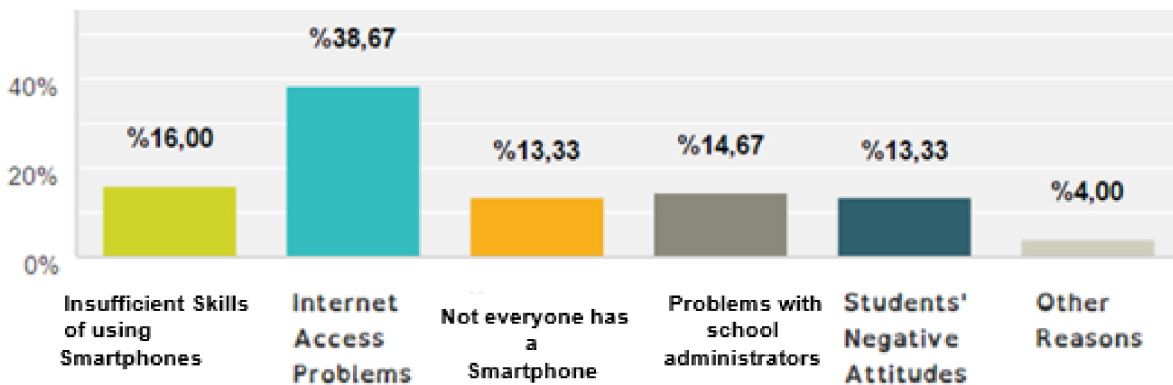


Figure 5: Smartphones and Obstacles

## 2. Results of Students Success in Traditional, Blended and Mobile Exams

In this part, statistics with the Paper Exam, Mobile Exam1 and Mobile Exam 2 is delivered. Here, Mobile Exam Average is founded by taking the average of Mobile Exam1 and Mobile Exam 2.

**1. Female and Male Students Results:** Female students and male students Paper Exam results were similar and Female students Mobile Average Scores’ mean (M= 84, 58) is a little higher than the Male students’ Mobile Average Scores mean (M=81, 22).

Table 4: Female and Male Students Paper Exam and Mobile Average Exam Results

Sex		Paper Exam	Mobile Average
Female	Mean	90,37	84,58
	N	30	30
Male	Mean	90,89	81,22
	N	45	45

**2 Paper Exam and Mobile Exam:** A paired-samples t-test was conducted to compare the Paper Exam Scores and the average score of Mobile Exams. You can see the results in the table Paired Sample t-test Statistics for Paper Exam and Mobile Exam in Table 4. Here Mobile Average is the average score of the scores taken in 2 mobile exams which was delivered as an end of course exam. There was a significant difference in the scores for Paper Exam (M=90, 68; SD=10) and average mobile exam scores (M=82, 57; SD=11, 03);  $t(74) = 6, 48, p=0, 00$ . These results suggest that exam type really does have a success scores. Specifically, results suggest that students get higher marks when they have paper exams. Although students were good at using social media for sharing their photos, they were not good at sending or receiving a document in Facebook or registering to a blog by themselves. What is more they were not knowing any of their passwords when they are required to use a laptop, since they were saving everything in their Smartphones and does not knowing their Gmail, Instagram, WhatsApp passwords.

Table 4: Paired Sample t-test Statistics for Exam types

		Mean	N	SD	SE Mean
Pair 1	Paper Exam	90,68	75	10,30	1,19
	Mobile Average	82,57	75	11,03	1,27

When they are given another Smartphone for their exam, they were looking astonishingly how they are going to use that Phone. Some other documenting problems that were seen during the courses were, sending emails without any subject and doesn't attaching a document with a name on it. These type of problems were not also foreseen before the course and since all students had the Smartphone and used them at least 4 hours a day, they were taught to really know how to use it. Another problem that is seen during the courses is students getting out of battery, to avoid these problem extra batteries were taken at the exam place. Students are also reminded before the examination to charge their phones and come to the class with a full battery. They were not using an Antivirus program with their Smartphones and they were thinking that these programs work only well with computers or laptops. Thus, how to download and install an antivirus program via Google Play should also be taught before delivering mobile courses. These may be the reasons of their getting lower marks at Mobile Exams.

**3 Mobile Exam 1 and Mobile Exam 2:** A paired-samples t-test was conducted to compare the Mobile Exam 1 scores and the Mobile Exam 2 scores. You can see the results in the table Paired Sample t-test Statistics for Paper Exam and Mobile Exam in Table 5.

Table 5: Paired Sample t-test Statistics for 2 Mobile Exams

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Mobile1	77,133	75	12,28	1,42
	Mobile2	88,00	75	13,56	1,57

There was a significant difference in the scores for Paper Exam (M=77, 13; SD=12, 23) and average mobile exam scores (M=88; SD=13, 56);  $t(74) = -6, 93, p=0, 00$ . These results suggest students get higher marks in the Mobile2 exam than the Mobile1. These results may be a sign of their getting used to this new system of examination.



**4 One-way Anova:** A one-way ANOVA was conducted to compare the success of students in Traditional, Blended and Mobile classes between Mobile Exams average scores. There was not a significant effect of three groups of  $F(2, 72) = 2.44, p = .78$ . Similarly, a one-way ANOVA was conducted to compare the success of students in Traditional, Blended and Mobile classes in Paper Exams. There was not a significant effect of three groups of  $F(2, 72) = 7.84, p = 0.72$  (see Table 6).

Table 6: Anova Results

		Sum of Squares	df	Mean Square	F	Sig.
<b>Mobile Average</b>	Between Groups	60,67	2	30,33	,24	,784
	Within Groups	8939,00	72	124,15		
	Total	8999,67	74			
<b>Paper Exam</b>	Between Groups	15,68	2	7,84	,072	,931
	Within Groups	7834,64	72	108,81		
	Total	7850,32	74			

These results can be interpreted such as: Evaluating students' success with Mobile Exams or Paper Exams do not differ between the groups. Nonetheless, this research study showed that Mobile Education is possible; as soon as all your students have Smartphones with good internet access and eager instructors to deliver such education!

### 3. End Of Course Results

An end-of course questionnaire is distributed to the students and their ideas about the course is taken. Also, one-to-one interviews with 30 students is delivered to understand clearly their perspectives. Students were very happy to watch the videos from their Smartphones. They were glad to hear their teachers' voice in the videos and to replay the video to listen the course subjects as much as they require. They were also happy that teacher was on a social media with themselves and answered their questions. Students also find it useful, to reach teacher from WhatsApp, Viber or Messenger which were their Smartphones facilities and teacher was also using it. They were happy also not to be forced to go to a computer lab to do their homework. On the other hand, all the students were happy with blogs and they share the information from the blogs to their own documents. Some other students' answers from the end-of-course questionnaire can be found below.

#### Do you want to attain to Mobile Courses again?

Students were asked, whether they want to attain to a mobile course again or not. Although there was not much difference between the female and male students perspectives of the course, there were some students which prefer not to attain to Mobile courses again, since they found it difficult and they preferred face-to-face classroom instruction (%24); there were some students that they do not want any more Mobile courses because they do not have good internet connection (%6.67); %29.33 of the students said that they agree using and would happily participate in any other mobile course. What is more, %17,33 of them said that they really enjoyed using it and they want to participate in the mobile courses next semester.

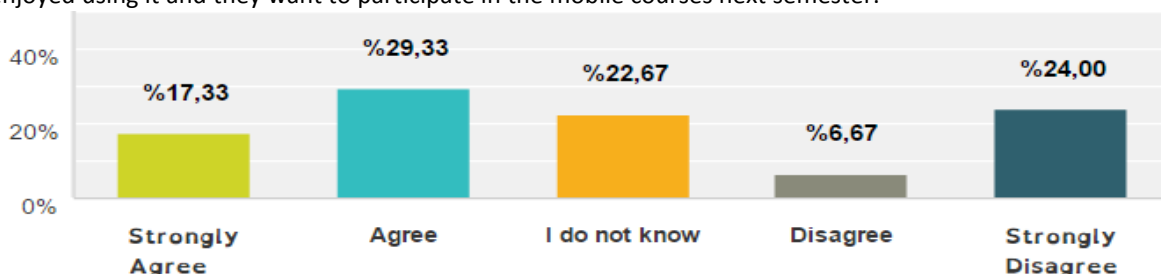


Figure 6: Mobile Course Again?

## 2 Do you want to attain to Mobile Exams again?

At the end of the course students were asked if they were volunteered for any future exams. In total %48, 67 were eager for Mobile exams and they have said they were very easy for them. What is more they stated that they were happy to see their results as soon as the exam finishes and they were glad to know instantly their wrong answers. They even said that they have learned during the examination.

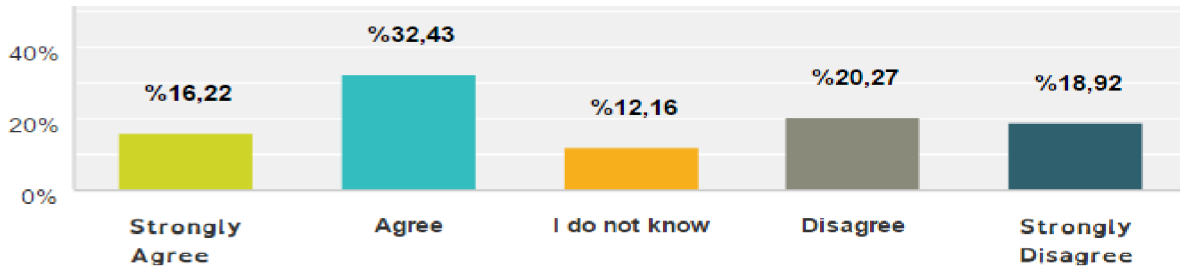


Figure 7: Smart Phone Exams Again?

Students have stated in their interview that although they can manage Mobile courses, mobile exams were hard for them. They said that they become stressed, if they click a wrong answer, and if their Smartphones does not work during the exam. Some students also said that since they have an old version of Smartphone, they would not be in the same situation with their friends which have a new Smartphone. What is more, most of the students were afraid of inconsistent internet access and internet access problems. The interview results and students end of course online questionnaire results were consistent since they were afraid of some technological and internet problems they were not too volunteered for mobile exams. To solve this problems, universities may sell Smartphones with a discount at the beginning of the semester to students, thus they will have the same opportunity. They may also sell with reasonable fees internet access packages for Smartphones.

### 3.3.3 What do you think about the Mobile Exams?

For taking further information about students taught about Mobile Exams, they were directed the question "What do you think about the Mobile Exams?" on the online questionnaire and the answers are taken with a 5 Likert scale (Very Easy, Easy, I do not know, Hard, Very Hard)

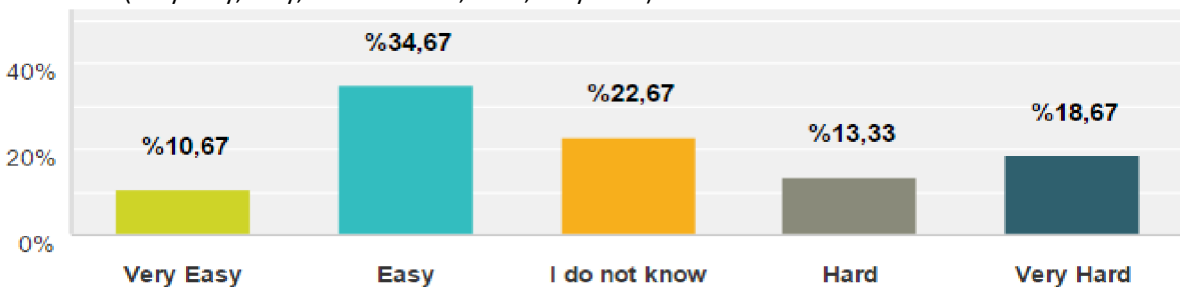


Figure 8: Are mobile exams easy?

Another question from the end of exam questionnaire was about the easiness of the mobile exams. The results were coinciding with the results of 3.3.2. Similar percentages of students' finds the exam easy (in total 45, 3%) and similar percentages of students had wanted to have future mobile exams.

## CONCLUSION

Literature review about the tools used in Distance Education revealed that, smartphones are relatively new in this area. However there are some obstacles in this usage, such as not all students having a Smartphone, slow internet access, insufficient Smartphone usage knowledge, administrators, teachers' and students' negative attitude towards usage in education may prevent an obstacle in this new technology's usage. On the other hand, the research study with Traditional, Blended and Mobile group of students reveals that there is not any significant difference between these students' Paper and Mobile exam results. However, there was a



significant difference between the Mobile 1 and Mobile 2 exams as well as female and male student's mobile exam results. In the interviews, students expressed anxiety towards using this new technology in the courses and their happiness specially using social media with their teachers. What is more, all the students expressed that they find blogs and videos very useful in the mobile and blended courses. It is concluded that before delivering any other Smart Phone Education to the students, students' skills in using Smartphones for educational purposes should be improved. Nonetheless, it was the first experience of Smartphones in the university, its sure that next semester students are going to be given some Smartphone usage courses before delivering any other Mobile courses or Mobile exams.

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## INVESTIGATION INTO ATTITUDES OF PRE-SERVICE TEACHERS TOWARDS E-LEARNING WITH RESPECT TO THEIR INDIVIDUAL INNOVATIVENESS LEVELS

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### Abstract

Owing to advancements in both information and communication technologies and especially in the internet infrastructure, globalization has shifted to the next dimension; and these developments in technology has expressed its significance in online education like other domains of life. Utilization from new technologies has significantly minimized limitation brought by space and time in online learning progressively. Now, individuals are able to take classes from any institutions across the world. Accordingly, this situation has motivated majority of education institutions around the world to look for ways to maintain their courses or various education programs in e-learning environment more effectively. Along this process, studies on significant factors on application of technology have intensified. One of these key factors is considered as personal characteristic. When it comes to utilization of technology, individual innovativeness concept gains prominence based on personal behaviors relevant with innovativeness. Attitudes of pre-service teacher towards e-learning are influent on numbers of variable relevant with e-course. Thus, the purpose of the present study is to reveal the changes in attitudes of pre-service teachers who take online classes towards online learning with respect to their individual innovativeness levels. Study data was collected from students who take online classes through distance education system in a bachelor degree program at faculty of education at a public university. On the basis of collected data, it was revealed that pre-service teachers' attitude towards e-learning differs significantly according to respondents' levels of individual innovativeness.

**Keywords:** Attitude towards e-learning, individual innovativeness, Pre-service teacher.



## INTRODUCTION

E-learning environments have been prominently interesting subject along the recent years parallel to the advancements in internet technologies and infrastructure, and increasing need for learning and due to various reasons. E-learning is a popular learning environment in the information age (Liaw, Huang & Chen, 2007). In the concept of "E-learning", whereas "e" stands for how to digitalize the course; that is, how to present it in an electronic format; "learning" section represents content to be taught and the learning means to transfer this content to human beings effectively. Moreover, it includes how to be successful in ensuring establishment of skills necessary for educational institutions or organizations to reach their learning targets to increase their operational performances (Clark & Mayer, 2003). In our contemporary word, universities prefer e-learning to accomplish their targets related with various courses offered in their bachelor and master degree programs. Especially, portion of prerequisite courses are taught through e-learning system. According to the results of a study conducted on 6.504 undergraduate students, 12% of students stated that they are reluctant to take fully online class (Baran, Kilic, Bakar Corez & Cagiltay, 2010). In another study, 52.9% of respondent students stated that they do not find distance education program interesting; and that 77.6% never follow the program at all (Gülner, 2008). In spite of these unfavorable findings reported, the demand for e-learning has been increased with a great pace; and application developers and researchers have been strived for development of superior and more efficient learning environments. In this regard, researchers have been oriented on various characteristics of learners. One of these is affective characteristic. Attitude is considered among the affective characteristic.

Attitude is the characteristic of individuals, which motivates them to exhibit either positive or negative behavior and which reflect feeling and cognizance toward a certain concept or subject (Triandis, 1971). Attitude refers feelings of individuals toward something (Robbins, 1994). Determination of an attitude of individuals toward a stimulus will be an estimator of behavior of that person toward the relevant stimulant (Homer & Kahle, 1988). Determination of attitude of pre-service teachers toward e-learning would provide information regarding their feeling and accordingly their behaviors toward online courses in their educational life and e-learning commonly experienced during in-service training in their professional life.

Another personal characteristic of individuals is their individual innovativeness profiles. In education process of teachers, individual innovativeness characteristic is important in terms of their inclination to use new technologies (Rosen, 2004). Rogers (2003) exhibits innovativeness profiles of individuals under five groups. People who are inclined to try new opinions and to take risk are called as "Innovators"; the ones who inform and guide others about current novelties as "Early Adopters"; the ones who act cautious toward novelties, who are reluctant about taking risk as "Early Majority"; persons who are skeptical and timid about novelties "Late Majority"; and person who exhibit resistance to change and who have prejudice about change, and who tend to adopt novelties in the end as the last group called as "Laggards".

Agarwal and Prasad (1998) claim that attitude toward practicing a novelty affects the intention of that person's intention to use technology as well. There are other studies in the literature, which support this view. Van Braak (2001) reports a correlation between innovativeness levels of teachers and their attitude toward computer in his study on teachers. Similarly, in the study conducted by Yilmaz and Bayraktar (2014), a significant correlation between individual innovativeness and attitude toward usage of education technologies was reported. Koroğlu (2014) reported a significant correlation between individual innovativeness and attitude toward usage of technological equipment as well. Accordingly, it will be beneficent to investigate individual innovativeness together with attitude toward e-learning.

In the Gazi University, where the present study conducted, part of classes is offered in e-learning form. Gazi University offers following classes in totally online environment: "Atatürk Principles and Turkish Revolution History", "Turkish Literature" and "Foreign Language". Attitudes of pre-service teachers who receive online education toward e-learning would be an indicator to estimate their behaviors toward the current course and the online education activities in the future. In this regard, it is important to support the subject regarding the

correlation between individual innovativeness levels of pre-service teachers, which has important in adoption of novelties relevant with technology and their attitude toward e-learning by means of studies. Essential purpose of the present study is to investigate the difference in attitudes of pre-service teachers toward e-learning with respect to their individual innovativeness level.

## METHOD

The present study has screening model pattern. This model is a quantitative research method to describe or define attitudes, behaviors, opinions or characteristics of a society or sampling group (Creswell, 2012). In this study, 1<sup>st</sup> and 2<sup>nd</sup> grade pre-service teachers who take joint classes through distance education and who are from the Faculty of Educational Science at the Gazi University in the fall semester of the academic year 2015-2016.

### Study Group

The research includes 120 pre-service teachers from following departments of the Faculty of Educational Sciences at the Gazi University: "Primary School Math Teaching", "Natural Sciences Teaching", "Primary School Teaching", "Turkish Teaching", and "Art Teaching". The reason for preferring these departments within the scope of this research is that researchers are directly lecturing to these grades within the scope of information technology course, which provides convenient access. Student distribution according to departments was exhibited in Table 1.

Table 1: Distribution of Pre-service Teachers According to Departments

Department	f	%
Grade Teaching	34	28.3
Primary School Math Teaching	28	23.3
Natural Science Teaching	27	22.5
Turkish Teaching	13	10.8
Art Teaching	12	10.0
Philosophy-Group Teaching	6	5.0
Total	120	100

Common classes are offered in the distance education system after the fall semester of the academic year 2014-2015. Therefore, only 1<sup>st</sup> and 2<sup>nd</sup> grade students were included within the scope of this study. Distribution students according to their grades were exhibited in Table 2.

Table 2: Distribution of Students according to their grades

Grade	f	%
1 <sup>st</sup> Grade	62	51.7
2 <sup>nd</sup> Grade	58	48.3
Total	120	100

### Data Collection Tools and Their Analysis

In the first section of the data collection tool developed by the researchers, demographical information of participants was collected. The second section includes "Individual Innovativeness Scale" and the third section includes "E-learning Attitude Scale". The Individual Innovativeness Scale developed by H. Thomas Hurt, Katherine Joseph and Chester. D. Cook in 1977 was adapted into Turkish by Kılıçer and Odabaşı (2010); and its validity and reliability studies were conducted. Whereas the scale is composed of totally 20 items; 8 of these items were reverse-coded. If total score gained from the scale is above 80; then, respondent is considered as "Innovators". If the score is in the range of 69 and 80, they are considered as "Early Adopters". The range of 57 - 68 is considered as "Early Majority"; the range of 46 - 56 is "Late Majority"; and the ones with score less than 46 are considered as "Laggards". Internal consistency coefficient and test-retest reliability of the scale which displays four-factor structure were estimated at 0.82 and 0.87, respectively. In the final section of this study,



“e-learning Attitude Scale” developed by Haznedar and Baran (2012) were employed. Whereas Cronbach’s Alpha reliability coefficient was estimated at 0.93 for single-factor scale; it was estimated at 0.92 in this study.

### FINDINGS

First, without considering the difference in attitude toward e-learning according to individual innovativeness level, it was found appropriate to exhibit distribution of individual innovativeness profiles according to grades and departments to be more descriptive. Therefore, distribution of respondent pre-service teachers on the basis of their department, grade and individual innovativeness profiles was given in Table 3 and Table 4.

Table 3: Individual Innovativeness Profiles of Pre-Service Teachers According to Their Grades

		Innovativeness Profile					Total	
		Innovators	Early Adopters	Early Majority	Late Majority	Laggards		
GRADE	1	N	0	12	40	10	62	
		Grade Percentage	%0.0	%19.4	64.5%	%16.1	%0	%100.0
		Innovativeness Profile Percentage	%0.0	%33.3	62.5%	%66.7	%0	%51.7
	2	N	5	24	24	5	58	
		Grade Percentage	%8.6	%41.4	%41.4	%8.6	%0	%100.0
		Innovativeness Profile Percentage	%100.0	%66.7	%37.5	%33.3	%0	%48.3
Total	N	5	36	64	15	120		
	Grade Percentage	%4.2	%30.0	%53.3	%12.5	%0	%100.0	
	Innovativeness Profile Percentage	%100.0	%100.0	%100.0	%100.0	%0	%100.0	

According to Table 3, 40 of the pre-service teachers from the 1<sup>st</sup> grade were determined in the “Early Majority” profile group (64.5%); 12 were determined in the “Early Adopters” (19.4%); 10 were in the “Late Majority” (16.1%). In terms of distribution of the 2<sup>nd</sup> grade students, 24 pre-service teachers were determined in each of the “Early Adopters” and “Early Majority” innovativeness profiles (41.4%); and 5 pre-service teachers were determined in each of the “Innovators” and “Late Majority” profiles (8.6%). When the table is seen as a whole, it can be observed that pre-service teachers are mostly found in the “Early Majority” (53.3%) profile. In terms of number of pre-service students, this group is followed by “Early Adopters” (30%), then, “Late Majority” (12.5%) and finally “Innovators” (4.2%).

Table 4: Individual Innovativeness Profiles According to Departments

		Innovators Profile					Total	
		Innovators	Early Adopters	Early Majority	Late Majority	Laggards		
DEPARTMENTS	Grade Teaching	N	0	8	21	5	34	
		Department Percentage	%0.0	%23.5	%61.8	%14.7	%0	%100.0
		Innovativeness Profile Percentage	%0.0	%22.2	%32.8	%33.3	%0	%28.3
M at h	N	N	0	5	18	5	28	



	Department Percentage	%0.0	%17,9	%64.3	%17,9	%0	%100.0
	Innovativeness Profile Percentage	%0.0	%13.9	%28.1	%33.3	%0	%23.3
Natural science Teaching	N	3	10	11	3	0	27
	Department Percentage	%11.1	%37,0	%40.7	%11.1	%0	%100.0
	Innovativeness Profile Percentage	%60.0	%27,8	%17,2	%20.0	%0	%22.5
Turkish Teaching	N	1	4	6	2	0	13
	Department Percentage	%7,7	%30.8	%46.2	%15.4	%0	%100.0
	Innovativeness Profile Percentage	%20.0	%11.1	%9.4	%13.3	%0	%10.8
Art Teaching	N	1	8	3	0	0	12
	Department Percentage	%8.3	%66.7	%25.0	%0.0	%0	%100.0
	Innovativeness Profile Percentage	%20.0	%22.2	%4.7	%0.0	%0	%10.0
Philosophy Group Teaching	N	0	1	5	0	0	6
	Department Percentage	%0,0	%16,7	%83,3	%0,0	%0	%100,0
	Innovativeness Profile Percentage	%0,0	%2,8	%7,8	%0,0	%0	%5,0
Total	N	5	36	64	15	0	120
	Department Percentage	%4.2	%30.0	%53.3	%12.5	%0	%100.0
	Innovativeness Profile Percentage	%100.0	%100.0	%100.0	%100.0	%0	%100.0
	Total Percentage	%4.2	%30.0	%53.3	%12.5	%0	%100.0

According to Table 4, except the Art Teaching department, all departments display the “Early Majority” profile at highest percentage level. On the other hand, Art Teaching department displays “Early Adopters” profile with the highest number of pre-service teachers. Additionally, none of the departments include pre-service teacher with “Laggards” profile.

#### **Does Attitude of Pre-service Teachers toward E-Learning Exhibit Difference with Respect to Their Individual Innovativeness Profile?**

In the analysis process of the data collected through data collection tools, whether they exhibit normal distribution was analyzed first. Since it was determined that they did not have normal distribution, a non-parametric test was found appropriate for analysis. Since attitude is a continuous variable and individual innovativeness is a categorical variable, Kruskal Wallis H-Test for Independent Samples was conducted to investigate the effect of “individual innovativeness” variable on attitude.

Table 5: Kruskal Wallis Test Result for Attitude Scores toward E-Learning with Respect to the Individual Innovativeness Profiles

Individual Innovativeness	n	Mean Rank	SD	X <sup>2</sup>	p	Significant Difference
Innovators (1)	5	36.50	3	10.26	.016	1-2. 1-3.
Early Adopters (2)	36	73.79				1-4
Early Majority (3)	64	53.82				2-3. 2-4.
Late Majority (4)	15	65.10				3-4.
Total	120					

Results of the Kruskal Wallis test conducted on data collected from pre-service teachers with different individual innovativeness profiles regarding their attitude toward e-learning were exhibited in Table 5. The analysis results expose that attitudes of pre-service teachers towards e-learning differ according to their individual innovativeness profiles significantly  $X^2 (SD=3, n=120)=10.26, (p<.05)$ . This difference suggests that individual innovativeness profiles have various effects on attitudes of pre-service teachers toward e-learning. According to the mean scores of individual innovativeness profiles, the group with the highest attitude score was determined as “Early Adopters”; and this was followed by “Late Majority”, “Early Majority” and “Innovators”. Similarly, Köroğlu (2014) reported positive and significant correlation in his study between attitude of teachers toward usage of technological equipment and device in pre-school education and their individual innovativeness profiles. Yilmaz and Bayraktar (2014) found a positive significant correlation between attitudes towards education technologies and teachers’ innovativeness profiles.

In order to investigate the difference in attitude toward e-learning with respect to individual innovativeness profiles, Mann Whitney U-test was conducted. Separate results of the test conducted for each profile were summarized in Table 6.

Table 6: Mann Whitney U-test Results for Attitude toward E-Learning with Respect to Individual Innovativeness Profiles

Individual Innovativeness	n	Mean Rank	Rank Sum	U	p
Innovators (1)	5	12.00	60.00	45.00	.073
Early Adopters (2)	36	22.25	801.00		
Innovators (1)	5	23.60	118.00	103.00	.187
Early Majority (3)	64	35.89	2,297.00		
Innovators (1)	5	6.90	34.50	19.50	.116
Late Majority (4)	15	11.70	175.50		
Early Adopters (2)	36	61.01	2,196.50	773.50	.007
Early Majority (3)	64	44.59	2,853.50		
Early Adopters (2)	36	27.53	991.00	215.00	.255
Late Majority (4)	15	22.33	335.00		

Early Majority (3)	64	38.34	2.454.00	374.00	.185
Late Majority (4)	15	47.07	706.00		

According to Table 6, the only significant relationship was only determined between attitude scores of the “Early Adopters” and “Early Majority” profiles ( $U=773.50$ ;  $p<.05$ ). When mean rank is taken into consideration, it can be observed that “Early Adopters” have higher attitude scores in comparison with “Early Majority” profile. No any significant difference was determined among other profiles (Innovators - Early Adopters; Innovators- Early Majority; Innovators - Late Majority; Early Adopters - Late Majority; Early Majority - Late Majority).

## CONCLUSION

In the present study, the difference in attitude of pre-service teachers towards e-learning with respect to their individual innovativeness profiles. Additionally, associated with this change, distribution of individual innovativeness profiles were described according to department and grades. Accordingly, whereas “Early Majority” profile was determined as the prominent group among the 1<sup>st</sup> graders; “Early Adopters” and “Early Majority” profiles were determined as prominent profiles among the 2<sup>nd</sup> graders. Moreover, another remarkable point was that all of the pre-service teachers displaying “Innovators” profile were on the 2<sup>nd</sup> grade. Another interesting point is that there was no any pre-service teacher from the research sampling, who was determined in the “Laggards” profile. The reason for this finding can be considered that sampling group was consisted of pre-service teachers born in the period of 1995-1998; that is, they were the individuals from the Y-generation or digital-native as they are characterized in the relevant literature. Although birth years of people cannot be the sole determinant of their inclination toward usage of technology, it is possible to claim that usage of digital tools and internet have been significantly increased afterwards of 1990s both in the world and in Turkey. Thus, technology usage has started to be one of the ordinary daily activities of this new generation (Ng, 2012).

On the basis of obtained findings, pre-service teachers’ attitude toward e-learning differs significantly with respect to their “Individual Innovativeness” profiles. This significant difference was observed in the favor of “Early Adopters” in comparison with “Early Majority” profile. Yilmaz and Bayraktar (2014), in their study which investigates the correlation between attitude toward usage of education technologies and individual innovativeness, report that attitude scores of “Innovators” and “Early Adopters” are greater than others. Furthermore, in the same study, it is reported that attitudes of “Innovators” pre-service teachers towards usage of education technologies is positive (Yilmaz and Bayraktar, 2014). For the future relevant studies, it is suggested to research on attitude toward e-learning with respect to other individual characteristics. It would also be beneficent to repeat the present study on larger sample group. Moreover, determination and reporting of variables which could enhance attitudes of pre-service teachers towards e-learning would significantly contribute into the relevant literature.

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## AN ANALYSIS OF MOBILE LEARNING ACCEPTANCE BY COLLEGE STUDENTS

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### Abstract

Mobile technologies, applications and ease of Internet access have significantly increased the convenience of accessing information and bridging the digital divide. This research focuses technology acceptance, proposes an extended model and investigates the determinants associated with college students' acceptance of mobile learning. The behavioral intention to use mobile learning by students is a critical success factor of mobile learning implementation process. In this context, it's essential to enlighten the factors that affect college students' intention to use mobile learning. This research is based on related technology acceptance literature and the Unified Theory of Acceptance and Use of Technology (UTAUT) model.

The purpose of this study is to examine the indicators of the behavioral intention to use mobile learning by college students and to explore differences according to various demographics. The results indicate that performance expectancy, facilitating conditions and social influence were all significant factors of behavioral intention to use mobile learning. Effort expectancy and personal propensity to learning were not found to be significant predictor variables. This paper provides useful information about the triggers of mobile learning acceptance in order to take precautions for students who have difficulty adopting mobile learning.

**Keywords:** Mobile learning, m-learning, technology acceptance, college students, UTAUT.

### INTRODUCTION

In every field of our lives, communication technologies have become much more indispensable and humanity changes to keep pace with them. While in 1995, less than %1 of the world population has an internet connection, when it comes to 2014 the percentage has become around 40% (ITU, 2014). As the amount of available data grows, accessing the information has become easier and the use of mobile devices has become common among a wide range, due to the affordability and availability (Newhouse, Williams, & Pearson, 2006; Baran, 2014). According to Gartner (2014), smartphone sales in 2018 will reach 88% of global mobile phone sales, compared to 66% in 2014. Thanks to the mobile devices and their integration with the internet, everybody especially the youth has chance to carry their own encyclopedia, vocabulary, favorite books and whatever they need in their pockets which is known as mobility. In today's standard, become 24 x 7 available and being mobile in not an option instead they have both become necessity. According to Deloitte Global

Mobile Consumer Survey 2013, Smartphones penetration among the youth (aged 18-24) in the developed countries is 72% (Deloitte, 2013) and raised up to 88.6% in 2015 (Marketing Charts, 2015).

This increase of ownership of smartphones among the youth is the main reason prompting researchers to come up with ideas of how to use them for educational concept (Igbal & Bhatti, 2015). For integrating the mobile devices into learning environment, some investments and alterations have been made includes infrastructure, content and resources (Johnson et al., 2011), thus developing the field of new educational approaches. In recent years, traditional face-to-face teaching methods have started to give place to another more modern methods like electronic learning (e-learning) and mobile learning (m-learning). M-learning is defined as a form of e-learning that specifically uses mobile devices to integrate with ubiquitous computing technologies to deliver learning contents and supports (Muyinda, 2007; Hwang & Chang, 2011). M-learning is a subset of e-learning and their relationships are given below:

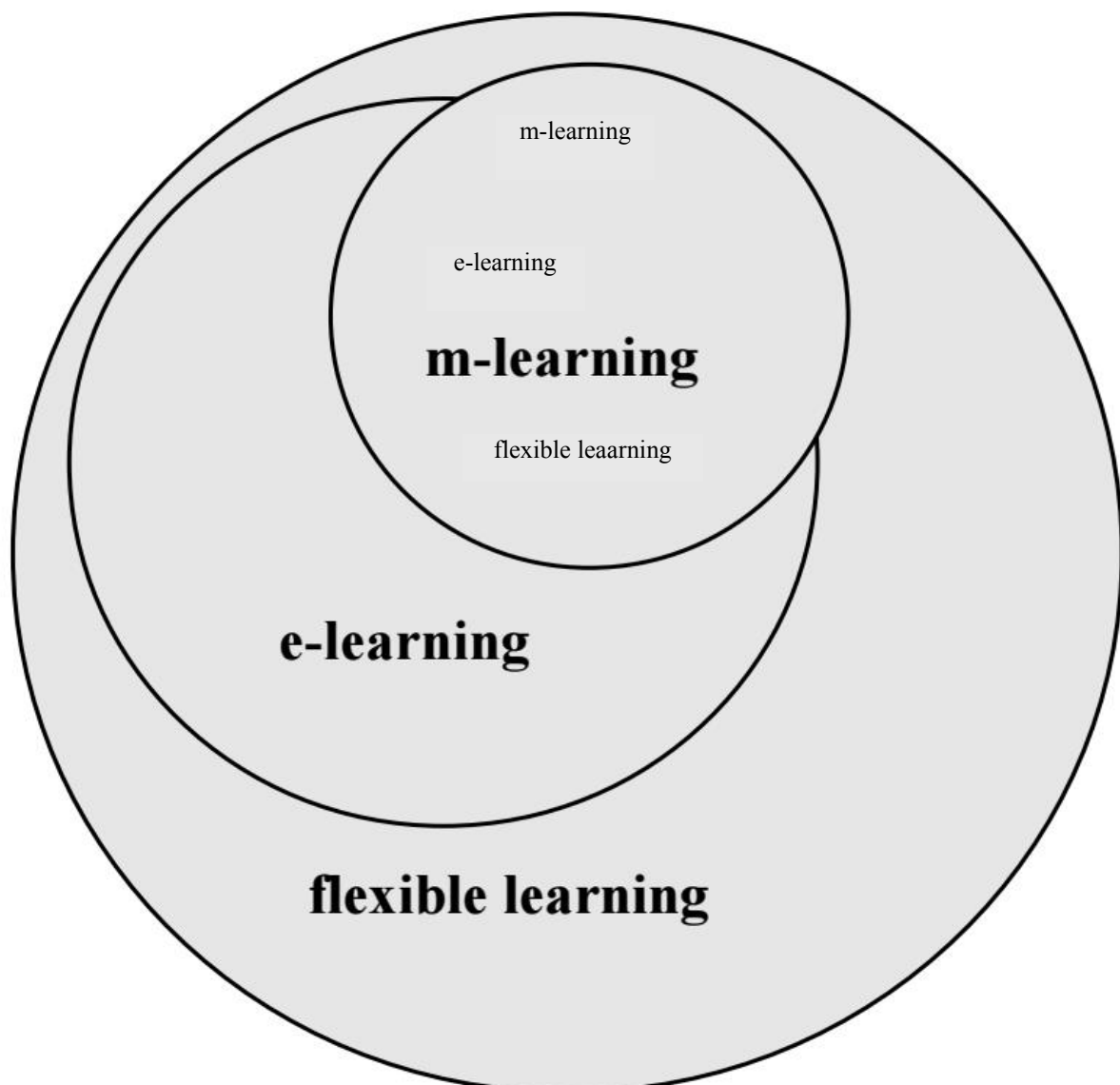


Figure 1: Relationships of e-learning and m-learning (Low & O'Connell, 2006)

Although e-learning seems to cover m-learning, there are many advantages of m-learning. Anyone with mobile phone or smartphone can benefit m-learning opportunities. First of all mobile learning has the supportive parts of mobility and its platforms. It encompasses many facets of mobility and it brings together both the

pedagogical innovation of m-learning and the pragmatic streamlining of administration in schools through mobile data collection and management (GSMA, 2014). Another one is as a novel educational approach, m-learning encourages flexibility; students do not need to be a specific age, gender or geography to participate learning environment. In a world of restrictions of time, space and place have been lifted (Behera, 2013). While e-learning is asynchronous, scheduled and passive; m-learning is synchronous, spontaneous and instant. Looked at from a different perspectives, there are some technical, social and educational challenges that m-learning has to be overcome. O'Leary, Cil, Lehane, and Corrigan (2013) pointed out that EL2 (second generation e-learning) user may face security and privacy issues. Wang, Wu and Wang (2009) claimed that mobile devices suffer from several difficulties such as having small screens, limited processing power, and small keyboards and so, adopting the mobile learning become a challenge.

While there is still differences between national perspectives, academia, industry, higher education and lifelong learning sectors in m-learning literature (Singh, 2010); it is generally accepted that m-learning play an extremely significant role in education concept where it can make significant contributions to learners' learning performance (Fang, Huang, & Lu, 2007). For instance, a project called "Apps for Good" in UK challenged students to design and build appropriate mobile applications to solve real-world problems. Obviously, students may learn to think critically and creatively (Wang, 2015). According to Althunibat (2015), mobile learning enables the higher education institutes to fulfill the demands of advanced digitalization of the internet networking that are posed by the generation. (Althunibat, 2015).

Cabot, Marcos and Lopez (2015) stated that m-learning is an effective way for learning but adaptation is also has the potential impact on learning performance too. So it can be said that the presence and accessibility of mobile technologies do not guarantee their potential will be realized in educational context (Liu et al., 2010). The need to understand the critical factors that influence the behavioral intention to use mobile learning, we try to investigate different factors like performance expectancy, facilitating conditions and social influence with the help of Unified Theory of Acceptance and Use of Technology (UTAUT). In this study, the appropriate model is determined as UTAUT. The literature inspiring us to apply this study is as following:

Birch and Irvine (2009) inquired about pre-service teachers' acceptance of Information and Communication Technology (ICT) in Canada. Their study showed that a 70% variation in users' intentions could be attributed to the UTAUT variables. Pullen, Swabey, Abadoo and Sing (2015) were to investigate and examine the behavior intention of pre-service teachers in acceptance of m-learning with UTAUT. The results revealed that performance expectancy, effort expectancy, social influence, attitude and self-efficient were all significant determinants of behavioral intentions to use m-learning. Another study was conducted with 823 students selected from five higher learning institutions from East Africa (Mtebe & Raisamo, 2014). At the end of the analyses it was noted that all four construct (performance expectancy, effort expectancy, social influence, and facilitating conditions) had has significant positive influence towards students' behavioral intention to use m-learning which is similar to findings by Wang et al. (2009). Thomas et al. (2013) aimed to compare UTAUT model in explaining m-learning adoption in higher education. The data were obtained from a web survey of university students and the model was estimated in a structural equation modeling framework. At the end, facilitating conditions and attitude were found to be the important factors on behavioral intention to use m-learning.

The only reason why we have chosen UTAUT as an analysis method of our study is that this model is very rare in m-learning literature conducted through the perspective of developing country, while there are numerous researches using Technology Acceptance Model (TAM) (Lindsay, Jackson, & Cooke, 2011; Wu, 2011; Igbal & Bhatti, 2015).

## METHOD

UTAUT seems promising with regard to understanding of behavioral intention to accept and use technology. Researchers have demonstrated it to be a valid and reliable theory for the acceptance and use of information technology. Venkatesh et al., (2003) provide empirical evidence that it explains up to 70% of information technology use and acceptance. The initial UTAUT study focused on large organizations. Venkatesh et al.,



(2003) encouraged future research to explore and test the theory in different contexts. This dissertation seeks to gain in-depth understanding of community college student behavioral intentions to use and usage of mobile learning and to identify the implications that understanding has for increasing student access to library-related information, learning resources, and course-related information. Therefore, this study investigates the determinants in the process of adopting mobile learning in higher education using UTAUT as the theoretical basis.

However, previous research has suggested that UTAUT's fundamental constructs may not fully reflect the specific influences of mobile learning that may alter a user's behavioral intentions to use and actual usage of mobile learning (Wang & Shih, 2008). Pedersen and Ling (2003) also suggest that traditional IS adoption models may be modified and extended when researching technology adoption of mobile Internet services. For these reasons, this research also examines an additional construct self-management of learning. Wang et al., (2009) also found self-management of learning as a significant determinant of behavioral intention for mobile learning.

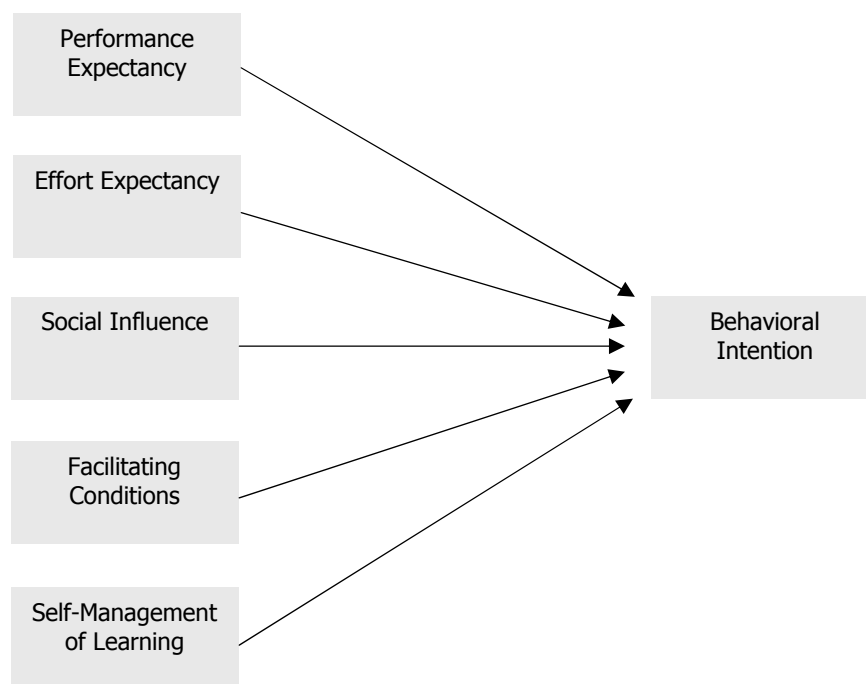


Figure 2: Research Model

Performance expectancy (PE) is defined as “the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (Venkatesh et al., 2003: 447). This research examines the relationship between behavioral intention to use and the independent variable performance expectancy. Behavioral intention (BI) is a measure of a person's relative strength of intention to perform a certain behavior (e.g. listening to podcasts on a mobile device). Effort expectancy is defined as “the degree of ease associated with the use of the system” (Venkatesh et al., 2003: 50). Social influence (SI) is defined as “the degree to which an individual perceives that important others believe he or she should use the new system” (Venkatesh et al., 2003, pg. 451). Facilitating conditions (FC) is defined as “the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system” (Venkatesh et al., 2003: 453). Self-management of learning (SML) is “the extent to which an individual feels he or she is self-disciplined and can engage in autonomous learning” (Wang, et al., 2009: 10).

Questionnaire survey method is adopted in this research for collecting quantitative data. This research is restricted by researchers' manpower, time and funds, therefore, samples are selected mainly using convenience sampling method.

The survey instrument was based on the survey instrument developed by Venkatesh et al., (2003) and Wang et al. (2009). The UTAUT instrument has been used by numerous researchers (Anderson & Schwager, 2004; Moran, 2006; Wang & Shih, 2008) and is composed of questions adapted from previous IS surveys used to measure the constructs included in the model (Venkatesh, et al., 2003; Wang & Shih, 2008; Wang, et al., 2009). We chose to modify the instrument to make the questions relevant to the context of mobile learning and the participant population (e.g., the word “system” is replaced with “mobile learning”). Other research has made similar modifications the UTAUT instrument (Anderson & Schwager, 2004; Moran, 2006; Seal, 2006; Wang & Shih, 2008).

The questionnaire includes questions regarding the UTAUT constructs as self-management to determine college students’ perceptions of their usage and intentions to use mobile learning. Other questions were included to collect both demographic and opinion-related data.

As in the original UTAUT survey instrument, Likert scales (1–5) with anchors ranging from “strongly disagree” to “strongly agree” were used for all construct items. Behavioral intention to use mobile learning scale was adopted from TAM and has been used extensively in previous research (Venkatesh et al., 2003). Self-management of learning was measured with Likert scales (1-5) with anchors ranging from “strongly disagree” to “strongly agree.”

**FINDINGS**

Research is conducted on 491 college students at Sakarya University. The descriptive statistics for the participants’ demographics are listed in Table 1.

Table 1: Gender and Grade Crosstabulation

		Grade				Total	
		1	2	3	4		
Gender	Female	Count	141	50	34	29	254
		% of Total	28,7%	10,2%	6,9%	5,9%	51,7%
	Male	Count	90	64	41	42	237
		% of Total	18,3%	13,0%	8,4%	8,6%	48,3%
Total	Count	231	114	75	71	491	
	% of Total	47,0%	23,2%	15,3%	14,5%	100,0%	

Table 2 provides the descriptive statistics for the participants’ responses to individual items of the scale. Mean composite scores were calculated for each of following six subscales: performance expectancy, effort expectancy, social influence, facilitating conditions, self-management of learning, and behavioral intention to use mobile learning.

Table 2: Mean Scores Of Subscales

Subscale	N	Minimum	Maximum	Mean	Std. Deviation
SML	491	1,00	5,00	3,7459	1,11265
PE	491	1,00	5,00	3,7678	1,05148
EE	491	1,00	5,00	3,6034	1,00351
SI	491	1,00	5,00	3,1074	,94991
FC	491	1,00	5,00	3,6991	,85994
BI	491	1,00	5,00	3,5187	,92278

Several Cronbach’s alphas were calculated to assess the level of internal consistency reliability of the eight subscales. Cronbach’s alpha is based upon the average correlation among the items in a scale. The reliability coefficients (Table 3) reveals that all of the subscales demonstrate sufficient levels (alpha .70 or greater) of internal consistency reliability.

Table 3: Reliability Coefficients

Subscale	N of items	Cronbach's Alpha
SML	4	,825
PE	4	,962
EE	4	,911
SI	4	,836
FC	4	,716
BI	4	,972

The means and standard deviations of subscale scores for both gender groups are listed in Table 4. According to the findings most similar scores are achieved for the behavioral intention subscale. That means female and male participants' responses are very similar for relevant items. On the other hand, the biggest difference between responses is seen on facilitating conditions subscale. An independent samples t-test was conducted to determine if there was a significant difference between male and female students in terms of subscale responses.

Table 4: Group Statistics

	Gender	N	Mean	Std. Deviation
SML	Female	254	3,7648	1,10516
	Male	237	3,7257	1,12262
PE	Female	254	3,7205	1,08010
	Male	237	3,8186	1,01976
EE	Female	254	3,5876	1,04822
	Male	237	3,6203	,95519
SI	Female	254	3,1644	1,01510
	Male	237	3,0464	,87270
FC	Female	254	3,6112	,89695
	Male	237	3,7932	,80975
BI	Female	254	3,5066	,93800
	Male	237	3,5316	,90799

The intention scores were standardized by group and the resulting z-scores were used to identify outliers. A participant is considered an outlier when the standardized z-score is greater than 3. This process did not reveal any outliers. The mean differences of subscales and t-test scores are listed in Table 5. The t-test revealed a significant difference between the females and males on facilitating conditions scores. The males scored significantly higher than the females on the items about "the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system". For the other subscales there were no significant differences between the males and females' responses.

Table 5: Independent Samples T-test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	Sig. (2-tailed)	Mean Difference
SML	Equal variances assumed	,885	,347	,388	,698	,03903
	Equal variances not assumed			,388	,698	,03903
PE	Equal variances assumed	,317	,573	-1,033	,302	-,09809
	Equal variances not assumed			-1,035	,301	-,09809
EE	Equal variances assumed	,472	,493	-,360	,719	-,03265
	Equal variances not assumed			-,361	,718	-,03265
SI	Equal variances assumed	11,244	,001	1,376	,169	,11796

	Equal variances not assumed			1,383	,167	,11796
FC	Equal variances assumed	3,580	,059	-2,355	,019	-,18203
	Equal variances not assumed			-2,363	,019	-,18203
BI	Equal variances assumed	,392	,532	-,301	,764	-,02508
	Equal variances not assumed			-,301	,764	-,02508

A multiple regression was conducted to test if the independent variables in the research model are significant predictors of the behavioral intention to use m-learning. The descriptive statistics for the independent variables are listed in Table 6. The data were screened for outliers prior to analysis in the same manner described for the t-test. The standardized residuals reveal 3 outliers in the data. Review of the variance inflation factors and tolerance levels reveals no evidence of multicollinearity; a plot of standardized residuals reveals no model heteroscedasticity.

Table 6: Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	Regression (p)
1	,797 <sup>a</sup>	,635	,631	,56029	1,972	,000

a. Predictors: (Constant), FC, SI, SML, EE, PE

b. Dependent Variable: BI

Regression analysis scores revealed that the suggested variables were significant predictors of the behavioral intention to use mobile learning and the model is statistically significant,  $p < .001$ ,  $R^2 = .635$ . This indicates that together the predictors make a significant amount of variation in the dependent variable (BI). The regression coefficients, in the table 7, reveal that all the variables are all significant positive predictors within this model. This indicates that the intention to use mobile learning increases with increasing levels of all these subscales.

Table 7: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	,295	,118		2,502	,013
SML	,160	,039	,193	4,063	,000
PE	,418	,047	,389	8,860	,000
EE	,193	,048	,210	4,034	,000
SI	,077	,032	,080	2,411	,016
FC	,038	,048	,043	1,791	,043

a. Dependent Variable: BI

## DISCUSSION AND CONCLUSION

Mobile learning in higher education is still in the beginning stages of implementation. The concepts and instructional issues surrounding mobile learning are still evolving (Kukulska-Hulme, 2007). The findings from this research add to existing technology acceptance literature and propose a framework for understanding, explaining, and predicting factors influencing individual acceptance of mobile learning. The study provides valuable baseline data for future studies on student acceptance and intention to use mobile devices for learning. The research model also establishes a foundational framework that administrators and educators can use to evaluate success factors for implementing mobile learning. By understanding the determinants of mobile learning acceptance, these stakeholders are able to incorporate these factors into the design and implementation phases of a mobile learning initiative. Institutional preparation requires careful planning in infrastructure and strategy development necessary for implementing a mobile learning initiative to benefit college students. The results of this study identify factors that favor college students' mobile learning.



Overall, the results from this study indicated that together the UTAUT predictors (performance expectancy, effort expectancy, social influence, and facilitating conditions) and the added predictor self-management of learning account for .635 percent of the variance in behavioral intention to use mobile learning. This is higher than was found in the research by Wang et al. (2009) (58%). Consistent with Venkatesh et al., (2003), performance expectancy and social influence had a significant, positive influence on behavioral intention to use mobile learning. As shown by both Venkatesh et al., (2003) and Wang, et al., (2009), performance expectancy was found to be the strongest predictor of behavioral intention, and effort expectancy and social influence were found to be significant positive predictors. Facilitating conditions was also found to be a significant positive predictor of behavioral intention. This is in contrast to the UTAUT model where facilitating conditions was identified as a predictor for usage or the Wang et al., (2009) model which did not include facilitating conditions. As in previous research, this study confirmed self-management of learning (Wang et al., 2009) to be a significant positive predictor of behavioral intention. Thus, this study has in part successfully extended the application of UTAUT in the college mobile learning context by adding self-management of learning as a predictor for behavioral intention. Justifying and validating our explanations for the similarities and differences in the findings in this research need further investigation in future studies. The findings of this research will help educators and administrators to promote mobile learning and provide insights into future research on mobile technology acceptance.

These findings present implications for different approaches to supporting mobile learning. Understanding the determinants of students' acceptance and use of mobile technology for learning is essential to the successful delivery of academic, organizational, library, and instructional information. Before investing in development of mobile services and content, an institution must anticipate factors that influence students' technology acceptance. If students fail to accept mobile technology offered then they will not use it to seek and exchange information. The outcome will be wasted budgetary expenses.

The data from this study suggests that there is student interest in mobile learning. Given the integration of mobile devices into students' daily lives, faculty and instructional design staff can support mobile learning by identifying ways in which mobile devices can be utilized to support both classroom and remote learning. The literature suggests that this social influence will be strongest during the initial stages of mobile learning and will decrease over time as mobile device use becomes more integrated with learning (Morris, 2000; Venkatesh, et al., 2003). Faculty and learning support staff can influence the use of mobile learning by providing content and information on resources formatted for mobile devices and by educating students on its benefits. The key factor is to understand student needs, concerns, and the factors affecting their acceptance.

Mobile learning research is rapidly growing and expanding. However, there is limited research on mobile learning in higher education using technology acceptance as the theoretical foundation. Mobile learning research in higher education needs to take heed both of the determinants of student usage and of the resources students wish to access. This research contributes to the body of knowledge in technology acceptance and mobile learning and provides a foundation for similar research in the future.

In the context of a college setting, this study confirms the ability of the UTAUT's independent variables performance expectancy, effort expectancy, social influence, facilitating conditions, and the additional construct self-management of learning in predicting students' behavioral intent to use mobile devices for learning. More research is needed to determine significance of "self-management of learning" as a predictor. College administrators and educators can also use this information as a foundation for IT and instructional decision making for a mobile learning initiative.

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## EFFECTS OF THE EDUCATIONAL SOCIAL NETWORKS ON PROFESSIONAL DEVELOPMENT OF TEACHERS

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### Abstract

The main aim of this activity is to test the effectiveness of the educational social network in career development of the teachers. The scope of the study, a social network site can be accessed from the address "www.mavikurdele.net". The application was used by 34 teachers at a high school in the province of Afyonkarahisar in the first semester of 2015-2016 education year for 6 weeks. After the application, the data was collected through survey of social networking application to ensure the professional development of teachers. In the research, while examining the data, descriptive statistics were used. The study showed that teachers generally have a great tendency for using the social network and they often used the social network to share, communicate and be in cooperation.

**Keywords:** Web 2.0, social networks, social networking sites, educational social networks, professional development of teachers.

### INTRODUCTION

A considerable development has occurred in the way Web technology used in educational settings lately. Surveys have showed that Web technology has potential to improve learning and to increase interaction among learners and teachers (Ada and Akan, 2007). It has been pointed out that effective student achievement can be acquired with quality professional development activities (Bristow, Reese, & DeRocchi, 2013). Teachers who have to live each moment of change update old information and learn new applications with the help of social networks (Cochran-Smith, 2004). Social Networks also help teachers take feedback from other colleagues, make knowledge storage and be in a differentiation process (Crook 2008; Moody 2010; Liburd, 2011). Furthermore, for professional development of teachers, they should be encouraged to utilise of these tools such as digital devices, resources, and using social networks throughout their professional lives and these tools help teachers develop themselves (McLoughlin and Lee, 2007; Kukulska-Hulme, 2012). In order to get feedback from teachers, social networks increase the interactions with the other users following new developments, problem solving, sharing, critical thinking (Albion, 2008; Ploderer, Howard, & Thomas, 2010; Gülbahar, Kalelioğlu, & Madran, 2010). Social networks increase collaboration among users (Ray and Hocutt, 2006). Inactive users have changed their read only position to producer and content creator. In sharing video, text and photo, users have taken an active position (Özmen, Aküzü, & Sünkür, 2012; Cormode and Krishnamurthy, 2008). Thus, social networks integrated with career development process help educators reorganize their teaching attitudes (Ploderer et al. 2010).

The emergence of the Internet's basic concepts has begun with the beginning of 1961 and since 1975 with financial supports of large organizations; the effectiveness of the internet has arisen dramatically. In 1993, a new browser, mosaic, images, information, sound, and graphics could be easily shared. New social-sharing

applications were transformed the Web technology from Web 1.0 Web 2.0 technologies (Tuncer, Özata, Akar, & Öztürk, 2013). Teachers have found better opportunities while using social network applications. They become familiar with each other and doing things together make them feel comfortable and this forms a community teachers can contact and maintain relationships (McLean, 2014; Blanchard and Markus 2004; Wright 2010; Atkinson 2010; Webb, 2012).

Doğan, Duman, & Seferoğlu, (2011) defined social networks as the software providing interaction, and the main features are summarized as follows:

- Provides the interaction among the groups.
- Provides communication among lots of people.
- Provides meeting and resource sharing.
- Provides indexing and obtains the information within collaboration.
- Allows the cooperation and helps personification of the priorities.
- For knowledge and the creation of new knowledge, they are equipped with new tools
- Provides a variety of creative and appropriate platforms

Akar (2010) grouped social networking platforms under the main headings as follows:

Blogs: In this website, topics are written in chronological order and all users can make comments on those.

Microblogging: Users could exchange short sentences, images and links.

Wikis: It is a kind of software users easily create, edit and link web pages.

Social Marking: Users store, organize, share and search bookmarks of web pages. In this system, by saving links to web pages, users could remember what is on web.

Social Networking: Within online social networks, people sharing their interests and activities communicate with other users have the same interests or follow others' interests and activities.

Media Sharing Sites: With these sites, users could upload their photos, videos and audio to a website.

Virtual Worlds: Users could create the worlds and create personal avatars then interact within the virtual worlds.

This study aimed to examine the effectiveness of the educational social network in career development of the teachers. The following research questions were investigated:

- What is the level of material sharing, communication and cooperation in the professional development of a social network developed to be used for professional development of teachers?

## METHOD

The study was conducted with teachers at a high school in the province of Afyonkarahisar in the first semester of 2015-2016 Education year for 6 weeks. In the study simple random sampling method was applied in selecting the sample and one group and post-test model was carried out. In the school which the study was conducted in, all the teachers were interviewed and the social network was explained. The teachers who were volunteer for applying the network were asked to log in social network. According to the social network's records, 34 teachers began to use the social network. The survey was made up of this component: survey of social networking applications to ensure the professional development of teachers. The data were analyzed with quantitative methods and presented with frequency and percentage tables.

In the survey there are 30 items related with the social networks contributions on teachers' professional development. These items were answered and the teachers chose options Yes/ Partially/ No.

## FINDINGS

### Survey of Social Networking Applications to Ensure the Professional Development of teachers

The results revealed that the highest score at the social networking application to ensure the professional development of teachers was efficiency of social networking applications 94.11% (n=32), obtaining information about different teaching techniques used in social networking application for disadvantaged students 94.11 (n=32), sharing the problems related to teaching and different applications 94.11 (n=32), classroom management 94.11 (n=32). Teachers' answers to the survey of social networking application can be seen in Table 1.

Table 1: Teachers' Answers to The Survey of Social Networking Applications to Ensure The Professional Development of Teachers

Items	Frequency				Percentage
	No	Partially	Yes	Total	
1 Topics discussed on the social networking application were efficient and useful	0	3	31	34	%91.17
2 Shared contents in the social networking were suitable for its purpose.	0	4	30	34	%88.23
3 It helped me to acquire new knowledge to participate in the debate in the social network.	1	6	27	34	% 79.41
4 Course content based on the application of social network helped me find solutions to ease some of the problems in the course.	0	3	31	34	%91.17
5 The time set aside for social networking applications was efficient and I think it's useful.	0	2	32	34	%94.11
6 I learnt different techniques in teaching and learning information about social networking applications.	1	4	29	34	%85.29
7 I obtained information about different teaching techniques used in social networking applications for disadvantaged students.	0	2	32	34	%94.11
8 Social networking application, made me share the problems related to teaching and different applications more comfortably with my colleague.	0	2	32	34	%94.11
9 Social network applications helped me identify individual learnings, needs of students and acquire new information for the evaluation.	0	3	31	34	%91.17
10 Social networking app, helped me to see that my colleagues had similar issues in the class.	0	3	31	34	%91.17
11 With social networking applications, we shared successful teaching strategies.	0	4	30	34	%88,23
12 With Social networking applications, we evaluated new approaches which are successful, and we shared it.	0	3	31	34	%91.17
13 With Social networking applications, we discussed strategies, materials and that motivate students	1	5	28	34	%82.35
14 Social networking applications used in educational practice helped me use good examples.	0	3	31	34	%91.17
15 Social networking application contributed to me about classroom management.	0	2	32	34	%94.11
16 Social networking application contributed me to	0	1	33	34	%97.05

	determine the measurement and evaluation methods and techniques that I'll use in the class.					
17	Social networking application contributed to me about time management.	0	2	32	34	%94.11
18	"Colleagues Interaction" located in social networking application and through shares of my colleagues I found the opportunity to apply my experience in the class.	0	7	27	34	%79.41
19	I think social network app is more useful than the other I have received in-service training seminars on professional development.	1	3	30	34	%88.23
20	Social networking application was easier for me to communicate with school administrators.	0	6	28	34	%82.35
21	Social networking application had a positive impact on the shares in the group work.	0	3	31	34	%91.17
22	Shares (images,videos,connections and comments.) in social networking application contributed us to be collaborative in school environment.	0	4	30	34	%88.23
23	With the help of social network app ,all members of the school easily became aware of the activities in the school.	0	5	29	34	%85.29
24	Social network application increased the my interest in technology.	0	7	27	34	%79.41
25	School members easily got current information about education and training through the social networking application.	0	5	29	34	%85.29
26	Through social networking application, it was also possible to continue education and training outside the school.	1	4	29	34	%85.29
27	With the help of social networking application, it provided the environment to be able to acquire a variety of information.	0	4	30	34	%88.23
28	As social networking app facilitated communication, it helped me solve problems that resulted from miscommunication within the school.	0	6	28	34	%82.35
29	I think social networking app enhanced work productivity at school.	0	6	28	34	%82.35
30	I think social networking app contributed to improving and developing the school.	0	4	30	34	%88.23

## DISCUSSION AND RESULTS

The focus of this study was to determine availability of material sharing, communication and cooperation of the social network. Analysis of the study showed that teachers generally have a great tendency for using the social network and they often used the social network to share, communicate and be in cooperation.

In summary, this application was a supporting element in the development of the teachers. Learning was turned into a dynamic structure. Learning and cooperative learning encouraged by the potential power of the professional development process contributed to the teachers' personal development. It became a structure making the teachers aware of the latest teaching and learning techniques. With sharing their experiences, they tried to find solutions in cooperation (Maughan, 2015; Trust, 2012).



Social network technologies are powerful enabling means in career development and they are potentially useful for the teachers. The current study indicates a usefulness of the social network in career development of the teachers. The study provides guidance regarding the study that would need to be in place for designing activities for the teachers.

Social network applications make teacher communicate outside the school and increase the cooperation and strengthen the feeling of sharing (Urfalioğlu, 2015; Karabuğa, 2015; Mazman 2009; Demirel 2012; Barczyk and Duncan 2013; Özmen, Aküzüm, Sünkür, Baysal, 2011; Gündüz, 2014; Özkan and Mckenzi, 2008; Rap and Blonder, 2014).

Continuous improvement in technology helps society to achieve quickly to the desired information and makes things easier by eliminating the limitations of time and space. Web 2.0 technology, which is one of the most important developments in human life, has become so imperative that social media has been formed as an alternative way of communication for the teachers in and outside the school (Sheeks ve Birchmeier, 2007; Kraut, Patterson, Lundmark, Kiesler, Mukhopadhyay, & Scherlis, 2002; Baltacı, İşleyen, and Özdemir, 2012; Öztürk, and Akgün, 2012).

Teachers who cannot be in contact with colleagues with a busy schedule have brought feelings of sharing, communication, cooperation to the virtual environment through educational social networks. This compulsory position has also led to the emergence of new training formations. Educational social networking applications do not only offer an important contribution to all areas of education but also acquire an important place for the career development of teachers. (Madge, Meek, Wellens, & Hooley 2009; Pempek, 2009; Demirel and Keleş 2011; Barczyk and Duncan 2013; Acar and Yenmiş 2014; Bilen, Ercan, & Gülmez, 2014; Gonzales-Ramirez, Gasco, & Llopis Taverner, 2015; Flores, 2009).

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## READINESS TO PRIMARY SCHOOL: A COMPARISON REGARDING VISUAL PERCEPTION AND DRAWING LINES SKILLS

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### Abstract

First grade of primary school is among the most important steps in terms of acquiring skills such as literacy and arithmetic that we shall use for a lifetime and directing our future attitudes towards reading. In order for the child to develop correct writing skill, it is of great significance to acquire basic skills on which preparation to writing is based starting from the pre-school period. Also, doing practices regarding the visual perception skill improves literacy, spelling, making arithmetical calculations skills in children and helps them improve all the necessary skills to succeed in school. In line with this idea, this study aims to identify by comparing the relationship between pre-school children's primary education readiness in terms of visual perception and drawing line skills by various variables. For this aim, Frostig Visual Perception Test, Line Practices sub-scale of Marmara Primary Education Readiness Scale, and questionnaire forms filled out by the teachers regarding demographic information and studies of the children were used and statistical analysis of the data obtained from 120 pre-school children was done.

**Keywords:** Visual Perception, Drawing lines skills, readiness to school.

### INTRODUCTION

Starting primary education readiness is one of the most critical turning points of a child's life. Primary school is a different environment from home and the child spends most of her/his day with new friends and adults. The child has new responsibilities such as participating in the activities of a programmed teaching, obeying the rules, fulfil the teacher's instructions, and more importantly learning how to read and write and arithmetic. For this reason, first grade of elementary teaching is among the most important steps in terms of acquiring skills such as literacy and arithmetic that we shall use for a lifetime and directing our future attitudes towards reading (Oktay-Unutkan, 2003).

In order for the child to develop the correct writing skill, it is important to perform some preliminary studies beginning from the pre-school period. For instance, practices to develop fine motor skills on which writing is based: beading, kneading, pouring something from one pot to another, drawing lines by holding their pencil appropriately etc. The child has to have skills requiring muscle power such as holding a pencil, control her/his body, move, and sit up (Tepperman, 1998).

Drawing vertical and circular lines behaviours, which are important for writing skill, are fine motor skills that develop during the pre-school period (Berndt, 1997). In order to write in cursive, italic neatly, arm, wrist, and finger muscles and sense of touch should be developed. As well as doing practices that support this skill, it is important to hold and use their pencil correctly and to develop visual perception skills for the child to write neatly.

Coordinated movements of hand and eyes are critical for acquiring writing skills which depends on the development of hand and arm muscles (thin and thick muscles) as well as on the coordination of the eyes (Oktay, 2010).

Visual perception is the ability to notice visual stimulants, telling them apart and decipher them by relating to previous experiences. Visual perception is not only the ability to see (Quoted from: Cengiz, 2002 Frostig, 1968). According to Frostig visual perception skill improves literacy, spelling and doing arithmetical calculations in children and helps them improve the necessary skills to succeed in school. Still, most children start primary school in a less prepared state to perform the tasks that include visual perception (Quoted by Cengiz, 2002 Frostig, 1968).

From this point of view, this study was carried out to identify the relationship between their primary education readiness in terms of visual perception level and drawing line skills in children aged 5 and 6.

The study looked for answers to the questions below:

1. Is there a relationship between their primary education readiness in terms of visual perception level and drawing line skills in children aged 5 and 6?
2. Are primary education readiness levels of children aged 5 and 6 in terms of visual perception level and drawing line skills affected by age, sex, and duration of pre-school education?
3. Are primary education readiness levels of children aged 5 and 6 in terms of visual perception level and drawing line skills affected by parents' educational levels and jobs?
4. Are primary education readiness levels of children aged 5 and 6 in terms of visual perception level and drawing line skills affected by positioning the body appropriately?
5. Does holding their pencil correctly affect children's primary education readiness levels in terms of visual perception level and drawing line practices?
6. Does the skill of drawing a line without lifting the hand affect children's primary education readiness levels in terms of visual perception level and drawing line practices?
7. Does the skill of copying by looking at a model affect children's primary education readiness levels in terms of visual perception level and drawing line practices?
8. Does the skill cutting affect children's primary education readiness levels in terms of visual perception level and drawing line practices?
9. Does the skill of doing tasks that require eye and hand coordination affect children's primary education readiness levels in terms of visual perception level and drawing line practices?

## METHOD

### Sample and Population

This study is based on the data of 120 children aged 5, 5.5, and 6 who go to a pre-school institution in Kadikoy district of Istanbul obtained from the teachers and survey model was used.

### Data Collection Tools

In the study the data regarding visual perception, and their primary education readiness in terms of line practices were collected.

In order to identify the visual perception levels of children, Frostig Visual Perception Test used for children aged 4 years and 7 years and 11 months was administered. It assesses hand-eye coordination, shape-ground distinction, steadiness of perception, space-position perception, and perception of spatial relationships.



Drawing sub-scale of Marmara Primary School Readiness Test was used to determine their primary education readiness in term of drawing lines. This test is composed of sub-scales which are mathematics, science, sound, drawing, and labyrinth and each sub-scale might be used independently. Also a questionnaire form was filled out by the teachers to obtain information about demographics and studies of children.

### Procedure

Frostig Visual Perception Test and Marmara Primary School Readiness Test were filled out by researchers by working one-to-one with children and questionnaire forms were filled out by the teachers.

The data obtained from the scale and questionnaire was analysed using SPSS package program. The information obtained from the questionnaires filled out by the teachers was compared to the data obtained from Frostig Visual Perception Test and Marmara Primary School Readiness Test, t test and variance analyses was done to assess the differences. Level of meaningfulness was  $p < 0,05$  and  $p < 0,01$ -level meaningfulness was also determined. LSD test was administered to identify the source of difference. The correlation between visual perception test total scores and line scores was also checked.

### FINDINGS AND COMMENTS

Demographical data of the research group is not presented in a table.

The research group was composed of 120 children 27,5% of whom were 6, 58,3% of whom were 5,5, and 14,2% of whom were 5 years old. 58, 3% of the children were girls and 41,7% of them were boys. 27,5% of the children had been taking education for 3 years. 50% of them had been taking institutional pre-school education for 2 years and 22,5% of them had been taking institutional pre-school education for 1 year.

41, 7% of the mothers got high school education. 36, 7% of the mothers did undergraduate study and 13,3% did master's degree. 48, 3% of the fathers got high school education. 41, 7% of the fathers did undergraduate study, 8, 3% did master's degree, and 1, 7% of them completed primary school.

19,2% of the mothers were civil servants and 15,8% of them were unemployed whereas 14,2% of them were labourers, 14,1% of them were self-employed, 10,8% of them were doctors and engineers, 8,3% of them were teachers, 7,5% of them were academicians, 6,7% of them were managers, and 3,3% of them were retired. 33,3% of the fathers were self-employed, 20,8% of them were civil servants, 13,3% of them were doctors/engineers, 10% of them were teachers, and 10% of them were labourers. 5% of the fathers were retired, 4, 2% of them were managers, and 3, 3% of them were academicians.

According to the data obtained from the teachers;

53,3% of the children sometimes positioned their bodies rightly during table activities, 42,5% of them positioned their bodies correctly, and 4,2% could not position their bodies correctly.

62, 5% of the children always held their pencil correctly, 29, 2% of them frequently held their pencil correctly, and 8, 3% of the children could not hold their pencil correctly.

60% of the children sometimes lifted their hands during continuous line drawing activities. 32,5% of them could complete these activities without lifting their hands while 7,5% of them could not perform this activity. 42, 5% of the children could copy the model whereas 30% of them could frequently do this task and 27, 5% of them could not do this task.

49, 2% of the children could cut out a complicated shape without getting any help. 46, 7% of them sometimes needed help and 4,2% of them always got help for the cutting activity.

55% of the children sometimes needed help to perform tasks that required eye-hand coordination while 40% of them did not need any help. However, 5% of the children always needed support for this task.

Table 1: The results of the correlation tests regarding their primary education readiness levels in terms of visual perception and drawing line activities

		Visual Perception	Drawing
<b>Visual Perception</b>	Pearson Correlation	1	,522
	Sig. (2-tailed)		,000
	N	120	120
<b>Drawing</b>	Pearson Correlation	,522	1
	Sig. (2-tailed)	,000	
	N	120	120

In order to identify the correlation regarding preschoolers' primary education readiness levels in terms of visual perception and drawing line activities, Pearson correlation test was administered. As shown in Table 1, the relationship between their primary education readiness levels in terms of visual perception and drawing line activities was  $p < 0.01$ .

Table 2: t test results for visual perception and drawing line activities scores by gender

		N	X	sd	df	t	Sig.
<b>Visual Perception</b>	Female	70	75,9143	26,02716	118	2,473	,014
	Male	50	61,9800	35,70999			
<b>Drawing</b>	Female	70	64,0857	27,04786	118	1,346	,181
	Male	50	56,7600	32,42987			

Table 2 shows that gender had an effect at  $p < 0,01$  level in terms of visual perception level and arithmetical averages show that girls scored higher. Gender did not affect their readiness to primary education in terms of drawing line activities.

Table 3: Results of the variance analysis carried out for visual perception and line activities scores by year of pre-school education variable.

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	8358,847	2	4179,423	4,590	,012
	Within Groups	106530,745	117	910,519		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	7306,100	2	3653,050	4,440	,014
	Within Groups	96271,767	117	822,836		
	Total	103577,867	119			

As it can be seen in Table 3, there were meaningful differences at the level of  $p < 0,01$  between their primary education readiness in terms of visual perception and drawing line activities by year of pre-school education variable. LSD test was administered to determine the source of the difference and it was found that children who had taken institutional pre-school education for 1 year had low scores compared to the children who had taken institutional pre-school education for 2 years and 3 years regarding their primary education readiness in terms of visual perception levels and drawing line activities.

Table 4: Results of the variance analysis carried out for visual perception and line activities scores by age variable.

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	33239,263	2	16619,632	23,815	,000
	Within Groups	81650,329	117	697,866		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	30321,758	2	15160,879	24,214	,000
	Within Groups	73256,109	117	626,121		
	Total	103577,867	119			

Table 4 shows that there were meaningful differences at the level of  $p < 0,01$  between their primary education readiness in terms of visual perception and drawing line activities by age variable. LSD test was administered to determine the source of the difference and it was found that children at the age of 5 had low scores compared to the children at the age of 5, 5, and 6 regarding their primary education readiness levels in terms of visual perception levels and drawing line activities.

Table 5: Results of the variance analysis carried out for visual perception and line activities scores by mother's educational level variable.

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	6209,546	3	2069,849	2,209	,091
	Within Groups	108680,045	116	936,897		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	2650,501	3	883,500	1,015	,389
	Within Groups	100927,365	116	870,063		
	Total	103577,867	119			

According to Table 5 there was not a meaningful difference between their primary education readiness levels in terms of visual perception levels and drawing line activities by mother's educational level variable.

Table 6: Results of the variance analysis carried out for visual perception and line activities scores by father's educational level variable.

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	657,881	3	219,294	,223	,880
	Within Groups	114231,711	116	984,756		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	528,518	3	176,173	,198	,897
	Within Groups	103049,349	116	888,356		
	Total	103577,867	119			

According to Table 6 there was not a meaningful difference between their primary education readiness levels in terms of visual perception levels and drawing line activities by father's educational level variable.

Table 7: Results of the variance analysis carried out for visual perception and line activities scores by mother's occupation variable

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	9530,981	9	1058,998	1,106	,365
	Within Groups	105358,611	110	957,806		
	Total	114889,592	119			



<b>Drawing</b>	Between Groups	3903,433	9	433,715	,479	,886
	Within Groups	99674,433	110	906,131		
	Total	103577,867	119			

According to Table 7 there was not a meaningful difference between their primary education readiness in terms of visual perception levels and drawing line activities by mother's occupation variable.

Table 8: Results of the variance analysis carried out for visual perception and line activities scores by father's occupation variable

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	10789,422	8	1348,678	1,438	,189
	Within Groups	104100,170	111	937,839		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	13326,998	8	1665,875	2,049	,097
	Within Groups	90250,868	111	813,071		
	Total	103577,867	119			

According to Table 8 there was not a meaningful difference between their primary education readiness in terms of visual perception levels and drawing line activities by father's occupation variable.

Table 9: Results of the variance analysis carried out for visual perception and line activities scores by children's correct body positioning level variable

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	25423,239	2	12711,619	16,624	,000
	Within Groups	89466,353	117	764,670		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	17819,607	2	8909,803	12,156	,000
	Within Groups	85758,260	117	732,977		
	Total	103577,867	119			

Table 9 shows that there was a meaningful difference at the level of  $p < 0,01$  between children's primary education readiness level in terms of visual perception and drawing line activities by correct body positioning variable. LSD test was administered to determine the source of the difference and it was found that children who could not position their bodies correctly had low scores compared to the other children regarding their primary education readiness in terms of visual perception levels and drawing line activities.

Table 10: Results of the variance analysis carried out for visual perception and line activities scores by holding the pencil correctly variable.

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	3729,202	2	1864,601	1,963	,145
	Within Groups	111160,390	117	950,089		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	6910,949	2	3455,474	4,182	,018
	Within Groups	96666,918	117	826,213		
	Total	103577,867	119			

Variance analysis results in Table 10 reveal that there was not a meaningful difference between visual perception level and holding the pencil correctly. However, there was a meaningful difference at the level of  $p < 0,05$  between children's primary education readiness level in terms of drawing line activities. LSD test was

administered to determine the source of the difference and it was found that children who could not hold their pencils correctly had meaningfully low averages compared to the other children.

Table 11: Results of the variance analysis carried out for visual perception and line activities scores by completing the line without lifting their hands variable

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	38789,694	2	19394,847	29,819	,000
	Within Groups	76099,897	117	650,426		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	35601,320	2	17800,660	30,638	,000
	Within Groups	67976,547	117	580,996		
	Total	103577,867	119			

Table 11 shows that there was a meaningful difference at the level of  $p < 0,01$  between children's primary education readiness level in terms of visual perception levels and drawing line activities by completing the line without lifting their hands variable. LSD test was administered to determine the source of the difference and it was found that children who could complete the line without lifting their hands had meaningfully high averages compared to the other children regarding their primary education readiness in terms of both visual perception levels and drawing line activities.

Table 12: Results of the variance analysis carried out for visual perception and line activities scores by copying the model variable

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	9961,166	2	4980,583	5,554	,005
	Within Groups	104928,425	117	896,824		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	26119,177	2	13059,589	19,726	,000
	Within Groups	77458,689	117	662,040		
	Total	103577,867	119			

According to the results in Table 12 there was a meaningful difference at the level of  $p < 0,01$  between children's primary education readiness level in terms of visual perception levels and drawing line activities by copying the model variable. LSD test was administered to determine the source of the difference and it was found that children who could not copy the model had meaningfully low averages compared to the other children in terms of visual perception levels. As for the drawing line activities, it was seen that children who could copy the model had meaningfully higher averages compared to the other children in terms of their primary education readiness levels.

Table 13: Results of the variance analysis carried out for visual perception and line activities scores by doing cutting activities completely variable

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	32877,863	2	16438,931	23,452	,000
	Within Groups	82011,729	117	700,955		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	26022,118	2	13011,059	19,628	,000
	Within Groups	77555,748	117	662,870		
	Total	103577,867	119			

According to the results in Table 13 there was a meaningful difference at the level of  $p < 0,01$  between children's primary education readiness level in terms of visual perception levels and drawing line activities by doing cutting activities completely variable. LSD test was administered to determine the source of the

difference and it was found that children who could cut out a complicated shape without getting help had meaningfully high averages compared to the children who could not in terms of visual perception levels and drawing line activities regarding their primary education readiness levels.

Table 14: Results of the variance analysis carried out for visual perception and line activities scores by doing tasks that require eye-hand coordination variable

		Sum of Squares	df	Mean Squares	F	Sig.
<b>Visual Perception</b>	Between Groups	14742,749	2	7371,374	8,612	,000
	Within Groups	100146,843	117	855,956		
	Total	114889,592	119			
<b>Drawing</b>	Between Groups	34879,715	2	17439,858	29,702	,000
	Within Groups	68698,152	117	587,164		
	Total	103577,867	119			

The results in Table 14 reveal that there was a meaningful difference at the level of  $p < 0,01$  between children's primary education readiness level in terms of both visual perception levels and drawing line activities by doing tasks that require eye-hand coordination variable. LSD test was administered to determine the source of the difference and it was found that children who could do tasks that require eye-hand coordination without getting help had meaningfully high averages compared to the children who could not in terms of both visual perception levels and drawing line activities regarding their primary education readiness levels.

## DISCUSSION

The relationship between pre-school children's primary education readiness in terms of visual perception and drawing line activities was identified in this study and comparisons were made by age, sex, duration of education, parents' educational levels, and occupations. The relationship between pre-school children's primary education readiness in terms of visual perception and drawing line skills by various variables was at a level of  $p < 0.01$ . According to Frostig, visual perception skills improve literacy, spelling and arithmetical calculations and help them improve the necessary skills to succeed in school. The comparisons made with the variables support this finding. Other findings of the study also support the relationship between pre-school children's primary education readiness in terms of visual perception and drawing line skills. When the other variables were compared, parallel differences for both levels were found. As for the relationship between pre-school children's primary education readiness in terms of visual perception and drawing line skills it was seen that

- children who had taken institutional pre-school education for 1 year had low scores compared to the children who had taken institutional pre-school education for 2 years and 3 years .
- 5-year-old children 5 had meaningfully low scores compared to the children aged 5, 5 and 6.
- children who could not position their bodies correctly had low scores compared to the other children.
- children who could complete the line without lifting their hands had meaningfully high averages compared to the other children.
- children who could cut out a complicated shape without getting help had meaningfully high averages compared to the children who could not.
- children who could do tasks that require eye-hand coordination without getting help had meaningfully high averages compared to the children who could not.

It was revealed that holding the pencil correctly variable did not create any meaningful difference for visual perception levels; however, children who could not hold their pencils correctly had meaningfully lower levels compared to the other children in terms of drawing line activities regarding their readiness to primary education. According to Polat (2010) the child holding the pencil incorrectly causes the hands to be tired and prevents the child from writing beautifully. Visual perception is a skill related to deciphering visual stimulants. It was found that children who could not copy the model had meaningfully low averages compared to the children who could always and frequently perform this task but there was not a difference between always performing and frequently performing this task. As for the drawing line activities, it was seen that children who



could copy the model had meaningfully high averages compared to the other children in terms of their primary education readiness levels and that there was not a meaningful difference between performing this task frequently and not being able to perform it.

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## VALIDITY AND RELIABILITY STUDY OF PRIMARY SCHOOL MATURITY SCALE FOR TURKISH CHILDREN: ISTANBUL SAMPLE

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### Abstract

One of the main goals of preschool education is to prepare the children for primary school. This preparation contains all developmental areas for the child within the framework of the skills thought to be necessary in primary education. Starting to 1<sup>st</sup> grade facilitates orientation of the children who have the maturity required for primary school. It is known that the adaptation problems of most children continue during the processes of academic success and schooling in primary school. The immediate determination of adaptation problems is required so that educators need to have assessment instruments for adaptation problems. The purpose of this study is to test the validity and reliability of an assessment instrument developed to determine the adaptation and academic levels of the students (reading-writing skills, problem solving, etc.) at the 1st grade of the primary school. For this purpose, the form constructed as a result of the literature search was presented to the evaluation of field experts. After making changes in line with the suggestions of the experts, a validity and reliability study was made with 520 1st grade students in Istanbul. The internal consistency coefficients and item analysis processes were performed for a reliability study of the Primary School Maturity Scale, while factor analysis and comparisons with different variables were made for its validity study. Results of this study show that Primary School Maturity Scale for Turkish Children is highly reliable and valid.

**Keywords:** Primary School Maturity Scale for Turkish Children, school maturity.



## INTRODUCTION

The beginning years of life are the years during which children make the biggest progress in development and learning. Timely interventions made at critical points of development in this period will give significant positive support to progress. Oktay (2010) describes this period as a socialization period in which the child begins to become aware of him-/herself meets other people and learns social rules. According to Oktay (2010), the child first develops basic behaviors regarding socialization in the family, and afterwards reinforces these gains in the preschool institutions and primary education institutions.

Starting to school is one of the most important milestones in the life of a child. For the first time, the child is faced with tasks such as attending the activities required by the programmed instruction, obeying the rules within a specific discipline and plan, and learning the subjects such as reading-writing, arithmetics, etc. (Oktay and Unutkan, 2003, p. 145).

Having several competences when starting the 1st grade in primary school eases the child's adaptation to the class by allowing him to avoid long-term adaptation problems. According to Polat Unutkan (2007), to gain competencies such as leaving the house easily, self-dressing, doing personal cleaning, gaining toilet control, having responsibility, taking turns, finishing the task that they started, protecting themselves from dangers, moving in a balanced manner, making friends, expressing themselves, sitting up straight from a definite distance at the table, focusing attention on a certain point and following the instructions, and academic skills such as holding a pencil correctly, drawing a line, counting items, knowing the numbers, adding-subtracting, observing, establishing cause and effect relationships, solving problems, using Turkish correctly, setting the tone of voice and speaking speed, and forming words beginning and ending with the same sound by their teachers and parents at home as much as possible is important for all children regardless of their attendance in preschool.

All of these factors are accepted to have the same level of importance, since it is known that such factors are not independent from each other and any deficiency or insufficiency affects the others as well (Brown 2003; Esaspehlivan 2006). It can be said that individual factors such as cognitive, physical, social, and emotional maturity and school phobia, and environmental factors such as family and school affect the child's maturity for starting school (Kılıç, 2004).

Evaluation of school maturity has critical importance with regard to practice and theory (Miclea&Mihalca 2007). In our country, children are enrolled in primary school according to their chronological age, and any evaluation about the school maturity of the children cannot be made, especially in public schools. Considering the number of the students in the class, their school readiness, and attitude to school, is important in classroom atmosphere (Sadık, 2002). The children who adapt to school are careful, and participative and active in classroom activities. They can study independently and have high levels of academic success. In addition, such children establish close relationships with their peers and teachers (As cited in Gülay, 2011; Bart, Hajami & Bar-Haim, 2007; Buhs & Ladd, 2001). A valid and reliable evaluation during the orientation process shall be beneficial for both the students and their family. Such evaluation is important in providing the chance for early intervention as well. This study aimed to conduct of a psychometric test of Primary School Maturity Scale for Turkish Children which will be used to evaluate whether new 1<sup>st</sup> grade primary school students are ready for school or not.

## METHOD

### Research Model

General model of this research is a qualitative, descriptive study.

### Sample

The population of this study consists of new 1st grade primary-school students in Istanbul. Primary schools of 10 counties (Avcılar, Beylikdüzü, Fatih, Güngören, Kadıköy, Maltepe, Sultanbeyli, Şişli, Ümraniye, Üsküdar) in both sides of Istanbul were determined for the sample through random sampling. The selection was made

between public primary schools that have at least 2 first-grade branches. For the sample of our study 520 students were selected from 50 schools that follow our school criterion. The teachers of the sample (104) have evaluated their students.

#### Data Collection Tools

**Information Form:** This form was prepared by researchers to collect information about the sample. The Information Form contains questions about the field of specialization of class teachers, number of their students, preschool education status of the students, the month that the students started reading, their mechanical transition periods for reading, transition periods for reading conceptually, transition periods for accentuation, process of adapting to the syllabus, and orientation in order to collect information about the sample and the 1st-grade teachers in the sample.

**Primary School Maturity Scale for Turkish Children:** It was formed with 156 items and sent to 7 educators (5 academicians and 2 class teachers) working in their fields of expertise. The experts evaluated the scale items with regard to appropriateness. 33 items which were not approved contextually by the experts after the evaluation were excluded and a form consisting of 123 items was obtained. The teachers were requested to fill in this 123-item form according to a triple rating (do, partially do, cannot do) in consideration of the information, skills, and behaviors of the students. This scale was named as Primary School Maturity Scale for Turkish Children (PSMS-T).

#### FINDINGS

Findings about the sample and personal information regarding the class teachers and the findings about the validity and reliability test of the PSMS-T were shown below.

#### I-Findings about the Demographical Characteristics of the Sample

The distribution of 520 1st-grade students in the sample according to classroom size is shown in Table 1.

Table 1: Number of students in the classrooms of children within the sample

Class size	n	%
15 students	15	2,9
16 students	36	6,9
19 students	9	1,7
21 students	9	1,7
25 students	141	27,1
26 students	15	2,9
27 students	9	1,7
29 students	9	1,7
30 students	9	1,7
32 students	20	3,8
33 students	12	2,3
34 students	9	1,7
35 students	36	6,9
36 students	9	1,7
37 students	21	4,0
38 students	9	1,7
39 students	12	2,3



40 students	120	23,1
42 students	8	1,5
43 students	12	2,3
Total	520	100,0

As seen in Table 1, the students in the sample receive education in the classrooms with minimum and maximum capacity of 15 and 43 people, respectively. Of these students, 27.1% and 23.1% receive education in the classrooms with a capacity of 25 and 40 people, respectively.

Opinions of these students' teachers about their socioeconomic status were used in this study.

Table 2: Socioeconomic Distribution of the Sample

S.E.S.	n	%
Low	45	8,7
Below average	93	17,9
Average	355	68,3
Above average	27	5,2
Total	520	100,0

68.3% of the students attending the schools in the sample group have the average income level. This shows that a considerable part had the average income level, although the sample was distributed above and below this income level (Table 2).

Table 3 indicates whether or not preschool education had been received.

Table 3: Preschool Education Status

Preschool Education	n	%
received	295	56,7
did not receive	219	42,1
Unanswered	6	1,2
Total	520	100,0

56.7% of the students in the sample group had received preschool education, whereas 42.1% of them did not receive it (Table 3).

## II-Findings about the Reliability and Validity Test of the PSMS-T

Internal consistency coefficients of the PSMS-T were calculated. In Table 4, internal consistency coefficients of the PSMS-T were given.

Table 4: Internal Consistency Coefficients of PSMS-T

	r
Alpha	,890
Spearman-Brown	,859
Guttman Split-half	,856

In order to test the reliability of the PSMS-T, Cronbach's Alpha, Spearman Brown, and Guttman split-half internal consistency coefficients were calculated. The Spearman Brown internal consistency coefficient calculated after the test was split in two halves itself, and Guttman split internal consistency coefficients

corresponded to 0.86 and 0.86, respectively. Cronbach's alpha internal consistency coefficient calculated based on the variance of each problem was found to be 0.89.

### Processes of Item Analysis

After the internal consistency of the PSMS-T was determined, the item analysis processes began. Item-total, item-remainder, and item distinctiveness indexes were used as bases, respectively, during the item analysis processes.

When results of the **item-total** and **item-remainder** were used as bases, it was seen that items 93 and 96 were not reliable. On the basis of the test sums, the whole was sorted in descending order and **item distinctiveness indexes** were calculated with unrelated group t test by using the distinctiveness values of 140 people who received the highest score based on 27%, and 140 people who got the lowest score. According to the results of this process, the distinctiveness values of items 15, 93, and 96 are low. Except for these, all items were found to be distinctive.

Positive findings about the reliability of the scale were obtained through calculating the internal consistency of the PSMS-T and the item analysis processes.

Factor analysis was made for the validity study of the PSMS-T. Prior to factor analysis, KMO and Bartlett analysis were performed to determine the appropriateness of the sample group.

Table 5: Results of KMO and Bartlett Tests

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			,837
Bartlett's Test of Sphericity	Approx. Chi-Square		1,192
	df		7503
	Sig..		,000

The appropriateness value of the Kaiser-Meyer-Olkin sample which is 0.837 and significance level of Bartlett's test for sphericity which is 0.000 (for  $p \leq 0.05$ ) show that the data of this study are appropriate for the factor analysis (Table 5). Therefore, the factor analysis processes were performed to test the validity of the scale.

Table 6: Total Variance Explained Within the PSMS-T

Companent	Initial Eigenvalues			Extraction Sums of Squared Loadings			
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	
1	59,688	48,502	48,502	59,658	48,502	48,502	

According to results of the factor analysis processes, the scale is constituted by a single dimension and explains 48.502% of the total variance (Table 6).

As a result of the factor analysis, Items 2, 15, 59, 93, and 96 were excluded from the total scale and the processes of item analysis were repeated.

A 118-item scale form was obtained after excluding 5 items from the scale, and the validity and reliability test was performed again.

Below are the findings about the validity and reliability analysis of the 118-item scale.

Table 7: Internal Consistency Coefficients Within the PSMS-T

	r
Alpha	,891
Spearman-Brown	,866
Guttman Split-half	,852

Internal consistency coefficients were calculated again for the 118-item scale. Spearman Brown and Guttman internal consistency coefficients correspond to 0.87 and 0.85, respectively. On the other hand, Cronbach's alpha internal consistency coefficient was calculated as 0.90 (Table 7). These results provide strong evidence showing the reliability of the test.

Table 8: Total Results of Variance Explained Within the PSMS-T

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	59,488	58,414	58,414	59,488	58,414	58,414

According to results of the factor analysis processes which were repeated for 118 articles obtained after excluding 5 items, the scale is constituted by a single dimension and explains 58.414% of the total variance (Table 8).

In order to determine the validity of the 118-item PSMS-T, comparisons were made based on the variables (gender, preschool education status, starting to read within the projected period, mechanical transition periods for reading, transition periods for reading conceptually, transition periods for accentuation and process of adapting to the syllabus, and orientation) obtained from the sample.

Table 9: Results of the Variance Analysis According to Socio-Economic Variables or Not

	Sum of Squares	df	Mean Squares	F	Sig.
Between Groups	34841,239	3	11613,746	3,947	,008
Within Groups	1518182,205	516	2942,214		
Total	1553023,444	519			

As seen in Table 9, a significant difference was detected as a result of the variance analysis made to determine whether the PSMS-T differ according to socio-economic variables or not ( $F=3.947$ ; 01).

LSD test was applied to find the source of the difference, and it was seen that mean values of the children which were just above the mean income level were significantly higher than those of the children with low and medium income levels.

Table 10: Results of the Independent Group t Test According to the Variable of the Student's Gender or Not

Groups	N	X	ss	t	sd	Sig.
Female	273	,0300	55,27007	-,987	518	,324
Male	247	,0304	54,07051			

As seen in Table 10, the difference between the arithmetic means of the groups was found to be statistically insignificant ( $t=-.987$ ;  $p=.324$ ) as a result of the t test made to determine whether the PSMS-T differ according to the variable of the student's gender or not.

Table 11: Results of the Independent Group t Test According to the Variable of the Student's Preschool History or Not

Groups	N	X	ss	t	sd	Sig.
Received	295	,031	47,615	5,377	512	,000
Did not received	219	,029	60,422			

The difference between the arithmetic means of the groups was found to be statistically significant ( $t=5.377$ ;  $p<0.01$ ) as a result of the t test made to determine whether the PSMS-T differ according to the variable of the student's preschool history. The relevant difference was for the benefit of the students who received preschool education (Table 11).

Table 12: Results of the Independent Group t Test According to the Variable of Starting to Read Within the Projected Period or Not

Groups	N	X	ss	t	sd	Sig.
Yes	368	,032	36,875	15,118	506	,000
No	140	,025	62,834			

As seen in the table 12, the difference between the arithmetic means of the groups was found to be statistically significant ( $t=15,118$ ;  $p<0,01$ ) as a result of the t test made to determine whether the PSMS-T differ according to the variable of starting to read within the projected period or not. The relevant difference was for the benefit of the students who started to read within the projected period.

Table 13: Results of the Independent Group t Test According to the Variable of Switching from Mechanical Reading to Reading Conceptually Within the Projected Period or Not

Groups	N	X	ss	t	sd	Sig.
Yes	285	,033	19,550	19,419	500	,000
No	217	,026	59,410			

The difference between the arithmetic means of the groups was found to be statistically significant ( $t=19.419$ ;  $p<0.01$ ) as a result of the t test made to determine whether the PSMS-T differ according to variable of switching from mechanical reading to reading conceptually within the projected period or not. The relevant difference was for the benefit of the students who switched from mechanical reading to reading conceptually (Table 13).

Table 14: Results of the Independent Group t Test According to the Variable of Switching to Accentuation Within the Projected Period or Not

Groups	N	X	ss	t	sd	Sig.
Yes	281	,033	19,589	20,330	497	,000
No	218	,025	57,441			

As seen in Table 14, the difference between the arithmetic means of the groups was found to be statistically significant ( $t=20.330$ ;  $p<0.01$ ) as a result of the t test made to determine whether PSMS-T differ according to the variable of switching to accentuation within the projected period or not. The relevant difference was in favor of the students who switched to accentuation within the projected period.

Table 15: Results of the Independent Group t Test According to the Variable of the Student's Awareness of the Course Hours or Not

Groups	N	X	ss	t	sd	Sig.
Yes	391	,032	40,810	13,652	518	,000
No	129	,025	62,033			

As seen in the table, the difference between the arithmetic means of the groups was found to be statistically significant ( $t=13.652$ ;  $p<0.01$ ) as a result of the t test made to determine whether PSMS-T differ according to variable of the student's awareness of the course hours or not. The relevant difference was in favor of the students who were aware of the course hours (Table 15).

Table 16: Results of the Independent Group t Test According to the Variable of the Student's Awareness of the Syllabus Process at School or Not

Groups	N	X	ss	t	sd	Sig.
Yes	414	,032	38,637	16,221	518	,000
No	106	,024	62,740			

As seen in Table 16, the difference between the arithmetic means of the groups was found to be statistically significant ( $t=16.221$ ;  $p<0.01$ ) as a result of the t test made to determine whether the PSMS-T differ according to the variable of the student's awareness of the syllabus (first course, last course, etc.) at school or not. The relevant difference was in favor of the students who were aware of the syllabus.

Table 17: Results of the Independent Group t Test According to the Variable of Returning Home after the Orientation Period and Wanting Mother or Not

Groups	N	X	ss	t	sd	Sig.
Yes	137	,028	66,257	-4,509	518	,000
No	383	,031	48,466			

As seen in the table, the difference between the arithmetic means of the groups was found to be statistically significant ( $t=-4.509$ ;  $p<0.01$ ) as a result of the t test made to determine whether PSMS-T differ according to variable of returning home after the orientation period and wanting mother or not. The difference was in favor of the students who do not experience adaptation problems after the orientation period (Table 17).

## RESULTS

The studies for developing the PSMS-T started with 156 items. Expert opinions were used for the first scale form consisting of 156 items. 33 items which were not approved according to expert opinions were excluded, and a 123-item scale form was obtained. Validity and reliability analyses of the 123-item scale form were performed. The scale took its final form with 118 items, after 5 items that were not found valid and reliable through the processes of item analysis and factor analysis were excluded. The Cronbach's alpha coefficient of the 118-item PSMS-T corresponds to 0.90. According to results of the factor analysis, the scale has a single factor and explains 58.41% of the total variance.

It was seen as a result of the comparisons made with the PSMS-T that arithmetic means of the students who received preschool education were significantly higher than those of the students who did not receive preschool education ( $t=5.377$ ;  $p<0.01$ ); no difference between the means scores of the female and male students was found.

Arithmetic means of the scale scores of students who started to read within the projected period were found to be significantly higher than those of the students who failed at reading within the projected period ( $t=15.118$ ;  $p<0.01$ ).

The arithmetic means of the scale scores of students who switched from mechanical reading to reading conceptually within the projected period were significantly higher than those of the students who failed at switching to read conceptually within the projected period ( $t=19.419$ ;  $p<0.01$ ).



It was seen that arithmetic means of the scale scores of students who achieved accentuation within the projected period were significantly higher than those of the students who could not switch to accentuation within the projected period ( $t=20.330$ ;  $p<0.01$ ).

Arithmetic means of the students who were aware of the course hours were observed to be significantly higher than those of the students who were not aware ( $t=13.652$ ;  $p<0.01$ ).

It was found that arithmetic means of the students who were aware of the syllabus process were significantly higher than those of the students who were not aware the process ( $t=16.221$ ;  $p<0.01$ ).

Arithmetic means of the students who wanted to return home after the orientation period and wanted their mother were significantly lower than those of the students who did not ( $t=-4.509$ ;  $p<0.01$ ).

In light of these results, it can be said that the maturity scale developed to assess whether the new 1st-grade primary school students are ready for the school or not has reliable results with regard to validity and reliability tests.

Darney, Reinke, Herman, Stormont, and Ialanga (2013) found in their longitudinal study in which they followed up 678 students between the 1st grade to 12th grade that the children who have academic and behavioral problems in the 1st grade receive mental health services more frequently in the following years, their academic success is low, and dropout rates are higher. Additionally, it is stated that the findings of the study did not differ according to the gender. No significant difference between female and male students could be found in this study. As a result of their study, Darney, Reinke, Herman, Stormont, and Ialanga (2013) stressed the importance of early intervention.

## CONCLUSION AND SUGGESTIONS

The result of the study shows that the PSMS-T is a valid and reliable scale. This scale can be used by teachers to evaluate their students. Providing the chance for early intervention could be useful for students and their family.

Use of the scale in the 1st grade is suggested primarily to provide the chance for early intervention. Moreover, sharing the results of the study obtained from primary schools with the preschool teachers is suggested. In this way, it may contribute to increase in the quality of the preschool programs. In parallel with this, preschool teachers can prepare and apply individual education programs for their students.

It could be said that the scale is a reliable and valid evaluating tool for teacher use to determine adaptation problems and it could help to raise the quality and efficiency of education in the long term.

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## THE USE OF LITERATURE IN LANGUAGE TEACHING

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### Abstract

Focusing on linguistic elements only does not help language learners communicate fluently in the target language. However, the use of literary texts provides an authentic model for learners that supports their language enrichment. Unlike informational materials literary texts stimulate the language acquisition process. The inclusion of literature in language teaching has been considered advantageous in language learning because it advances learners' competence in all language skills. This study investigated the benefits of using literature in language teaching and found that literature in language teaching is a perfect opportunity to sharpen language awareness.

**Keywords:** Literature, Literary Texts, Language Learning, Integrating Language and Literature.

### INTRODUCTION

A great number of studies highlight the supporting role of literature in foreign language teaching (Kim, 2004; Belcher & Hirvela, 2000; Hanauer, 2001; Sage, 1987). The place of literature in EFL curriculum has been gaining momentum because literature provides valuable authentic materials in which learners are exposed to real life language samples. Language learners when encountered with literature in language learning become familiar with communicative functions and linguistic elements of the target language. Learners deal with how language is used in real life settings and focuses on the interactions which take place between people in these literary texts thus when literature is incorporated in language teaching language learners develop their communicative competence. Furthermore, the use of literature helps learners with cultural enrichment and personal growth (Collie & Slater, 1991; Carter & Long, 1991).

### LITERATURE REVIEW

Since the nineteenth century when the grammar-translation method was dominant in language instruction literature has role in the teaching and learning of language. Though the role of literature in the language classroom declined in the 1950s and 1960s, its significance increased in the 1970s and 1980s. Literature has been considered as a valuable resource in language instruction and its inclusion in language teaching provides language learners various benefits.

- a) Literature improves linguistic knowledge of learners; Literature extends linguistic knowledge of learners because learners read texts in which they study a wide range of vocabulary and grammatical structures. Spack (1985) argues that "it is in literature that the resources of the language are most fully and skillfully used" (p.705). The use of literature is a good opportunity for language enrichment.
- b) Literature provides meaningful input; Pugh (1989) states that literature is "a potentially rich source of meaningful input outside the classroom" (p.320). Sufficient amount of comprehensible input enable learners to develop their language proficiency and become competent language users.
- c) Literature increases language awareness; the integration of literature and language is a perfect opportunity to sharpen language awareness (Wales, 1990). Literary encounter allows learners to become aware of how words are linked with each other meaningfully, simply put learners see how vocabulary and structures are connected in sentences.
- d) Literature provides authentic materials; encounter with literature in language learning provides learners with authentic materials in which learners can foster their linguistic accuracy. Moreover, these authentic materials offer learners real examples so that learners can master the language efficiently and effectively.
- e) Literature enhances communicative competence; literature can motivate and stimulate learners for language learning (Holten, 1997; Kaplan, 2000). Literature can promote communication in the language classroom. Collie and Slater (1987) argue that language and literature is integrated "to let the student

derive the benefits of communicative and other activities for language improvement within the context of suitable works of literature” (p.10). Literature allows learners to see how characters interact with each other and how language can be used for different communicative functions; furthermore, when learners are engaged in literature discussions they practice the language in meaningful interaction.

- f) Literature promotes understanding of the target culture; literature is an ideal vehicle to portray culture so people increase their understanding of others who are different from themselves through literature thus people develop tolerance for other cultures (McKay, 1987).
- g) Literature develops interpretive skill; interpretive skill is important in the process of language learning because learners draw inferences from the text during classroom activities. Learners try to construct meaning and understand the text and they develop interpretation skills.
- h) Literature helps social development; literature includes universal themes so it provides learners with insights about the world issues. Learners develop their personal opinions and experiences by literary encounter.

### Research Questions

This study has tried to explore the following questions:

- 1) Does the use of literature in language teaching sharpen language awareness of learners?
- 2) Does literature provide a learning environment in the language classroom in which learners can promote their communicative competence?
- 3) Does literature develop interpretive skill of learners which facilitate their comprehension of language materials?

### RESEARCH METHODOLOGY

#### Design of the Study

This study explored the benefits of using literature in language teaching and investigated whether inclusion of literature in language teaching enhance language development of learners. This study applies descriptive research method which describes a situation using the collected data without determining cause and effect. Questions were written and clear to understand. Participants answered the questions and their responses were described.

#### Participants

Sample participants in this study were English language department students (N=75) at Ishik University in Iraq. Students have literature courses in their fourth year so all senior students at the department participated the study. Questionnaires were filled in by students in the classroom.

#### Data Collection

In survey method research many researchers prefer a Likert-type scale and in this study the researcher used a five point Likert scale ranging from strongly disagree to strongly agree. The collected data has been analyzed through SPSS. Students have literature courses as well and a survey was carried out among 75 students. The researcher used a five point Likert scale ranging from strongly disagree to strongly agree. The collected data was entered into the Statistical Package for the Social Sciences (SPSS) and analyzed using simple frequency distributions.

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
.831	8

In this study the alpha coefficient for the eight items is .831, suggesting that the items have relatively high internal consistency. In most social science research situations a reliability coefficient of .70 is acceptable.

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Motivate_Stimulate	75	3	5	4.24	.612
Authentic_Materials	75	3	5	4.13	.600
Linguistic_Knowledge	75	3	5	4.24	.541
Competence_in_all_Skills	75	3	5	4.25	.617
Language_Awareness	75	3	5	4.16	.594
Culture_Interpret_Discourse	75	2	5	3.85	.630
Intellectual_Development	75	2	5	3.81	.630
Meaningful_Input	75	2	5	4.21	.664
Valid N (listwise)	75				

Table 2 shows the specific results for each variable that was entered into the analysis.

Table 3: Literature motivates and stimulates learners for language learning Motivate\_Stimulate

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Ambivalent	7	9.3	9.3	9.3
Valid Agree	43	57.3	57.3	66.7
Valid Strongly Agree	25	33.3	33.3	100.0
Valid Total	75	100.0	100.0	

The "Valid Percent" column is used in deterring the frequency distribution. In this case 33.3 % strongly agree and 57.3 % agree that literature motivates and stimulates learners for language learning. A total of 90.6 % of the participants agree that literature has a motivating factor in language learning. Clearly there is a greater number of strongly agree and agree than ambivalent.

Table 4: Literary texts provide authentic materials which are valuable to language learning

**Authentic\_Materials**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Ambivalent	9	12.0	12.0	12.0
Valid Agree	47	62.7	62.7	74.7
Valid Strongly Agree	19	25.3	25.3	100.0
Valid Total	75	100.0	100.0	

25.3 % strongly agree and 62.7 % agree that literature provides authentic materials which are valuable to language learning. A total of 88.0 % of the participants agree that literature provides authentic materials which allow learners to foster their linguistic accuracy and language awareness. Clearly there is a greater number of strongly agree and agree than ambivalent.

Table 5: Literary texts improves linguistic knowledge of learners

**Linguistic\_Knowledge**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Ambivalent	4	5.3	5.3	5.3
Valid Agree	49	65.3	65.3	70.7
Valid Strongly Agree	22	29.3	29.3	100.0
Valid Total	75	100.0	100.0	

29.3 % strongly agree and 65.3 % agree that literature improves linguistic knowledge of learners. A total of 94.6 % of the participants agree that literature is a useful resource in which language is most fully and skillfully used. Clearly there is a greater number of strongly agree and agree than ambivalent.

Table 6: Literary texts advance competence of learners in all skills

**Competence\_in\_all\_Skills**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ambivalent	7	9.3	9.3
	Agree	42	56.0	65.3
	Strongly Agree	26	34.7	100.0
	Total	75	100.0	100.0

34.7 % strongly agree and 56.0 % agree that literature advances competence of all learners in all skills. A total of 90.7 % of the participants agree that literature helps learners with development of language skills. Clearly there is a greater number of strongly agree and agree than ambivalent.

Table 7: Literary texts raise language awareness of learners

**Language\_Awareness**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ambivalent	8	10.7	10.7
	Agree	47	62.7	73.3
	Strongly Agree	20	26.7	100.0
	Total	75	100.0	100.0

26.7 % strongly agree and 62.7 % agree that literature raises language awareness of learners. A total of 89.4 % of the participants agree that literature sharpens their language awareness through allowing them how words and rules are linked with each other in a meaningful way in sentences. Clearly there is a greater number of strongly agree and agree than ambivalent.

Table 8: Literary texts provide cultural information which fosters ability of learners to interpret discourse in social contexts

**Culture\_Interpret\_Discourse**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	2.7	2.7
	Ambivalent	15	20.0	22.7
	Agree	50	66.7	89.3
	Strongly Agree	8	10.7	100.0
	Total	75	100.0	100.0

10.7 % strongly agree and 66.7 % agree that literature provides cultural information which fosters ability of learners to interpret discourse in social contexts. A total of 77.4 % of the participants agree that literature promotes understanding of the target culture. Clearly there is a greater number of strongly agree and agree than ambivalent and disagree.

Table 9: Literature develops personal growth and intellectual development of learners

**Intellectual\_Development**

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	5	6.7	6.7	6.7
Ambivalent	8	10.7	10.7	17.3
Valid Agree	58	77.3	77.3	94.7
Strongly Agree	4	5.3	5.3	100.0
Total	75	100.0	100.0	

5.3 % strongly agree and 77.3 % agree that literature develops personal growth and intellectual development of learners. A total of 82.6 % highlight the role of literature in intellectual development and personal growth. Clearly there is a greater number of strongly agree and agree than ambivalent and disagree.

Table 10: Literature provides meaningful input

**Meaningful\_Input**

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	2	2.7	2.7	2.7
Ambivalent	4	5.3	5.3	8.0
Valid Agree	45	60.0	60.0	68.0
Strongly Agree	24	32.0	32.0	100.0
Total	75	100.0	100.0	

32.0 % strongly agree and 60.0 % agree that literature provides meaningful input. A total of 92 % of the participants agree that literature develops language proficiency of learners via meaningful input. Clearly there is a greater number of strongly agree and agree than ambivalent and disagree.

Table 11: ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	14.724	3	4.908	19.509	.000 <sup>b</sup>
Residual	17.862	71	.252		
Total	32.587	74			

a. Dependent Variable: Meaningful\_Input

b. Predictors: (Constant), Language\_Awareness, Competence\_in\_all\_Skills, Linguistic\_Knowledge

In table 11 Sig < .01, then the model is significant at 99%.

Table 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.672 <sup>a</sup>	.452	.429	.502

a. Predictors: (Constant), Language\_Awareness, Competence\_in\_all\_Skills, Linguistic\_Knowledge

In table 12, the variables language awareness, competence in all skills, and linguistic knowledge were used. The dependent variable is meaningful input. There are two important numbers in table 12; R and R square. The R number is the combined effect of all the independent variables on the dependent variable and in this study there is a positive association between meaningful input and language awareness, competence in all skills and

linguistic knowledge. The R Square shows that these three variables explain 45.2 % percent of the variance in the dependent variable.

Table 13: Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.078	.546		.143	.887
Linguistic_Knowledge	.447	.125	.365	3.580	.001
Competence_in_all_Skills	.199	.108	.185	1.836	.071
Language_Awareness	.335	.113	.300	2.968	.004

a. Dependent Variable: Meaningful\_Input

Table 13 shows how much influence independent variable exerts on dependent variable. The numbers under Standardized Coefficients, Beta are important. The higher the number is the more influence it has on the dependent variable. In this study linguistic knowledge is more important than language awareness, but competence in all skills is not as important as the other numbers. We can conclude that the impact of literature as meaningful input on linguistic knowledge and language awareness is more than competence in all skills. The significance level for two variables is between .000 and .050 which means there is a significant relationship between the variables. Although the significant level for the other variables is less than .1 (if Sig <.1, the model is significant at 90%) a relationship could be found.

## CONCLUSION

The inclusion of literature in language teaching is a good opportunity for language enrichment. Learners can develop their linguistic knowledge, language skills, and language awareness in literary texts. Learners in literary texts see how words and structures function in sentences. Learners see how characters in literary texts interact with each other which help them develop their communicative competence. Literature is a rich source of meaningful input for language learners and it is useful to enhance language proficiency. Literature at the same time allows learners to learn about other cultures. There is a bond culture and language learning. When language learners know about the culture of the language they are learning, their comprehension of some notions will be facilitated.

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## RELATIONSHIP BETWEEN TEACHING LANGUAGE AND CULTURE FROM THE VIEWS OF THE ENGLISH LECTURERS

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### Abstract

It is not possible to teach language without teaching culture as well because language is a part of culture and there is a strict correlation between language and culture. Culture means the way people eat, wear, act in a social situations including shaking hands, what to say when they come together, when they give tips, the way they do shopping, when they accept or refuse invitations, when they become serious even they are not and vice versa, and also it means inherited ideas, beliefs, music, art, literature, values, and knowledge. For sure language cannot be taught without teaching culture. Because of the fact that English is the Lingua Franca of the world now, the great numbers of people try to learn it. The aim of this research is to find out Ishik University English lecturers' perspective about how they relate teaching language and culture.

**Keywords:** Culture, language teaching, cultural differences.

### INTRODUCTION

Language learners may not understand each other perfectly if it is not connected with culture. It is commonly accepted that language has influence on the culture. For example, in Arabic countries there are a lot of words for 'camel'. Similarly, Eskimos have great number of words for 'snow'. In the point of Eskimos' and other people's view snow is very different. We cannot appraise *camel* as Arabic people do or *snow* as Eskimos' perspective. These small examples also clearly show us that the culture and language are inseparable.

Teaching language without culture is like building an empty house. Students may use the language in the wrong situation if they don't know the cultural context. In China, people often use the greeting phrase 'Have you eaten?' or 'Are you full?' instead of 'How are you?'. Something would be missing if the students do not know this cultural difference. In the same way it might be unusual when you say 'What's up' in non-English speaking countries. They may think 'what is in the up' etc. Similarly, if your topic is about festivals and if students do not know Halloween or Easter, it could be extremely difficult to define these terms. Knowing the second language does not guarantee to understand the speaker's intention. In other words, to have a successful communication relies on theoretical knowledge and information about the real life expressions and expectations.

All cultures have its own sign codes that will reflect the connotation of efficiency. As reported by Kramsch (1993:214), when you check a newspaper advertisement or pay a visit to a shop, you may see 'help wanted' expression on the window. However, this statement is not appealing for another culture because it is too short and far from communication. In Russia the same expression has been uttered by the terms 'you are invited to work here'. In the first expression by Americans, focal point, namely connotation of efficiency is on the job itself but as for Russian style, the connotation is stressed on the need. As in the given examples above there are a lot of cultural differences. In one word, culture is automatically and naturally hidden in any language; so what exists in a culture exists in a language.

### What is Culture and Culture Teaching?

Peck stated that (1998), culture is the reflections of a community's agreed and modelled behaviors. The word 'culture' is derived from the term 'cultura' which means seeding, growing and cultivate. This concept appeared firstly in agricultural societies. In the course of time parallel to the developments within history, the concept has changed its meaning from growing a crop to human development and growth.

According to the majority of social scholars today, the culture as a concept has become tangible, symbolic and inevitable part of the human communities. Although it is conceptually materialized, that is to say tangible, what makes culture significant and/or essential is not this materialization but it is how people treat, implement and interpret these cultural elements. In modern societies, values of judgements, moral acquisitions, life philosophy and interpretations are the distinguishing characteristics. Physical and material objects do not play an essential role to define any culture. (Banks, 1989).

Values, rituals, heroes and symbols are reflected in daily life in different ways and they make reference to the different meaning in different cultures. These aspects are visualized by different ways of practices that the people of a particular culture always comment on the connotations of heroes, rituals, and values in the same or in the similar ways.

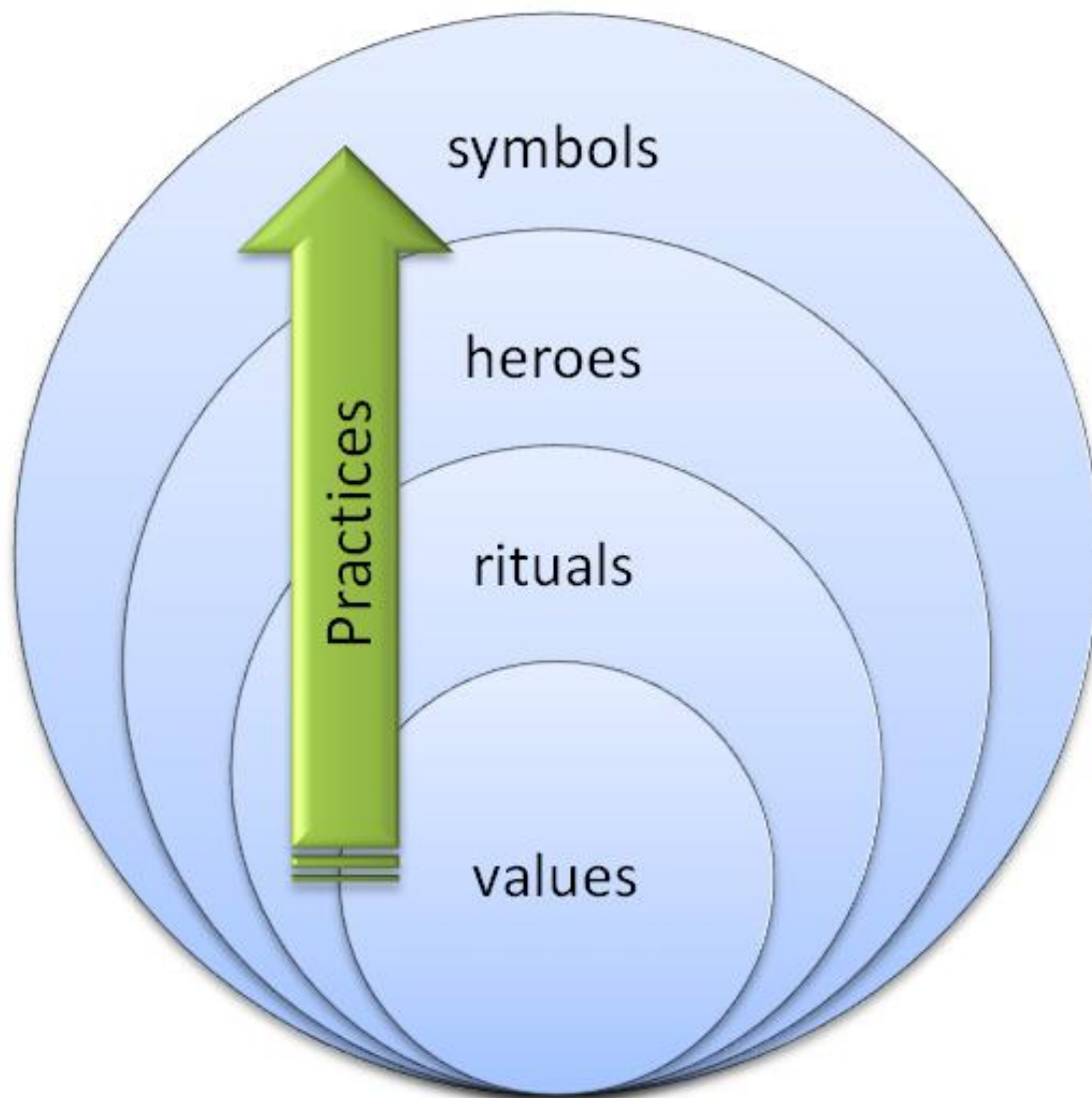


Figure 1: “Manifestation of Culture at Different Levels of Depth”, n.d.

The iceberg metaphor is commonly used to describe physical and non-physical aspects of culture. Most of the people are not aware of invisible part of these aspects which are hidden under the water while very limited part is visible. Talking about the visibility, there are a lot of implementations that reflect these cultural behaviors and practices such as the way of wearing, colors, food choices, music, building style, gestures, mimes, literature, etc. As for the invisible ones, we can talk about beliefs, values, judgements, family relations, ways of thinking, and other moral values.

### **The Reasons Covering Culture in the Language Teaching**

Communication has been inevitable among the societies in the globalized world. While communicating, decency and accuracy have gained importance. This situation has naturally revealed importance of culture because none of the languages is complete without culture so that while teaching any language, we also have to give the culture together.

As it is known, Lingua Franca changes according to time and territory. Today it is English for most people in the world. Even if English is grammatically taught, because of cultural connotations it is necessary to give the cultural aspects to be able to provide effective and meaningful comprehension.

The reasons lying beneath giving culture while teaching language can be listed according to Tomalin & Stempleski (1993: 7-8), who modified Seelye's (1988) 'seven goals of cultural instruction.' According to these scholars, culture teaching has following benefits:

- To help learners understand that all behaviors are somehow conditioned from the view of culture,
- To help learners understand that social conditions like status of gender, age, residency area etc. have direct effect on speaking and the behaviors of people,
- To help learners notice the importance of traditional behavior for regular conditions in the desired culture,
- To help learners show required attention for the cultural connotations of the expressions and the vocabularies in the desired culture,
- To help learners gain ability to transform learned information into new situations in accordance with the cultural codes of target language,
- To help learners improve the required skills to settle and arrange data regarding the desired culture,
- To help learners obtain intellectual awareness and wonder towards the desired culture as well as promote the empathy for its people.

Another thing is that, communication is not the only way people exchange information. There are lots of interaction people convey their ideas, thoughts, feelings, and intentions. In this point, teachers must instruct certain usage of language in different situations. Because the culture and communication are connected to each other, training social situations such as who speaks to whom, how people understand the expressions, the meanings they load for messages that they send or receive should not be considered separate from each other. Additionally, students might be excessively curious and interested in learning the culture of target language. Since students' curiosity and interest level increase, they will be eager to learn language wishfully. They want to learn about the way people eat, entertain, shop, dance, go out, and how they are different and live differently apart from their country. So this idea can be used as a tool that motivates students.

Besides, language is not a series of rules and is not made up from symbols. Language is a complement with culture. There is always a connection between culture and language. That is why, if we want students use language appropriately, we should teach them some parts of the culture. Otherwise, language teaching turns teaching to meaningless shapes and symbols; after that student construe wrong meaning to what was taught. Language teachers should be aware of cultural background of target language. Unfortunately, most teachers do not have sufficient information about the culture of language they are teaching. Having adequate cultural information is one of the characteristics of an ideal teacher. By the way if teachers are not from the country that people speak target language, they also bring their own culture to the classroom. Additionally, cultural content instructing has a significant role for teaching in terms of general knowledge of geography, history etc. (Cooke, 1970).

Communication skills and culture are completely related. "When cultures change, communication practices also changes. Smith also stated that in modern society, varied people communicate in different ways, and the way people communicate is the way they live. It is their culture,...Communication and culture are inseparable." (Larry, 2000,:95).

## METHODS

A questionnaire was conducted in order to get lecturers' point of view towards to the importance of culture in the language teaching, the amount English teaching material contains culture, types of cultural content that is not culturally appropriate and how extent teaching culture help students to understand better English. The questionnaire contains seven questions and all data was analyzed by SPSS software program.

## Participants

Participants of this survey are twenty-six English lecturers working in different departments. They all teach English language, English as a specific purpose or they have language teaching experience.

## FINDINGS

In the first question it was asked that the role of culture in the language teaching from the viewpoint of lecturers. Most of our lecturers answered teaching culture has an essential role in teaching culture. As shown in the table 1, majority of our lecturers (65.5%) chose that teaching culture is a big factor in the language teaching. However, some of the lecturers (24.6%) think that culture does not have or somehow has a critical role in language teaching.

Table 1: Role of culture in language teaching.

### Q1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	17	65.4	65.4	65.4
	no	4	15.4	15.4	80.8
	somehow	5	19.2	19.2	100.0
	Total	26	100.0	100.0	

In the second item it was asked that whether English materials contain enough cultural topics or not. The big amount of our lecturers (46.2%) pointed out that documents that are being used to teach English do not contain cultural components enough. Another portion of the lecturers (30.8%) indicated that materials somehow contain cultural components. The rest of the lecturers (23.1 %) answered that English materials do not have enough cultural contents.

Table 2: How extent English material contains cultural components.

### Q2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	6	23.1	23.1	23.1
	no	12	46.2	46.2	69.2
	somehow	8	30.8	30.8	100.0
	Total	26	100.0	100.0	

Another question was about whether cultural contents are culturally appropriate with their own culture or not. Most of our lecturers (69.2 %) indicated that cultural topics are not suitable the students' own culture. For example dating, drinking beverages that contain alcohol and some kind of celebrations are the most common topics appear in the textbooks. Only a few of them (11.5 %) think that cultural contents are suitable. The reason of this can be that they have studied abroad and get accustomed to such cases.

Table 3: Cultural contents that are appropriate with the local culture.

Q3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	18	69.2	69.2
	no	3	11.5	80.8
	somehow	5	19.2	100.0
	Total	26	100.0	100.0

Lecturers also were asked whether the teaching culture helps students to understand English well or not. Majority of our lecturers (57.7 %) think that teaching culture helps students to comprehend English appropriately. Some of the lecturers (23.1 %) stated that teaching culture does not help learners to understand English accurately.

Table 4: Teaching culture help students to comprehend English well.

Q4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	15	57.7	57.7
	no	6	23.1	80.8
	somehow	5	19.2	100.0
	Total	26	100.0	100.0

## DISCUSSIONS AND RECOMMENDATIONS

It has been found out that most of the lecturers are aware of the importance of cultural knowledge in language teaching. Few lecturers respond that role of culture teaching is not very important. The reason of this may be, they do not know the role of culture in the language teaching. Another reason can be the inappropriate cultural context that they do not want to cover. Some lecturers pay attention more attention to the vocabulary or grammar structure teaching. Unfortunately, there are not adequate topics that promote culture-based learning in the textbooks and teaching materials. In addition to this, some cultural components are not suitable with the local people's culture. Teaching materials could be adopted. First of all, syllabus and the teaching material should be designed parallel to culture teaching. When lecturers prepare curriculum or course content they should consider when, how and how amount of culture teaching. If the teaching material contains cultural component it could be easier for lecturers in terms of instructing target topics. The authors of textbooks should consider local culture. Moreover, some important cultural subjects can be ordered to add or remove from the textbooks. There should be also some activities show cultural differences. Applying such activities make students more active during class session and develop their speaking skills. Besides, lecturers should be trained how to integrate culture and language teaching. Additionally, they can find thousands of unlimited files, documents, videos, photos and materials that can be beneficial in terms of how to use cultural components during the lectures.

## CONCLUSION

As a result, culture and language are united and in correlation so lecturers have to build an atmosphere that conveys culture and language together. All lecturers should be aware of the importance of culture and how to teach it. Besides appropriate cultural contents and activities should be attached to the syllabus and then students should be informed with cultural background of the target language. Otherwise, they may have difficulties to understand some expressions, discourses and other utterances. Additionally, seminars or workshops can be organized in order to present how to implement cultural context into the lesson practically.



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