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From the Editor

Dear IJCER Readers,

Welcome to Volume 6, Issue 1 of the IJCER

We are pleased to inform our readers that the IJCER is now indexed with ERIC. The volumes of 3,4 and 5 will also be available in ERIC database. Since our last issue, we have received a high number of articles to be published in the IJCER. In this issue, there are 15 articles. The first article is by Nihan Sölpük Turhan and Engin Karadağ, titled "An Exploratory Study on the PhD Dissertation: PhD Students' Opinions on their Research Development Process". This study compares the approaches within the context of the PhD students' dissertation process, identifies how PhD students evaluate their own dissertation process, and analyses the differences between the students' study attitudes in the PhD dissertation process in the field of educational sciences. The second article is by Gökhan Aksoy, titled "Exploration of Pre-Service Science Teachers' Perceptions towards Secondary School Science Curriculum", in which the author puts forth how and to what degree pre-service science teachers can practice 2018 Secondary School Science Curriculum through document analysis, observation and journals. In the third article, titled "A Cross-Sectional Study of Textese in Academic Writing: Magnitude of Penetration, Impacts, and Perceptions, the distribution of electronic texting patterns in academic writing and effects of textese on EFL learners' writing performance as well as teachers' perspectives on this phenomenon are examined by the author Abdu Al-Kadi.

"Impressions of Preservice Teachers about Use of PowerPoint Slides by Their Instructors and Its Effects on Their Learning" is the title of the fourth article by Ahmet Murat Uzun and Selcan Kilis. This article explores preservice teachers' opinions about their instructors' use of PowerPoint slides during classes through interviews with preservice teachers, and puts forth significant findings as to this prevalent problem at higher education. The fifth article is by Nadia Saeed M. Alsaadi and Cihat Atar and it is titled "Wait-time in Material and Classroom Context Modes", which investigates student reaction wait-time in high school English as a foreign language classrooms through conversation analysis, and provides significant implications. The title of the sixth article by Koray Kasapoğlu and Melek Didin is "Life Skills as a Predictor of Psychological Well-Being of Pre-Service Pre-School Teachers in Turkey". This article investigates the relationship between pre-service pre-school teachers' life skills and psychological well-being with respect to various variables and explores whether their life skills significantly predict their psychological well-being.

The seventh article is by Mecit Aslan and İbrahim Çıkar and it is titled "The School Readiness of 60-65 Months Old Students: A Case Study". This article aims to determine the school readiness of the 60-65 months first grade primary school students based on teachers' and parents' opinions and provided significant implication as to this controversial issue. In the eighth article, titled "Analyzing the Digital Addiction of University Students through Diverse Variables: Example of Vocational School", Hakkı Bağcı examines the digital addiction levels of vocational school students and the degree of this addiction based on various variables. The ninth article is by Hakan Bayırlı and Sevgi Coşkun Keskin and it is titled "3rd Grade Students' Status of Spending Time with Their Families and Implementation of Values Education in

Family in the Turkish Context. This action research explores how the primary school students spent their time with their parents and how their families spent their time with children and tries to equip the participants with the value of giving importance to family through various activities.

The tenth article is by Şefika Tatar and Oktay Cem Adıgüzel and it is titled "The Analysis of Primary and Secondary Education Curricula in Terms of Null Curriculum". This article addresses controversial issues with a special focus on null curriculum, which is rare in the literature. In the study, the primary and secondary education curricula in Turkey are examined in terms of controversial issues such as human rights, terrorism, sexuality, etc. through content analysis. The title of the eleventh article is "The Effects of Authentic Video Materials on Foreign Language Listening Skill Development and Listening Anxiety at Different Levels of English Proficiency", authored by Mustafa Polat and Bahadır Erişti. This experimental study investigates the effects of authentic video materials on foreign language listening skill and foreign language listening anxiety of students studying at different levels of English proficiency. "Comparison of International TIMSS 2011 Proficiency Levels and Cut-off Scores Set by Using Cluster Analysis" is the title of the twelfth article by Mahmut Sami Koyuncu and Ayşenur Erdemir. This article compares TIMSS 2011 proficiency levels with the proficiency levels defined by the researchers using cluster analysis for Turkey, Korean, Norway, and Morocco in 4th and 8th grades in the fields of science and mathematics and offers implications for further analyses.

The thirteenth article is by Hacer Ulu and titled "Examining the Relationships Between the Attitudes Towards Reading and Reading Habits, Metacognitive Awarenesses of Reading Strategies and Critical Thinking Tendencies of Pre-Service Teachers". In this study, the relationships between the attitudes towards reading and reading habits, metacognitive awarenesses of reading strategies and critical thinking tendencies of pre-service teachers are explored. The next article, titled "Social Capital Wealth as a Predictor of Innovative Climate in Schools", is by Mahmut Polatcan and Ali Balcı. This article investigates the relationship between social capital and innovative climate in secondary schools. The last article is by Mehmet Özcan. In the study, titled "An Analysis of Prospective Teachers' Anxiety of not Being Appointed to Teachership", Özcan examines prospective teachers anxiety of not being appointed to teachership with respect to some variables and provides implications for teacher selection process in Turkey.

Hope to meet you in the next issue of the IJCER.

Regards,

Cahit ERDEM, PhD
Editor

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An Exploratory Study on the PhD Dissertation: PhD Students' Opinions on their Research Development Process

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An Exploratory Study on the PhD Dissertation: PhD Students' Opinions on their Research Development Process*

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Abstract

The aim of this research is to compare the approaches within the context of the PhD students' dissertation process. Moreover, in this research it is aimed to identify how PhD students evaluate their own dissertation process. In addition, this research analyses the differences between the students' study attitudes "in the PhD dissertation process in the field of educational sciences. This research adapts a qualitative research methodology and a case study design. Participants of the research were selected by purposeful sampling method with regard to the topic of interest. The majority of the participants, the PhD students, worked as research assistants at the same university. The data obtained from the PhD students were analyzed by using descriptive analysis method. Findings showed that the PhD students have different opinions about the development and design of the dissertation process. The PhD students stated feeling of inadequacy in the following issues: designing the research in accordance with theoretical method steps, the use of technology, the implementation of statistical methods, the cooperation between schools and universities, time management, and foreign language use in academic context.

Key words: PhD students, Research development process, Case study.

Introduction

This research examines the differences in PhD student's research development and implementation process. In general, PhD students' scientific research approaches, their duties and responsibilities during research process, and difficulties and problems they faced in this process have been studied. Literature shows that the studies on this specific field is limited, however it is possible to see some studied focusing on different aspects in PhD research process (i.e.; Meyer, Shananhan, & Laugksch, 2005; Lovitts, 2001; Ives & Rowley, 2005; Brew, 2003). In a study with 154 experimental higher education students in Australia and South Africa, researchers examined how higher education students define their research and how they define research development process (Meyer, Shananhan, & Laugksch, 2005). In this study, researchers conducted research on the students' research choices, decisions and implementation actions across different universities. They mainly aimed to investigate how the research students conduct their research, as well as the relationship of the research contents they have learned with the ones they learned during the doctoral education process. It was found that the participants' research approaches were grouped into eight categories and the cultural background, previous learning, differences in personal characteristics, and differences in individual opinions affected their approaches (Meyer, Shananhan, & Laugksch, 2005). In another study, researcher defined the PhD students' research approaches depending on their individual characteristics (Lovitts, 2001). The researcher mainly aimed to answer the question of why students are not successful during PhD research process, although they have received many training on the data collection strategy and scales during the doctoral education process. According to the researcher results, research defined the four main reasons for not being able to complete the doctoral process which are: the misleading research, the low level of individual motivation, the excessive stress or pressure of the doctoral program, or the individual burnout of the students (Lovitts, 2001). In another study, Ives and Rowley (2005)

* This study was based on PhD dissertation titled "Conceptualization of Research and Doctoral Dissertation Process: A Comparative Study with Doctoral Students and Advisors", Eskişehir Osmangazi University, Institute of Educational Sciences.

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examined the interaction between the students and their supervisors during the research process. The influence of the supervisor to the student and the process itself was found to be as rational progress in line with tasks, streamline information flow, assessing difficulties, counseling and support, control the student according to his experience. The researchers stated that the more the supervisors contribute to the process, the more the students are successful in the process. Thus, the study analysed students stated that they could progress in a more useful process (Ives & Rowley, 2005). Similarly, Royalty, Gelso, Mallinkrodt, and Garrett (1986) found that strong attitudes of researchers positively affected the following issues: feeling enthusiastic about the study, taking responsibility and participating in research experiences. Both students and supervisors aim to further the existing knowledge.

It can be said that the studies mostly focus on the understanding of doctoral students, supervisor or post-doctoral researchers regarding research process. However, literature should be enriched in terms the different aspects of research process. One of the most significant missions of universities is to encourage students to conduct research, to question the existing situation and search for information. Research approaches of students are believed to affect the knowledge generation process. Today, how the topic of research is conceptualized at universities and how researchers conduct their studies have been rarely studied. In general, researchers reflect their ideas regarding the nature of their studies through qualitative differences. However, some potentially common ideas were not examined scientifically and empirically since there is not systematic research on how research should be conceptualized. The studies conducted are evaluated in terms of content, contribution to the field, significance, and raising awareness. Especially, the research studies in educational sciences are very important since it is a starting point to reveal the thoughts and life styles of societies. Research approach is a process enabling researchers to give meaning to his/her own study (Brew, 2003). Since research approaches are different, different research practices are available today. Therefore, acquiring various research approaches is likely to result in wider contexts of research.

The research conducted by academician candidates is important for the continuity of education and science in general. Therefore, regular evaluation of such research in the field and determination of the prevailing tendencies provide valuable insights for the scientists trying to conduct further studies in the related field (Barnett, 1992). The knowledge level of the researcher about the field, the scope of the study, the appropriateness of data collection tools and methods, and data analysis are primarily important for the quality of the research conducted in the field of education.
How PhD students perceive research process and their opinions regarding the theme, type and results of studies are the main problem areas of this dissertation. Examining the research approaches of PhD students, this study deals with how PhD students evaluate their own studies or other studies in the field of education in different ways. The relationship between what is told and what is realized are also examined. In addition, the study explores whether researchers choose their research topics according to their research mentality or not.

Research Purpose

The primary purpose of this study was to examine the PhD dissertation process of students studying in the field of educational sciences, as well as their opinions on their research development process. Also, their views toward the dissertation process and their research practices were aimed to be clarified. Specifically, this study focused on the PhD students' opinions on their research study fields, the methods, and technology they use; their approaches for research practices shaping their published or unpublished studies; and the challenges they face during dissertation, reporting, and evaluation process. In accordance with this aim, participants were asked to answer following research questions which aimed to serve the research purpose:
In this study, it is aimed to examine some problems that will clarify the participants' views on their research approaches. In response to this sub-objective, the following questions were directed:

- How do doctoral students define the research process in the field of educational sciences?
- What are the research approaches of the PhD students in the thesis development process?
- According to doctoral students, what are the basic difficulties encountered during the research process?
- What do PhD students think about the research approaches used?
- What are the opinions of students about feedbacks directed to their thesis?
- How are the reasons for the poor progress in the research process evaluated by the students?

Method

Research Model

This study has been designed in line with qualitative research approach. The reason for adopting this approach is that it is more flexible in discovering the perceptions and the interpretations in the study, and it is more effective in the analysis of the data collected. Qualitative studies are about how individuals give meaning to their lives, how they interpret what they experience, doing research to explore their point of views, events, phenomena and values (Merriam, 1988). In the literature, the definition of qualitative research is not consistent, situational variations can be done by different researchers (Creswell, 2007), so it is still difficult to talk about a standardized process in qualitative data analysis. This study uses case study design, one of the designs of qualitative research. In a case study design, focus is on data analysis on one phenomenon, which the researcher chooses to analyze in depth regardless of the participants for the study (McMillan & Schumacher, 2006). Gay, Mills and Airasian, (2009) suggests case study approach from qualitative research designs if the researcher asks how and why questions about the research information of participants and if more than one data source needed to be used to find an answer to the research problem in order to examine in depth an uncontrollable phenomenon. The case study method is usually investigated cases in its framework of "how" and "why" is used to search for answers to questions like that happen. There are usually a lot of evidence and information source for the research problem (Yin, 1984).

In this study, since the descriptive analysis approach allows the data to be organized according to the themes of the research questions and presented according to the questions or dimensions used (McMillan & Schumacher, 2006), descriptive analysis method was used to analyze the qualitative data. In this context, themes have been formed by making various coding in the qualitative data obtained from open-ended questions. In addition, some of the views of doctoral students are given as examples.

Study Group

Since this study aims to examine the PhD students' views on their dissertation process and research development process, participants of this research were supposed to have sufficient level of knowledge in order to answer the research questions, as well as other details such as working full-time at a university and being PhD student who has already passed the PhD qualifying exam. In this regard, purposeful sampling method was used, which selects informative about the topic of interest (McMillan & Schumacher, 2006). The aim of this sampling method is to do in-depth research and to select the information-rich situations in line with the purpose of the study. The sample of this research was composed of individuals with qualifications determined in relation to the problem. Four PhD students, about 30 years, constituted the sample of this study. All participants were studying at the educational sciences department and working as research assistants at the same university. Voluntarily participation was asked for the study. The information of these participants is briefly presented in Table 1 below.

Table 1. Participants Demographic Characteristics

Participants	**Gender**	**Academic Title**	**Field**
Emel	Female	Research Assistant	Educational Administration Supervision Planning and Economics
Mehmet	Male	Research Assistant	Educational Administration Supervision Planning and Economics
Sinan	Male	Research Assistant	Education Programs and Teaching
Yaşar	Male	Research Assistant	Education Programs and Teaching

Participants were informed about the confidentiality of their identity so following ID codes were given for each participant for this purpose: Emel, Mehmet, Sinan, and Yaşar.

Data Collection

Data collection process started at the end of September 2014 and it was completed about 1 year later, the end of November 2015. Before September 2014, a pilot study was conducted with three PhD students who were not included in the current sample of this study. A semi-structured interview was prepared by the researcher in line with the relevant literature to answer the research questions. After the pilot study, this form was revised and

developed in accordance with the feedbacks received from the pilot study. During data collection process, each participant was interviewed at two different time points. First interviews were help in September 2014 and the second interviews were help in November 2015, one year later. Each interview lasted approximately 4 hours at each time point. So, the total duration for the interviews was about thirty-two hours. The revised semi-structured interview form was used to collect data and the same form was used in one year later. Participants' permissions were got for voice recording and interviews were recorded for an in-depth analysis of the problem identified in the study.

Analysis and Interpretation of Data

Data analysis was based on the descriptive analysis method. In the data analysis process, data transcription was done and recorded interviews were transformed into text format. Following this, data were aimed to be coded into themes. For this purpose, in the first step each sentence was coded into key codes such that similar sentences were coded into same categories and different categories were created for sentences having different meanings. In the second step, each category was coded into new categories such that main categories were generated from the sub-categories. In the final step, main categories were again coded into new categories such that similar categories were coded into same themes and different themes were created for main categories indicating different content. So, overall text was coded into four different themes at the end: design, trading, phase, and result. In this research, the theme "*design*" mainly covers the qualitative differences defined in this research, the theme "*trading*" mainly covers the research's task definitions and responsibilities, the theme "*phase*" mainly covers the discoveries and verifications for research study, and the theme "*result*" mainly covers the personal learning and gains in a study.

Reliability and Validity of the Research

The validity of a study is based on the accuracy of the research findings and the reliability is based on obtaining the same results in case of conducting the study at different times (Kirk and Miller, 1990). The studies for validity and reliability in this study are given below:

- For credibility (internal validity), the descriptions made in the data analysis form the basis for the comments and explanations made later.
- For transferability (external validity) is provided by defining the properties of the research sample in detail in the method section in a way that allow for comparisons for other samples.
- For consistency (internal reliability) detailed information is provided about sample groups, data collection tools, process of data analysis.
- For confirmability (external reliability) the sample group, data collection and analysis methods, the conceptual framework used in the analysis of the data are defined in detail.

Findings

The Opinions of the Students regarding PhD Dissertation Process

This section presents the findings of the data obtained from the interviews conducted with PhD students based on the questions prepared on the basis of the research questions about PhD dissertation processes of the students.

Emel's Opinions about PhD Dissertation Process

Emel, who is a student at Department of Educational Administration, defended her PhD dissertation and completed the program successfully. She used qualitative research design in her dissertation; therefore, she conducted interviews, observations and focus group activities. She defines her PhD dissertation process as *very difficult* and states that developing a theoretical background was the most challenging part. Emel mainly focused on self-development. She studied a topic that is closed to her supervisor's area of interest because she wanted to get more academic benefits from his experience and knowledge. The table below presents summary information about Emel's opinions about PhD dissertation process.

Table 2. PhD students Emel's Opinions about PhD Dissertation Process

Themes	Opinions	Descriptive Code
Design	First of all, it was a topic that I can enjoy and want to learn about. Secondly, my supervisor led me to this topic	The student and supervisor' common areas of interest
	Whichever is appropriate for the research should be chosen. In fact, the quality of the study is important.	Suitability of the aims for the design (process-oriented)
Trading	He used to guide me about the books I should read or the concepts in research and dictionary use	Development of academic style
	Many people conduct studies with his/her supervisor. We are influenced by many people	Compensating the inadequate points through joint studies
Phase	I found analysis part quite challenging. I created a new theme	-Analysis process
	I am person who suffers from time management problems	Time management problem
Result	The influence of the researcher is important	Contribution to the field
	We are expected to create something more original	To create an original product

According to Table 2, Emel's design theme perception was less subjective compared to phase theme. Emel found some phases of her dissertation challenging and was not successful in time management. She emphasized that research should be original, and time should be managed successfully. She also added that research should have a strong theoretical background and contribute to the field. Thus, she believes that it is important for the researcher to conduct studies on the topics that are closely related to his / her area of interest. She also stated that all research processes require considerable amount of labor and researchers need time and energy to carry out a quality study. She emphasizes that the most important factor for the success of research is researcher. Finally, she states that when researcher is not pleased and satisfied with research, it is difficult to obtain productive outcomes.

Sinan's Opinions about PhD Dissertation Process

Sinan, a student at Educational Programs and Teaching Department, defended his PhD dissertation and completed the program successfully. He stated that he had good relationship with his supervisor and benefitted a lot from joint studies he conducted with his supervisor. Sinan also conducted some studies with other professors working in the field of his supervisor as well. In addition, he regularly attended courses offered at different universities. The replies he gave to research questions were generally about his experiences in the courses he took during his PhD education program. Professor Mert, a professor from the same university, was Sinan's supervisor. The table below presents summary information about Sinan's opinions about PhD dissertation process

Table 3. PhD students Sinan's Opinions about PhD Dissertation Process

Themes	Opinions	Descriptive Code
Design	The courses I took affected my choice of dissertation topic	The effects of the courses taken
	Product-oriented is a slower process. I can say that we move from the design to the aims	Method-oriented
Trading	I got information from him about structuring the method, determining theoretical framework, writing literature review and the problems I faced in findings and data analysis.	Research has been a pathfinder.
	I have learned from the studies. I can say that the studies we conducted together opened new horizons for me and gave me a kind of culture to follow	Acquiring a critical point of view
Phase	It was difficult to enter the data to the computer. Also writing the discussion section was challenging	Data collection process
	If I do not study, this section will not finish. This is what motivates you	Creating a dissertation-oriented motivation
Result	Firstly, it should appeal to your area of interest. Your motivation might get lower in the next phases. Secondly, I believe that it should contribute to the field	Being a study to contribute to the field
	It is important to write discussion section while writing the literature review to create good research.	Having a substantial discussion section.

According to Table 3, Sinan's opinions about research process center around the following issues: relation to the field, combination of theory and practice; an ideally managed process; being published in scientific journals; dependence on external factors and institute's existing culture; researcher's own area of interest. Design theme focuses on problem solving by bringing different elements together according to external factors. Researcher's ideas, techniques and activities were shaped during PhD dissertation process. Similarly, trading theme focuses on products externally but here the researcher is aware of the social networks he belongs to. Sinan often used self-motivation methods while writing his PhD thesis.

Yaşar's Opinions about PhD Dissertation Process

Yaşar, a student at Department of Educational Teaching, defended his PhD dissertation and completed the program successfully. He stated that his PhD dissertation process was long, but he worked regularly in a disciplined way. He also mentioned that there were few studies on the topic he studied in his dissertation and he wants to conduct more studies on that topic. Finally, he told that he had experienced problems in accessing the related literature because there were not many researchers studying in his research area. Professor Nihat, a professor from the same university, was Yaşar's supervisor. The table below presents summary information about Yaşar's opinions about PhD dissertation process

Table 4. PhD students Yaşar's Opinions about PhD Dissertation Process

Themes	**Opinions**	**Descriptive Code**
Design	The most important reason for choosing my dissertation topic was the need in the literature	Working on a topic not adequately studied
	I can say that we followed a path to reach our aim rather than following a product-oriented approach	Process-oriented analysis
Trading	They were about research design, data collection tools and data analysis types	Research design process
	Because this required academic discipline	Establishing academic discipline
Phase	We collected data at certain intervals. We visited these places very often	Data collection process
	Environment was important in the motivation. Having certain vagueness in the data and findings different than those in the literature were challenging for us	Reporting process
Result	For instance, it is necessary to gain academic discipline and have publications	Gaining academic discipline
	The most important reason is the need in the field and to find a problem and solution	Contribution to the field

According to Table 4, Yaşar believes that it is more important to carry out up-to-date and practical research. He also highlighted that research question should be based on an existing problem and it should be answered satisfactorily in a quality research. Trading theme highlights the importance of analysis to find the essence of data in shaping a study. In other words, there is an internal focus in understanding a phenomenon. Awareness and the studies that are likely to contribute to the field are also important according to Sinan. Result theme highlights internal tendency, researcher's personal academic discipline and his/her awareness.

Mehmet's Opinions about PhD Dissertation Process

Mehmet, who is a student at Department of Educational Administration, defended her PhD dissertation and completed the program successfully. He spent one and a half year of his PhD dissertation process writing literature review section. He believes that research should primarily contribute to the self-development of the researcher. He conducted joint studies with his supervisor. In addition, he suggested that the studies conducted by the researcher involve his / her personal preferences, discoveries and knowledge and these develop according to the limitations of the researcher and his / her abilities. Professor Atilla, a professor from the same university, was Mehmet's supervisor. The table below presents summary information about Mehmet's opinions about PhD dissertation process.

Table 5. PhD students Mehmet's Opinions about PhD Dissertation Process

Themes	Opinions	Descriptive Code
Design	I was influenced from my own readings, from the courses I took during my PhD program and from my professors.	His own area of interest and educational background
	The basic factor is that the topic takes you to qualitative method naturally	Choosing the appropriate method for the topic
Trading	My supervisor made suggestions for all the sections	About the inadequacy of reports
	They affect in terms of method, analysis and synthesis steps	Method and synthesis
Phase	It is challenging to bring pieces together	Synthesis process
	I feel alone in the process. This reason for this is that supervisors have a lot of students. Supervisors do not want such supervising mechanism	Students are the responsible one for in the process
Result	When you start focusing on a work, you shouldn't focus on another	Focusing or dissertation process
	Originality. It should contribute to the field with a different point of view. It should get references by other authors	Being creative and getting references

Mehmet stated that it is important to conduct quality research that focuses on the area of interest and might be reference to further studies in the field. Getting references from other studies, being creative and providing insights for further studies are the other characteristics of good research according to Mehmet.

Table 6. The Opinions of PhD Students about PhD Dissertation Process

	Emel	Sinan	Yaşar	Mehmet
Design	Students' and the supervisor's common are of interest	The effects of the courses taken	Studying on a topic that is inadequately studied	His own area of interest and educational background
Trading	Development of academic style	Research has been a pathfinder	Research design process	About the inadequacies of the reports
Phase	Analysis process	Data collection process	Data collection process	Synthesis process
Result	Contribution to the field	Being a study focusing on the area of interest and contributing to the field	Gaining academic discipline	Focusing on dissertation process

The table above displays the summary of the findings about the approaches of PhD students regarding PhD dissertation process. There are statements about the opinions of the students for each theme. While Emel emphasizes the studies that contribute to the field on common areas of interest with supervisors, Sinan highlights the courses he took during his education and the importance of conducting studies according to his own area of interest. Yaşar, one the other hand, focuses on carrying out studies on various research topics. Finally, Mehmet determines the topics according to his area of interest.

Results and Discussion

This study presented the results of the data obtained from interviews conducted with PhD students about their research approaches and dissertation processes. This research, training PhD students in the area of Turkey, comparisons have been made on the process of preparing his doctoral dissertation. Therefore, it is thought that research findings will contribute to the doctoral process at national context. However, doctoral education shows differences and similarities in different countries of the world. Therefore, it is thought that the findings of the research are important at the international context. Also, in Turkey due to the lack of research on this subject, the results are discussed in more international context.

The first theme involved the significance of the study, combined ideas, the collected data and the techniques used. Students progressed in their dissertation process by counselling to their friends and supervisors, and they often needed help to solve the problems they face. Feeling lonely during the process and not being able to generate and improve ideas led to failure and lack of self-confidence. Çakmak et.al (2015) conducted a qualitative study focusing on dissertation writing process of PhD students. The study examined dissertation process of research assistants who were also PhD students. The analysis of the data revealed four main themes: personal characteristics, interest in the field, emotional grab, experiencing the flow. According to the study findings, participants who were dissatisfied with the field of postgraduate education, who did not have a specific academic goal, and who felt that the doctoral field they were studying were not suitable for their interests and abilities were not experiencing a fluent research process. The researchers suggested that the flow in the academic field required that the students were dealing with studies that were appropriate for their level of ability. Consistent with Çakmak and colleagues' (2015) study, this study also revealed that if the students conducted researches in the areas they determined, they experienced a flow in the process by a positive effect on motivation and interest.

The second theme involved the prestige, money and popularity students gained as a result of their publications and the scholarships they won with their publications. Results indicated that, being a part of a group, being appreciated and recognized were reported to be very important for researchers. Besides the research methods courses taken during PhD education, involving in research practices was an important factor in developing research skills of students (Cooke, Test, Heward, Spooner, & Courson, 1993; Green & Kvidhal, 1990; Newman, 1994). The studies conducted in this issue revealed that the graduate students, teachers, and teacher candidates who participated in research activities or took research method courses developed more positive attitudes and approaches towards the research (Entwistle & Walker, 2002; Newman, 1994; Sanders, 2001; Trimarco, 1997). According to Ives and Rowley (2005), the interaction between the supervisor and the student had a significant impact on the success or failure of a PhD student. This current study also found out that one of the important factors in developing the relationship between the supervisor and the student was the congruence between the supervisor and the student.

The third theme revealed the details, explanations, facts and ideas of researcher. In this theme, the intrinsic motivation of the students played an important role on continuity of students' research performance. It was found that the students' previous research knowledge, practices, experiences, time management skills, and work with supervisor had significant effects on this motivation. The most important points in the PhD education process was found to be as the acquisition of the academic motivation/discipline, the development of time management in the research, the creation of research experience, and the preparation of a research report. Communication during research process was promoted by personal relationships, social networks, and relationship with supervisor. It was found that the interest of the supervisor in the research was the most important factor for a successful study. Bringing personal interest and values together and helping his / her students study accordingly was one of the important roles of supervisors (Archer, 2000).

In the fourth theme, towards the end of the PhD process, awareness of the PhD students is the most important acquisition for the research development process. In this theme, there is a focus on the researchers' communication with different people while progressing in their own studies. Thus, their studies are a combination of their own experiences and the things they learn from these connections (Hall & Burns, 2009). It was found that the research approach of a researcher was shaped by his / her past and present knowledge, practice experiences, and habits. Each research experience of a researcher who was still at the beginning in his / her career was reflected in research practices.

This theme reveals the researchers' gain of academic identity as a result of a long period of PhD training. The acquisition of academic skills encompasses a long educational process (Clandinin & Connelly, 1990). Ph.D. students reflect their academic knowledge that they gained in their early research studies and practices and increase their acquisitions with their personal experiences and relationships with academic advisors (Clandinin & Connelly, 1990).

Conclusion

This research revealed that the PhD students' approaches toward their own research and dissertation process had changed during the process itself, from the beginning to the end of the doctoral thesis process. It had been found out that research understanding was not constant, and changes and developments had occurred throughout the doctorate process. Within the context of four themes created as a result of the answers given to the research

questions, changes and developments were presented. Students who were new to the process had different approaches than the experienced ones. Since students who were new to the process had different approaches than the experienced ones, they stated feeling of inadequacy in the following issues: designing the research in accordance with theoretical method steps, the use of technology, the implementation of statistical methods, cooperation between schools and universities, time management, and foreign language use in academic context. All these variables depended on various factors (i.e., academic background, self-confidence, motivation, experiences, knowledge, interest, students' attitudes, culture, student expectations, the scope of courses, academic community, and attitudes and behaviours of supervisor). According to Vosniadou and Kollias, (2003) research, the research approach was found to be related to many factors. These factors, education background, self-confidence, talent motivation, previous experiences, knowledge, interest, attitudes, corporate culture, student expectations, the scope of courses, academic community, attitudes and behaviours of consultants (Vosniadou & Kollias, 2003). According to McGrail, Rickard and Jones (2006), the researcher's motivation has a significant impact on the academic spread of knowledge. In this research, the student's scientific research varies according to his motivation, ability, creativity, originality.

Recommendations

This study's participants consisted of PhD students from with the fields of Educational Administration Supervision Planning and Economics and Educational Programs and Teaching. Thus, findings might be limited to the research approaches and thesis process comparisons of students from these particular two PhD fields. Since the data may not be representative for PhD processes of different fields, prospective research may expand the focus of area. Since the PhD training and research process is the most important process of becoming an academician, the highlight of PhD process is of critical importance. The findings of this research cover the academic years of 2014-2015 and 2015-2016. So, new studies that reveal the current situation can be conducted in order to bring new perspectives to the literature. Presenting the opinions and perceptions of experienced researchers is important for the development of academician candidates.

References

Archer, M. (2000). *Being human: The problem of agency.* Cambridge: Cambridge University Press.

Barnett, R. (1992). *Improving higher education.* Buckingham SRHE: Open University Press.

Brew, A. (2003). Teaching and research: New relationships and their implications for inquiry- based teaching and learning in higher education. *Higher Education Research and Development, 22*(1), 3-18.

Cakmak, E., Isci, S., Uslu, F., Oztekin, O., Danisman, S., & Karadag, E. (2015). Overview of the dissertation process within the framework of flow theory: A qualitative study. *Educational Sciences-Theory & Practice, 15*(3), 607-620.

Clandinin, J., & Connelly, M. (1990). Narrative, experience and the study of curriculum. *Cambridge Journal of Education, 20*(2), 241–253.

Cooke, N. L. Test, D. W., Heward, W. L., Spooner, F., & Courson, F. H. (1993). Teachers' opinions of research and ınstructional analysis in the classroom. *Teacher Education and Special Education, 16*(4), 319-329.

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches (2nd ed.).*USA: SAGE Publications.

Entwistle, N. J., & Walker, P. (2002). Strategic alertness and expanded awareness within sophisticated conceptions of teaching. In N. Hativa & P. Goodyear (Eds.), *Teacher thinking, beliefs and knowledge in higher education* (pp. 15-40). Dordrecht: Kluwer.

Gay, L. R., Mills, G. E., & Airasian, P. (2009). *Educational research: Competencies for analysis and applications (9th ed.).* Upper Saddle River, NJ: Pearson.

Green, K., & Kvidhal, R. (1990). *Research methods courses and post-bachelor's education: Effects on teachers' use and opinions*. Paper presented at the Annual Meeting of the American Educational Research Association, Boston, MA.

Hall, L., & Burns, L. (2009). Identity development and mentoring in PhD education. *Harvard Educational Review, 79*(1), 49–70.

Ives, G., & Rowley, G. (2005). Supervisor selection or allocation and continuity of supervision: Ph.D. students' progress and outcomes. *Studies in Higher Education, 30*(5), 535–555.

Lovitts, B. E. (2001). *Leaving the ivory tower: The causes and consequences of departure from doctoral study*. Rowman & Littlefield.

McGrail, M. R., Richard, C. M., & Jones, R. (2006). Publish or perish: A systematic review of interventions to increase academic publication rates. *Higher Education Research & Development*, 25(1), 19-35

McMillan, J. H., & Schumacher, S. (2006). *Research in Education. A Conceptual Introduction (6th ed.).* New York: Longman.

Meyer, J. H. F., Shanahan, M. P., & Laugksch, R.C. (2005). Students' conceptions of research I: A qualitative and quantitative analysis. *Scandinavian Journal of Educational Research, 49*(3), 225-244.

Merriam, S. B. (1998). *Qualitative research and case study applications in education (2nd ed.).* San Francisco: Jossey-Bass Publishers.

Newman, K. A. (1994). *Researching Teachers in Residence: Bringing More Minority Teachers and Preservice Teachers into the Research Arena*.

Royalty, G. M., Gelso, C. J., Mallinckrodt, B., & Garrett, K. D. (1986). The environment and the student in counseling psychology: Does the research training environment influence graduate students' attitudes toward research? *The Counseling Psychologist, 14*(1), 9-30, 23, 273–295.

Rudd, E. (1985). *A new look at postgraduate failure.* Berkshire: Nfer Nelson.

Sanders, L. (2001). Reducing.Students Anxiety in Research Methods. *Focus on Teacher Education, 1*(3), 3-9.

Solpuk, N. (2016). *Conceptualization of research and doctoral dissertation process: a comparative study with doctoral students and advisors* (Doctoral dissertation). Eskişehir Osmangazi University, Institute of Educational Sciences, Turkey.

Sweitzer, V. (2009). Towards a theory of doctoral student professional identity development: A developmental networks approach. *The Journal of Higher Education, 80*(1), 2–30.

Trimarco, K. A. (1997). *The Effects of a Graduate Learning Experience on Anxiety, Achievement, and Expectations in Research and Statistics.*

Vosniadou, S., & Kollias, V. (2003). Using collaborative, computer-supported, model building to promote conceptual change in science. *Powerful learning environments: Unravelling basic components and dimensions*, 181-196.

Yin, R. K. (2011). *Applications of case study research*. California: Sage Publication

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Exploration of Pre-Service Science Teachers' Perceptions towards Secondary School Science Curriculum

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Abstract

This study aims to put forth how and to what degree pre-service science teachers can practice 2018 Secondary School Science Curriculum (SSSC). The study employs an illustrative case study design. Identified through purposive sampling, the participants of the study consist of 28 senior pre-service teachers studying at science teaching program at an education faculty. Document analysis, semi-structured observation form and researcher's journal were used as data collection tools. The data were analyzed through descriptive analysis. The findings of the study reveal that there are some mismatches between the contents of 2018 SSSC and prospective teachers' practices. It was found out that prospective teachers have deficiencies in the areas of using materials that fit with subjects, using evaluation methods in line with learning outcomes, making use of instructional technologies, knowledge of instructional approaches, methods and techniques, and stating lesson plan clearly. On the other hand, the pre-service teachers have positive behaviours regarding relating the subject with previous and subsequent lessons, securing the learning environment, relating the subject with other subjects in the field and knowledge of basic concepts of the subject.

Key words: Pre-service science teachers, intended curriculum, enacted curriculum, general competencies for teaching profession

Introduction

Countries possessing contemporary education systems are getting independent with respect to technology, military and economy, and become self-sufficient. Undoubtedly, science education has a significant role in countries' reaching this position. Countries that are aware of this role focus their attention on education of science and its related disciplines. Kelly (2002) argues that ministries of education across the world are carrying out concrete endeavors by meticulously examining the quality of schools' science curricula and comparing their success in science with the world. As in the rest of the world, these endeavors are conducted in Turkey in an extremely reformist way. It is very important for Turkey to maximize its international success in science in the ranking of developing countries. There are approximately 18 million students in Turkey and about five million of these students are at secondary school level. This paramount number of students is bigger than the population of 143 countries in the world (Emin, 2018). Beside the number of students, Ministry of National Education (MoNE) (2019) reports that there are about one million teachers working in formal education institutions. Considering the massive number of students and teachers in Turkey, the expanse of the universe in variables of environment, school, class, and family conditions unfold. MoNE frequently revises curricula in accordance with needs out of national and international reasons. Therefore, it can be suggested that Turkey is doing its best to maximize the efficiency of its potential power.

Revision endeavors in science education in Turkey mainly include revisions in science curricula carried out by MoNE and revisions in general competencies for teaching profession (GCTP) defined again by MoNE. Regarding that these revision endeavors are enlightening for the state of science education in Turkey, they are explained in the current study respectively.

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Revisions in Secondary Schools Science Curriculum in Turkey

In last 15 years, MoNE revised secondary school science curriculum (SSSC) in 2005, 2013 and 2018 (MoNE, 2017b). As of 2005-2006 academic year, Turkey has restructured its formal education system (particularly primary and secondary schools). The Science and Technology curriculum prepared in 2005 aimed students to attain science literacy. MoNE centered progressivist education philosophy and constructivist learning theory in 2005 science and technology curriculum. This curriculum was based on student-centred, spiral and modular curriculum designs. Approaches, methods or techniques such as cooperative learning, multiple intelligence, project-based learning, problem solving, modelling, brain storming, six thinking hats were highlighted. The 2005 curriculum aimed to equip students with scientific research skills, creative thinking, critical thinking, communication skills, entrepreneurship and ability to use information and communication technologies (Ayas & Çepni, 2016; Topsakal, 2006).

In 2012-2013 academic year, eight-year continuous and compulsory basic education was abolished, and it was transferred to a twelve-year gradual and compulsory education system designed as 4+4+4 blocks. The first four years is designed as primary school, the second four year is designed as secondary school and the last four years is designed as high school. With the change in the education system, it was mandatory to revise the curricula in order to meet the needs of the new system. Accordingly, the 2005 science and technology curriculum was revised in 2013, named as Science (Physical sciences) Curriculum. Student-centred methods were also adopted in 2013 science curriculum. In this new curriculum, methods based particularly on research questioning and argumentation method were featured. Use of technology in the assessment of students' performance was also highlighted (Eskicumalı, Demirtaş, Erdoğan, & Arslan, 2014). Besides, socio-scientific contents were also included in science curriculum as of 2013 (Hastürk, 2017).

Following the revision in 2013, science curriculum was revised in 2018 again after a pilot study with fifth graders in 2017 in accordance with analysis of success in science in international student assessments such as TIMMS and PISA (PISA, 2015; TIMSS, 2015), and feedback from other stakeholders of education. In 2018 science curriculum, the contents in secondary school has been downsized. Explanations of most of the units were simplified and the units were re-ordered. The contents of students' learning outcomes were also simplified, and clear statements were chosen (Bahar, Yener, Yilmaz, Emen, & Gürer, 2018). In 2018 secondary school science curriculum (SSSC), it was aimed to equip students with competencies such as digital competency, learning to learn and competency in science/technologies. In 2018 SSSC, 'value education', which enables students to be good citizens, is highlighted and learning outcomes featuring ethical values and social values are included. Skill and process-based approach is given prominence in assessment and evaluation part of the curriculum. It is also aimed to develop students' written and oral communication skills. Most importantly, content area of the curriculum has increased from four to five and by this means "Science, Engineering and Entrepreneurship Practices" has been introduced to curriculum comprising 48 hours of a total of 576 hours of secondary school science lessons (grades 5,6,7,8). This accounts for about 8.3% of the total number of lesson hours in secondary school. In 2018 SSSC, practices such as product design, case study, design-based science instruction, STEM practices, innovative thinking skills are adopted (MoNE, 2018b).

As mentioned above, MoNE continuously updates curricula; however, no matter how perfect a curriculum is developed, it would not be valid if not practiced in the class as prepared on paper. The literature suggests that although science curricula theoretically include principles, methods and techniques of contemporary education, there are problems in transferring these to students in practice in class. In some studies, it was put forth that intended science curriculum did not fit with the science curriculum as perceived by teachers and the reason for this was that teachers could not perceive constructivist elements in the curriculum adequately and teachers could not internalize science curriculum (Atila, 2012). The findings in the literature also reveal that in crowded classes, it is hard to practice student-centred methods in the new curriculum (Karaman & Karaman, 2016), and physical characteristics of schools are not convenient for practicing new curricula (Yazıcı & Özmen, 2015). The literature also includes the findings that teachers are not adequately knowledgeable in alternative techniques featured in the revised curricula (Büyüktokatli & Bayraktar, 2014; Sağlam-Arslan, Devecioğlu-Kaymakçı, & Arslan, 2009), teachers have difficulty in providing feedback appropriately to students (Bayrak & Doğan, 2018), teachers do not carry out the necessary self-assessment in teaching-learning activities while practicing the curriculum (Uzal, Erdem, & Ersoy, 2015), some teachers resist the changes in the new curricula and do not abandon their traditional instruction habits (Hằng, Bulte, & Pilot, 2017; Tekbıyık & Akdeniz, 2008). It is also put forth that teachers have problems with respect to materials in the new curricula, schools do not have the necessary materials, and therefore teachers cannot offer an interactive education to students (Arias, Bismack, Davis, & Palincsar, 2016). In line with this, teachers have problems with teaching students the needed design skills (Delen & Uzun, 2018). A review of literature point up to the mismatch between the science curriculum

intended by MoNE and the science curriculum enacted by teachers due to the fact that teachers are not sufficient with respect to practicing constructivist elements in the curriculum (Atila, 2012). Some other studies suggest that although teachers need to grasp students' attention and meet their needs (Newton, 1988), it is observed that they are not aware of the expectations of the society (Stuckey, Hofstein, Mamlok-Naaman, & Eilks, 2013).

Changes in General Competencies for Teaching Profession (GCTP) in Turkey

Science is one of the primary courses in secondary schools in which students learn natural events in their surroundings, scientific developments, basic concepts, principles and generalizations and thereby attain the skills of thinking through scientific method process and problem solving. Teachers' support is an important dimension of learning settings in science courses (Tas, 2016), because the quality of educational services is up to the skills of teachers who practice these services. An education model cannot provide services beyond the quality of the staff practicing that model. A school can only be as good as its teachers (Kavcar, 1987). The competencies prepared by MoNE urge upon the concept of "qualified teacher". Some studies argue that teachers feel themselves insufficient in teaching activities and they are at the top level of professional burnout (Talışık, 2016). It is apparent that a teacher who feels oneself inadequate in practicing one's profession will absolutely be unsuccessful (Deniz & Tican, 2017). Kavcar (1987) defines teachers who lack subject matter knowledge as "one who does not know cannot teach" and teachers who lack pedagogical content knowledge as "not all knowers can teach". In this context, teachers who train the individuals of the future need to be equipped sufficiently. It is very important for teachers to be knowledgeable in their field of teaching and be able to transfer what they know to their students. There are a number of mismatches between the teacher competencies prepared by MoNE and practicing teachers' competencies (Baskan, Aydın, & Madden, 2006; Filiz & Aydın, 2018).

MoNE has revised general competencies for teaching profession in line with reflections of national and international developments on education and instruction services. Accordingly, GCTP is divided into three competency domains which are professional knowledge, professional skills, and attitudes and values (MoNE, 2017). Competency domain of professional knowledge includes teachers' content knowledge, pedagogical content knowledge and knowledge of legislation. GCTP is related to not only practicing teachers but also pre-service teachers. The problems experienced by pre-service science teachers, who are the focus of the current study, are intensely discussed in the literature, which is briefly stated below.

It is discussed in the literature that pre-service science teachers cannot completely adopt student-centred methods (Yıldırım, Sürmeli, Benzer, & Şahin, 2007), their levels of scientific processing skills are low (Çakır & Sarıkaya, 2018; Önal, Büyük, & Saraçoğlu, 2017), therefore they have difficulty in transferring their subject matter knowledge to practice (Ercan, Coştu, & Coştu, 2018). Pre-service science teachers' cognitive awareness levels are not adequate (Emrahoğlu & Öztürk, 2010) and they have problems with scientific creativeness (Demirhan, Önder, & Beşoluk, 2018). They cannot reflect scientific facts to daily life as expected (Balkan-Kıyıcı & Aydoğdu, 2011; Yalçın, Altun-Yalçın, Akar, & Sağırlı, 2018), which negatively affects pre-service teachers' levels of self-confidence towards their profession (Şenol, Akyol, & Can-Yaşar, 2018). Pre-service teachers lack experience in experimenting (Pekbay & Kaptan, 2014), that's why they develop negative attitudes towards laboratory (Ünal & Kılıç, 2016). Pre-service teachers have a low level of reflective thinking skills (Elmalı & Kıyıcı, 2018; Töman & Çimer, 2014) and they are now knowledgeable in out of school learning environments (Tatar & Bağrıyanık, 2012). Some studies suggest that pre-service teachers do not get into education faculties consciously (Hacıömeroğlu & Taşkın, 2010), they do not know much about alternative assessment and evaluation techniques (Yeşilyurt, 2012), they do not fully comprehend constructivist learning settings (Evrekli, İnel, Balım, & Kesercioğlu, 2009; Yeşilyurt, 2013). Pre-service teachers' teaching practice experiences are insufficient and for that reason, teaching practice courses should be elaborated (Can, 2015). Although pre-service teachers have theoretical knowledge on active learning methods, they have problems in using these methods (Çelik & Bayrakçeken, 2014), therefore, they are resorting to traditional methods and techniques such as lecturing and question-answer in their practice courses in the education faculty (E. G. Yıldırım, Köklükaya, & Aydoğdu, 2016). They lack experience in learning methods based on questioning (Turan & Kocakülah, 2017). They do not fully possess the healthy living behaviors that are present personal development and professional competency domains (Yurdatapan, Benzer, & Güven, 2014). Pre-service science teachers cannot efficiently make use of analogies (Hıdır & Körhasan, 2018). Most of the pre-service teachers lack in critical thinking skills (Kutluca, Yılmaz, & İbiş, 2018), effective decision strategies in socio-scientific issues (Atasoy, 2018; Demiral & Türkmenoğlu, 2018) and on issues such as the nature of the science and technology (Dursun & Özmen, 2018). Besides, it is suggested that pre-service teachers should be more knowledgeable on STEM and 21st- century skills, which are the focus of attention in 2018 secondary school science curriculum (Kan & Murat, 2018).

Considering the research findings above, it can be asserted that studies mostly focus on 2013 science curriculum and there are few studies on 2018 SSSC. The studies mostly collected data on the efficiency of methods, opinions regarding the intended curriculum and included experimental studies in order to meet the deficiencies of pre-service teachers. There are rare studies focusing on intended curriculum and enacted curriculum. In brief, the studies in the literature do not comprehend the revisions in science curricula. However, it is now known to what degree the changes aimed in the science curricula are reflected to pre-service teachers.

This study aims to put forth how and to what degree pre-service science teachers can practice 2018 Secondary School Science Curriculum and offer theoretical recommendations about the issue of research. It is envisaged that describing clearly the deficits of pre-service teachers in enacting 2018 SSSC will contribute to the field and lead the way for further research in deciding what to focus on. The curriculum this current study focuses on is science curriculum which was piloted with fifth graders in 2017 by MoNE and has been in practice in all secondary schools as of 2018.

This study seeks to answer the research questions below:

1- To what degree do pre-service science teachers reflect their content knowledge aimed in the curriculum?
2- To what degree do pre-service science teachers reflect their pedagogical content knowledge aimed in the curriculum?
3- To what degree do pre-service science teachers reflect planning instruction activities aimed in the curriculum?

Method

Research Design

This study employs a qualitative case study design. Case study is a qualitative research method in which the researcher examines one or several cases with data collection tools in its boundaries and provide detailed descriptions on the case (Creswell, 2014). The cases examined in case studies can include curricula and policies (McMillan & Schumacher, 2001). Case study enables the researcher to describe and evaluate the case of concern in detail (Lincoln & Guba, 1985). Thereby, the evaluations can transform into a holistic perspective.

In this study, illustrative case study is preferred. Merriam (1998) argues that illustrative case study provides detailed information as to the case in education research. In this type of studies, the researcher has to collect a big amount of data in order to be able to interpret the case. Therefore, theoretical framework is given priority in this study. As there are not sufficient studies on science curriculum which has been in practice since 2018, illustrative case study is preferred in this study as opposed to evaluative case study.

Study Group

All researchers wish to select a sample that represents the population; however, regarding the science pre-service teachers as the participants of the study, the facts that there are science teaching programs at over 85 universities, thousands of students who have graduated or still study make it hard to select a sample that that represents the whole population. Therefore, this study adopted purposive sampling method which is a type of non-probability sampling methods. Through purposive sampling, data can be gathered quite quickly and in an economic and easy to access way. With data gathered through purposive sampling, it is aimed to describe the case in detail rather than trying to generalize them. In quantitative studies, the participants can be selected through purposive sampling method in a way to reach them easily and anytime in order to understand the phenomenon of the study (Creswell, 2014).

The participants consist of 28 senior pre-service science teachers studying at science teaching program at university and taking “Subject-specific teaching methods-II” course from the researcher. The participants’ distribution of gender, and frequency and percentage of grade levels of teaching practice subject are given in Table 1.

Table 1. The participants' demographics

	Male	**Female**	**Total**	**Percentage**
6th grade subjects	4	14	18	64.7
7th grade subjects	1	9	10	35.3
TOTAL	5	23	28	100

Data collection tools

In qualitative studies, data on demographics, social, cultural characteristics are collected in order to identify the cases in the study and how these cases affect the participants (Yıldırım & Şimşek, 2016). Data collection tools in qualitative studies include observation, interview, document analysis, audio and visual materials (Ekiz, 2003). Patton (2015) argues that an expanse description is needed in qualitative studies in order to minimize the deficiencies of data collection tools. In the current study, an elaborate theoretical framework is offered in the introduction to this end. In order to ensure validity and reliability in the current study, data sources are varied by using document analysis, observation forms and researcher journals (Merriam, 1998). Instruments of the study are explained respectively.

Document Analysis

Documents are sources of data that helps in understanding the case of the study (Creswell, 2014). Yin (2018) points out that document analysis can be used in order to draw some results through providing descriptions within the study and it can also be used a clue for future research. Government documents, official correspondence, minutes of meetings, written reports, newspaper pieces are some of the documents (Creswell, 2014; Yin, 2018). Which documents are going to be used within the research have to do with the causes in the case (Yıldırım & Şimşek, 2016).

In the current study MoNE 2018 SSSC (MoNE, 2018b), MoNE GCTP (MoNE, 2017) and related literature were examined through document analysis. Some of these data were written documents and some of them were retrieved from official websites. Elements of the intended curriculum were elaborately examined and categories were defined based on this analysis. As a result of the analysis, three categories in accordance with expectations of the curriculum from teachers and research questions are as follows: "Content Knowledge", "Pedagogical Content Knowledge" and "Planning instructional activities".

Semi-structured observation form

The data of the research were collected through a semi-structured observation form. The observation form had been developed as part of pre-service teachers' teaching practices by MoNE Directorate General for Teacher Training and Improvement. This form overall covers the activities of "content knowledge", "pedagogical content knowledge" and "planning instructional activities" which are related to teaching profession (MoNE, 2018c). Two specialist faculty members and two doctoral students examined the items in the semi-structured observation form. After discussions on the validity of the items in the observation form, consensus was built that the items ensured content validity. Besides, the observation form used in the study was evaluated in "Subject-specific teaching methods-I" course as a pilot study through video recordings of five students and two observers (a field specialist and the researcher). As a result of the assessment, the percentage of basic match between the analyses of the specialist and the researcher was calculated as 90%. In addition, after an exchange of opinions, the mismatches were eliminated. These results show that it is acceptable with respect to interrater reliability. Besides, the observation form used in the current study is a form used nationwide in assessing pre-service teachers' "teaching practice" courses in Turkey. The form is composed of two parts for general evaluation of pre-service teachers in Turkey, developed in line with the protocol between MoNE and Turkish Council of Higher Education. The first part is structured and composed of scores given depending on pre-service teachers' possession of related behavior. Accordingly, in the first part of the form, the rater assigns scores for fifteen related behaviors based on pre-service teachers' performance.

If the related behavior cannot be observed or is observed but in a limited way in pre-service teachers by the rater, the score is (1) point, meaning *inadequate.*

If the related behavior can be observed in a sufficient way in pre-service teachers by the rater, the score is (2) point, meaning *acceptable.*

If the related behavior can be observed in an excellent way in pre-service teachers by the rater, the score is (3) point, meaning *well trained.* In the observation form, inadequate was coded as (E), acceptable was coded as (K) and well trained was coded as (I) by the researcher. Frequencies and percentages of observation of related behaviours were calculated.

The second part of the observation form is composed of six parts enabling noting, in detail, the performance of pre-service teachers while enacting the related behaviors. This part includes sub-parts of "content knowledge and pedagogical content knowledge", "ability to get to know students and approach to students", "creating appropriate learning environment", "assessment of student achievement" "lesson planning and practice" and "professional attitude and approach to values". The observed behaviors were scored by the researcher on the observation form based on pre-service teachers' performances (Inadequate: 1, Acceptable: 2, Well trained: 3). The semi-structured observation form is provided in Appendix-1.

Researcher's Journals

In the research study, the researcher also took notes through a researcher's journal in the observation process beside the evaluation of students through observation form. The main reason for keeping a journal was to enable in-depth analysis of data. The notes in the researcher's journals were aimed to help in explaining the pre-service teachers' practice level of the intended curriculum. The notes were categorized in the dimensions of content knowledge, pedagogical content knowledge and planning of instructional activities.

Data Collection

This study was carried out with senior pre-service science teachers at an education faculty in the spring semester of 2018. The focus of the study is SSSC that had been piloted with fifth graders in 2017 and started to be implemented at all levels of secondary schools in Turkey in 2018. The study was implemented within the "Subject-specific teaching methods-II" course which is a course of science teaching program at education faculties offered to pre-service teachers at the fourth year. The courses were instructed by the researcher himself. The duration of the course was 4 hours a week (2 hours of theory, 2 hours of practice). The course content is defined by council of higher education and requires pre-service teachers to select a subject from the current secondary school science curriculum, prepare a lesson plan, arrange the environment, tools and materials and present the lesson as well as assessment of the presentation with respect to teaching knowledge and skills (CoHE, 1998).

In the first half of the fourteen-week semester program, the theoretical content of the course was instructed to the pre-service teachers by the researcher. The content of the theoretical framework lectured elaborately by the researcher includes the 2018 SSSC in practice developed by MoNE, learning outcomes of the curriculum, issues to consider in the implementation of the curriculum, methods, techniques and materials that are to be used in the lessons, and issues to consider in lesson planning. In addition, the pre-service teachers were informed about according to what criteria they would be assessed by giving them the observation form used in the study and they were directed about what would be taken into consideration in the assessment of their presentations. Through informing students about their assessment, the validity and reliability of the observation form were aimed to be increased.

In the second half of the course, the pre-service teachers had the chance to practice teaching. To this end, the subjects, in line with the science curriculum, were randomly assigned to pre-service teachers. Accordingly, the pre-service teachers had 40 minutes to perform their practices and the observation forms were filled in meanwhile. All of the 28 participants were observed and assessed. During the observation, the researcher never interrupted the pre-service teachers and his role was nonparticipant observer.

Data Analysis

Analysis of observation data

In qualitative research, the findings of the data after the analysis are transferred to tables, figures or graphs. They can also be presented with a discussion. Since the aim of qualitative research is to explain the existing case rather than making generalizations, there is not a standard procedure of data analysis. The analysis of the data depends on the researcher, the aim of the research, and the data obtained (Creswell & Poth, 2018; McMillan & Schumacher, 2001). In the analysis of data in the current study, descriptive analysis was employed. The aim of descriptive analysis is to identify the common trends in the phenomenon of question (Miles, Huberman, & Saldana, 2014).

The observations were assessed with criteria based on 2018 SSSC and GCTP prepared by MoNE in 2017. In the document analysis, the preservice teachers were assessed based on their level of meeting the expectations that are explained below.

Content Knowledge

GCTP prepared by MoNE was examined to identify the criteria (MoNE, 2017). The criteria drawn from this document include the ability to use various strategies, methods and techniques that are related to teaching area, knowledge of scientific terminology of teaching area, knowledge of assessment and evaluation processes that can be used in the instruction, explaining all aspects of the related curriculum in detail, and knowledge of students' development and learning characteristics.

Pedagogical content knowledge

These criteria were based on strategies and methods adopted in science curriculum (MoNE, 2018b). These include the use of "problem, projects, argumentation, collaborative learning, research-questioning based learning strategy' in the lessons. Besides, GCTP requires teachers to use various strategies, methods and techniques.

Planning instructional practices

Skills specific to science curriculum were focused on in this dimension. The activities in the curriculum scientific process skills to enable students to observe, assess, categorize, store data, and set models. According to the curriculum, the learning environments should aim the development of team work, decision making, analytical thinking, creative thinking and communication skills. It was also decided based on learning environment approach in the science curriculum that the students should actively participate in learning processes. In 2018 SSSC, evaluation approach expected from the teacher is summative and formation evaluation approach.

Below is a sample of the evaluation of pre-service teachers through the observation form.

> ***Sample cases of observation of pre-service teachers' teaching presentations:***
>
> **Subject: Urinary system (sixth grade)**
>
> **Learning outcome:** "The student summarizes the tasks of urinary system by showing the structures and organs forming it on a model."
>
> **The recommendation of 2018 SSSC with respect to the learning outcome:** "*The tasks and importance of kidneys in urinary system are highlighted but detailed structure of kidneys (nephron, cortex, calyx, core and so on) is not focused on."*
>
> The pre-service teacher clearly explained the importance of the subject, its relationship with the previous lesson and the contents of the current lesson in the warm-up section of the lesson. Pre-service teacher's this behavior was noted in the "planning and performing the lesson" section in the second part of the observation form and it was scored as 3 points by selecting "well trained" option in "relating the subject with the previous and following lessons" section in the first part of the form.

Then the pre-service teacher stated: "Friends, what do you know about urinary system? Let's brainstorm on this issue." Students started to state what they know about the issue respectively.

Later, the pre-service teacher said: "Our kidneys clean the blood. The blood that is filtered through kidney gets cleaned. As seen in the power-point slide, renal veins carry clean blood". This was noted by the researcher in "content knowledge and mastery of subject area" section of the second part of the observation form. In the same way, this was scored 1 point by selecting "inadequate" option in "knowledge of basic concepts in the subject area" section in the first part of the form. Because, students had the possibility to get confused whether the concept of "clean" refers to the kidney or the amount of oxygen in the blood as renal veins carry venous blood indeed". Therefore, it was scored as inadequate.

During the lesson, a student asked: "My Teacher, how is kidney stone occur in our bodies?". The pre-service teacher replied: "Now, we are not dealing with that subject. We will learn it in the following weeks. It is not an appropriate time for that question now.". This reaction was noted in "ability to get to know students and approach to students" section of the second part of the observation form. In the same way, this was scored 1 point by selecting "inadequate" option in "Giving appropriate and adequate answers to students' questions" section in the first part of the form.

The pre-service teacher brought a real sheep kidney to the class. While examining this kidney, he also reflected the synchronous video recording with a projector so that everyone could see it. In this way, each student had the chance to see the structure of the kidney easily. This was noted in "Creating appropriate learning environments" and "planning and performing the lesson" sections in the second part of the observation form. This was also scored 3 points by selecting "well trained" option in "selecting and preparing appropriate tools and materials" and "making use of instructional technologies" sections in the first part of the form. In addition, the pre-service teacher put away the bisturi he used in the examination of the kidney. This behavior was scored 3 points by selecting "well trained" option in "securing the learning environment" section in the first part of the form.

During the lesson, the pre-service was active while the students were passive. He preferred traditional methods such as "lecturing" and "question-answer" and therefore the students were observed as bored. This was scored 1 point by selecting "inadequate" option in "identifying methods and techniques in accordance with learning outcomes" section in the first part of the form

In the later part of the lesson, the pre-service teacher distributed a test paper including only multiple-choice questions to students. As 2018 SSSC adopts summative assessment as expected competencies from teachers, this behavior was noted in "assessment of student achievement" in the second part of the observation form and scored 1 point by selecting "inadequate" option in "identifying appropriate assessment methods for learning outcomes" section in the first part of the form.

Analysis of the researcher's journal

In the content analysis of the researcher's journal, categories were created based on the expectations from teachers present in 2018 SSSC. Negotiations were held with two specialists in the formation of codes and categories were determined after these. The categories include content knowledge, pedagogical content knowledge and planning instructional activities. The categories and related behaviors are explained below respectively.

Category of content knowledge: In this category, it was tried to understand whether the pre-service teachers had mastery in the scientific terminology of one's presentation topic and subject area. The researcher focused on pre-service teachers' theoretical knowledge in the subject area and regarding notes were taken.

Pedagogical content knowledge: The researcher focused on which methods and strategies the pre-service teachers resorted to in their practice and whether they used them properly

Planning instructional activities: This category has to do with which methods the pre-service teachers use in assessment and evaluation, whether they use alternative assessment methods, and whether they use them properly besides pre-service teachers' efficiency level of material use and the appropriateness of the materials for the students' levels.

Findings

Within the research, each of the 28 participants was observed for one course hour and 28 observations were carried out in total. The findings in the researcher's journal that are not present in the observation form are also provided here. The findings obtained from observation forms and researcher's journals are given with their frequencies and percentages in content knowledge, pedagogical content knowledge and planning instructional activities categories respectively.

In the analysis of pre-service teachers' observation forms in "content knowledge" category, it was determined that the teachers had to master the curriculum and the contents of the curriculum according to GCTP developed by MoNE. This framework also requires teachers to have advanced level theoretical, methodological and phenomenological knowledge comprising a questioning perspective in the subject area. Therefore, MoNE demands teachers to have an interdisciplinary perspective as well as knowing subjects and concepts within one's expertise (MoNE, 2017, 2018b).

Based on the analysis of observation forms, frequencies and percentages of pre-service teachers' behaviors observed in the category of content knowledge are provided in Table 2.

Table 2. Frequencies and percentages of behaviors observed in the category of content knowledge

		Knowledge of basic principles and concepts in the subject area			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	2	15	11	28
	Percentage	7	54	39	100

		Relating basic principles and concepts with a logical coherence			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	3	14	11	28
	Percentage	11	50	39	100

		Using verbal and visual language relevant to the subject appropriately			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	7	15	16	28
	Percentage	25	54	21	100

		Relating the subject with other subjects in the content area			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	-	17	11	28
	Percentage	-	61	39	100

Table 2 suggests that the participating pre-service teachers have a level of acceptable and well trained with respect to "knowledge of basic principles and concepts in the subject area" (54%+39%). In the category of content knowledge, the biggest deficiency in pre-service teachers is the area of "using verbal and visual language relevant to the subject appropriately" with 25%. "Relating the subject with other subjects in the content area" is the area where the pre-service teachers have the best performance. Their percentage is 61% for acceptable and %39 for well trained.

With respect to pedagogical content knowledge, based on 2018 SSSC, it can be argued that MoNE expects teachers to master pedagogical content knowledge as well as content knowledge. Similarly, GCTP developed by

MoNE requires teachers to know and practice various methods, techniques and strategies in the area of expertise, create secured learning environments, and explain all elements of the related curriculum in detail (MoNE, 2017). In 2018 SSSC, it is expected from teachers to raise students who do research, discuss and explain based on research-questioning driven learning method (MoNE, 2018b). Based on the analysis of observation forms, frequencies and percentages of pre-service teachers' behaviors observed in the category of pedagogical content knowledge are provided in Table 3.

Table 3. Frequencies and percentages of behaviors observed in the category of pedagogical content knowledge

		Knowledge of instructional approaches, methods and techniques			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	8	16	4	28
	Percentage	29	57	14	100
		Making use of instructional technologies			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	10	12	6	28
	Percentage	36	43	21	100
		Identifying students' misconceptions			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	8	15	5	28
	Percentage	29	54	17	100
		Giving appropriate and adequate answers to students' questions			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	11	12	5	28
	Percentage	39	43	18	100
		Securing the learning environment			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	-	9	19	28
	Percentage	-	32	68	100

It is seen in Table 3 that, the pre-service teachers' biggest deficiencies lay in "giving appropriate and adequate answers to students' questions" area. Similarly, "making use of instructional technologies" follows it with 36%. With respect to securing the learning environment, the pre-service teachers have a level of acceptable and well trained. Regarding knowledge of instructional approaches, methods and techniques, most of the participants have a level of acceptable and well trained.

In the category of planning instructional activities, GCTP requires teachers to prepare materials that are appropriate for the learning outcomes and arrange activities that develop students' higher order cognitive skills. Furthermore, summative and formative assessment, preparing tools and materials appropriate for learning environments, using problem, project, argumentation, cooperative learning methods to have students reach the learning outcomes are also expected (MoNE, 2017, 2018b). Based on the analysis of observation forms, frequencies and percentages of pre-service teachers' behaviors observed in the category of planning instructional activities are provided in Table 4.

Table 4. *Frequencies and percentages of behaviors observed in the category of planning instructional activities*

		Writing a clear, comprehensible and well-ordered lesson plan			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	10	12	6	28
	Percentage	36	43	21	100
		Stating the goals and target behaviors clearly			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	13	11	4	28
	Percentage	47	39	14	100
		Identifying appropriate methods and techniques for target behaviors			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	8	15	5	28
	Percentage	29	54	17	100
		Selecting and preparing appropriate tools and materials			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	14	10	4	28
	Percentage	50	36	14	100
		Identifying appropriate assessment methods for target behaviors			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	12	12	4	28
	Percentage	43	43	14	100
		Relating the subject with previous and following lessons			Total
		Inadequate	Acceptable	Well trained	
Total	Frequency	1	19	8	28
	Percentage	3	68	29	100

Table 4 displays that the biggest deficiencies of the pre-service teachers lay in the category of "planning instructional activities". It is identified that half of the participating pre-service teachers have deficiencies in "selecting and preparing appropriate tools and materials". They have a deficiency of 43% with respect to "identifying appropriate assessment methods for target behaviors". The pre-service teachers have the best performance in "Relating the subject with previous and following lessons". Only 3% of the participants are observed to be inadequate in this respect.

Findings obtained from the researcher's journal

Findings obtained from the category of "content knowledge" in the researcher's journal are explained as follows. Most of the pre-service teachers were observed to be very excited during their presentations. In addition, some pre-service teachers had learning outcomes that were either beyond or below the learning outcomes defined by MoNE. For instance, a pre-service teacher lecturing about neural system said: "Yes friends, we will talk about neural system cells. Neural system cells are called neuron. Neurons are composed of axon and dendrite". The concept of "axon" and "dendrite" are demanded to be excluded in 2018 MoNE SSSC. Another pre-service teacher was talking about "constant speed motions" and he taught the subject using

formulas; however, 2018 SSSC demands not to teach students mathematical formulas in this subject. It is also observed that pre-service teachers did not conform to durations of learning outcomes recommended in 2018 SSSC and taught the subjects in very short durations. This fast lecturing of pre-service teachers caused the students' lack of understanding the subject.
Findings obtained from the category of "pedagogical content knowledge" in the researcher's journal are explained in this paragraph. Most of the pre-service teachers preferred "question-answer" method. Yet, in this method, the pre-service teachers answered the questions themselves without giving the students the chance to revise themselves. Most of the pre-service teachers did not display appropriate behaviors regarding reinforcement. They either provided reinforces for every answer or they did not provide reinforcers for most of the answers. In this context, it was observed that the pre-service teachers did not know when and how to use reinforcers. Another finding the journal is that the pre-service teachers generally taught lesson uni-directional and monotonously. Regarding instructional technologies, the pre-service teachers generally lectured superficially the issues involving technology. For instance, a pre-service teacher, teaching the subject of "the solar system and planets", used only a visual on power-point slide which was also not clear. The pre-service teacher did not use any animations or holograms. A student told this pre-service teacher: "Teacher, we have a 3D television at home. I watched a 3D movie about space recently. I felt like I was in the space". However, the classroom the pre-service teacher was practicing has the equipment to realize this activity easily. Some other pre-service teachers allocated very little time for the theory of the subject and taught the lesson based on practice. Some other pre-service teachers were observed to practiced methods and techniques improperly.

It was identified in the "planning instructional activities" category of the researcher's journal that the pre-service teachers used 5E method in most of their daily lesson plans; however, the pre-service teachers mostly performed a teacher-centered teaching practice. Besides, the evaluation questions about the subject prepared by the pre-service teachers for students were in the category of traditional evaluation approach. Most of the pre-service teachers used multiple-choice questions. The materials were also inadequate with respect to visuality. For instance, it was observed that the students sitting at the back of the classroom could not see the materials. The materials also included foreign words as well as knowledge that is far beyond the learning outcomes. While showing videos about the subject of the lesson, some pre-service teachers waited till the end of the video and did not make any explanations during the video.

Discussion and Conclusion

In this part, the findings obtained from the observation form and researcher's journal are discussed in line with the findings in the literature. Pre-service teachers'' levels of practicing 2018 SSSC are discussed within the categories of content knowledge, pedagogical content knowledge and planning instructional activities respectively.

Results regarding pre-service teachers' practice in the category of content knowledge

According to the results obtained from the observation form, Table 2 reveals that the participating pre-service teachers had mastery in basic principles and concepts of subject area and they could successfully relate the content with other contents of subject area. It is considered that this result stems from the fact that the pre-service teachers study for subject area examination of Public Personnel Selection Examination to become teachers (Erdem & Soylu, 2013). In the category of content knowledge, it is observed that the biggest deficiency in pre-service teachers is the area of using verbal and visual language relevant to the subject appropriately. This case involves visual knowledge (figure, scheme, graphic, formula) about the subject area. These are considered as scientific process skills in science curriculum. The troubles pre-service teacher experience with scientific process skills are discussed in the literature (Çakır & Sarıkaya, 2018; Demirhan et al., 2018; Emrahoğlu & Öztürk, 2010; Önal et al., 2017). It is highlighted that the reason for the deficiencies in preservice teachers' scientific process skills stems from the fact that they do not practice activities involving project and problem-solving method in their undergraduate courses. A general overview of Table 2 would suggest that pre-service teachers' mastery in content knowledge is at a level of acceptable and high.

The notes in the researcher's journal reveal that the pre-service teachers were really excited in their practices. It was observed that though most of the pre-service teachers knew the content, they used improper statements in their teaching. It is thought that this case originates from inadequate number of applied courses in the education faculty. The literature also suggests that more applied courses are needed in education faculties (Çelik & Bayrakçeken, 2014; Hacıömeroğlu & Taşkın, 2010; Saka, 2019). The preservice teachers mostly included

mathematical formulas while teaching their subjects. This case may be rooted in the fact that the pre-service teachers are used to multiple-choice testing in their evaluation experiences so far. The pre-service teachers also included concepts that were beyond the learning outcomes and students' level or readiness, which may be due to the fact that they did not examine the science curriculum in detail. In addition, it was observed that the pre-service teachers did not abide by the durations that had been allocated for learning outcomes in 2018 SSSC and they taught the subjects in relatively very short time.

Results regarding pre-service teachers' practice in the category of pedagogical content knowledge

According to the results obtained from the observation form, Table 3 unearths that the biggest deficiency in pre-service teachers is the area of knowledge of instructional methods and techniques. This finding is in line with the literature (Yıldırım et al., 2016). It was observed that the pre-service teachers mostly preferred traditional direct instruction method. The results suggest that pre-service teachers teach through behaviorist methods such as lecturing or question-answer. Previous studies also had similar results (Atila, 2012). It is thought that the tendency to these methods is a result of their fear of inability to complete teaching the subjects (Hằng et al., 2017; Tekbıyık & Akdeniz, 2008). In some other studies, it was found out that pre-service teachers did not have adequate knowledge regarding alternative methods and techniques (Elmalı & Kıyıcı, 2018; Yıldırım et al., 2007). It is a significant result that although it was found out in a number of studies that pre-service teachers had positive attitudes towards curriculum revisions, they prefer traditional teaching methods in practice (Toraman & Alcı, 2013). The findings reveal that the pre-service teacher did not give much place to projects in teaching practices. This finding is also in line with the literature (Baysura, Altun, & Yücel-Toy, 2016; Bulunuz, Tapan-Broutin, & Bulunuz, 2016).

It was observed that the pre-service teachers improperly practiced the methods they had included in their lesson plans. This deficiency also affected the area of giving appropriate answers to students' questions (Table 3). Another deficiency in the pre-service teachers was in the area of making use of instructional technology (Table 3). This finding is in line with another study (Arias et al., 2016). In the new curricula of teacher education by Council of Higher Education, the content of "Instructional technologies and materials" course were revised to be more efficient and changed into "instructional technologies" course (CoHe, 2018b). It was also observed that the pre-service teachers had deficiencies in identifying students' misconceptions. The problems of identifying and solving students' misconceptions are well discussed in the literature (Selvi & Yakışan, 2004). MoNE pays attention to "concept teaching" in 2018 SSSC. In Table 3, it is seen that pre-service teachers' behaviors regarding securing learning environment are at a level of acceptable and high. It is taught that this may have to do with the fact that they did not make use of any dangerous experiments. Besides, it is stated in the literature that activities requiring applications could not be performed in classrooms where needed platforms and physical environments are not proper (Günes & Baki, 2011).

The results in the researcher's journal reveal that some pre-service teachers did not allocate much time to theoretical knowledge and moved on to activities before students understood the content. Because the students could not understand the basics of the subject, the students could not understand the activities and did not participate in them. It was also observed that the pre-service teachers used the reinforcers improperly in pedagogical content teaching (Babayiğit & Erkuş, 2017).

Results regarding pre-service teachers' practice in the category of planning instructional activities

Based on the results obtained from the observation form, Table 4 unearths that the pre-service teachers had deficiencies in areas of selecting and preparing appropriate tools and materials. These results are in line with the results in the area of making use of instructional technologies (Table 3). According to the findings in Table 4, their biggest deficiency is in the area of planning the lesson. However, planning instructional activities enable teachers to reach the learning outcome at the best time, and teaching the content efficiently with ease. Although it was highlighted in the theoretical part of the course that planning is very important, the pre-service teachers' deficiencies in this respect are salient. It is remarkable that the percentage of well-trained pre-service teachers is only 21.4%. Table 4 suggests that they also have deficiencies in identifying appropriate methods and techniques for target behaviors. It is seen in Turkey that there are various problems regarding the practice and efficiency of assessment and evaluation methods reflecting the constructivist approach (Gelbal & Kelecioğlu, 2007). Although the teachers had positive attitudes towards summative assessment and evaluations in another study (Çıray, Küçükyılmaz, & Güven, 2015), most of the pre-service teachers in the current study preferred formative assessment.

The results of the study reveal that there is a mismatch between the contents targeted by MoNE in 2018 SSSC and the content perceived by pre-service teachers. It is found out that pre-service teachers' content knowledge is superior to their pedagogical content knowledge. However, it is very important for a teacher to know how to teach a subject as well as having content mastery in that subject area. The problems experienced by teachers and pre-service teachers are with respect to teaching pedagogical content are highlighted in the literature. Pedagogical content knowledge is featured in 2018 SSSC. Besides, CoHE has allocated about half of the courses to pedagogical content teaching in the revisions (CoHE, 2018a). In this context, it can be argued that this decision is a right and appropriate one.

The researcher's journal puts forth that the pre-service teachers generally adopted 5E model in their lesson plans. However, in their practices, they had a teacher-centred teaching style even in activities with student participation, which is not in accordance with 5E method. Therefore, the lesson plan and the pre-service teachers' actual practices were not in accordance. Furthermore, the pre-service teachers mostly used either multiple-choice tests or true-false type exercises in the assessment of students. The pre-service teachers adopted formative evaluation methods as opposed to summative evaluation, which is not in line with 2018 SSSC. Some of the materials prepared by the pre-service teachers included foreign words or they included contents that were beyond the learning outcomes. This is not appropriate regarding the principles of "appropriates to students' level of readiness" and "clarity". Similarly, it was observed that some pre-service teachers started a video on the subject and had the students watch it till the end. They did not explain important parts in the videos and it was observed that the students could not understand the subject well.

Recommendations

Based on the issues stated in 2023 Education Vision announced by MoNE, it is expected that there will be revisions in the curricula in a short while (MoNE, 2018a). In accordance with this, pre-service teachers should be definitely included to the significance attached to theoretical framework and revisions because it is necessary for pre-service teachers to be equipped with teaching skills, have mastery in the content knowledge and curriculum of their area of expertise as they will be the ones to implement the curricula in the future. No education model can provide a service beyond the quality of its personnel who operate it (Kavcar, 1987). A school can only be as good as its teachers.

Within this notion, it is recommended that pre-service teachers should perform teaching practices in MoNE schools not only as a part of only 'teaching practice' course but also as parts of other courses as well. For instance, Subject-specific teaching methods-II" course could be practiced in MoNE school with planning and could be more efficient. In addition, it is also suggested that the predominance endowed to subject area examination of Public Personnel Selection Examination should be balanced with educational sciences. In line with this, Student Selection and Placement Center should lessen the ratio of subject area examination and increase the ratio of educational sciences examination and thereby reach to a balance.

References

Arias, A. M., Bismack, A. S., Davis, E. A., & Palincsar, A. S. (2016). Interacting with a suite of educative features: elementary science teachers' use of educative curriculum materials. *Journal of Research in Science Teaching, 53*(3), 422-449. doi:10.1002/tea.21250

Atasoy, Ş. (2018). Student teachers' informal reasoning of local socioscientific issues according to the living places. *Fen Bilimleri Öğretimi Dergisi, 6*(1), 60-72.

Atila, E. (2012). *Science and technology teachers? perceptions and implementation of constructivist principles in science and technology curriculum.* (Unpublished Doctoral Thesis), Atatürk University, Insitute of Education Sciences, Erzurum, TURKEY. (319674).

Ayas, A., & Çepni, S. (2016). Eğitimde program geliştirme ve bazı fen ve teknoloji programları. In S. Çepni (Ed.), *Kuramdan Uygulamaya Fen ve Teknoloji Öğretimi* (Vol. 13, pp. 16-51.). Ankara, Turkey: Pegem Akademi Yayıncılık.

Babayiğit, Ö., & Erkuş, B. (2017). Effectiveness of reinforcements and punishments which primary school teachers use in lessons. *Kastamonu Education Journal, 25*(2), 567-580.

Bahar, M., Yener, D., Yilmaz, M., Emen, H., & Gürer, F. (2018). The changes of standards in the 2018 science curriculum and STEM integration. *Bolu Abant Izzet Baysal University, Journal of Faculty of Education, 18*(2), 702-735.

Balkan-Kıyıcı, F., & Aydoğdu, M. (2011). Determination of pre-service science teachers' levels of relating the scientific knowledge to their daily lives. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education, 5*(1), 43-61.

Baskan, G. A., Aydın, A., & Madden, T. (2006). Türkiye'deki öğretmen yetiştirme sistemine karşılaştırmalı bir bakış. *Journal of Çukurova University Institute of Social Sciences, 15*(1), 35-42.

Bayrak, N., & Doğan, S. (2018). Examination in terms of formative measurement and evaluation of biology teacher feedbacks. *Bolu Abant Izzet Baysal University, Journal of Faculty of Education, 18*(2), 752-774.

Baysura, Ö. D., Altun, S., & Yücel-Toy, B. (2016). Perceptions of teacher candidates regarding project-based learning. *Eurasian Journal of Educational Research, 62*(3), 15-36. doi:10.14689/ejer.2016.62.3

Bulunuz, M., Tapan-Broutin, M. S., & Bulunuz, N. (2016). Pre-Service teacher scientific behavior: comparative study of paired science project assignments. *Eurasian Journal of Educational Research, 62*(195-218.). doi:10.14689/ejer.2016.62.12

Büyüktokatli, N., & Bayraktar, Ş. (2014). Alternative assessment practices in science. *Pegem Journal of Education & Instruction, 4*(1), 103-126. doi:10.14527/pegegog.2014.006

Can, H. (2015). Sources of teaching efficacy beliefs in pre-service science teachers. *Elementary Education Online, 14*(1), 333-348. doi:10.17051/io.2015.84390

CoHE. (1998). Fen bilgisi öğretmenliği lisans programı. Retrieved from http://www.yok.gov.tr/documents/10279/49665/fen_bilgisi/f385bc78-22df-497d-bfca-7aee80c75c22

CoHE. (2018a). Department of elementary science education curriculum. Retrieved from http://www.yok.gov.tr/documents/10279/41805112/Fen_Bilgisi_Ogretmenligi_Lisans_Programi.pdf

CoHE. (2018b). Öğretmen yetiştirme lisans programları. Retrieved from http://www.yok.gov.tr/documents/10279/41805112/AA_Sunus_+Onsoz_Uygulama_Yonergesi.pdf

Creswell, J. W. (2014). *Research design qualitative, quantitative and mixed methods approaches* (Vol. 4). USA: Sage Publications.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: choosing among five approaches* (Vol. 4). USA: Sage Publications.

Çakır, N. K., & Sarıkaya, M. (2018). Evaluation of science process skills of pre-service science teachers. *Turkish Studies, 13*(4), 859-884. doi:10.7827/TurkishStudies.12823

Çelik, S., & Bayrakçeken, S. (2014). Pre-Service science teachers' attitudes toward project based learning approach. *Sakarya University Journal of Education Faculty (SUJEF), 27*, 7-24.

Çıray, F., Küçükyılmaz, E. A., & Güven, M. (2015). The views of teachers about the curriculum of science revised for secondary schools. *Dicle University Journal of Ziya Gökalp Faculty of Education, 25*, 31-56. doi:10.14582/DUZGEF.566

Delen, İ., & Uzun, S. (2018). Evaluating STEM based learning environments created by mathematics pre-service teachers. *Hacettepe University Journal of Education, 33*(3), 617-630. doi:10.16986/HUJE.2018037019

Demiral, Ü., & Türkmenoğlu, H. (2018). The relationship of preservice science teachers' decision making strategies and content knowledge in socio-scientific issues. *Journal of Uludag University Faculty of Education, 31*(1), 309-340.

Demirhan, E., Önder, İ., & Beşoluk, Ş. (2018). The change in scientific creativity and academic achievement of prospective science teachers by years. *Kastamonu Education Journal, 26*(3), 685-696. doi:10.24106/kefdergi.373323

Deniz, S., & Tican, C. (2017). An investigation of pre-service teachers' teacher self-efficacy beliefs and opinions for their professional anxieties. *Bolu Abant Izzet Baysal University, Journal of Faculty of Education, 17*(4), 1838-1859.

Dursun, B., & Özmen, N. (2018). Science preservice teachers' views on nature of science and technology. *Journal of Educational Sciences Research (JESR), 8*(1), 55-71. doi:10.22521/jesr.2018.81.2

Ekiz, D. (2003). *Eğitimde araştırma yöntem ve metodlarına giriş (nitel, nicel ve eleştirel kuram metodolojileri)*. Ankara, TURKEY: Anı Yayıncılık.

Elmalı, Ş., & Kıyıcı, F. B. (2018). Prospective science teachers' tendecies of reflective thinking and views about reflective thinking. *Elementary Education Online, 17*(3), 1706-1718. doi:10.17051/ilkonline.2018.466423

Emrahoğlu, N., & Öztürk, A. (2010). The effect of metacognition on the prospective science teachers' academic achievement: an ex post facto research. *Journal of Çukurova University Institute of Social Sciences, 19*(2), 18-30.

Ercan, O., Coştu, F., & Coştu, B. (2018). Identifying pre-service science teachers' difficulties about graph drawings. *Kastamonu Education Journal, 26*(6), 1929-1938. doi:10.24106/kefdergi.2227

Erdem, E., & Soylu, Y. (2013). Prospective teachers' opinions about CSSE and field examination. *Journal of Institute of Social Sciences, 4*(1), 223-236.

Eskicumalı, A., Demirtaş, Z., Erdoğan, D. G., & Arslan, S. (2014). The comparison df the science and technology curriculum and renewed science curriculum. *International Journal of Human Sciences, 11*(1), 1077-1094. doi:10.14687/ijhs.v11i1.2664

Evrekli, E., İnel, D., Balım, A. G., & Kesercioğlu, T. (2009). Fen öğretmen adaylarının yapılandırmacı yaklaşıma yönelik tutumlarının incelenmesi. *Journal of Uludag University Faculty of Education, 22*(2), 673-687.

Filiz, S. B., & Aydın, E. (2018). The problems of classroom teachers: a study based on the experiences of classroom teachers. *Cukurova University Faculty of Education Journal, 47*(2), 538-565. doi:10.14812/cuefd.375676

Gelbal, S., & Kelecioğlu, H. (2007). Teachers' proficiency perceptions of about the measurement and evaluation techniques and the problems they confront. *Hacettepe University Journal of Education, 33*, 135-145.

Günes, G., & Baki, A. (2011). Reflections from application of the fourth grade mathematics course curriculum. *Hacettepe University Journal of Education, 41*, 192-205.

Hacıömeroğlu, G., & Taşkın, Ç. Ş. (2010). Preservice teachers' attitudes towards teaching profession in primary and secondary education. *Kırşehir Eğitim Fakültesi Dergisi (KEFAD), 11*(1), 77-90.

Hằng, N. V. T., Bulte, A. M. W., & Pilot, A. (2017). Interaction of Vietnamese teachers with a social constructivism-based primary science curriculum in a framework appropriate for a confucian heritage culture. *Asia-Pacific Science Education, 3*(2), 1-33. doi:10.1186/s41029-017-0013-0

Hastürk, H. G. (2017). Fen bilimleri dersi öğretim programı. In H. G. Hastürk (Ed.), *Teoriden Pratiğe Fen Bilimleri Öğretimi* (Vol. 1, pp. 2-30.). Ankara, TURKEY: Pegem Akademi Yayıncılık.

Hıdır, M., & Körhasan, N. D. (2018). Examination of the analogies in science textbooks and opinions of science educators about the effective use of analogies. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education, 12*(2), 415-453.

Kan, A. Ü., & Murat, A. (2018). Investigation of prospective science teachers' 21st century skill competence perceptions and attitudes toward STEM. *International Online Journal of Educational Sciences, 10*(4), 251-272. doi:10.15345/iojes.2018.04.014

Karaman, P., & Karaman, A. (2016). Opinions of science teachers about the revised science education program. *Erzincan University Journal of Education Faculty, 18*(1), 243-269. doi:10.17556/jef.65883

Kavcar, C. (1987). Türk dili ve edebiyatı öğretimi. *Ankara University Journal of Faculty of Educational Sciences, 20*(1), 261-273. doi:10.1501/Egifak_0000001077

Kutluca, A. Y., Yılmaz, A., & İbiş, E. (2018). Examination of teacher candidates' critical thinking attitudes in terms of various variables. *Kastamonu Education Journal, 26*(4), 2045-2055. doi:10.24106/kefdergi.2309

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. USA: Sage Publications.

McMillan, J. H., & Schumacher, S. (2001). *Research in education* (Vol. 5). USA: Addison Wesley Longman, Inc.

Merriam, S. B. (1998). *Qualitative research and case study applications in education: revised and expanded from case study research in education*. San Francisco, CA: Jossey-Bass Publishers.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis a methods sourcebook* (Vol. 3). USA: Sage Publications.

MoNE. (2017). General competencies for teaching profession. Retrieved from http://oygm.meb.gov.tr/meb_iys_dosyalar/2018_06/29111119_TeachersGeneralCompetencies.pdf

MoNE. (2018a). 2023 eğitim vizyonu. Retrieved from http://2023vizyonu.meb.gov.tr/doc/2023_EGITIM_VIZYONU.pdf

MoNE. (2018b). Fen bilimleri dersi öğretim programı (ilkokul ve ortaokul 3, 4, 5, 6, 7 ve 8. sınıflar). Retrieved from http://mufredat.meb.gov.tr/ProgramDetay.aspx?PID=325

MoNE. (2018c). Uygulama öğrencilerinin Milli Eğitim Bakanlığına bağlı eğitim öğretim kurumlarında yapacakları öğretmenlik uygulamasına ilişkin yönerge. Retrieved from https://oygm.meb.gov.tr/meb_iys_dosyalar/2018_06/25172143_YYnerge.pdf

Newton, D. P. (1988). Relevance and science education. *Educational Philosophy and Theory, 20*(2), 7-12. doi:10.1111/j.1469-5812.1988.tb00139.x

Önal, N. T., Büyük, U., & Saraçoğlu, S. (2017). Scientific process skill levels of pre-service science teachers. *Marmara University Atatürk Education Faculty Journal of Educational Sciences, 47*(47), 69-84. doi:10.15285/maruaebd.292043

Patton, M. Q. (2015). *Qualitative research & evaluation methods* (Vol. 4). USA: Sage Publications.

Pekbay, C., & Kaptan, F. (2014). Improvement of pre-service science teachers' awareness on the effectiveness of laboratory method in science education: a qualitative study. *Karaelmas Journal of Educational Sciences, 2*(1), 1-11.

PISA. (2015). PISA Turkey performance. Retrieved from http://www.compareyourcountry.org/pisa/country/TUR?lg=en

Sağlam-Arslan, A., Devecioğlu-Kaymakçı, Y., & Arslan, S. (2009). Problems concerning alternative evaluation methods: the case of science and tehnology teachers. *Ondokuz Mayis University Journal of Education Faculty, 28*(1), 1-12.

Saka, M. (2019). Evulations of science teachers regarding the classes of school experience and teaching practices. *Elementary Education Online, 18*(1), 127-148. doi:10.17051/ilkonline.2019.527173

Selvi, M., & Yakışan, M. (2004). Misconceptions about enzymes in university students. *Gazi University Journal of Gazi Education Faculty (GUJGEF), 24*(2), 173-182.

Stuckey, M., Hofstein, A., Mamlok-Naaman, R., & Eilks, I. (2013). The meaning of "relevance" in science education and its implications for the science curriculum. *Studies in Science Education, 49*(1), 1-34. doi:10.1080/03057267.2013.802463

Şenol, F. B., Akyol, T., & Can-Yaşar, M. (2018). Teacher candidates' assertiveness levels in terms of different variables. *Journal of Theoretical Educational Science, ICSE-2018*(Special Issue), 146-165. doi:10.30831/akukeg.429106

Talışık, E. (2016). The investigation of relation between perceived professional proficiency, professional satisfaction and burnout levels of in-service music teachers. *Mehmet Akif Ersoy University Journal of Education Faculty, 1*(37), 1-14.

Tas, Y. (2016). The contribution of perceived classroom learning environment and motivation to student engagement in science. *European Journal of Psychology of Education, 31*(1), 557–577. doi:10.1007/s10212-016-0303-z

Tatar, N., & Bağrıyanık, K. E. (2012). Opinions of science and technology teachers about outdoor education. *Elementary Education Online, 11*(4), 883-896.

Tekbıyık, A., & Akdeniz, A. R. (2008). Teachers' views about adoption and application of primary science and technology curriculum. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education, 2*(2), 23-37.

TIMSS. (2015). TIMSS 2015 International results in science. Retrieved from http://timss2015.org/timss-2015/science/student-achievement/#side

Topsakal, S. (2006). *Fen öğretimi* (Vol. 2). Ankara, TURKEY: Nobel Akademik Yayıncılık.

Toraman, S., & Alcı, B. (2013). Science and technology teachers' opinions about renewed science lesson curriculum. *Ekev Akademi Dergisi, 17*(56).

Töman, U., & Çimer, S. O. (2014). Investigation by skills of pre-service science teachers' reflective thinking from journals. *Journal of Computer and Education Research, 2*(4), 166-190.

Turan, A., & Kocakülah, M. S. (2017). Determination of the levels of selfefficacy beliefs related to the inquiry based teaching of prospective science teachers. *Journal of Theory and Practice in Education, 13*(4), 551-569.

Uzal, G., Erdem, A., & Ersoy, Y. (2015). A study on teaching activities performed by a group of mathematics and science teachers in classrooms. *Buca Faculty of Education Journal, 40*, 64-85.

Ünal, A., & Kılıç, M. S. (2016). Analysis of pre-service science teachers' anxiety situations towards laboratory. *The Western Anatolia Journal of Educational Sciences (WAJES), 7*(14), 21-32.

Yalçın, P., Altun-Yalçın, S., Akar, M. S., & Sağırlı, M. Ö. (2018). The effects of teaching applications with real life content on the levels of pre-service teachers' abilities to associate daily life with astronomy and electrical learning topics. *Pegem Journal of Education & Instruction, 8*(2), 229-252. doi:10.14527/pegegog.2018.010

Yazıcı, E. K., & Özmen, H. (2015). The view of teachers about applicability of activities and experiments found in science and technology curriculum. *Amasya Education Journal, 4*(1), 92-117.

Yeşilyurt, E. (2012). Measurement and assessment methods used at science and technology lesson and the difficulties encountered. *Turkish Studies, 7*(2), 1183-1205.

Yeşilyurt, E. (2013). Assessment of learning environments of pre-service teachers in terms of constructivist approach (an education faculty sample). *Gazi University Journal of Gazi Education Faculty (GUJGEF), 33*(1), 1-29.

Yıldırım, A., & Şimşek, H. (2016). *Sosyal bilimlerde nitel araştırma yöntemleri* (Vol. 10). Ankara, TURKEY: Seçkin Yayıncılık.

Yıldırım, E. G., Köklükaya, A. N., & Aydoğdu, M. (2016). Teaching methods and techniques preferences of the science teacher candidates and reasons of this preference. *e-Kafkas Journal of Educational Research, 3*(1), 15-25.

Yıldırım, M., Sürmeli, H., Benzer, E., & Şahin, F. (2007). The assessing of thoughts of prospective science teachers about teaching profession. *Marmara University Atatürk Education Faculty Journal of Educational Sciences, 25*(25), 185-196.

Yin, R. K. (2018). *Case study research and applications design and methods* (Vol. 6). USA: Sage Publications.

Yurdatapan, M., Benzer, E., & Güven, İ. (2014). Evaluation of healthy lifestyle behaviours of science teaching students. *Journal of Milli Eğitim Education and Social Sciences, 44*(201), 183-202.

Appendix-1 Semi-structured observation form

FIRST PART			
CONTENT KNOWLEDGE			
Observed Behavior	Inadequate (1 point)	Acceptable (2 points)	Well-trained (3 points)
1- Knowledge of basic principles and concepts in the subject			
2- Relating basic principles and concepts with a logical coherence			
3- Using verbal and visual language (figure, scheme, graph, formula and so on) relevant to the subject appropriately			
4- Relating the subject with other subjects in the content area			
PEDAGOGICAL CONTENT KNOWLEDGE			
Observed Behavior	Inadequate (1 point)	Acceptable (2 points)	Well-trained (3 points)
6-Making use of instructional technologies			
7- Identifying students' misconceptions			
8- Giving appropriate and adequate answers to students' questions			
9- Securing the learning environment			
PLANNING INSTRCUTIONAL ACTIVITIES			
Observed Behavior	Inadequate (1 point)	Acceptable (2 points)	Well-trained (3 points)
11- Stating the goals and target behaviors clearly			
12- Identifying appropriate methods and techniques for target behaviors			
13- Selecting and preparing appropriate tools and materials			
14- Identifying appropriate assessment methods for target behaviors			
15- Relating the subject with previous and following lessons			
SECOND PART			
Observed Behavior	Explanations		
1- Mastery in content knowledge and pedagogical content knowledge			
2- Ability to get to know students and approach to students			
3- Creating appropriate learning environment			
4- Assessment of student achievement			
5- Lesson planning and practice			
6- Professional attitude and approach to values			

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A Cross-Sectional Study of Textese in Academic Writing: Magnitude of Penetration, Impacts and Perceptions

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A Cross-Sectional Study of Textese in Academic Writing: Magnitude of Penetration, Impacts, and Perceptions

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Abstract

This cross-sectional study examined the distribution of electronic texting patterns in academic writing and effects of textese on EFL learners' writing performance. It also explored teachers' perspectives on this phenomenon. Data were gleaned from 60 undergraduates enrolled for a license degree in English language and literature and 10 of their professors who were familiar with writing skills of this body of informants. A corpus of texts derived from exam scripts, assignments, and lecture notes was analyzed, and the teachers were interviewed. The results revealed that learners tend to transfer some patterns of instant messaging (IM) into their writing. However, this remains rather limited to morphosyntactic features and some other paralinguistic features and local-based contents. The phenomenon was pervasive across the sample in a descending order; learners at the entry level e-texted more than their seniors did. Besides, heavy texters used this deformed variety of English to compensate low writing proficiency in terms of spelling, word selection, and sentence structures. Additionally, texting was apparently evident in note-taking more than in answer sheets and assignments. The study concludes that textese is not a surrogate for the Standard English but an addition to it with a variance of scope and purpose of usage.

***Keywords*:** Academic writing, Morphosyntax, Textese, Instant messaging (IM), Texting

Introduction

Although originated outside human bodies, information and communication technology (ICT) has gradually become an integral part of individuals' identities and experiences. It is difficult now to imagine life without ICT gadgets such as mobile phones, tablets, iPad, and many other high-tech gizmos. The invasion of these ICTs has provided electronic platforms for using English (Al-kadi & Ahmed, 2018; Crystal, 2008; Fandl & Smith, 2013; Titanji, Patience & Ndode, 2017). The technology gurus communicate hundred times a day synchronously and asynchronously. They tend to talk to such tiny devices and, by the same token, send and receive short messages more than face-to-face interaction (French, 2017; McSweeney, 2017; Sockett, 2014). This electronic communication, which seems to be perpetual, has brought about a dramatic change in how language is used in various virtual platforms (Boştină-Bratu, 2015; Campbell, 2007; Sockett, 2014; Zappavigna, 2012). For instance, one-to-one connection (messaging) or one-to-many (e.g. chatrooms, twitter, Facebook) have resulted in deviations of the Standard English (hereafter SE). These transgressions tacitly seep into academia and provoked worldwide debate. More and more students are becoming avid texters. They cannot escape text-messaging on a daily basis, and this arguably affects their writing abilities. Excerpts from students' texting display a tendency of using the language in directions that dilute the standard spelling, punctuations, word-formation, and grammatical conventional rules.

Language researchers approach this pressing linguistic issue from different perspectives. For example, debaters have prompted discussions as to whether or not language habits associated with texting (hereafter TXTing or e-texting) interfere with the conventional forms of written discourse. This topic is now the thrust of an array of journals, e.g. Journal of Computer Assisted Learning, Journal of Computer-Mediated Communication, Journal of Foreign Language Education and Technology, Language Learning and Technology, to name but a few.

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Besides journal articles, the topic has been the theme of MA theses and Ph.D. dissertations (Benkorichi 2017; Everett, 2016; French, 2017; Proudfoot, 2011; Wardyga, 2012). Prior research including experimental studies, correlational analyses, and meta-analysis studies varied in scope and purpose. The bulk of such inquiries showed a relationship between text messaging and students' linguistic abilities (Crystal, 2013; Dansieh, 2011; French, 2017; McSweeney, 2017; Wardyga, 2012). These studies maintained that there is still a flawed understanding of some aspects associated with textese. It is quite uncertain whether TXTing enriches modern English by adding a new register to it, or it fractures the language drastically. There is a need to (a) pinpoint both positive and negative effects on language and (b) demystify precisely how students' writing styles change over time under the influence of textese. This area of research merits further investigation and the present study departed from those key findings. On logical grounds, by assessing the performance of EFL undergraduates' writing style, it is possible to demonstrate whether texting yields better or worse academic writing performance.

Objectives

This paper intends to accumulate empirical evidence of dispersal of textese in students' academic writing. It homes in on a sample of lecture notes, exam answer sheets, and assignments. It also uncovers teachers' perceptions about this variety of modern English, which seems to be a weird writing style.

Research questions

The investigation hinges on the following research questions:

1. What is the magnitude of TXTing features in academic writing?
2. Is there any correlation between the frequency of these features and EFL undergraduates' writing performance?
3. How do teachers/examiners perceive e-texting in students' writing?

Literature Review

Actually, the reliance on wired and wireless communication technologies is increasingly evident in all facets of modern life. TXTing has burst into an international modern culture as a preferred method of telecommunication. It is now an ordinary channel of online communication (Boştină-Bratu, 2015; Crystal, 2008, 2013; Gorney, 2012; McSweeney, 2017). It is widely accepted by individuals of all ages (social and professional categories). This deformed type of contemporary English continues to permeate daily communication. The language representation forms- thanks to technology- have been changed from bricks to clicks. Electronic gadgets now enable fingers to do the talking. By simply clicking on a keyboard, texters can send and receive messages in seconds. Although textese is a new writing style developed in the 1990s, its heyday was the early 2000s. All throughout, it has been investigated under a suite of labels: textSpeak, textisms (Crystal, 2004, 2013), internetese (Campbell, 2007), textese (Nenagh & Abbie, 2017), SMS language (Aziz, Shamim, Aziz & Avais, 2013), text messaging (Titanji, et al., 2017), and the like. These terminologies are sometimes used synonymously. In this article, all these synonyms symbolize a medium of communication imbued with highly idiosyncratic abbreviations. It has instigated a litany of new uses of the language out of its ordinary usage (Crystal, 2013; Campbell, 2007; Waldrone, Kemp, & Wood, 2016; Zappavigna, 2012). These deviations, dubbed texting features, refer to orthographic and contextual changes of certain words. These features are divergent from the conventional forms of writing (Bernicot, Goumi, Bert-Erboul, Volckaert-Legrier, 2014; Dansieh, 2011). Compared to the standard varieties of English, TXTing defies traditional linguistic constituents of sentence structures, pronunciation, punctuation, sentence length, and so on. It is rather known for its weird word-formation.

There is a substantial, and still growing, body of literature on orthographical, phonological, morphological and syntactic features that carry messages differently from their normal uses in formal English (Crystal, 2008, 2013; Tagg, 2009; Zappavigna, 2012). Tagg (2009) studied– through a corpus-based approach– linguistic patterns that texters shaped to interact through text messaging. The study identified texting-wise abbreviations and other symbols that delineate texting as a distinctive variety of English. In the same line of research, Lyddy, Farina, Hanney, Farrell, and O'Neill (2014) studied textual characteristics of 936 short messages made of 13391 words as texted by 139 Irish undergraduates. The results revealed that 25% of the words were of nonstandard spelling and less than 0.2% was semantically unrecoverable. Likewise, Adebileje (2014) explored the morpho-syntax of text messaging among Nigerian undergraduates. The study examined the internal structures of words, and how such structures were arranged to form short messages. Analyzing 122 text messages, the study showed that the

frequency of morpho-syntactic features varied across the sample. The participants used logograms, symbols, phonics, and bits of the Nigerian Pidgin English to shape short messages. In a related context, Ali, Hasnain, and Beg (2015) studied the impact of texting on comprehension of 90 participants enrolled at Aligarh Muslim University in India. The study explored the respondents' familiarity with and comprehension of mobile-based messaging. The findings unveiled confusing abbreviations in the dataset. The respondents did not understand all of the abbreviations. This reinforces the claim that TXT-oriented usage also differs from context to context. For instance the acronym *lol* is interpreted differently. It might stand for *laugh out loud* or *lots of love*, both are different from its earliest meaning, *little old lady*. Given this, it can be said that textese is not universal. It enables users to invent their own rules, patterns, and uses which maybe unclear by non-texters who are unacquainted with SMS abbreviations or other English users.

Debatably, the pictograms and logograms are devised to meet certain requirements. Driven by the smallness of screen size of modern gadgets, texters innovatively develop a set of techniques including abbreviation, graphones, word or phrase shortening, and so forth (Crystal, 2008; Gorney, 2012; Kool & Agrawal, 2016; Waldrone et al., 2016; Zappavigna, 2012). Nonetheless, Nenagh and Abbie (2017) traced 728 Australian undergraduates' textisms (from 2009 to 2015), and the findings showed a decline of textese. The TXTing features tailed off with the passage of time but did not disappear completely in students' writing. The authors noted that texting was initially driven by the screen sizes, but larger phone screens, keyboards, and input methods now enable students to reduce abbreviations.

The impact of texting on writing has received a mixture of views. For instance, reporting from the Arab Open University (AOU), Al-Salman and Saeed (2017) explored (a) the effect of text-messaging on Arab EFL learners' English academic writing and (b) teachers' attitudes towards it. The study reported a limited number of violations including uncommon abbreviations, contractions, emoticons, erroneous grammar, and spelling. However, the volume of these deviations insignificantly affected the learners' writing performance. The study rested on students' writing at the entry level, which suggests revisiting the topic employing advanced learners. Unlike Al-Salman and Saeed's (2017) study, Benkorichi (2017) reported a strong relationship between textese and university students' writing in the Algerian context. The students' production of academic writing was negatively affected by the overuse of TXTing features. Likewise, textese has been made a scapegoat for writing underperforming as indicated by the findings of a line of research. Some authors voiced concern that the increasing use of text messaging by students is a real menace to the quality of writing (Aziz et al., 2013; Benkorichi 2017; Boştină-Bratu, 2015; Campbell, 2007; Dansieh 2011; Yousaf & Ahmed, 2013; Sockett, 2014; Wardyga, 2012). These studies reported indiscriminate uses of TXTing style that manifests itself in several forms: carefree spelling, poor punctuation, less grammar, paucity of vocabulary, and so forth. The common adverse impacts reported in this body of research included using typographic symbols, logograms, figures, phonics, broken grammatical rules, fads of unusual contracted words, emoticons (symbols representing emotions), and odd punctuation (e.g. missing comma, wrong uses of commas, semi-colons, full stops, and apostrophes). Arguably, this tendency erodes L2 learners' abilities to spell and punctuate correctly and thus wrecks the standard structures of the language.

Other researchers stand on the other extreme of debate. For instance, Crystal (2013), Gorney (2012), Waldrone et al. (2016) argued that regarding TXTing as detrimental to the language is an overstated view. Notwithstanding doom-laden prophecies, textese according to these studies, extends the lexicon of the language. It contributes a whole lot of imaginative and innovative techniques and increases rules and uses of the language, not only vocabulary (Crystal, 2008; Everett, 2016; McSweeney, 2017; Ta'amneh, 2017). It also boosts literacy skills of learners and helps them to discriminate between the standard and the nonstandard English (Javed & Mahmood, 2016). According to Crystal (2013), the reported effects are rather limited; textese has affected only a tiny fraction of English, and it has not replaced the old standard varieties. Following Crystal's (2008) argument, some authors believe texting has sobering effects on literacy in general. For instance, in a meta-analytic study, Everett (2016) reviewed the influence of text messaging on students' writing. The study utilized 17 sets of data from 14 studies recruiting 1652 students. It concluded that short messaging significantly impacts writing outcomes. In a similar vein, Ta'amneh (2017) conducted an experimental study in the Saudi EFL context. The experiment was designed of two groups: a control group (n=21) and an experimental group (n=19). The former was taught traditionally and the latter underwent a combination of traditional and WhatsApp-based learning paradigm. The findings showed that learners in the experimental group outperformed their counterparts. This positive effect, Ta'amneh argued, stemmed from integrating WhatsApp in teaching English. Additionally, Javed and Mahmood (2016) examined textese in daily life of a sample of Pakistani graduates highlighting its effects on the standard forms of the language. The findings showed that the participants were able to distinguish textese from formal English. The author argued that TXTing was evident in academic writing by students whose level of proficiency was quite low. Despite positive perspectives, texting-based literacy remains a forgotten

proficiency that is hardly recognized by pedagogues and evaluators (Al-Kadi, 2017). In this regard, Proudfoot (2011) pinpoints that English teachers today use formal English in classroom but this variety "does not reflect the world view of their learners … which is influenced by technology" (p.3). The author goes a step further saying that "learners often converse and communicate in a form of written and spoken English that has not been standardized" (p.3).

Apart from the positive and negative effects, which seem to be an ongoing debate, textese arguably falls within the realm of bilingualism (Crystal, 2008; McSweeney, 2017). Texters may be referred to as bilinguals for they develop dual literacies: they can communicate through texting as well as Standard English. They switch between these two varieties on a daily basis. Texting may also be taken as an informal variety of modern English or a genre of ESP infused with jargons, registers, and terminologies. Bernicot, et al. (2014) advocated that textese has a set of rules that define it as a unique variety of contemporary English. Along similar lines, McSweeney (2017) analyzed a corpus of 44597 text messages, and the findings showed that bilinguals who texted more messages in English and chose English for the settings on their mobile phones had higher English academic skills.

To sum up, texting which is a fairly new means of communication and research venue has been explored with a quite big body of research on its linguistic features. Several studies have pinpointed its negative influences on the standardized status of the language (e.g. Benkorichi, 2017; Boştină-Bratu, 2015; Campbell, 2007). The literature generally shows that e-texting has degenerated conventional norms of morphology and syntax of the language. Perhaps, textese transgresses grammatical rules and word-formation and, according to this perspective, it subverts the Standard varieties. As a rebuttal to this stance, Crystal (2013) and Gorney (2012) hold a positive view that TXTing enhances texters' literacies. The studies born in this vein maintain that good texters are actually good spellers – the more they text, the better their writing literacy becomes. The third stride of this debate is germane to textese with possibilities of positive and negative impacts on the structure and usage of the language (e.g. French, 2017; Titanji, Patience & Ndode, 2017). The diversity of results of prior research could be attributed to differences in the design of those studies. The association between texting and writing abilities of undergraduates is a continuing controversy. The correctional analysis failed to warrant conclusions about causality. There is no general consensus on TXTing pros and cons, and absolute research conclusions have not surfaced yet. In the context under scrutiny, text-messaging is discussed in contrast to academic writing across a cohort of English learners enrolled for a 4-year English program. Probing data from this body of undergraduates helps to capture the breadth of the phenomenon in the Yemeni context in comparison with other contexts. The inquiry is grounded on the assumption that academic writing abilities decline under the influence of TXTing features. The writing skills under scrutiny include spelling, sentence structure, language uses, and word choices that match the forms of standard modern English. Hopefully, the findings will solidify previous evidence and bring to the foreground insightful ideas for further research.

Method

This paper touches on text messaging features across students' academic writing at the university level. It adopted a mixed-method research paradigm with an aim to decipher pervasiveness of textisms across academic texts written by learners of different levels. Guided by cross-sectional design, a corpus of 60 half-page texts (lecture notes, exam answer sheets, and research reports) were randomly collected from a body of 60 EFL undergraduates enrolled for a license degree in English language and literature at a public university in Yemen. Besides bite-sized pieces of exam scripts and research reports which are, by their nature, highly structured, excerpts of classwork/exercises and lecture notes were incorporated to check the learners' written performance in a natural setting.

In addition to the learners' writing outputs, the study disclosed teachers' beliefs about effects of textese on students' writing. Ten senior professors of English - familiar with the learners' academic writing - were interviewed. An interview protocol was prepared based on prior research findings, viz. Al-Salman and Saeed (2017), McSweeney (2017), and Benkorichi (2017). The interviewing agenda was structured with some space for spontaneous elaborated questions. The interview was of two structured parts. The first part addressed three questions: (a) Do your students use texting in their writing?, (b) If you find any of the texting features in your students' assignments, do you accept or reject it? Why? (c) Do you think textese aggravate your student's writing performance? The second part of the interview was about teachers' perceptions on e-texting.

Data Analysis

Data were treated in three steps. First, the package of data (excerpts of lecturing-notes, exam scripts, and written assignments) were assembled, amassed, and converted into electronic spreadsheets. Textisms were marked and classified. For instance, *lol* and *bt* were considered spelling errors wherein the former was featured as 'acronyms' and the latter includes 'vowel deletion'. All the TXTing entities were calculated. Features of similar categories were clustered under four subcategories: orthographic, morpho-syntactic, paralinguistic, and local content-based features. The package of features was divided into two thematic categories. The first category was almost free of TXTing elements and the second was imbued with texting components. Each sub-category was measured by taking the number of orthographic changes as a whole and dividing it by the total number of words per instant messaging. Second, the informants' writing was evaluated by considering the results of final examinations in writing-based courses. The participants' scores were saved electronically. Each score was tabulated against each informant's name. Again, the linguistic backgrounds of the texters in both categories (writing-based vs. null-texting) were examined by looking into their academic records. Relevant data obtained from academic records reinforced the numeric results. Third, numeric data were displayed in the forms of figures and tables, and the non-numeric data were analyzed qualitatively. In the analysis, extracts from the participants' written scripts and teachers' interview were quoted to highlight salient points. By examining the informants' lecturing notes, exam answer sheets, and research reports, it was possible to measure the variance of textisms across the sample.

Results

Research Question #1: What is the magnitude of TXTing features in academic writing?

The first research question is appertained to the dispersal of texting features in the students' writing. As data in Table 1 indicates, the disproportionate amount of features included graphones, truncation, alphanumeric homophony, punctuation 'errors' and initialization. Noticeably, graphones and punctuation errors were the most common linguistic features in the collected data. Punctuations per se constituted 78% of the package of features. This could be attributed to the fact that English lays heavy emphasis on punctuation marks. However, e-texting dictates new functions to the conventional punctuations. The feature of graphones refers to letter/alphanumeric homophony. It makes 67% of the features in the dataset. Phonetic replacements included 'ur' instead of 'your', 'plz' for 'please', 'gd' for 'good'; and acronyms, such as 'lol' laugh out louder', and the like. Moreover, abbreviations, logograms (e.g. ampersand), shortened words (e.g. pic for picture) and nonstandard spellings were also evident in the corpus. Nonstandard spellings– apparently deliberate– involved re-spelling words phonetically (e.g. nite= night; c u =see you; l8r=later; gr8=great). In these mutilated spellings, consonant sounds resisted removal while most vowels were deleted. Like truncation, vowel deletion is often used in texting for the purpose of brevity, e.g. Thx (thanks), ths (this), hv (have), etc. While the vowels were deleted in these instances, the consonants represented the given words.

Table1. Distribution of texting features in students' writing

TXT features	**Classwork**	**Answer sheets**	**Research reports**	**Total**
	Occureences %	Occureences %	Occureences %	
Graphones	63%	3%	1%	67%
punctuation	76%	7%	4%	78%
initialization	52%	9%	2%	63%
Truncation	42%	2%	2%	46%
Alphanumeric homophony	34%	3%	3%	40%
Emoticons	2%	4%	1%	7%
Code-alteration	17%	1%	0%	18%

The other minor features included emoticons and code alteration. The use of emojis such as smiley face 😁, thumbs up 🤗, and victory ✌🏻 was patent in the corpus with a percentage of 17%. Such emojis were mainly found in typed assignments. The corpus also contained local cultural contents. Code-alteration– or what might be called code-switching– was apparently observed in such a way of using Arabic numbers, letters, and words in

lieu of English words. The illustrations extracted from the dataset (42%) reflect some aspects of local cultural and linguistic backgrounds such as code-alteration and dialectal expressions. For example, *winek* was used instead of 'where are/were you?' and *walah* in lieu of 'I swear'. Both examples demonstrate how Arabic style influenced shaping textese. Other examples included some sentences beginning with English and ending with Arabic, or vice versa.

Figure 1 displays the dispersion of TXTing features in the corpus. 80% of the participants' textisms were evident in on-the-spot writing exercises (lecture notes). The other two categories (answer sheets and assignments) contained 20% of the TXTing features. More pointedly, the participants e-texted while scribbling lecture notes more than they did in writing assignments and answer sheets. The textisms in the participants' classwork were apparently chancy and patchy. There were no obvious patterns in the corpus. The participants abbreviated words and sentences in their own way.

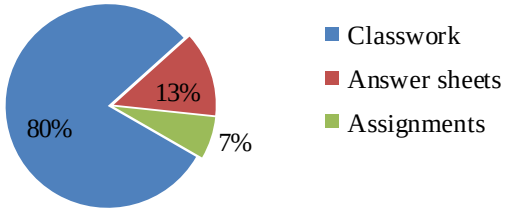

Figure 1. Magnitude of textese in the sample's writing

The phenomenon descended across the sample as shown graphically (Figure 2). Students at the entry level tend to overuse TXTing features in their writing. For instance, the corpus collected from the freshmen (n=15) constituted the biggest part of TXTing features. The sophomores (n=15) were amenable to pictograms, logograms, initialism, nonstandard spellings, omitted letters, and shortenings more than their seniors. This suggests that the cohort of learners were cognizant with such textisms.

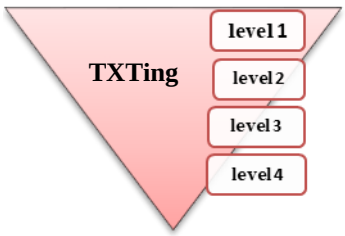

Figure 2. Descending of TXTing features in the sample's writing

Research Question #2: Is there any correlation between the frequency of TXTing features and EFL undergraduates' writing performance?

Addressing this question, the magnitude of text messaging discussed above was correlated with EFL writing performance. The link between these two variables: e-texting and academic writing was ascertained. The inquiry was based on an assumption that textese ruins students' writing abilities. To test this hypothesis, descriptive and inferential statistics were applied. Extracts infused with TXTing features (n=76) were set apart from the texts with null-texting features (n=18). The performance of the texting-based group and the null-texting group were compared. The minimum and maximum values and mean scores of writing skills of both groups were obtained by analyzing their academic records. The accumulative scores of the writing-based courses are arranged in Table 2. As data in the table indicates, the proficiency rate of the texting-based group was less than that of the null-texting group (48% vs. 87%). It implies frequent occurrences of texted language in the former and a rarity of TXTing in the latter. It also indicates that low level of performance could be attributable to textese, which ultimately led to erroneous spelling and ill-structured sentences, among other flaws. Students with high proficiency level, unlike their counterparts, hardly texted in their formal writing.

Table 2. Texters' vs. non-texters' writing proficiency

Group	No.	Min. score	Max. score	Average score
Texting-based	76	34	71	48%
Null-texting	18	56	92	87%

In order to strengthen evidence of the correlation between the amount of TXTting and academic writing, the inferential procedure (Pearson correlation) was applied with the following hypotheses in mind:

- H_0: There is no significant correlation between textese and writing performance of the EFL learners (p=0)
- H_1: There is a significant correlation between textese and writing performance of the EFL learners ($p \neq 0$).

The test of Pearson correlation entertains these two hypotheses. The results are displayed in Table 3. As data in the table exhibits, the correlation coefficient is 0.521 (p-value>.05) which suggests a positive relationship between the variables in question. In statistical terms, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. That is, the texting scores were positively correlated with English performance insofar as academic writing is concerned.

Table 3. Pearson correlation between textese and writing performance

Correlations	e-texting	writing
Pearson Correlation	1	0.205
Sig. (2-tailed)		0.521
N	60	60
Pearson Correlation	0.205	1
Sig. (2-tailed)	0.521	
N	60	60

Research Question #3: How do teachers/examiners perceive e-texting in students' writing?

To answer this question, perceptional data were collected from the teachers' interview. Responses to the interview questions varied: Teachers aged between 25 and 45, who represented 45% of the sample, stated that they were tolerant of TXTing patterns. These teachers have grown up with this technology-based variety of contemporary English. They thought that it is a linguistic phenomenon. As outlined in Figure 3, the informants generally believe that texting is a day-to-day communicational tool and a channel of worldwide interaction. The majority asserted that TXTing inadvertently seeps into academia.

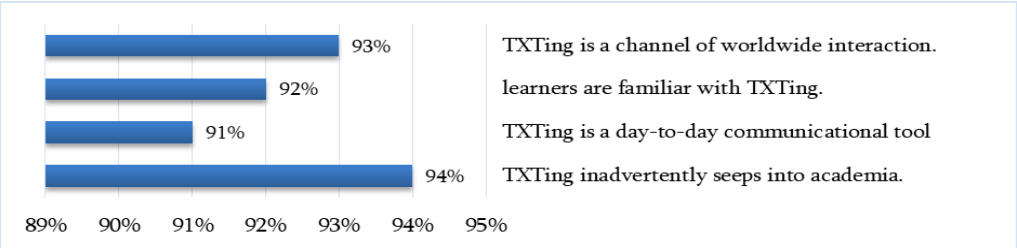

Figure 3. Teachers' perceptions on e-texting

One of the respondents commented that e-texting has become a daily practice, providing examples from real life situations, e.g. businesses taken over text messaging and job applicants' activities on social networking sites. These texting-based business activities encourage texters to use electronic English. These respondents, who hold a positive view of TXTing, admitted that they themselves e-text sometimes, even when they use the whiteboard. They do so keeping in mind that their learners are familiar with such fangled abbreviations. These informants, chiefly the middle-aged teachers, suggested introducing a texting-oriented English course in the curriculum (English for TXTing purposes), or it could be a part of an existing course such as English Morphology and Syntax courses. This may address students' needs to distinguish grammatical and ungrammatical English, the same way they differentiate between ESP and general English.

On the other extreme, the other respondents, aged between 50 and 70, were irritated by the fads of semiotic abbreviations and symbols that distinguish textese from the SE. This is probably because aged teachers were assumingly inept at electronic platforms (non-digital natives). They got their higher studies certificates during the period of 1980-1995 when textese was not already onboard. That is, they were trained on the pre-TXTing norms of the language. Generally speaking, the teachers in focus disparage texting in academic settings. They belittle textese arguing that it is an imminent threat to the standard form of language. In contrast, younger teachers were more lenient towards texting in their students' writing.

Discussion

This subsection aptly discusses the findings with a flashback on the literature. Besides descriptive and statistical analysis of the magnitude of penetration of textese across students' writing, the investigation was triangulated by exploring teachers' perceptions. To begin with, the magnitude of TXTing features in academic writing (outlined in Table 1 & Figure 2) indicates that the texting features were distributed in students' writing unevenly. The informants e-texted differently and inconsistently. In textese, punctuations are fairly used as messages with unique usage, not merely punctuation marks. Although textese can do without punctuations, it "runs the risk of ambiguity" (Crystal, 2008, p. 81). In the corpus of this study, the punctuation errors ranged from missing commas to wrong uses of full stops. Compared to Crystal's (2004) textSpeak abbreviations in his book *A Glossory of Textspeak and Netspeak*, the extracts taken from the dataset included incorrect uses of apostrophe, comma, full stop, and missing (semi)colons. In the dataset, some punctuation marks were used as 'messages' by themselves, not as formal English punctuation marks. For instance, texters used the question mark (?) to give a complete sense, meaning *I didn't get you* or *I wonder why you said so*, etc. In this regard, Gorney (2012) voiced concern that (a) the use of certain punctuation marks and lack of some others, (b) the meaning that capital letters convey, and (c) the numerous misspellings endanger the future of SE drastically, especially when individuals become unable to recall SE or use it properly. Crystal (2013) argued that these changes had not occurred for long enough to be treated as linguistic flaws.

Besides punctuation errors, abbreviations were marked throughout the corpus. Although abbreviations facilitate fast communication, they "take away the eloquence of the language and lead to a less professional impact and potentially a loss of understanding between people" (Gorney, 2012, p.39). Putting the concept of abbreviations in its historical perspective, English has abbreviated words for centuries. Words such as exam, vet, fridge, cox and bus- among others- have effectively become new words in the English lexicon. When they first came into use, such abbreviated words were severely criticized but they were accepted later on. With the passage of time -owing to language change -textisms may become normalized, the same way those abbreviations were introduced, criticized, and finally acknowledged (Al-Kadi, 2017; Nenagh & Abbie, 2017). In brief, while the morphological structure of the textisms used in the participants' text messages slightly diverged from that applicable to the Standard English, the syntactic structures generally remained unchanged. Add to that graphones and emojits as they were remarkable in the dataset. In the literature, graphones were the thrust of a plenty of studies (e.g. Adebileje, 2014; Lyddy, et al., 2014; Proudfoot, 2017; Tagg, 2009). These studies reported graphones as a common feature of e-texting. As for emojis, they are governed by the nature of electronic English in which informal expressions are conveyed with supportive emojis. Online communication lacks substantive features of face-to-face communication (e.g. facial expressions, body language, postures, tone of voice, etc.) and emojis, by and large, compensate the absence of such paralinguistic elements. This is in line with findings from prior research that the informal style of written discourse is profusely used in emails, Facebook postings, IMing, etc. (Al-Kadi, 2017; Crystal, 2013; Javed & Mahmood, 2016).

Over-texting while taking notes during lecture could be attributed to two reasons. First, students at the university level are wary of the formal and informal genres; they avoid texting in formal writing. Second, texting by its nature is akin to written speech, which is orthographically economized. The TXTing genre, which is essentially a written form of speech, fits the classroom English more than writing assignments. In class, students write under pressure of time whereas the research papers and scripts are liable for revision/redrafting. While taking notes, students use symbols, semiotic abbreviations, etc. as a drafting strategy (Fandl & Smith, 2013; Sockett, 2014). This has echoes in Tagg's (2009) study that textese resembles spoken English. It suits situations of normal speech, which is structurally simple, concrete, situation-based, and fragmented. It is to be noted that TXTing features decrease in academic writing as learners make progress in their English studies. This is quite the contrary with Wardyga's (2012) study wherein correlation between high and low text users' scores was nonexistent. Wardyga expected some cultural factors that influenced the results.

Overall, the collected corpus contained morphological and syntactic features dissimilar to those of the standard varieties of English. The texting features dispersed arbitrarily in the students' writing. Noticeably, the bulk of features were reported in several studies, i.e. they are unexclusive to the context of the present study. However, the bulkiness of textisms in the context under scrutiny is relatively small. Texting penetrated into the contexts of similar studies was quite sizeable (e.g. Ali et al., 2015; Aziz et al., 2013; Benkorichi, 2017; Boştină-Bratu, 2015; Yousaf & Ahmed, 2013). Further, the respondents who used English as an L2 tend to text at a low rate. They appear more cautious (texting less) than learners whose English is an L1. For instance, Lyddy et al. (2014) reported that native speakers were carefree to text whereas ESL/EFL learners obeyed the rules of the target language. Noticeably, textese has features from both the written and spoken forms of English, making it a new species of communication- more than just a hybrid of speech and writing. It is heralded as a third medium of

communication (Crystal, 2001). In an informal discussion, some informants acknowledged that they used to see this type of English online on a daily basis, and this informal style of English has been normalized; it represents the written language in its naked form. It has evolved as an extra dimension to the language to meet technology-based needs (Crystal, 2013). Boştină-Bratu (2015) pointed out that "texting is just one of many factors influencing the way language is changing, and there is no reason to worry about the future of standard written English" (p.549).

The correlation between the frequency of textese features and EFL undergraduates' writing performance is discussed with reference to the correlational results in Table 3, which is in accordance with previous findings. For instance, Everett (2016), Ta'amneh, (2017), and Javed and Mahmood (2016) contend that textese correlates positively with academic writing. Likewise, Crystal (2013), in a video interview, maintains that texters are better writers. Crystal goes a step further saying that as e-texting involves reading, good texters are necessarily good readers. Yet, Crystal's stance contradicts some other findings. For example, French (2017) found no significant predictive writing outcome ensued from textisms. Taken in combination, the data in Tables 2 and 3 exhibit contradictory results. Table 2 shows no significant association, and Table 3 is the other way around. A similar contradiction was reported in the literature as well (see Crystal, 2013; French, 2017; Proudfoot, 2011).

The correlational results were strengthened by perceptional data collected from the teachers' interviews. The teachers in focus voiced concern that L2 learners being frequently exposed to English through technology. The young learners may not have intuitions about what constitutes the standard vs. the nonstandard English. Nonetheless, the problem arises when textese becomes a writing habit. Students might grow up oblivious of the fact that textese is different from the SE conventions. Without proper instruction, learners may end up learning the informal forms in lieu of the standard varieties. Excessive TXTing features delude learners into believing that the TXTing they commonly use is the correct variety of English. In the literature, Proudfoot (2011) asserted that the Standard English (SE) the educators use in the classroom today does not reflect the worldview of their learners who often converse in a form of written and spoken variety of English, which has not been standardized. In this landscape, Sockett (2014) noted that such "informal language is often mentioned by learners as being a characteristic of their online interaction, especially when communicating with people they know personally" (p.57). However, Campbell (2007) claimed that the language required in the technology-shaped registers is incongruent from what it was before these new semiotic, colloquial and informal symbols and abbreviations were created. Campbell referred to textese, internetese, and emailese as "trash forms of communication where good spelling and grammar are irrelevant" (p.2). On the contrary, recent views (e.g. Crystal, 2013; Javed & Mahmood, 2016; Ta'amneh, 2017) conceptualize text messaging as a new force of language change. It is the type of English that people widely use nowadays at the international level.

Despite the fact that teachers by and large are aware of textese being a newly growing genre of English, the majority disregard it when evaluating students' writing performance. Based on the teachers' interviews, the majority of the teachers considered textisms in students' writing a sign of poor writing abilities. A senior professor asserted that textese is "*an informal English means of daily interaction but not for academic writing,"* a view endorsed by a professor who straightforwardly said, "*I don't stand it in academic writing".* Another fellow asserted that despite the fact that people today text more than they make calls, texting is rejected in academia because it undermines academic writing conventions and encourages arbitrariness and chaos in writing.

Despite caveats ensued from TXTing-oriented research, instant messaging could be a useful teaching tool to ameliorate academic writing: (a) separate textisms from SE and (b) learn some linguistic patterns and (c) compare the mobile device-based texting to the correct spelling (Yousaf & Ahmed, 2013). Some modern devices include autofill applications so that spelling mistakes could be mitigated. The Microsoft Word, mobile phones, iPod, tablets, for example, have the auto correction features that could be set up to correct wrong spellings automatically (Nenagh & Abbie, 2017). Students should be aware of such features so that standard spelling could be sustained. The findings support the idea that textese does not change the SE substantially; it is one of several factors that gave ground to new uses of the language. It is envisaged that textese will continue growing as an addition to, not a surrogate for, the SE. The results of the current study, combined with other relevant research findings, suggest re-conceptualizing this deformed type of language. Accumulative evidence resulting from corpus analysis encapsulates it as a unique genre of modern English with features of an outlet for creativity and ingenuity– which is part of English evolution (Al-kadi 2017; Al-kadi & Ahmed, 2018; Crystal, 2012; Waldrone et al., 2016). Although textese varies in purpose and scope from context to context, this paper supports the dogma that it is a developing register of English– like the many other genre-based registers.

Limitations and Further Research

The findings are limited to the compilation, storage, and exploitation of a corpus of student's lecture notes, exam scripts, and assignments. The results may not be generalizable to other contexts as TXTing is arbitrary and not universal; texters follow no certain patterns and thus textese differs from context to context. This provides impetus for future researchers to employ a larger dataset and/or other data collection tools. Regardless linguistic effects, TXTing has social and psychological dimensions, which is beyond the scope of the current study. It warrants further exploration within the scope of sociolinguistic, psycholinguistic maxims of texting, language choice, and language development. It allows users to create a "haven wherein they may even maintain a self-image incongruent from their real self" (Kool & Agrawal, 2016, p.195). Texters have a sense of security in a world beset by various types of exigencies, and this provides room for other researchers to explore uncharted areas of relevant research.

Conclusion

The paper contributes to the existing body of literature by discussing texting-wise features in academic writing. It delved into debate on whether the frequent uses of digital language benefits or hampers academic performance of advanced learners (university students). The study did not aim to prepare a compendium of texting. It rather problematized major features of it and the impacts these features overshadow on students' writing. This attempt showed that textese dilute a tiny fraction of the language, and most of these transgressions were at the morphological and syntactical levels. That is, not all words in the corpus were abbreviated. Only a portion of the language was represented as symbols, initials, etc. While previous studies reported hampering effects of texting in students' writing at an early level of English learning, the data from this study suggest that texting intrinsically affects the writing performance of those whose proficiency is low. Likewise, textese tails away across time. Textisms dwindle in learners' writing as they make progress in language learning –the more they make progress in their English, the less they use textese in their academic writing. This is consistent with similar conclusions of previous studies. Last but foremost, the negative impacts of TXTing, though undeniable, bring to the foreground insightful ideas to the language teachers to sensitize students on both its benefits and pitfalls. Giving students clear, distinctive examples on formal and informal writing helps them distinguish the formal and non-formal writing conventions.

References

Adebileje, A. (2014). Descriptions of register variations in the morpho-syntax of text messaging among Redeemer's University young students. *Journal of ELT and Applied Linguistics (JELTAL),2*(3),1-12.

Ali, J., Hasnain, S. & Beg, M. (2015). The impact of texting on comprehension. *International Journal of Applied Linguistics & English Literature, 4*(4), 108-117. Doi:10.7575/aiac.ijalel.v.4n.4p.108

Al-kadi, A. (2017). *Technology in language pedagogy: Current research, practices, and limitations*. Mauritius: LAP Lambert Academic Publishing.

Al-kadi, A. & Ahmed, R. (2018). *Evolution of English in the internet age. Indonesian Journal of Applied Linguistics, 7*(3), *727-736.* doi: 10.17509/ijal.v7i3.9823

Al-Salman, S. & Saeed, A. (2017). Effects of text-messaging on the academic writing of Arab EFL students. *Research in Language, 15*(3). DOI: 10.1515/rela-2017-0014

Aziz, S., Shamim, M., Aziz, M. & Avais, P. (2013). The impact of texting/SMS language on academic writing of students- What do we need to panic about? *Linguistics and Translation, 55*, 12884-12890.

Benkorichi, H. (2017). *The effect of texting language on EFL students' academic writing: A case study of third year students of English at Mohamed Kheider University of Biskra* (MA thesis). Faculty of Letters and Foreign Languages, Mohammed Kheider University of Biskra, Algeria.

Bernicot, J., Goumi, A., Bert-Erboul, A., Volckaert-Legrier, O. (2014). How do skilled and less-skilled spellers write text messages? A longitudinal study. *Journal of Computer Assisted Learning, 30*(6), 559-576. Doi: 10.1111/jcal.12064

Boştină-Bratu, S. (2015). Text messaging vs. academic writing - A case study. *International Conference Knowledge-Based Organization, 21*(2), 546-550. Doi: 10.1515/kbo-2015-0093

Campbell, D. (2007). *The world today: Bad English, bad grammar, bad manners*. Retrieved from http://www.theage.com.au/news/opinion/the-world-today-bad-english-bad-grammar-bad-manners/2007/09/06/1188783409820.html?page=2

Crystal, D. (2001). *Language and the Internet*. Cambridge: Cambridge University Press.

Crystal, D. (2004). *A glossary of netspeak and textspeak.* Edinburgh University Press.

Crystal, D. (2008).Texting. *ELT J, 62*(1), 77-83. DOI:10.1093/elt/ccm080

Crystal, D. (2012). Into the twenty-first century. In L. Mugglestone, *the Oxford history of English* (pp. 488-513). Oxford: OUP.

Crystal, D. (2013, November 9). The effect of new technologies on English (from the interview with David Crystal in Belgrade). Available on YouTube https://www.youtube.com/watch?v=qVqcoB798Is

Dansieh, S., A. (2011). SMS texting and its potential impacts on students' written communication skills. *International Journal of English Linguistics,1*(2), 222-229. Doi:10.5539/ijel.v1n2p222

Everett, A.T. (2016). *The influence of text messaging on measures of student writing: A meta-analytic review* (PhD dissertation). The Department of Curriculum and Instruction in the Graduate School of the University of Alabama.

Fandl, K. & Smith, J. (2013). *Success as an online student strategies for effective learning*. New York, NY: Routledge.

French, J. (2017). *The frequency of texting on middle school students' writing achievement (*PhD dissertation). Liberty University, Lynchburg, VA.

Gorney, E. (2012). The language of texting: Altering English or a language of its own? *The Review: A Journal of Undergraduate Student Research, 13*, 39-42.

Javed, S. & Mahmood, M. (2016). Language change in texting: Situation analysis of graduate students. *Journal of Literature, Languages and Linguistics, 26,* 78-*94.*

Kool, V. & Agrawal, R. (2016). *Psychology of Technology*. Switzerland: Springer International Publishing.

Lyddy, F., Farina, F., Hanney, J., Farrell, L. & O'Neill, N. (2014). An analysis of language in university students' text messages. *Journal of Computer-Mediated Communication 19*, 546–561. Doi:10.1111/jcc4.12045

McSweeney, M. (2017). I text English to everyone: Links between second-language texting and academic proficiency. *Languages, 2*(7), 1-15. Doi:10.3390/languages2030007

Nenagh, K. & Abbie, G. (2017). Texting across time: Undergraduates' use of 'textese' in seven consecutive first-year psychology cohorts. *Writing Systems Research, 9*(1), 82-98. DOI: 10.1080/17586801.2017.1285220

Proudfoot, C. (2011). *An analysis of the relationship between writing skills and 'short messaging service' language: A self-regulatory perspective* (PhD dissertation). Potchefstroom Campus, North-West University.

Sockett, G. (2014). *The online informal learning of English.* London: Palgrave Macmillan.

Tagg, C. (2009). *A corpus linguistics study of SMS text messaging* (PhD dissertation). School of English, Drama, and American and Canadian Studies. The University of Birmingham.

Ta'amneh, M. (2017). The effect of using WhatsApp messenger in learning English language among university students. *International Research in Education, 5*(1), 143-151.

Titanji, L., Patience, M. & Ndode, N. (2017). Implications of text messaging on students' language skills: The case of the University of Buea. *European Journal of English Language and Literature Studies, 5*(2),1-14.

Waldrone, S., Kemp, N., & Wood, C. (2016). Texting and language learning. In A. Georgakopoulou & T. Spilioti (Eds.), *Routledge handbook of language and digital communication* (pp. 180-193). Oxford, UK: Routledge.

Wardyga, B. (2012). *The relationship between text message volume and formal writing performance among upper level high school students and college freshmen* (Ph.D. dissertation). Liberty University: Lynchburg, VA.

Yousaf, Z., & Ahmed, M. (2013). Effects of SMS on writing skills of the university students in Pakistan: A case study of University of Gujrat. *Asian Economic and Financial Review, 3*(3), 389-397.

Zappavigna, M. (2012). *Discourse of Twitter and Social Media: How we use language to create affiliation on the Web*. London: Bloomsbury.

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Impressions of Preservice Teachers about Use of PowerPoint Slides by Their Instructors and Its Effects on Their Learning

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Impressions of Preservice Teachers about Use of PowerPoint Slides by Their Instructors and Its Effects on Their Learning

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Abstract

This study aims to explore preservice teachers' opinions about their instructors' use of PowerPoint slides during classes. To this end, 10 preservice teachers were selected through convenience sampling and semi-structured interviews were then conducted. The interviews were held one-by-one and audio recorded after having received permission from the interviewees. The recorded audio data was then transcribed and subsequently coded using QDA Miner Lite analytical software. Data analysis was then carried out by two researchers in order to eliminate bias and to enhance objectivity in the qualitative coding process. The findings indicated that the preservice teachers, in terms of the design and content of their instructors' PowerPoint slides, complained mostly about text inefficiency, whereas they favored the visual aids used in the slides. The findings also indicated that in terms of the perceived effects of using PowerPoint on preservice teachers' learning, they favored the slides because of their simplification of the content, using PowerPoint as multimedia, using PowerPoint slides as course notes, and for following the course content easier. On the other hand, they complained about instructors' frequently just reading from the slides verbatim. The findings of the study may inspire instructors to use PowerPoint more effectively in their classes, and thereby to become better role models to the preservice teachers they are instructing.

Keywords: PowerPoint, Slides, Effect of Slides, Slides Use in Classes, Presentation

Introduction

Presentations are an indispensable part of our academic, professional and personal lives, in terms of the way in which we use them in universities, K-12 schools, the workplace environment, as well as in the military and the courtroom in different ways such as lectures, class presentations, webinars, product introductions, speeches and court arguments (Kosslyn, Kievit, Russell, & Shephard, 2012; Moulton, Türkay, & Kosslyn, 2017). Although various products exist for such purposes, PowerPoint enjoys the reputation of being the mostly widely used standard presentation application on the market (Garner, Alley, Gaudelli, & Zappe, 2009; Hopper & Waugh, 2014). According to reports, 30 million PowerPoint presentations are made each day; that's 1.25 million every hour (Mahin, 2004, as cited in Hill, Arford, Lubitow, & Smollin, 2012) – "we can only imagine what that number is today" (Kosslyn et al., 2012, p. 1). In referring to PowerPoint's popularity, Parker (2001) said: "to appear at a meeting without PowerPoint would be unwelcome and vaguely pretentious, like wearing no shoes" (p. 2).

In recent years, we have witnessed significant changes in the way in which we use media in schools and have "gone from the era of 'chalk-and-talk' and occasional flip-charts to overhead transparencies and to PowerPoint slides" (Craig & Amernic, 2006, p. 149). PowerPoint has become one of the ubiquitous media dominating "the world of teaching and training, from elementary school classrooms to graduate programs" (Hopper & Waugh, 2014, p. 30). Yet, the use of PowerPoint has been subject to significant criticism and skepticism in the literature (Hill et al., 2012; Hopper & Waugh, 2014). PowerPoint has generated considerable interest among educational researchers about how effectively and efficiently it can be utilized in education, with research having been conducted regarding its pedagogical outcomes. However, much of the literature is based on anecdotal and speculative studies (Hopper & Waugh, 2014; Kosslyn et al., 2012; Moulton et al., 2017; Savoy, Proctor, & Salvendy, 2009). What is more, despite this interest, very few studies have addressed preservice teachers'

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perceptions and opinions about the way in which their instructors use presentation tools in their lectures (Abdelrahman, Attaran, & Hai-Leng, 2013; Savasci Acikalin, 2011; Yilmazel-Sahin, 2009). With this in mind, the aim of the current study is to broaden current knowledge of the effectiveness of PowerPoint slide technology by exploring the phenomena in terms of preservice teachers' perspectives. To this end, the study collected data from 10 preservice teachers via semi-structured interviews. It is considered important to understand how teacher educators implement such technology, considering that preservice teachers will probably utilize similar technologies themselves in their future profession, and therefore the teacher educators act as role models to the preservice teachers they instruct (Yilmazel-Sahin, 2009).

Literature Review

According to the literature, PowerPoint is one of the most used technologies both by students and teachers at schools. It seems that there is an implicit premise that the use of PowerPoint is regarded to be equal to the use of ICTs in teaching and learning. When teachers are asked to report on their ICT usage in the classroom, they mostly mention their PowerPoint practices (Abdelrahman et al., 2013; Hopper & Waugh, 2014; Reedy, 2008; Savasci Acikalin, 2011). However, the literature has addressed both the advantages of using this technology and also levelled certain criticism at its usage.

Advantages of PowerPoint

Learning theories explain how PowerPoint can contribute to teaching and learning. For example, dual channel assumption posits that people have two distinct channels for processing visual and auditory information (Paivio, 1986). Additionally, Cognitive Theory of Multimedia Learning (CTML) postulates that when multiple sources of information are presented (i.e., both visual and auditory), learning is enhanced (Mayer, 2009). As reported by Levasseur and Sawyer (2006), PowerPoint slides may provide opportunities for instructors to couple-up visual information and verbal information, which may lead to better learning. In addition, slides may be well suited to the needs of different learners who possess different learning styles (e.g., visualizers and verbalizers), as they enable instructors to present multiple sources. Arousal theory is another theoretical framework used to explain how slides can aid learning (Levasseur & Sawyer, 2006). Accordingly, attractive course materials make learning more enjoyable, stimulate students' interest, and promote learning (Weiner, 1990). PowerPoint may augment arousal levels, as it can stimulate both the visual and auditory senses.

PowerPoint is an easy to use, stable technology, which readily comes with the Microsoft Office package of programs. Inexperienced students and instructors can use this technology with little effort or technological or instructional know-how. Instead, they can focus on their content and design skills rather than learning the technology, which would require higher-level knowledge or complex technical skills (Hertz, van Woerkum, & Kerkhof, 2015; Hopper & Waugh, 2014). Another advantage of PowerPoint is that for larger class sizes, information dissemination can be easier and more efficient with slides compared to smaller class sizes (Hill et al., 2012; Yilmazel-Sahin, 2009).

Teachers can organize their thinking through PowerPoint, in planning what they should present. Teachers can also support and enhance the message they deliver via well-prepared presentations. They can also incorporate hypermedia tools such as graphics, images, animations and sound into their PowerPoint presentations. Research has shown that learning is improved when more than one information source (i.e., visual and auditory) is engaged (Mayer, 2009).

PowerPoint allows for the improvement of organization of both lectures and lecture notes (Levasseur & Sawyer, 2006; Nouri & Shahid, 2005). Lessons supported with slides are perceived by learners as being more organized, since key elements of the topics to be covered can be emphasized and highlighted using slides (Susskind, 2008), and therefore appear more "clear and interesting" (Apperson, Laws, & Scepansky, 2008, p. 150). In addition, slides can be considered as time saving for both instructors and students. Slides allow students to take notes more easily during lectures (Fritschi, 2008; Susskind, 2005, 2008). Providing slides for students to view prior to classes may facilitate learning, as it lowers the burden of notetaking during class that may lead to students missing out on important information (Wecker, 2012).

Criticisms of PowerPoint

Learning theories suggest that PowerPoint may also constitute a danger for learning in addition to its benefits. For example, according to cognitive theories of learning, effective learning occurs if limited cognitive resources

are used in an optimal manner (Paas & Sweller, 2014). However, when PowerPoint slides present too much information to handle, this limited capacity may be exceeded and "PowerPoint overload" occurs. This is, for instance, the case when the PowerPoint slides include "busy backgrounds, endless bullet points, and a tangle of diagrams clearly shutdown understanding, instead of opening it up" (Atkinson & Mayer, 2004, p. 1). More specifically, the modality principle of the CTML (Mayer, 2009) may be violated, when the screen involves too much on-screen text as the presentation instead of reliance on the spoken word of the presenter or narrator. Redundancy may also occur if the instructor simply reads out the screen content verbatim, which is very common in PowerPoint practices (Hill et al., 2012; Yilmazel-Sahin, 2009). In addition, the segmenting principle may be violated when slides containing too much information are not broken down into smaller units. Coherence principle may also be violated if irrelevant content exists within a presentation. Multimedia principle could be violated if on-screen text does not have corresponding graphics (Atkinson & Mayer, 2004). Moreover, the contiguity principle may be violated if visuals and text (spoken and on-screen) are presented consecutively rather than simultaneously. Finally, signaling principle may be violated when the essential materials are not highlighted by the presenter (Mayer, 2009).

The use of PowerPoint slides in classes may pose an important threat to learning, as students may miss out on the more significant content of a lesson at the expense of the less significant. For example, when the instructor presents a slide, an interesting visual may capture the learners' attention and this results in the visual being focused on more than the important oral information (Levasseur & Sawyer, 2006).

As most studies reports, PowerPoint encourages a classroom climate, where the teacher is seen as the primary knowledge source. That is, PowerPoint encourages more of a teacher-centered and less of a student-centered approach (Hopper & Waugh, 2014). This situation can be especially critical and detrimental for certain disciplines where active participation, engagement, and critical pedagogy are required (Hill et al., 2012). PowerPoint is believed to hinder spontaneous classroom discussion and discovery, and instead encourages presenters to simply read the slide content to the class verbatim. On the other hand, some believe that although it is true in most circumstances, it is more of an instructor's deficiency than a flaw of PowerPoint itself (Hopper & Waugh, 2014). The problem of learner passivity also exists in teacher education. The research indicates that despite teacher educators' belief that critical pedagogy should be adopted instead of passivity, they do not always demonstrate this in their own teaching practices; such as lecturing directly from PowerPoint slides (Yilmazel-Sahin, 2009).

Another criticism aimed at PowerPoint is that it can promote an oversimplification of certain content. Although, simplification or abbreviation can be an effective means of information presentation, when over-simplification or abbreviation through bullet pointing is excessive, critical thinking becomes discouraged. In cases of extreme abbreviation, important content and its interconnections, complexity or breadth may be lost on the learners (Hill et al., 2012; Hopper & Waugh, 2014). "The PowerPoint style routinely disrupts, dominates, and trivializes content" (Tufte, 2003, p. 2). Sometimes course content, which is supposed to be covered elaborately and critically, can be inappropriate to transfer into solely the "bullet points" style so often attributed to PowerPoint; even instructors complain that they sometimes feel they have to remove some of the course contents (Craig & Amernic, 2006).

Cooper (2009, p. 133) reported that the worst PowerPoint presenter habits deserving of criticism, in the eyes of cognitive learning theorists, are the following:

- Too many or too few words per slide;
- Use of backgrounds that are inappropriate or irrelevant to the content;
- Too much animation, sound effects, or video;
- Too many slides for the presentation duration;
- Overcomplicated graphics or charts; and,
- Lack of presentation structure and content relationships.

PowerPoint in Education

In the literature, there have been plenty of studies conducted on the effectiveness of PowerPoint, but no consensus of the results. For example, with regard to learning, studies have shown that PowerPoint results in better, less, or no significant learning compared to the traditional whiteboard style of teaching. Considering the beneficial effects of PowerPoint, Nowaczyk, Santos, and Patton (1998) conducted a study in a university context that demonstrated a positive relationship between the perceived effectiveness of PowerPoint and course

achievement. In the same manner, Erdemir (2011) demonstrated that PowerPoint assisted instruction led to higher achievement in Physics lectures than the traditional whiteboard approach. In a more recent study, it was found that students' perceived learning scores to be significantly associated with instructors' usage of PowerPoint (Dean, Lee-Post, & Hapke, 2017).

Studies have also shown the negative effects of PowerPoint on learning. For example, Amare (2006) conducted a study with technical writing students who received instruction based on PowerPoint presentations and those who received the traditional lecture format. It was found that although most students preferred lectures with PowerPoint, the learning performances were better for the students who received traditional lectures. Similarly, El Khoury and Mattar (2012) demonstrated that traditional lectures led to more learning than using PowerPoint presentations. In another study, Wecker (2012) found that slides act as speech suppressors due to the dysfunctional allocation of attention. In a more recent study, medical students were randomly assigned into whiteboard and PowerPoint groups and were then taught the same topic. The study's results showed the whiteboard group exhibited superior learning. Additionally, the majority of the students preferred whiteboard lectures over PowerPoint presentation method of instruction (Bamne & Bamne, 2016).

Some studies found no significant effect of the use of PowerPoint on learning. For instance, Apperson, Laws, and Scepansky (2006) found that although PowerPoint contributed positively to a variety of factors (e.g., structure of the lesson, learning interest, and instructor likeability), achievement was not significantly affected by using PowerPoint. Conducted in a non-classroom field setting, Buchko, Buchko, and Meyer (2012) found that the use of PowerPoint did not have any significant effect on participants' recall of religious sermons. In a more recent study, it was put forth that PowerPoint did not result in greater performance among students compared to those who received traditional instruction (Chou, Chang, & Lu, 2015).

Studies also investigated students' perception of using PowerPoint in the classroom. Most studies found that students preferred PowerPoint-enhanced lectures over pure lecture format (Craig & Amernic, 2006; Levasseur & Sawyer, 2006). This is because students were found to believe that the use of PowerPoint contributes positively to the attitude towards lectures (Nowaczyk et al., 1998; Susskind, 2005, 2008) and classes with PowerPoint were perceived to be more interesting and entertaining (Apperson et al., 2006). Research has also shown that lectures with PowerPoint increases student self-efficacy (Susskind, 2005, 2008). Students believed that PowerPoint made it easier for them to understand course content (Hill et al., 2012; Nowaczyk et al., 1998). Additionally, lectures delivered via PowerPoint were perceived to be more organized, as slides present the key information, placing emphasis on the most important information by summarizing and simplifying the content (Baker, Goodboy, Bowman, & Wright, 2018). Students believe that PowerPoint helps in notetaking during classes (Fritschi, 2008; Susskind, 2005, 2008). PowerPoint slides may also function as course notes for students to study for their exams, although its effect on students' course attendance and performance is mixed (see Worthington & Levasseur, 2015).

However, many of the arguments about PowerPoint are based on anecdotal and speculative studies (Hopper & Waugh, 2014; Kosslyn et al., 2012; Moulton et al., 2017; Savoy et al., 2009). When the literature is examined, it can be seen that the majority of studies about PowerPoint effectiveness adopted media comparison research; comparing lessons that were enhanced with PowerPoint to lessons that adopted the traditional whiteboard lecture approach. However, these studies have certain methodological flaws (Moulton et al., 2017). The question may not be related to whether or not PowerPoint should be used in the classroom, but in how to use it effectively (Jordan & Papp, 2014). In order to gain insight with respect to how instructors use PowerPoint in the classroom, students' perceptions may be analyzed in depth. However, only a few studies have been conducted on this topic (Abdelrahman et al., 2013; Hill et al., 2012; Yilmazel-Sahin, 2009). Examining this issue in the teacher education context may be considered critical, as teacher educators are regarded as the role models for preservice teachers. Their good or weak PowerPoint practices may therefore affect preservice teachers' future teaching practices (Abdelrahman et al., 2013; Polly & Binns, 2018; Savasci Acikalin, 2011; Yilmazel-Sahin, 2009). In light of these issues, the purpose of the current research is to explore preservice teachers' opinions about their instructors' PowerPoint practices and their perceived effect on learning. To this end, the following research questions are posed:

1. What are preservice teachers' opinions about the design and content of PowerPoint slides prepared by their instructors?
2. What are the perceived effects of using PowerPoint in the classes?

Method

This part provides details about the research methodology applied in the current study; the research design, the study's participants, data collection instrument and procedure, and also the method of data analysis conducted.

Research Design

This qualitative study is a type of case study defined by Stake (2000) as "one of the most common ways to do qualitative inquiry" (p. 435), and involves deep understanding and description of the phenomenon or issue to be examined in a study (Creswell, 2007). It is an in-depth study and provides comprehensive understanding of the case under study. More specifically, this is a descriptive case study that aims to describe preservice teachers' points of view about their instructors' use of PowerPoint slides within their classes.

Participants

The participants were selected with convenience sampling method based on the criteria of being available, having volunteered to join the study, and easily accessible to the researchers (Creswell, 2012). Each participant was asked about their experience with PowerPoint slides. All of them stated that they already had experience and were familiar with PowerPoint. A total of 10 preservice teachers (four females, six males) who were studying for a bachelor's degree at a public university in Turkey were selected. All of them were being educated at the same university in the Anatolian region of Turkey. Demographic information about the participants is presented in Table 1.

Table 1. Demographic Information of the Participants

Variable		Frequency	Percentage
Gender			
	Female	4	40
	Male	6	60
Grade Level			
	Sophomore	3	30
	Junior	2	20
	Senior	5	50
Age (years)			
	19	1	10
	20	1	10
	21	1	10
	22	4	40
	23	1	10
	24	1	10
	29	1	10
Discipline			
	Computer Education and Instructional Technology	6	60
	Psychological Counseling and Guidance	3	30
	Primary School Teaching	1	10
Total		10	100

As can be seen in Table 1, their discipline areas varied; with preschool teachers from Computer Education and Instructional Technology (n = 6), Physiological Counseling and Guidance (n = 3), and Primary School Teaching (n = 1) departments. Although from different disciplines, all were from the Faculty of Education, and studying at different levels of their respective bachelor's degree program. Most of them were senior students (n = 5), followed by sophomore students (n = 3), and then junior students (n = 2). Finally, their ages ranged from 19 to 29 years old, with most aged 22 years old.

Data Collection Instruments and the Procedure

The study collected pure qualitative data through a self-developed interview protocol. The interview protocol included seven main questions that were prepared by the two researchers of the study, based on the literature. The interview protocol was designed according to the semi-structured approach. When the interview questions were finalized, the data collection process commenced.

A total of 10 interviews were conducted with the participant preservice teachers. In qualitative research, sampling continues until the data reaches a point of saturation (Glaser & Strauss, 2017; Guest, Bunce, & Johnson, 2006; Morse, 2015; Seale, 1999). This is the point where no "new" data is being revealed, repetition of the data has started and therefore saturation has been reached. At this point, no further interviews are conducted with other participants. The data collection process was completed in a period of two weeks during the 2017-2018 spring semester. The duration of the interviews ranged between eight and 15 minutes. The interviews were conducted singularly and audio recorded after receiving the necessary permission from each of the interviewees. Information pertaining to the participants' identity remained confidential. The participants were treated according to the participating universities' rules on ethical means of research.

Data Analysis

The interviews were first transcribed verbatim, and then analyzed according to the inductive content analysis method using QDA Miner Lite software. The analysis was conducted by the two researchers, together discussing and reaching a consensus about the themes and codes generated. Rather than acting separately, the simultaneous data analysis conducted by the two researchers helped to eliminate disagreement, and indeed enhanced agreement on generating the themes and codes. Hence, any concerns over researcher bias which may have affected the analysis process was assuaged, and consequently the validity of the results were assured. The reliability and validity of the findings were provided with a level of credibility through this approach. The qualitative data helped to provide a deep and meaningful understanding of the issue being studied.

Results

A total of two themes and 12 codes were generated in accordance with the research questions. The coding scheme is presented as Figure 1.

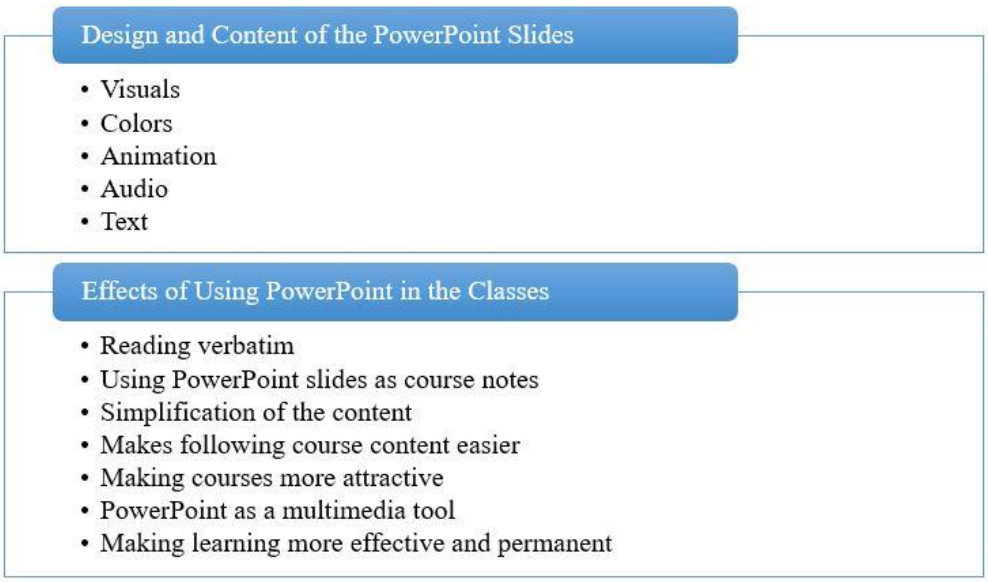

Figure 1. Coding scheme

Two main themes, 12 codes and 16 sub-codes were generated during the analysis process (see Table 2). These were used to answer the two research questions that were examined in this study and which have been explained individually in the following subsections.

Table 2. Summary of the Findings

Themes	Codes	Frequency	Occurrence
Design and content of PowerPoint slides	Visuals		
	• Positive	9	18
	• Negative	3	5
	Colors		
	• Positive	2	3
	• Negative	5	9
	Animation		
	• Negative	2	3
	Audio		
	• Negative	1	1
	Text		
	• Positive	2	2
	• Negative	10	33
Effects of using PowerPoint in the classes	Reading verbatim		
	• Disadvantage	9	12
	Using PowerPoint slides as course notes		
	• Advantage	8	11
	Simplification of the content		
	• Positive	8	17
	• Negative	3	3
	Makes following course content easier		
	• Advantage	5	9
	Making courses more attractive		
	• Advantage	4	5
	PowerPoint as a multimedia tool		
	• Advantage	8	12
	Making learning more effective and permanent		
	• Advantage	5	8

Table 2 presents the themes, codes and sub-codes generated from the data. The results are presented in the descriptive manner; namely, the frequency that refers to the number of cases, and occurrence that refers to repetition of the codes. The results are explained in detail in accordance with the two research questions as follows.

Preservice Teachers' Opinions about the Design and Content of PowerPoint Slides

In regard to first research question, the preservice teachers' insights about the design and content of the PowerPoint slides prepared by their instructors were explored. A summary of the findings is presented in Table 2. In relation to the first research question, a theme named "Design and Content of PowerPoint Slides" yielded five main codes; namely visuals, colors, animation, audio, and text. First, all of the preservice teachers mentioned text inefficiency in PowerPoint slides. For instance, one preservice teacher declared:

> When the slides include too long/much text, then these slides become complex and confusing for us, and learning becomes more difficult as a result. [PT7]

Similarly, another interviewee stated that:

> Long texts do not capture our attention naturally, and there is no fluency in those circumstances...Using too long/much text in the slides is not a good way, it is absolutely incorrect use...Sometimes any part of the topic which can be explained only in three sentences, is explained in six sentences in the slides. Hence, we do not understand the long sentences… [PT6]

Whereas, only two of the participants stated the correct and efficient usage of text. One of them stated that:

> When the font size used in the slides is small, I like it and it draws my attention. [PT10]

Another of the preservice teachers declared that:

> Some font types capture our attention, like certain handwriting styles or the Times New Roman or Arial font types etc. Also, when the font size is set carefully the text can be easily read; I want to listen to that course and presentation much more. I like slides prepared in that way. [PT10]

After the text issue of the slides, almost all of the preservice teachers (n = 9) stated their favor of visuals being included in the PowerPoint slides; whereas, three of them stated the opposite. Some statements from the interviewees favored visuals in the slides, as in the following examples:

> I like and prefer slides in which visuals, images, and graphs are used. [PT7]

> Instead of text, visuals such as images, photographs, or comics capture my attention much more. [PT1]

> When visual materials are used, then learning becomes more permanent. When visual materials are included in the slides, maybe even videos…then those slides become more attractive and entertaining… [PT10]

On the contrary, three of the participants complained about the visual aids used in PowerPoint slides prepared by their instructors. For instance, one of them said:

> Sometimes they [instructors] use unnecessary visual aids, or too many visual aids; and too many visual aids do not serve their purpose. [PT3]

Colors used in slides was another issue revealed in this study. Half of the preservice teachers (n = 5) complained about the colors of the PowerPoint slides. For example, one of them stated that:

> The selection of the colors used in the slides, such as text having been written in red, or blue colors on a black background bores us, strains our eyes, and bothers us. [PT10]

On the other hand, two of the preservice teachers favored certain colors being used; for instance, one said the following on this issue:

> I think transverse colors or colors which are coherent are of importance such as black colored text written on a white background makes for easier reading as it is clearer, which makes the slides better. [PT7]

Finally, in terms of the design and content of the slides, two of the interviewees complained about the use of animation, in addition to one participant's negativity about audio used in slides; declaring that these distracted their attention.

Effects of Using PowerPoint during Classes on Preservice Teachers

The second theme, which concerns the second research question, studied the effects of using PowerPoint in the classroom on preservice teachers and their learning.

The highest percentage belonged to simplification of the content, followed by reading verbatim, PowerPoint as a multimedia tool, then using PowerPoint slides as course notes. At a lesser ratio were the codes of; makes following course content easier, making learning more effective and permanent, and finally making courses more attractive. When looking at the numbers of occurrence, the highest number again was for simplification of the contents. According to the findings retrieved from the 10 interviewees' data, eight of them mentioned simplification of the content as an advantage of PowerPoint slides, whereas three interviewees thought the opposite. The following are some sample statements of the preservice teachers who favored the PowerPoint slides due to their providing simplification of the content.

> Yes, I use the slides and can take notes; also keywords and main phrases used in the slides make it easier to remember the topic and are enough and effective for me. I can remember them while in the exam, and I can find the answer by remembering the main topics, keywords etc. from the slides, and then answer the question and write a full paragraph... Rather than referring to full texts or books, and

> reading from these resources, the PowerPoint slides summarize the topics covered in the class and make learning easier for us. I think this is the main function of the slides. [PT2]

> As an advantage of the slides, they present the topics succinctly, and we can think of PowerPoint slides as a brochure, as they summarize the topics covered in the classes. [PT8]

On the other hand, as previously stated, three interviewees had opposing ideas. For instance, one of them said:

> Topics are not understood completely from the slides, since they cover only a topic's main points. [PT4]

The second and highest rated code under the theme –the effects of using PowerPoint in classrooms on preservice teachers– was reading verbatim. Almost all (n = 9) of the participants mentioned this issue. They frequently complained about their instructors' reading slides out loud word-by-word. As an example, some of the interviewees stated that:

> In fact, some instructors sit on their chair and directly read what is written on the slides, and finish their instruction by just reading directly. [PT3]

> There are some instructors who completely stick to the slides, and they do nothing else, e.g., they do not make eye contact with the students. Or, some will say to the students to study from the slides which they prepared, but offer no other materials or teaching activities. [PT2]

> When teachers stick to the text written on the slides during classes, we get bored and it bothers us. Some instructors explain to us that this is not the correct use of PowerPoint and other slides… However, still some instructors just do it that way. Rather than reading a book, they just read from the slides, just as they are. Then, no difference exists between the two, and the students in the class are troubled. [PT9]

Another code under the theme was using PowerPoint slides as course notes. Of the 10 preservice teachers, eight mentioned this issue as an advantages. Two examples of the preservice teachers' comments follow about the positive effect on their learning when using PowerPoint slides as course notes:

> After the class, we talk about the slides with our classmates... The slides are beneficial for both us as students and the instructors too, and both in-class and out-of-school activities including interaction, communication, and learning. [PT1]

> The slides offer us some benefits, and one of them is using slides as course notes. We take the slides from our instructors and with note-taking; we then use them to study for our courses if we have no course books... It's a positive effect that can be seen in our exam results... We now prefer slides to course books... [PT6]

The other generated code was PowerPoint as a multimedia tool, which was expressed by eight of the preservice teachers. On this issue, the following statements were made by the participants:

> I like slides which include SmartArt, drawings, videos, external audio files, audio recordings, animations, or comics etc., and some themes like in Prezi. Slides can provide us with all these different types of files embedded... [PT9]

> You can show more than one thing at one time in slides like images, WordArt, concept maps, coding or grouping etc., then it is seen as much better for us. [PT4]

With regards to the effects of using PowerPoint in classrooms on preservice teachers, the codes generated from the qualitative data in this study are following course content easier (n = 5), making learning more effective and permanent (n = 5), and making courses more attractive (n = 4).

Discussion and Conclusion

Presentation applications have become an indispensable part of our personal and professional lives, including various types of learning environment (Kosslyn et al., 2012; Moulton et al., 2017). There are many tools available for this purpose; however; PowerPoint is clearly the most frequently used (Garner et al., 2009; Hopper & Waugh, 2014), with one report declaring that 30 million PowerPoint presentations are made each day; that's 1.25 million every hour (Mahin, 2004, as cited in Hill et al., 2012). PowerPoint has become a ubiquitous form of media that has come to dominate learning settings (Hopper & Waugh, 2014).

PowerPoint with its features offers many benefits, plus certain drawbacks at the same time which have attracted some level of criticism (Hill et al., 2012; Hopper & Waugh, 2014). Hence, in order to gain a deeper understanding of PowerPoint slides and their efficiency in the classroom, more research is required, since many studies conducted have focused solely on anecdotal and speculative studies (Hopper & Waugh, 2014; Kosslyn et al., 2012; Moulton et al., 2017; Savoy et al., 2009). However, only a few research studies have been conducted on preservice teachers' perceptions and opinions about their instructors' use of PowerPoint slides in lectures (Yilmazel-Sahin, 2009). For this purpose, the current study aimed to explore preservice teachers' perspectives and opinions about their instructors' use of PowerPoint slides in the classroom in order to gain a deeper understanding and to guide instructors in their continued and future use of this teaching aid.

The study's findings indicated that all of the preservice teachers interviewed criticized text inefficiency; specifically text length on PowerPoint slides prepared and used by their instructors, and as also reported in Cooper's study (2009). This issue has already been critically addressed in the literature, that including too much on-screen text in slides leads to redundancy and violation of the modality principle of CTML (Hill et al., 2012; Yilmazel-Sahin, 2009). Moreover, the segmenting principle of CTML could also be violated in these circumstances due to the use of too much on-screen text in place of dividing between smaller and more meaningful parts (Atkinson & Mayer, 2004). Instructors should take care with regards to this issue in order not to distract their students during classes by presenting too much text on the slides. Instructors need to remember the difference between an article, a course book, and presentation slides; and accordingly not include too much text when creating presentation slides. They should try as much as possible to convert text into meaningful and smaller parts, and then present their content with added multimedia, like visualizing. This study also yielded the importance of visuals, since the interviews indicated that the preservice teachers frequently favored visuals used in slides. When hypermedia like graphics, images, and sounds are used, the instructional message delivered increases, which can subsequently lead to an improvement in learning as it delivers more than one set of information at a time, as Mayer (2009) declared, and provides an alternative delivery mechanism for information through the extended utilization of PowerPoint slides (Savoy et al., 2009).

On the other hand, the current study also revealed that few participants complained about the inclusion of too much animation, audio or video within presentation slides. Similar with the results of the current study, Cooper (2009) also criticized slides having too much animation, audio or video files from the perspective of cognitive learning theory. Yilmazel-Sahin (2009) also found that students complained about excessive exposure to information. Additionally, Fritschi (2008) reported that students found disproportionate levels of material content interfered with their learning. For this reason, instructors should be careful when incorporating multimedia features during the preparation of slides for presentations to their classes.

The current study's findings also revealed the effects of using PowerPoint slides in classes from the perspective of preservice teachers as learners. As advantages; the preservice teachers highlighted issues using PowerPoint slides as course notes, using PowerPoint as a multimedia tool, and the oversimplification of course content.

Considering the use of PowerPoint slides as course notes, a variety of studies have previously demonstrated that PowerPoint slides can function as course notes for students to prepare for their exams (Apperson et al., 2008; Levasseur & Sawyer, 2006; Susskind, 2005). In the current study, the preservice teachers also reported positively about PowerPoint's functionality as lecture materials. On the other hand, providing slides to students may also negatively affect their course attendance and exam scores, although the literature does not arrive at a consensus on this issue (see Worthington & Levasseur, 2015). Nevertheless, instructors should consider this threat in their consideration of providing slides to students for the purpose of being utilized as course notes.

The reported beneficial effect of PowerPoint functioning as multimedia is not surprising, considering the fact that PowerPoint is of course a form of multimedia in itself. It is evident from multimedia research that when text is enhanced with pictures, learning is also enhanced as a result (Mayer, 2009). On the other hand, using more than one media does not always guarantee improved learning. Instructors should apply evidence based on the

principles of multimedia when designing presentation slides. Significantly, improper usage of PowerPoint may in fact be detrimental to learning (Mayer, 2009).

Regarding the positive effects of PowerPoint utilization, simplification of course contents was discussed but no consensus was reached. In the current study, the preservice teachers frequently favored slides due to their having simplified the course content; however, some criticism was mentioned in that slides can cause oversimplification of the content due to excessive abbreviation and through bullet-pointing, which can lead to learning deficiencies. Oversimplification of course content in presentation slides has already been reported in the literature. Craig and Amernic (2006) indicated that course topics are not always appropriate to be presented as bullet points on PowerPoint slides. Instructors may feel a sense of urgency to remove too much content from their slides, but this can result in some important aspects of the content not being adequately covered. Trivialization of course content as a routine of PowerPoint slide preparation (Tufte, 2003), loss of necessary complexity, and discouraging critical thinking (Hill et al., 2012; Hopper & Waugh, 2014) are all potential negative effects from the oversimplification of content in PowerPoint presentations. Therefore, in order not to degrade learning outcomes, one of the most important issues that should be taken into consideration by instructors when preparing their presentation slides for classes is to exercise extreme care in terms of simplifying course content.

Reading verbatim was highlighted by most preservice teachers in the current study as a significant negative effect of PowerPoint presentations. Just reading the text from a slide out loud word by word results in the instructor becoming passive during their lecturing, and thereby hinders spontaneous classroom discussions and interaction. In addition, it may cause dysfunctional allocation of attention (Wecker, 2012), lack of eye contact (Hartnett, Römcke, & Yap, 2003), and increased passivity etc. (Craig & Amernic, 2006; Pauw, 2002). This approach by instructors to presenting slides guides preservice teachers inappropriately and may be considered a negative modeling example for their training as future educators themselves (Yilmazel-Sahin, 2009). The improper use of slides by instructors and their deficiency as a teaching practice (Hopper & Waugh, 2014) is significant to an instructor's teaching style and behavior, as well as their teaching methods and strategies during lectures. It should be noted that courses should be designed interactively in order to facilitate active learning and critical thinking.

To summarize, from the preservice teachers' perspective, PowerPoint slides prepared and used by instructors in their classes have both advantages and shortcomings. Similarly, the design and content of PowerPoint slides presented diverse insights. In order to gain considerably more benefit from PowerPoint slides during teaching, instructors should take note of the issues revealed and highlighted in this study. Since instructors are the natural guides and role models for preservice teachers, in addition to focusing on learning outcomes, instructors should be careful not to negatively affect future teachers during their training (Polly & Binns, 2018). As a concluding remark, it should be noted that inefficiency of PowerPoint slides can result from their improper usage by instructors, based on a lack of basic technical skills in using the software, or a lack of information on how to prepare effective course materials embedded with multimedia etc.

A few limitations exist within the current study. First, although qualitative research may provide a better and deeper understanding of the issue being examined, the current study may be limited with regard to generalization of the findings to a wider population to the same degree of certainty as with quantitative studies. Other limitations may be related to having reached inconsistent conclusions (Barbour, 2001), whilst another issue may be the limited duration of the interviews, which were relatively short at between eight and 15 minutes each. Finally, as with almost all qualitative studies, their uniqueness makes them difficult to replicate.

Further research could focus on different disciplines and access an increased number of participants in order to strengthen the generalization of the results to a wider population. Conducting similar research with preservice teachers within a longitudinal research, such as while being educated in the first year of their program, at the mid-point, and again in their final year, and then making a comparison among their perspectives on being exposed to PowerPoint slides on a gradually increasing scale, could provide better and deeper understanding, and may also reveal different and more insight as to the issues in this area.

References

Abdelrahman, L. A. M., Attaran, M., & Hai-Leng, C. (2013). What does PowerPoint mean to you? A Phenomenological study. *Procedia-Social and Behavioral Sciences*, *103*, 1319-1326. https://doi.org/10.1016/j.sbspro.2013.10.462

Amare, N. (2006). To slideware or not to slideware: Students' experiences with PowerPoint vs. lecture. *Journal of Technical Writing and Communication*, *36*(3), 297-308. https://doi.org/10.2190/03gx-f1hw-vw5m-7dar

Apperson, J. M., Laws, E. L., & Scepansky, J. A. (2006). The impact of presentation graphics on students' experience in the classroom. *Computers and Education*, *47*(1), 116-126. https://doi.org/10.1016/j.compedu.2004.09.003

Apperson, J. M., Laws, E. L., & Scepansky, J. A. (2008). An assessment of student preferences for PowerPoint presentation structure in undergraduate courses. *Computers and Education*, *50*(1), 148-153. https://doi.org/10.1016/j.compedu.2006.04.003

Atkinson, C., & Mayer, R. E. (2004). Five ways to reduce PowerPoint overload. Retrieved from https://www.indezine.com/stuff/atkinsonmaye.pdf

Baker, J. P., Goodboy, A. K., Bowman, N. D., & Wright, A. A. (2018). Does teaching with PowerPoint increase students' learning? A meta-analysis. *Computers & Education*, *126*, 376-387. https://doi.org/10.1016/j.compedu.2018.08.003

Bamne, S., & Bamne, A. (2016). Comparative study of chalkboard teaching over PowerPoint teaching as a teaching tool in undergraduate medical teaching. *International Journal of Medical Science and Public Health*, *5*(12), 2585-2587. doi: 10.5455/ijmsph.2016.01072016532

Barbour, R. S. (2001). The role of qualitative research in broadening the 'evidence base' for clinical practice. *Journal of Evaluation in Clinical Practice*, *6*(2), 155-163. https://doi.org/10.1046/j.1365-2753.2000.00213.x

Buchko, A. A., Buchko, K. J., & Meyer, J. M. (2012). Is there power in PowerPoint? A field test of the efficacy of PowerPoint on memory and recall of religious sermons. *Computers in Human Behavior*, *28*(2), 688-695. https://doi.org/10.1016/j.chb.2011.11.016

Chou, P. N., Chang, C.-C., & Lu, P. F. (2015). Prezi versus PowerPoint: The effects of varied digital presentation tools on students' learning performance. *Computers & Education*, *91*, 73-82. https://doi.org/10.1016/j.compedu.2015.10.020

Cooper, E. (2009). Overloading on slides: Cognitive load theory and Microsoft's slide program PowerPoint. *AACE Journal*, *17*(2), 127-135.

Craig, R. J., & Amernic, J. H. (2006). PowerPoint presentation technology and the dynamics of teaching. *Innovative Higher Education*, *31*(3), 147-160. https://doi.org/10.1007/s10755-006-9017-5

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.) Sage Publications.

Creswell. J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research*. Boston.

Dean, T., Lee-Post, A., & Hapke, H. (2017). Universal design for learning in teaching large lecture classes. *Journal of Marketing Education*, *39*(1), 5-16. https://doi.org/10.1177/0273475316662104

El Khoury, R. M., & Mattar, D. M. (2012). PowerPoint in accounting classrooms: Constructive or destructive? *International Journal of Business and Social Science*, *3*(10), 240-259.

Erdemir, N. (2011). The effect of PowerPoint and traditional lectures on students' achievement in physics. *Journal of Turkish Science Education*, *8*(3), 176-189.

Fritschi, J. (2008). *Examining pre-service instructors' use of PowerPoint based on pre-service students' perceptions: A mixed methods study* (Unpublished Doctoral Dissertation). The University of Alabama at Birmingham. Birmingham, AL.

Garner, J. K., Alley, M., Gaudelli, A. F., & Zappe, S. E. (2009). Common use of PowerPoint versus the assertion-evidence structure: A cognitive psychology perspective. *Technical Communication*, *56*(4), 331-345.

Glaser, B. G., & Strauss, A. L. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, *18*(1), 59-82. https://doi.org/10.1177/1525822X05279903

Hartnett, N., Römcke, J., & Yap, C. (2003). Recognizing the importance of instruction style to students' performance: Some observations from laboratory research – A research note. *Accounting Education*, *12*(3), 313-331. https://doi.org/10.1080/0963928032000095446

Hertz, B., van Woerkum, C., & Kerkhof, P. (2015). Why do scholars use PowerPoint the way they do? *Business Communication Quarterly*, *78*(3), 273-291. https://doi.org/10.1177/2329490615589171

Hill, A., Arford, T., Lubitow, A., & Smollin, L. M. (2012). "I'm ambivalent about it": The dilemmas of PowerPoint. *Teaching Sociology*, *40*(3), 242-256. https://doi.org/10.1177/0092055X12444071

Hopper, K. B., & Waugh, J. B. (2014). PowerPoint: An overused technology deserving of criticism, but Indispensable. *Educational Technology*, *54*(5), 29-34.

Jordan, L. A., & Papp, R. (2014). PowerPoint®: It's not "yes" or "no" – it's "when" and "how". *Research in Higher Education Journal*, *22*, 1-11.

Kosslyn, S. M., Kievit, R. A., Russell, A. G., & Shephard, J. M. (2012). PowerPoint® presentation flaws and failures: A psychological analysis. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2012.00230

Levasseur, D. G., & Sawyer, K. (2006). Pedagogy meets PowerPoint: A research review of the effects of computer-generated slides in the classroom. *Review of Communication*, *6*(1-2), 101-123. https://doi.org/10.1080/15358590600763383

Mayer, R. E. (2009). *Multimedia learning* (2nd ed.). New York, USA: Cambridge University Press.

Morse, J. M. (2015). "Data were saturated …" *Qualitative Health Research*, *25*(5), 587-588. https://doi.org/10.1177/1049732315576699

Moulton, S. T., Türkay, S., & Kosslyn, S. M. (2017). Does a presentation's medium affect its message? PowerPoint, Prezi, and oral presentations. *PloS One*, *12*(7), e0178774. https://doi.org/10.1371/journal.pone.0186673

Nouri, H., & Shahid, A. (2005). The effect of PowerPoint presentations on student learning and attitudes. *Global Perspectives on Accounting Education*, *2*, 53-73.

Nowaczyk, R. H., Santos, L. T., & Patton, C. (1998). Student perception of multimedia in the undergraduate classroom. *International Journal of Instructional Media*, *25*(4), 367-368.

Paas, F., & Sweller, J. (2014). Implications of cognitive load theory for multimedia learning. In R. E. Mayer (Ed.), *The Cambridge handbook of multimedia learning* (pp. 27-42). New York, USA: Cambridge University Press.

Paivio, A. (1986). *Mental representations: A dual coding approach*. Oxford, UK: Oxford University Press.

Parker, I. (2001, May 28). Absolute PowerPoint. *The New Yorker*. Retrieved from http://www.robertgaskins.com/powerpoint-history/documents/parker-absolute-powerpoint-new-yorker-2001-may-28.pdf

Pauw, A. P. (2002). Discoveries and dangers in teaching theology with PowerPoint. *Teaching Theology and Religion*, *5*(1), 39-41. https://doi.org/10.1111/1467-9647.00116

Polly, D., & Binns, I. (2018). Elementary education candidates' integration of technology in Science units. *Contemporary Issues in Technology and Teacher Education*, *18*(4), 631-647.

Reedy, G. B. (2008). PowerPoint, interactive whiteboards, and the visual culture of technology in schools. *Technology, Pedagogy and Education*, *17*(2), 143-162. https://doi.org/10.1080/14759390802098623

Savasci Acikalin, F. (2011). Why Turkish pre-service teachers prefer to see PowerPoint presentations in their classes. *Turkish Online Journal of Educational Technology-TOJET*, *10*(3), 340-347.

Savoy, A., Proctor, R. W., & Salvendy, G. (2009). Information retention from PowerPoint and traditional lectures. *Computers & Education*, *52*(4), 858-867. https://doi.org/10.1016/j.compedu.2008.12.005

Seale, C. (1999). *The quality in qualitative research*. London: Sage.

Stake, R. E. (2000). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 435-453). Thousand Oaks: Sage.

Susskind, J. E. (2005). PowerPoint's power in the classroom: Enhancing students' self-efficacy and attitudes. *Computers and Education*, *45*(2), 203-215. https://doi.org/10.1016/j.compedu.2004.07.005

Susskind, J. E. (2008). Limits of PowerPoint's power: Enhancing students' self-efficacy and attitudes but not their behavior. *Computers and Education*, *50*(4), 1228-1239.

Tufte, E. R. (2003). PowerPoint is evil. *Wired*, *11*(09). Retrieved from https://www.wired.com/2003/09/ppt2/

Wecker, C. (2012). Slide presentations as speech suppressors: When and why learners miss oral information. *Computers & Education*, *59*(2), 260-273. https://doi.org/10.1016/j.compedu.2012.01.013

Weiner, B. (1990). History of motivational research in education. *Journal of Educational Psychology*, *82*(4), 616-622. http://dx.doi.org/10.1037/0022-0663.82.4.616

Worthington, D. L., & Levasseur, D. G. (2015). To provide or not to provide course PowerPoint slides? The impact of instructor-provided slides upon student attendance and performance. *Computers and Education*, *85*, 14-22. https://doi.org/10.1016/j.compedu.2015.02.002

Yilmazel-Sahin, Y. (2009). A comparison of graduate and undergraduate teacher education students' perceptions of their instructors' use of Microsoft PowerPoint. *Technology, Pedagogy and Education*, *18*(3), 361-380. http://dx.doi.org/10.1080/14759390903335866

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Wait-time in Material and Classroom Context Modes*

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Abstract

This study aims to investigate wait-time, more specifically student reaction wait-time, in high school English as a foreign language classrooms with specific regard to two classroom micro-context modes (the classroom context mode and material mode). The data was collected via audio-recordings of classroom interaction in its natural context. The audio-recordings were analyzed using the principles of Conversation Analysis. The analysis of the data demonstrated that the effectiveness of student reaction wait-time is highly related to the current pedagogical goal; if the purpose is to increase learners' involvement in classroom discourse or if it requires analytical thinking, an extended wait-time of three to five seconds is likely to enhance the learning opportunity. However, as a social process, opportunities for learning are likely to be missed if the purpose is to monitor understanding or display answers which are explicitly given in the material that is being used. In this sense, this study has implications for studies on wait-time, foreign language classroom interaction, teachers' interactional competence, and foreign language learning contexts in general.

Key words: Wait-time, Conversation Analysis, classrooms modes, interactional resources.

Introduction

To facilitate the L2 learning process, it is essential for teachers to enrich their knowledge regarding how it is learnt. The role of teachers in classrooms is critical to the learning process, as they can construct or obstruct learning potential through their actions. Allwright (1984) and Walsh (2002) argued that learning opportunity is highly determined by teachers' language use in the classroom. To develop teachers' talk to create effective classroom interaction which leads to learning, Walsh (2006) coined the term classroom interactional competence (CIC). CIC is defined as "teachers' and learners' ability to use interaction as a tool for mediating and assisting learning" (Walsh, 2006, 132). CIC is based on the premise that language learning is mediated and occurs through interaction. Ellis (2000, 209) argued that "learning arises not through interaction, but in interaction". Then, it can be argued that teachers should improve their CIC to create as many learning opportunities as possible as it helps teachers gain a better understanding of classroom interaction.

Walsh (2011) classified classroom context into four micro-contexts called modes: the classroom context mode, managerial mode, skill and system mode, and material mode, and then, illustrated the appropriate pedagogical goals and the most suitable interactional features (interactures) for each mode. Walsh's work can broaden teachers' knowledge of classroom interaction, enabling them to improve their reactions to language choices in each mode which has its own characteristics.

This research focuses on the interactional feature of wait-time and, more specifically, student reaction wait-time, which refers to the pauses that are preceded by teacher talk and followed by student talk. The term wait-time, coined by Rowe (1986), refers to the pauses that separate teachers' and students' turns. To elaborate and contribute to the studies on wait-time and CIC, this research aims to investigate wait-time in foreign language

* This study is partially based on the dissertation entitled *Wait-time and Learning Opportunity: A Critical Study of Saudi English Language Classes* by Alsaadi (2015) which was submitted to the University of Newcastle upon Tyne, the United Kingdom.

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classes. The main objectives are to examine whether wait-time is (i) applied in Saudi English classes and (ii) if it enhances opportunities for learning. Audio-recordings from two Saudi English classrooms were collected and analyzed based on the principles of CA, which is "the study of recorded, naturally occurring talk-in-interaction" (Hutchby & Wooffitt, 1998, 14). According to Kasper, "CA has the capacity to examine in detail how opportunities for L2 learning arise in interactional activities" (2006, 83).

Wait-time in Saudi English classes is worthy of investigation for several reasons. First, wait-time is not widely researched; it was initially researched in the 1970s and 1980s, but it has only started to be studied after the rise of the Conversation Analytic framework (e.g. Maroni, 2011). Secondly, the majority of studies conducted on wait-time were based on subjects other than language learning. The only complete studies which examined wait-time in L2 classes are Yaqubi and Rokni (2012), Walsh (2006), and Walsh and Li (2013) who examined the effectiveness of wait-time in second language (L2) classrooms. Moreover, this study, unlike most previous research, is qualitative; the researchers utilized an emic perspective of classroom talk in interaction thanks to the use of CAAccordingly, this research will enrich and fill a gap in the literature. However, it would be impossible to investigate students' reaction wait-time in all classroom micro-contexts in the scope of this study; therefore, it focuses on two micro-contexts, in keeping with Walsh (2006): the classroom context mode and material mode.

Wait-time and its Relevance to L2 classrooms

In her attempt to increase learning opportunities and improve the interactional pattern of most classroom discourse, Rowe (1974a, 1978) studied the nature of elementary science classes over a six-year period to ascertain the core reason for such predictable classroom interaction (teacher initiation (I), student response (R), teacher feedback (F)). After analyzing 300 tape recordings, she found that the majority of the classes shared a similar characteristic: their pace was mostly very rapid, with only short pauses of less than three seconds after the teacher's question and the student's response. For empirical studies, she coined the term 'wait-time', which refers to the pause separating two speakers. Rowe and other researchers, such as Tobin (1980) and Beyerbach (1988a), highlighted the effectiveness of wait-time in student and teacher behavior and in the nature of classroom interaction.

Wait-time refers to the pauses between speakers' utterances. Claiming that Rowe's definitions of wait-time needed to be redefined, Lake (1973) categorized them in terms of the person who controls the duration of the pause. He also classified wait-time into two types: (i) student wait-time and (ii) teacher wait-time. Lake's (1973) conceptualization was supported and developed by Fowler (1975), who divided wait-time into four types: (i) teacher reaction wait-time, (ii) student reaction wait-time, (iii) teacher-initiated wait-time, and (iv) student-initiated wait-time.
Rowe's, Lake's, and Fowler's definitions of wait-time are presented diagrammatically in Figure 1 below, which is taken from Tobin and Capie (1983).

	Rowe's defitions of wait-time		
Wait-time I:	Teacher question	pause	Teacher or student talk
Wait-time II:	Student response	pause	Teacher comment or question
	Lake's defitions of wait-time		
Teacher wait-time:			
Example 1:	Student talk	pause	Teacher talk
Example 2:	Teacher talk	pause	Teacher talk
Student wait-time			
Example 1:	Teacher talk	pause	Student talk
Example 2:	Student talk	pause	Student talk
	Fowler's defitions of wait-time		
Teacher reaction wait-time			
Example:	Student talk	pause	Teacher talk
Student reaction wait-time			
Example:	Teacher talk	pause	Student talk
Teacher-initiated wait-time			
Example:	Student talk	pause	Student talk
Student-initiated wait-time			
Example:	Teacher talk	pause	Teacher talk

Figure 1: Definitions of Wait-time

In a wait-time study, after close analysis of several hundred science classes, Rowe (1974a, 1974b) noticed that the nature of classroom interaction is likely to develop if the duration of the pause following a question is three seconds or longer. Therefore, based on her research, three seconds is considered as an extended wait-time. She suggested that the primary reason for pausing for at least three seconds is to permit a minimum but adequate amount of time for students to think of possible answers. Rowe's findings are also supported by some other studies (Tobin, 1980; Swift & Gooding, 1983).

Rowe (1986) illustrated that the majority of classes do not have extended wait-time. Typically, they react after a one-second pause if the question has not been answered, and this reduces learners' involvement. Swift and Gooding (1983) conducted a study on a group of 40 teachers, and the results were similar to Rowe's finding.
Several factors influence teachers' avoidance of wait-time implementation in the classroom. According to Beyerbach (1988b) and White and Lightbown (1984), among teachers' most shared reasons for not implementing extended wait-time is time pressure. Most teachers argue that pauses are considerably time-consuming; consequently, the pace of classroom discourse is likely to slow down. As a result, it is difficult to cover the entire curriculum in the given period. Another possible reason for this avoidance is that extended pauses might create an uncomfortable environment for teachers and students. Lack of training can easily create a stressful environment for teachers (Honea, 1982). Tsui (1996) noted that silence in the classroom may increase students' anxiety, especially if they do not know the answers to the teachers' questions. In a similar study, White and Lightbown's study (1984) indicated that teachers are hesitant to give extended wait-time, as this negatively affects students' participation and can cause boredom among students.

In traditional classes, it is believed that teachers should control most classroom discourse. Extended wait-time implementation can create a balance between the teacher's and students' talk (this will be discussed in more detail later). This is supported by Ellis (1993), who claims that many teachers rely on display questions (for which there is only one possible correct answer) to avoid a slow-paced lesson and to maintain control of the classroom. Referential questions, for which there are various correct responses, are typically avoided because they can lead to learner-centered discussion.

It was discovered in 1975 by Sinclair and Coulthard that there are shared characteristics among virtually all forms of classroom interaction. After analyzing hundreds of lessons, they observed that classroom interaction adheres to specific interactional patterns (IRF) which are tightly controlled by the teacher. The 'I' stands for 'initiation', which is a move that is typically performed by the teacher. The teacher's initiation requires a reaction from the students, who always react in the form of a 'response' (R) move. In the 'feedback' (F) move, the teacher usually reflects on the student's response in the form of feedback by shaping the response, requesting clarification or elaboration, or providing an acknowledgement. According to Cazden (2001) and Wells (1999), the IRF exchange accounts for 70% of classroom interaction. Although the IRF pattern is underestimated by some researchers, (Wood, 1992; Nystrand, 1997; Van Lier, 2000; Clifton, 2006), others highlight its advantages in classroom language learning (Mercer, 1992; Hall, 1998; Wells, 1999; Nasaaji & Wells, 2000). According to Wells (1999, 169), the "triadic dialogue is neither good nor bad". The three-part exchange can either create or hinder learning potential according to teachers' language use and the purpose for which it is used.

According to Fowler (1975), Winterton (1977), Honea (1982), Knickerbocker (1984) and Walsh (2006), wait-time is an effective technique for reducing the predictable pattern of classroom interaction (IRF) and creating successful interaction. Wait-time implementation helps teachers to develop collaborative learning, in which learners are encouraged to actively participate in classroom discussion (Waring, 2009). Alexander (2004) extended the influence of wait-time to teaching, arguing that wait-time can lead to dialogic teaching, which, in turn, cannot be practiced unless students are given sufficient time. He argued that if students are provided with sufficient pauses, classroom talk is likely to be reciprocal in that teachers and students will listen and support each other, namely in regard to constructing meaning. This gives way to space for interaction and thus learning, which is likely to improve L2 learning (Atar & Seedhouse, 2018; Walsh, 2011).

Effects of Wait-time on Teachers' Actions

Previous research that investigated wait-time and teachers' behavior found that the increase in wait-time is accompanied by several desirable changes that encourage learners to participate in discussion. Wait-time implementation is believed to help teachers to effectively manage classroom discourse to increase learners' involvement in discussion. Teachers use a number of techniques, such as fewer student interruptions and redirecting questions to other students if they are not answered. In an early study, Fowler (1975), Tobin (1986)

and Walsh (2006) reported that students are more likely to take extended turns without being interrupted if they are provided sufficient periods of silence. With regard to redirecting questions, Barnette et al. (1995) found that teachers who give extended wait-time are likely to offer opportunities for the whole class to provide responses through repeating and redirecting the questions to other students or the whole class.

Another effective technique resulting from wait-time implementation is modification in questioning. A sizeable body of research has investigated the relationship between wait-time and teachers' questioning style. In a typical classroom, teachers tend to ask display questions, if wait-time is less than three seconds (Swift & Gooding, 1983; DeTure & Miller, 1985; Barnette et al., 1995). Rice (1977), Fagan et al. (1981), and Tobin (1986) illustrated that teachers are more likely to ask more high-level cognitive questions if extended wait-time is implemented. According to Swift and Gooding (1983), there is more frequent use of evaluative questions after extended wait-time. Teacher probing, such as clarification requests and elaboration questions, is also expected to be used after a pause of two-three seconds or more (Atar, 2016; Atar & Seedhouse, 2018; Barnette, 1995). Such a considerable development in questioning technique is likely to increase student talk and, in turn, decrease teacher talk (Tobin, 1980; Gooding et al., 1983; Swift & Gooding, 1983; Tobin, 1986).

The Effects of Wait-time on Students' Actions

A close examination of the relevant literature reveals that wait-time practice has a positive impact on student behavior which can be summarized as follows: (i) a significant change in the traditional role of students as passive learners, (ii) students' development of reflective thinking, and (iii) an improvement in student psychology, i.e. confidence and anxiety.

Unlike interaction in the teacher-led classroom, learners are less restricted regarding their moves in the classroom when wait-time is implemented. The predictable pattern of interaction (IRF) is likely to change, as students who are given extended wait-time are more likely to voluntarily participate in the discourse even if the teacher does not elicit responses (Rowe, 1986; Swift & Gooding, 1983). There are opportunities for students to hold the floor and be self-selected, unlike in the case of triadic dialogues, in which teachers mostly allocate turns to students. When students take turns after having extended thinking time in which to process the question, think of possible answers, and formulate their responses, they have greater opportunities to have extended turns. This is supported by several studies (Swift & Gooding, 1983; Tobin & Capie, 1983; Gooding et al., 1985; Rowe, 1986; Stahl, 1994; Tsui, 1996; Cullen, 1998; Walsh, 2002; Walsh, 2006). The most common sequence of classroom discourse pattern (IRF) is likely to be developed as students can perform different moves in classroom discourse (Rowe, 1986); they may not only have the opportunity to perform the 'R' move but can also initiate a turn. Therefore, the repeated structure of classroom discourse is likely to change due to the various moves by the students.

A study conducted by Atwood (1991) in science education concluded that increased wait-time can stimulate reflective thinking and can, therefore, lead to greater student involvement. During a pause of a few seconds, there is an opportunity for students to undertake some sort of critical analysis before providing an answer. Consequently, the number of unanswered questions is likely to decrease. Such reflective thinking has a significant impact on students' participation. Nunan (1991), Swain (1995), and Walsh (2002) proposed that the quality of students' contribution tends to be higher when using extended wait-time. Interestingly, previous researchers have noticed an improvement in not only the quality but also the quantity of responses. For instance, Nunan (1991), Stahl (1994), Barnette et al. (1995) and Walsh (2002) observed that the extent of students' contribution is a variable that is affected by the amount of wait-time.

Extended wait-time is believed to be an essential factor that has a direct effect on students' confidence. According to Rowe (1986), there is a relationship between wait-time and confidence. Once planning time is provided before soliciting a response, learners' willingness to communicate is likely to increase due to an increase in their confidence and self-esteem (Zarrinabadi, 2014). There is usually a correlation between confidence and anxiety; therefore, anxiety in the classroom is likely to decrease thanks to an increase in students' confidence. Mark (2011) stated that the more extended wait-time is offered in classrooms, the less anxious the students will be and vice versa. These findings are contradicted by Tsui (1996), who argued that pauses in the classroom could result in increased student anxiety. Mark's finding is supported by other researchers, who have argued that wait-time implementation leads to an increase in student participation. Students' participation is unlikely to increase if they are anxious. However, there can be some degree of balance between the two findings; extended pauses may increase students' anxiety if they serve no function, as in display questions. The reverse is true, as students need private thinking time after referential questions.

Extended wait-time and Classroom Modes

Extended wait-time does not necessarily create an interactional space for learning, as the creation of successful interaction is context specific. Teachers are highly involved in moment by moment decision-making, whether to implement extended wait-time or to align with pedagogical purpose considering language use (Bailey, 1996). Walsh (2011) proposed that the classroom context comprises a series of micro-contexts, each of which usually has a specific pedagogical goal which is accomplished by certain language use. Walsh (2006) classified context into four micro-contexts (managerial mode, material mode, skill and system mode, and classroom context mode), each of which has its own distinctive features. Using the words of Walsh (2006, 65), "each L2 classroom mode has its own distinctive fingerprint, comprising pedagogic and linguistic features". A brief description of the material mode and the classroom context mode and their relationship to wait-time is presented below (for further information on classroom modes, please see Walsh, 2011).

The main purpose of the material mode is to provide students with an opportunity to practice language related to specific material. Students are, therefore, afforded little interactional space in terms of topic management and turn taking. As topic management is entirely determined by the activity at hand, the space for interaction may vary: "learners may be afforded more or less interactional space according to the type of activity" (Walsh, 2006, 70). In terms of wait-time in the material mode, wait-time varies according to the level of question. For instance, if the pedagogical goal is to display answers which are clearly stated in the material, extended pauses are not necessary because students are urged to recall an information in the material. Conversely, wait-time is not as limited if the goal is to involve learners in a reflective or analytical thinking.

The classroom context mode, on the other hand, pays little attention to form, as the main pedagogical goal is to promote fluency. Similar to 'meaning and fluency micro-context', which is a micro-context identified by Seedhouse (2004), the teacher's aim is to maximize interaction in classroom discourse by giving learners more interactional space. To accomplish this aim, teachers usually ask referential questions, which is one interacture of this mode (Walsh 2006), to provide as many students as possible with an opportunity to participate and take extended turns. Before taking extended turns, extended wait-time should be required for students to respond appropriately to higher-level cognitive questions (Tobin, 1983). Tobin and Capie (1983) highlighted the influence of wait-time after high-level cognitive questions regarding students' involvement; the more extended and uninterrupted the period of silence that is afforded to students after high-level cognitive questions, such as referential questions, the more students' participation in classroom discourse is likely to increase. To enable learners to take extended turns and express themselves clearly, clarification requests are critical in the classroom context mode (Atar & Seedhouse, 2018). Therefore, turn taking and topic management are less tightly structured due to the pedagogical goal. Participants are likely to initiate discussion without being nominated by the teacher due to referential questions and wait-time.

Methodology

Research Questions

The aim of this study is to examine the use of wait-time in Saudi English language classes in two modes (material mode and classroom context mode). The research question is:

What are the effects of extended wait-time on learning opportunities with regard to the two modes (material mode and classroom context mode)?

This research aims to enable a deeper understanding of the English Saudi classroom discourse; therefore, the qualitative approach was deemed to be more suitable as it is suitable for investigating meaning, perception, attitude, and understandings through observation and case studies (Burnett, 2009).

Data Collection and Data Analysis

The goal of this study is to present the characteristics of an action (wait time) in its naturalistic environment. Accordingly, CA was chosen for data analysis as its primary focus is on non-experimental naturally occurring data without considering character and setting (Ten Have, 2007).

The participant teachers work at a high school as non-native English language teachers and have a low level of teaching experience. Regarding classroom context, the two classes each had 15 female students. The level of proficiency of most students was quite low (CEFR A1 – A2) especially in regard to speaking (Due to the word limit, this part was kept short. Please see Alsaadi, 2015 for more details on the sample).

The data for this study was obtained from classroom audio-recordings. The method used to collect the data was carefully chosen to meet the study's aim. Each volunteer teacher was asked to make four 45-minute audio recordings of her lessons over a maximum of one month. The period given to the teachers to record the four lessons is quite long owing to the aim to create a comfortable situation and to reduce the observer's paradox for the teachers and students. According to Dale and Vinson (2013), "the observer's paradox is the notion that intervention or measurement by an observer can directly impact (or coordinate with) the behavior of the system being studied". Having established a collection on wait-time instances, two, out of eight, lessons were actively analyzed and used in this study.

The recordings were analyzed adopting a Conversation Analytic approach. CA is a naturalistic approach whose primary aim is to observe, describe, analyses and understand talk as a basic component of human social behavior (Sidnell, 2010). Therefore, transcribing the classroom audio-recordings was essential to document various repeated actions in the interaction. The transcription conventions derived from the work of Atkinson and Heritage (1984) (see appendix A) were used.

Analysis and Findings

The following extracts from the data are selected and analyzed to illustrate whether (i) extended wait-time is applied in Saudi English classes and (ii) whether the use of extended wait-time in the classroom context and material modes construct or obstruct learning opportunities in classroom interaction.

Classroom Context Mode

The extracts below are taken from the classroom context mode. In Extract 1, the task goal was to elicit student responses. The following discussion was about the worst movie students had ever seen.

Extract 1

1	T:	what is the ↑worst (.) tv film (.) you have ever seen (.) the worst
2		one أسوأ فلم تشفتوه((the worst film you have ever seen))
3	LL:	umm
4		3.6
5	LL:	(unclear voice)
6	L:	(barbie) in: the school=
7	T:	= yeah (.) >are you gonna look[a- <
8	L:	°[end of the world°
9	T:	umm (.) ↓end of the ↑ world umm [°yeah°
10	L:	↑ [i don't think so?
11	T:	yeah (0.9)

The teacher in this extract asks the entire class a referential question: 'What is the worst TV film you have ever seen?' This is done using a natural pace and a clear tone, after which she repeats the key phrase—'the worst one'—using an emphatic tone. For further clarification, a code-switching is utilized into the students' mother tongue. After an extended pause (3.6 seconds) in line 4, various students take the floor and provide an answer, which results in an overlap among the learners and, eventually, an unclear voice in line 5. Through rising her intonation, a student manages to hold the floor and provides the name of a movie that she does not like (line 6). The teacher acknowledges the student's response with 'yeah'. Then, another learner self-selects and overlaps with the teacher and calls out a movie titled 'End of the World', which is then echoed by the teacher. Due to the teacher's hesitation in line 9 ('umm'), it seems that it is difficult for her to agree with the student, although she eventually says '°yeah°'. The teacher takes a neutral position by softly uttering '°yeah°'. Another participant initiates a discussion in line 10 to challenge the previous classmate's response. The student's contribution 'I do not think so' overlaps with the teacher's turn and is relatively short and she does not elaborate on her response, nor is she asked by the teacher to do so. The latter merely confirms the student's answer by saying 'yeah'. The discourse from lines 6 to 10 is incredibly fast due to overlaps and latches, giving the students no opportunity to elaborate on their responses. The teacher simply acknowledges each response given by the learners, which also may have had a negative impact on their ability to elaborate on their contribution. Using other resources such as type specific questions or other-initiated repairs (Atar & Seedhouse, 2018) and allocating longer wait-times could have led to more elaboration.

In this extract, the use of extended pauses seems to contribute to the increase in participation as it is aligned with pedagogical purpose. To maximize learners' involvement, the teacher asks a referential question and then gives sufficient wait-time, which the students take advantage of due to the positive changes occurring in the classroom interaction. Wait-time practice is an effective teaching technique, as it increases the number of responses as seen by the self-initiated turns and overlaps (lines 8 and 10). Therefore, IRF exchange is reduced via an increase in learners' contributions.

Extract 2 below also demonstrates wait-time in classroom context mode. In this context, the teacher organizes a discussion to get students to talk about someone who live and study/work in two different cities.

Extract 2

1	T:	but its ↑so cold in the winter (.), ok ameenah? (0.5)
2	L1:	my ↑ brother .hh=
3	T:	=yeah=
4	L1:	=he lives in::: makkah (.) but no- origin- ↑ now he is in umm
5		MALAYSIA (0.3) work and study
6	T:	ok so he works and studies >in malaysia< (.) wha- what about
7		i ↑ now i need to know about this (.) ,beca:::use .hh ↑we
8		usually hear about people lives studies in america what
9		abou- what about it (.) does he LIKE IT (0.4) yes ameenah?
10	L1:	°yes he like it°=

11	T:	so he ! likes it there
12	L1:	y:::es
13	T:	HOW is the weather::: ? (.) HOW is the people (0.6) ?
14	L1:	.hh umm the people is::: lovely friendly [umm]
15	T:	>↑[ok] an- the weather<
16	L:	the weather is:: [nice] .hh
17	T:	↑ [they say]
18	L1:	↑ [always] rain always

We enter the discussion when the teacher nominates Ameenah to respond to her question after reflecting on the previous contribution. After a mini pause (0.5 seconds), Ameenah begins her contribution with 'my ↑ brother .hh='; when she takes a breath (.hh), this indicates that she has not yet finished her response. The teacher, however, speaks immediately, taking a short turn ('yeah'). The teacher may not be claiming for a turn but rather showing active listenership and encouraging Ameenah to complete her turn. According to Van Lier (1988), minimal post expansions such as 'yeah' and 'uh-huh' serve several functions, including showing involvement and understanding of the discourse, and maintaining the flow of the interaction. Ameenah latches with the teacher and takes a long turn in line 4. She has difficulty formulating her response, as she cuts off two words in the middle of her response ('no-' and 'origin'), and produces a grammatically correct sentence. The teacher accepts Ameenah's contribution ('ok') and indirectly corrects the mistakes: 'works' and 'studies'.

It is unusual for the teacher to hear about a Saudi student who works and studies in Malaysia; therefore, she requests additional information. She asks Ameenah about her brother's opinion, whether or not he likes living there. 'LIKE IT' is uttered loudly to differentiate the teacher's question from other teacher talk, as the teacher takes a long turn to explain why she needs elaboration before asking the question 'does he LIKE IT?'. The student's response '^{0}yes he like it^{0}=', which is quietly articulated, is echoed and an embedded repair is done by the teacher. In line 13, Ameenah is asked to elaborate on the weather and the people in Malaysia; however, she is not given sufficient time to answer both questions, as the teacher keeps interrupting her (lines 15 and 17). The sound '[umm]' at the end of Ameenah's response (line 14) indicates that she wants to keep holding the floor, but she is overlapped by the teacher and asked about the weather. Similarly, in line 16, when the student wants to elaborate on the weather, as indicated by (.hh), she is again interrupted by the teacher. The student, however, overlaps with the teacher in line 18 and re-holds the floor by raising her intonation to complete her turn.

Although the teacher's questions in lines 1, 9, 13, and 15 aim to maximize the learner's contribution, it is clear from the teacher's language use, such as nomination and quick talk, that she is unwilling to give an extended pause. This has a negative impact on the learning opportunity, as the language use does not coincide with the pedagogical aim. The pedagogical goal in the classroom mode should have been to focus on more interaction and fluency.

Material Mode

The following discussion, Extract 3, is led by the teacher who asks various questions related to an audio-clip.

Extract 3

13	T:	↑ok i will play the audio no- now (2.7) sorry (3.2) ok ↑listen
14		play the audio (takes a minute and 12 seconds)=
15	T:	=ok (girls) <this conver↑sation:: between who::: (.) and
16		↓who> (0.9)
17	LL:	↑ ADEL AND FAHAD=
18	T:	= adela and f ahad (.) excellent (.) a:::nd umm ↑what did
19		a del ↓like about the game?
20		(2.7)
21	T:	w hat dide- (1) what did he <u>like</u> about the game?
22		(3.5)
23	L:	°(the whole [idea)°
24	T:	[what? =
25	L:	= ↑the <u>whole</u> idea
26	T:	the ↑whole idea? (.) he ↑like ↓it (.)
27	L:	°uh hum°
28	T:	umm:: (2) he said that umm he thought it is an exciting game
29		↑may be =

In this extract, the interactional organization is tightly managed by the teacher, who always reflects on the students' contributions. To introduce a new activity, she uses the transitional marker 'ok' with a rise in intonation '↑' to announce the end of one lesson stage and the beginning of another. After playing the audio-clip, the teacher immediately takes the floor and initiates a question that relates to the material. The whole discourse is entirely determined by the audio-clip. The teacher's question in line 15 is uttered slowly with some stretching words and is directed to the whole class. After a mini pause (0.9 seconds), a group of students, in line 16, provides a response simultaneously in a loud voice; this is immediately echoed by the teacher to signal her approval of the students' response: '=Adela and Fahad (.)'. Then, she provides positive feedback 'excellent' to encourage the students. Another display question is introduced in line 17. When the question is not answered after more than 2 seconds, the teacher repeats it, emphasizing the most important word, '<u>like</u>'. An unidentified learner takes the floor after a pause of 3.5 seconds. The teacher overlaps the student's contribution and asks for repetition, as identified in line 24 because the student's response is uttered quietly and softly: '°(the whole [idea)°'. For the sake of clarity, the student repeats her answer in a considerably louder voice, which is then echoed by the teacher. Apparently, the purpose of this echo is to get a confirmation from the student, as it is said with a rising intonation: 'the ↑whole idea?'. There is some hesitation, indicated by 'umm:::', for the teacher to fully accept the student's response. In the two seconds of silence (line 27) the teacher herself expands the student's contribution and explains why Adel likes the whole idea of the game rather than asking the learner for further clarification, which could create another learning opportunity.

The teacher demonstrates CIC in this part of the lesson. Her language use creates a space for learning because it is suitable for the pedagogical goal. The teacher refrains from speaking, in line 21, for 3.5 seconds after asking an analytical question because the answer is not clearly stated in the material. The students, therefore, need to think logically to arrive at the answer. The students, more specifically, the one in line 23 who answered the question, take advantage of extended pauses in answering such a high-level cognitive question. It is possible that the students would have missed a learning opportunity if wait-time had not been afforded. Wait-time, therefore, played a significant role in minimizing the number of high- cognitive questions that were not answered in this context.

Extract 4 also presents an example of the case. In this extract, the class is divided into two groups to answer a number of questions after reading a passage for about 10 minutes. This short episode is the continuation of the teacher's interaction with the learners regarding a reading passage they have just read. The teacher is giving feedback ('excellent') on the previous student's contribution.

Extract 4

120	T:	villa in bahrain? (.) excellent (1) طيب((ok)) .hh what ↑ki:::nd of life
121		STYLE <does his partner ha::ve> هنا ((here)) his partner هي((is)) wife
122		HIS WIFE طيب(ok) what- what- what (.) life style
123		(2.8)
124	T:	ok (1.5) ↑does she like it i:::n ↓the bahrain (1.4) ↑does she like it?
125		(2.5)
126	L:	ابلة هنا سؤال((teacher (.) here is a question)) =
127	T:	=>yeah yeah yeah< sorry (.) sorry (2) so .hh hh she travels a lot (1)
128		زي زي مين((like like whom)) (0.8) like john (0.4) ok yeah .hh umm
129		yeah (.) .hh ok ↑what about here (1.8) DOES his wife ↑like it in
130		↓bahrain
131		(4)
132	L:	°no°
132	T:	YES! she likes it

After echoing the response 'villa in Bahrain? (.)', the discourse marker 'ok' is used to acknowledge the turn and initiate a new topic, which is a new question in lines 120 and 121. The second part of the question '<does his partner ha::ve>' is produced with great emphasis on purpose, which is then immediately followed by an elaboration of 'his partner'. His partner and his wife are both emphasized to indicate that a relationship exists between them, and they have similar meanings in the passage. Before repeating the question in line 122, another discourse marker 'ok' is used to differentiate between the question and the other teacher elaboration. There is 2.8 seconds of silence (line 123). When the question is not answered after the pause, the teacher initiates another question in line 124. The same question is repeated after a pause of 1.4 seconds. In line 125, the teacher pauses for 2.5 seconds. The silence is then broken by a student in line 126 to draw the teacher's attention to a skipped question ('teacher (.) here is a question'). The teacher latches with the student for the sake of confirmation ('>yeah yeah yeah<'), which is uttered quickly. After a two-second pause, the teacher answers the question and uses a discourse marker ('ok') to signal the end of this question. The same question that is being asked in line 124 is repeated in line 129, as it is not yet answered. The word 'DOES' is produced considerably more loudly

than the remaining part of the question. After four-second pause, the teacher provides a loud response with great emphasis (‘YES!’). For further clarification, a complete answer is provided by the teacher (‘she likes it’).

The teacher attempts to get the students to respond to her question by giving them sufficient time to think of the answer. The students however fail to provide any response as the language use and pedagogical purpose are not aligned. In display questions, students need to recall a specific piece of information. As a result, if they do not know the answer, providing extended wait-time does not work. Therefore, it could be suggested that wait-time may not always be effective or contribute to language learning especially if it does not align with the pedagogical objective.

Discussion

Most previous research and the current study have found evidence in favor of wait-time in classroom interaction, as well as students’ and teachers’ behavior in the classroom. However, unlike most previous studies, which have made no attempt to address the usefulness of wait-time in a specific context, this study provides evidence from classroom interactions in cases in which pauses would be more effective. Then, this study has contributed to the field by focusing on the variables (micro contexts) that may have an effect on the usefulness and appropriacy of wait-time.

Wait-time implementation: Is it always beneficial?

The study findings indicate that teachers’ talk is critical for opening up or closing down spaces for learning, which are conceptualized as participation in a social activity. On the one hand, learning opportunities are created when wait-time is used effectively to maximize learners’ involvement in classroom discussion, as in both the classroom context mode (Extract 1) and the material mode (Extract 3). Conversely, Extract 4 illustrates that students miss learning opportunities even when wait-time is given. This is because the language use in Extracts 1 and 3 is convergent with the pedagogical purpose of eliciting as many responses as possible. However, in Extract 3, there is only one correct answer, which the students could not provide. This is related to Walsh’s (2006) position that language use, pedagogical goals and learning opportunities are inextricably linked; if the first two are aligned, learning is likely to increase and vice versa. Therefore, effective teaching is about good decision-making. Once teachers choose the most appropriate language use for a specific institutional aim, learning opportunities increase. Also, wait-time is a powerful instrument that can be used to change the nature of classroom interaction by reducing the number of triadic patterns (IRF), improving the quality of teacher talk, and maximizing learners’ involvement, which is linked to L2 learning. This is supported by Walsh (2002), who argues that extended wait-time in the classroom is necessary to increase learning potential.

This study, unlike previous studies (Gooding et al., 1983; Rowe, 1986; Stahl, 1994) which shed light only on the importance of pauses in the classroom, reveals that wait-time, like any other interactional feature, is highly context specific and can enhance or hinder learning opportunities. Walsh (2006; 2011) mentioned pauses under modes, but the focus was on demonstrating their effectiveness in creating interactional space in classroom discourse. The only study that questioned the value of wait-time during the whole class and with all types of questions is Tobin’s (1986). It focused on the relationship between pauses and cognitive-level questions, and he concluded that wait-time is beneficial in regard to high-level cognitive questions, but unsuitable for low-level cognitive questions, such as display questions. The results of Tobin’s study, regardless of its cognitive conceptualization of learning, coincides with those of the current study, as illustrated in Extract 3 and 4. When using wait-time, teachers need to consider and modify their questioning strategies. They should move away from asking memory-level questions and consider higher order cognitive questions or referential questions, as students may not benefit extensively from wait-time during recitation and memorization activities (Tobin, 1986).

Wait-time and Teacher Talk

The analysis of the classroom data revealed that extended pauses lead to an improvement in certain features of teacher talk, making it more supportive and productive. This coincides with Rowe’s (1986) finding that if teachers utilize longer wait-time, certain features of their discourse will change. The important influence of

wait-time on the characteristics of teacher talk is also recognized by several other researchers, including Fowler (1975), Rice (1977), and De Ture and Miller (1985).
One of the most significant and beneficial finding obtained from the analysis of the collected data is that the teachers acquire a better understanding of the value of students' engagement in discussion. Therefore, the teachers tend to ask questions that require in-depth thought and provide extended wait-time to coincide with the pedagogical goal and language use, as in Extract 3. Numerous studies (Swift & Gooding, 1983; De Ture & Miller, 1985; Barnette, 1995) have examined wait-time in relation to question type and found results that were similar to those of this study: that extended silence leads to fewer memorization-level questions. Due to a decrease in the number of display questions and an increase in wait-time practice, there has been a considerable increase in the number of referential questions asked by Saudi English teachers. Fagan et al. (1981) and Tobin (1986) found that extended pauses are mostly associated with genuine questions.

Another observation in the analysis has demonstrated that wait-time implementation reduces interruptions in Saudi classes, thereby helping students to have extended turns. When teachers refrain from speaking for three to five seconds, they are less likely to interrupt students who are attempting to complete their contributions (Tobin, 1986). The current study is in line with Tobin's finding, as observed in Extract 4. Therefore, the more teachers afford students uninterrupted periods of silence, the greater the students' opportunities to take extended turns and, therefore, the greater their opportunities to learn the L2.

Regardless of any modification to teachers' behavior regarding wait-time practice, it is difficult to agree with Swift and Gooding's (1983) finding that wait-time practice results in less teacher talk, and an increase in student talk. The reason for this difference in the findings is that there is no clear evidence in the recordings collected from the Saudi English classes that the teachers, to great extent, control the conversation to the students, even when sufficient thinking time is afforded. It is true, as evidenced by the extracts, that students are more willing to communicate and less likely to be interrupted; however, students' responses are usually relatively short. Therefore, they need to re-hold the floor and ask more questions, which leads to an increase in the percentage of teacher talk. The conflict between the findings of the two studies might, consequently, be related to the variations in context. Swift and Gooding's study was conducted in science classes, in which students rely on their mother tongue to communicate, while the current study was conducted in L2 classes. Due to their reliance on the L1, the students in the former study, unlike those in the latter, might have felt more comfortable taking extended turns, which, in turn, reduced teacher talk. Also, as observed in Extract 1, that context requires a type specific questions (what) and this questions can simply be responded to. Questions types such as how and why can give way to more elaboration, but as mentioned above, sometimes the pedagogic goal requires a short answer which is perfectly fine in that context as the goal is not elaborated talk. Then, it can be argued here that aiming at extended turns are not the only goal in L2 classrooms What matter is the alignment between the pedagogic goal and the interactional resources used.

Wait-time and Learner Involvement

Considerable evidence in the previous research and this study suggests that the length of pauses has a significant impact on students' behavior during classroom discussions. Among the most striking findings of the current study that coincides with Stahl (1994) and Barnette et al. (1995) is that wait-time leads to an increase in the number of student responses. As evidenced by Extracts 1 and 3, these responses are unsolicited. This study, therefore, confirms Swift and Gooding's (1983) finding that regardless of variations in context, when it comes to extended pauses and unsolicited responses, most student responses are voluntary. This study goes a step further by investigating wait-time in different classroom contexts and reveals that wait-time may not have a positive effect on students' contribution if there is no harmony between pedagogical goals and language use, as illustrated in Extract 4. This is supported by Walsh's (2002) study, in which he investigated extended wait-time in relation to pedagogical goals, and he declared that teachers' language choice can minimize learning opportunities if it does not coincide with the pedagogical purpose.

In this study, wait-time can, however, enhance learning potential and increase the quality of students' responses if it is aligned with the pedagogical aim. As Rowe (1974b), Stahl (1994), and Walsh (2011) reported, the quality of students' talk tends to improve as they are given sufficient time to think about possible answers and formulate their responses before speaking. This study found similar results, as illustrated in Extract 3. In line 22, the student takes advantage of the extended pause and provides analytical responses. Such analytical questions might not be answered, or at least not in the way they are answered, if wait-time is not afforded. Silence is an effective way to reduce the number of unanswered questions, especially high-level cognitive questions, in the classroom. This finding was also echoed in Tobin's study (1986), which analyzed a group of science teachers.

There is a relationship between extended wait-time, quality of students' talk and students' confidence. The more students believe in the quality of their responses, the more likely they are to voluntarily participate in discussion and even show disagreement with others. This is evident in line 10 of Extract 1. The student's contribution ('[I don't think so?') has two unusual features of Saudi English classroom discourse: teacher interruption and disagreement with the teacher's opinion. This is supported by Mark's (2011) position that students have a better chance of developing their confidence when teachers pause for three seconds or more, which has a favorable effect on students' willingness to participate.

Wait-time creates a supportive environment for learners to participate in classroom discussion; however, as shown in Extract 2, the student is able to take extended turns even though very limited thinking time is given. This indicates that other internal factors, such as knowledge of the topic and students' level of proficiency, along with external ones, such as extended pauses, play a role in students' involvement in discussion. The study findings confirm Zarrinabadi's (2014) result indicating that students' willingness to communicate is likely to increase if the topic chosen by the teacher is familiar to them. The external factor that might better explain what occurred in Extract 2 is level of proficiency. It is believed that the more proficient the students are in the L2, the more likely they are to speak in the classroom (Skehan, 1989). However, it is quite likely that regardless the student's English proficiency, the quality of her responses would increase if the teacher paused for three seconds to avoid interruption.

Wait-time and Classroom Interaction

The role of wait-time in creating an interactional space for learning is debated. This investigation of wait-time in different classroom modes could achieve a balance between the two arguments regarding the effectiveness of silence in the classroom. Wait-time is neither good nor bad; rather, it is highly context specific. Pauses can reduce the number of IRF exchanges in the classroom if wait-time is mode convergent. As in Extract 1, the pauses after asking referential questions lead to an increase in the number of students' responses and, in turn, a decrease in the number of IRF, which supports most previous research (e.g. White & Lightbown, 1984; Rowe, 1986; Walsh, 2006). Conversely, extended thinking time may not signal an improvement in the triadic pattern, in keeping with Anshutz's (1975) and Van Lier's (1988) stance, if there is a mismatch between institutional aims and the use of language as illustrated in Extract 4.

From the audio-recordings, it is difficult to decide whether or not wait-time practice leads to dialogic teaching, as proposed by Alexander (2004). Based on the findings, it could be argued that extended pauses can lead to dialogic teaching, as some features of dialogic teaching are evident in the data such as asking questions that provoke thoughtful responses. However, an essential principle of dialogic teaching, which is reciprocal, is missing in Saudi classroom talk: the teachers and students are not involved in talk to achieve mutual understanding. The students' responses are relatively short and do not include explanations, and then the teachers provide positive or non-evaluative feedback and do not request further clarification. Therefore, wait-time can, to some extent, lead to dialogic teaching, but teachers need to modify their questioning and feedback technique to enhance classroom dialogue. This, as discussed above, should be dependent upon the pedagogic goal and also the moment by moment construction of mutual understanding.

Conclusion

The present study explored students' reaction wait-time in the Saudi context. As classroom interaction is highly complex, the purpose of this research was to investigate wait-time in two micro-contexts: the classroom context mode, which aims to maximize learners' involvement in classroom discourse, and the material mode, in which the primary pedagogical goal is to involve learners in discussion about specific material. To achieve this aim, sociocultural theory—and, specifically, its conceptualization about learning and participation—is paired with the methodological power of CA to illustrate how opportunities for learning or participation are constructed or obstructed in classroom interaction.

Audio-recorded data were collected from two high school English language female teachers. After transcribing and analyzing the data using the principles of CA, it became apparent that extended wait-time of three to five seconds is occasionally applied in Saudi English classes and that this, to some extent, enhances learning

opportunities. Student reaction wait-time is likely to enhance learning potential if there is harmony between pedagogical goals and language use. If teachers adjust their language use and interactures (e.g. wait-time) during talk-in-interaction to ensure alignment with moment-by-moment pedagogical goals, the learning environment is likely to improve. It is likely that wait-time creates learning opportunities if it is provided after referential questions, in the classroom context mode, or analytical questions, in the material mode. This is because these types of questions usually require students to produce original responses, and wait-time offers them opportunities to think, formulate and provide responses that are original and relatively high in quality. Students may not benefit from extended wait-time if the pedagogical goal is to display their responses, as display questions do not require extended thinking time.

As for the limitations of this study, although this study undertook an original approach and focused on micro-contexts, it focused on only two of them future studies may focus on the other contexts and compare their results with the one found in this study. Another limitation of this study is that the data of this study is audio-only. Multi-modal data would provide unique and previous findings regarding wait-time. Accordingly, a multi-modal study on this topic is timely and relevant.

References

Alexander, R. (2004). *Toward dialogic teaching: Rethinking classroom talk.* UK: Dialogis.

Allwright, R. L. (1984). The Importance of Interaction in Classroom Language Learning. *Applied linguistics*, 5(2), 156-71.

Alsaadi, N. S. M. (2015). Wait-time and Learning Opportunity: A Critical Study of Saudi English Language Classes. Unpublished Master's dissertation, submitted to University of Newcastle upon Tyne.

Anshutz, R. J. (1975). An investigation of wait-time and questioning techniques as an instructional variable for science methods students' microteaching elementary school children. Dissertation Abstracts International, 35, 5978A.

Atar, C. (2016). The sequential organization and management of teachers' other-initiation of clarification in second language classroom contexts. Unpublished PhD thesis, submitted to University of Newcastle upon Tyne, the UK.

Atar, C. & Seedhouse, P. (2018). A conversation-analytic perspective on teacher-led clarification and its implications for L2 teacher training. *International Journal of Instruction*, 11(2), 145-166.

Atkinson, J. M. & Heritage, J. (1984). *Structures of social action: Studies in conversation analysis.* Cambridge: Cambridge University Press.

Atwood, V. A. (1991). Wait time and effective social studies instruction: What can research in science education tell us? *Social Education*, 55(3), 179-81.

Bailey, K. (1996). The best laid plans: teachers' in class decision to depart from their lesson-plans. In K. M. Bailey and D. Nunan (eds) *Voices from the Language Classroom*. Cambridge: Cambridge University Press.

Barnette, J., Orletsky, S., Sattes, B., & Walsh, J. (1995). Wait-time: Effective and Trainable. *ERIC*, ED 383 706.

Beyerbach, B. A. (1988a). The interaction of research, policy, and practice: A case study of a research group attempting to implement wait time. *ERIC*, ED 292 882.

Beyerbach, B. A. (1988b) Comparing researchers', teachers', and students' perspectives on a line of research attempting to implement wait time in classrooms. *ERIC*, ED 292 883.

Burnett, J. (2009). *Doing your social science dissertation*. London: Sage.

Cazden, C. B. (2001). *Classroom discourse: the language of teaching and learning.* Portsmouth: Heinemann.

Clifton, J. (2006). *Facilitator talk.* Oxford: Oxford University Press.

Cullen, R. (1998). Teacher talk and classroom context. *English Language Teaching Journal*, 25: 179-87.

Dale, R. & Vinson, D. W. (2013). The observer's paradox. *Journal of Experimental & Theoretical Artificial Intelligence*, 25(3): 303-322.

De Ture, L. R., & Miller, A. P. (1985). The effects of a written protocol model on teacher acquisition of extended wait-time. *ERIC*, ED 245 923.

Ellis, K. (1993). Teacher questioning behavior and student learning: What research says to teachers? *ERIC*, ED 359 572.

Ellis, R. (2000). Task-based research and language pedagogy. *Language teaching research* 4(3), 193-220.

Fagan, E. R., Hassler, D. M., & Szabo, M. (1981). Evaluation of questioning strategies in language arts instruction. *Research in the Teaching of English*, 15, 267-273.

Fowler, T. W. (1975). An investigation of the teacher behavior of wait-time during an inquiry science lesson. *ERIC*, ED 108 872.

Gooding, T., Swift, P. R., & Swift, J. N. (1983). An analysis of classroom discussion based on teacher success in observing wait time. *ERIC*. ED 242 682.

Gooding, T., Swift, J.N., & Swift, P. R. (1985) Supportive Intervention a Vehicle for Faculty Development. *ERIC*, ED 255 518.

Hall, J. K. (1998). Differential teacher attention to student utterances: the construction of different opportunities for learning in the IRF. *Linguistics and Education*, 9(3): 287–311.

Honea, M. J. (1982). Wait time as an instructional variable: An influence on teacher and student. *Clearinghouse* 56(4), 167-70.

Hutchby, I. & Wooffitt, R. (1998). *Conversation analysis: Principles, practices and application*s. Oxford: Polity Press.

Kasper, G. (2006). Beyond repair: Conversation analysis as an approach to SLA. *AILA Review*, *19*(1), 83-99.

Knickerbocker, M. E. (1984). The effects of wait time on the verbal behavior of kindergarten children: A replication. In K. Tobin (1987) The role of wait time in higher cognitive level learning. *Review of Educational Research* 57(1): 69-95.

Lake, J. H. (1973). The influence of wait-time on the verbal dimensions of student inquiry behavior. In K. Tobin, and W. Capie (1983) The influence of wait-time on classroom learning. *European Journal of Science Education*, 5(1): 35-48.

Lantolf, J. & Thorne, S. L. (2007). Sociocultural Theory and Second Language Learning. In. B. van Patten and J. Williams (eds.), Theories in Second Language Acquisition (pp. 201-224). Mahwah, NJ: Lawrence Erlbaum.

Mark, B. (2011). An exploration of speaking-in-class anxiety with Chinese ESL leaners. *ELSEVIER*, 39(2): 202-14.

Maroni, B. (2011). Pauses, gaps and wait time in classroom interaction in primary schools. *Journal of Pragmatics*. 43(7), 2081-2093.

Mercer, N. (1992). Talk for teaching and learning. In, K. Norman (ed.) *Thinking voices: The work of the National Oracy Project*. (pp. 215-23). London: Hodder and Stoughton for the National Curriculum Council.

Nasaaji, H. & Wells, G. (2000). What's the use of triadic dialogue? An investigation of teacher-student interaction. *Applied Linguistics*, 21: 373-406.

Nunan, D. (1991). *Language teaching methodology*. Hemel Hempstead: Prentice-Hall.

Nystrand, M. (1997). Dialogic instruction: When recitation become conversation. In M. Nystrand, A. Gamoran, R. Kachur and C. Prendergast (eds), *Opening Dialogue: Understanding the Dynamics of Language Learning and Teaching in the English Classroom*. New York: Teachers College Press.

Rice, D. R. (1977). The effect of question-asking instruction on preservice elementary science teachers. *Journal of Research in Science Teaching*, 14(4): 353-359.

Rowe, M. B. (1974a). Wait time and reward: as instructional variables, their influence on language, logic and fate control: Part one-wait time. *Journal of Research in Science Teaching*, 11(2), 81-94.

Rowe, M. B. (1974b). Reflections on wait-time: Some methodological questions. *Journal of Research in Science Teaching*, 11, 263-79.

Rowe, M. B. (1978) *Teaching science as continuous inquiry: A basic*. New York: McGraw-Hill.

Rowe, M. B. (1986). Wait time: Slowing down may be a way of speeding up! *Journal of Teacher Education*, 37(1), 43-50.

Seedhouse, P. (2004). *The interactional architecture of the language classroom: A conversational analysis perspective*. Oxford: Blackwell.

Sidnell, J. (2010). Conversation Analysis: An Introduction. Wiley-Blackwell.

Skehan, P. (1989). *Individual differences in second-language learning*. London: Arnold.

Stahl, R. J. (1994). Using "think-time" and "wait-time" skillfully in the classroom. *ERIC*, ED 370 885.

Swain, M. (1995). Three functions of output in second language learning. In G. Cook and B. Seidelhofer (eds) *Principle and practice in Applied Linguistics: studies in honour of H. G. Widdowson*. Oxford: Oxford University Press.

Swift, J. N., & Gooding, T. (1983). Interaction of wait time feedback and questioning instruction on middle school science teaching. *Journal of Research in Science Teaching*, 20(8), 721-730.

Ten Have, P. (2007). *Doing conversational analysis: A practical guide*. London: Sage.

Tobin, K. G. (1980). The effect of an extended teacher wait-time on science achievement. *Journal of Research in Science Teaching*, 17: 469-75.

Tobin, K. (1983). Management of time in classrooms. In B. J. Fraser (ed.), *Classroom management* (pp. 22-35). Perth, Australia: WAIT Press.

Tobin, K. (1986). Effects of teacher wait time on discourse characteristics in mathematics and language arts classes. *American Educational Research Journal*, 23(2), 191-200.

Tobin, K. & Capie, W. (1983). The influence of wait-time on classroom learning. *European Journal of Science Education*, 5(1):35-48.

Tsui, A. B. M. (1996). Reticence and anxiety in second language learning. In K. M. Bailey and D. Nunan (eds.) *Voices from the language classroom*. Cambridge: Cambridge University Press.

Van Lier, L. (1988). *The classroom and the language learner*. Longman: Harlow.

Van Lier, L. (2000). From input to affordance: social- interactive learning from an ecological perspective. In J.P. Lantolf (ed.) *Sociocultural Theory and Second Language Learning*. Oxford: Oxford University Press.

Vygotsky, L. (1980). *Mind in society: The development of higher psychological processes*. Cambridge: Harvard University Press.

Walsh, S. (2002). Construction or obstruction: teacher talk and learner involvement in the EFL classroom. *Language Teaching Research* 6, 3-23.

Walsh, S. (2006). *Investigating classroom discourse*. London: Routledge.

Walsh, S. (2011). Exploring classroom discourse: Language in action. Oxen: Routledge.

Walsh, S. & Li, L. (2013). Conversations as space for learning. *International Journal of Applied Linguistics*, 23(2), 247-66.

Waring, H. Z. (2009). Moving out of IRF (Initiation-Response-Feedback): A single case analysis. *Language Learning*, 5 (4), 796-824.

Wells, G. (1999). *Dialogic inquiry: toward a sociocultural practice and theory of education*. Cambridge: Cambridge University Press.

White, J., & Lightbown, P. M. (1984). Asking and answering in EFL classes. *The Canadian Modern Language Review*, 40(2), 228-44.

Winterton, W. W. (1977). The effect of extended wait-time on selected verbal response characteristics on some Pueblo Indian children. In K. Tobin (1987) The role of wait time in higher cognitive level learning. *Review of Educational Research* 57(1), 69-95.

Wood, D. (1992). Teaching talk. In, K. Norman (ed.) *Thinking voices: The work of the National Oracy Project* (pp. 203-14). London: Hodder and Stoughton for the National Curriculum Council.

Yaqubi, B., & Rokni, M. P. (2012). Teachers' Limited Wait-Time Practice and Learners' Participation opportunities in EFL Classroom Interaction. *Journal of English Language Teaching and Learning*, 10, 127-61.

Zarrinabadi, N. (2014). Communicating in a second language: Investigating the effect of teacher on learners' willingness to communicate. *ELSEVIER*, 42, 288-95.

Appendix A: Transcription Conventions

Transcription Conventions

A full discussion of CA transcription notation is available in Atkinson and Heritage (1984). Punctuation marks are used to capture characteristics of speech delivery, **not** to mark grammatical units.

[	indicates the point of overlap onset
]	indicates the point of overlap termination
=	a) turn continues below, at the next identical symbol b) if inserted at the end of one speaker's turn and at the beginning of the next speaker's adjacent turn, it indicates that there is no gap at all between the two turns
(3.2)	an interval between utterances (3 seconds and 2 tenths in this case)
(.)	a very short untimed pause
word	underlining indicates speaker emphasis
e:r the:::	indicates lengthening of the preceding sound
-	a single dash indicates an abrupt cut-off
?	rising intonation, not necessarily a question
!	an animated or emphatic tone
,	a comma indicates low-rising intonation, suggesting continuation
.	a full stop (period) indicates falling (final) intonation
CAPITALS	especially loud sounds relative to surrounding talk
° °	utterances between degree signs are noticeably quieter than surrounding talk
↑ ↓	indicate marked shifts into higher or lower pitch in the utterance following the arrow
> <	indicate that the talk they surround is produced more quickly than neighbouring talk
( )	a stretch of unclear or unintelligible speech.

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Life Skills as a Predictor of Psychological Well-Being of Pre-Service Pre-School Teachers in Turkey*

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Abstract

This study aims to investigate the relationship between pre-service pre-school teachers' life skills and psychological well-being and to determine whether or not various variables related to pre-service pre-school teachers (gender, age, grade level, type of instruction, cumulated grade point average, status of taking course about life skills) and their life skills significantly predict their psychological well-being. In this quantitative study with correlational design, data were gathered from 391 pre-service pre-school teachers studying at a state university, with 5-point Likert-type Life Skills Scale developed by Bolat and Balaman (2017); 7-point Likert-type Psychological Well-being Scale developed by Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi and Biswas-Diener (2010) and adapted into Turkish by Telef (2013). Data were analyzed through descriptive statistics, canonical correlation and hierarchical regression. It is concluded that pre-service pre-school teachers' psychological well-being levels are relatively high and that the life skill they developed most is communication and interpersonal relationships. Canonical correlation results indicate that there is a medium-level relation between life skills and psychological well-being and that psychological well-being is significantly predicted by gender, age, and the following life skills: "empathy and self-awareness", "decision-making and problem-solving", "creative and critical thinking".

Key words: Pre-school curriculum, Pre-service pre-school teacher, Psychological well-being, Life skills.

Introduction

Nowadays, curricula are being reviewed and developed in a way that individuals can adapt to different circumstances, think differently, flexibly and originally (Akbıyık & Seferoğlu, 2006). Development of children's life skills in pre-school curriculum is emphasized as one of the basic principles of pre-school education (Ministry of National Education [MoNE], 2013). Life skills are positive and adaptive behavioral skills that make people cope effectively with the challenges and needs of daily life (World Health Organization [WHO], 1994). There are five basic life skills, including "decision-making and problem-solving, creative thinking and critical thinking, communication and interpersonal relationships, self-awareness and empathy, coping with emotions and stressors" (WHO, 1994: 3). Individuals with these life skills can succeed when life gets hard.

Pan American Health Organization (2001) treated decision-making and problem-solving skills as cognitive skills. Most of the researchers define the problem solving / decision making process as a process that begins with a perception of emptiness and ends with implementing and evaluating a solution to fill this emptiness (Huitt, 1992). Most decision-making and problem-solving models consist of at least four stages (Huitt, 1992): (1) the input phase where the problem or situation is perceived and attempted to be understood; (2) the processing phase where alternatives are produced, evaluated, and a solution was selected; (3) an output phase where the solution is formulated and enacted; and (4) the review phase that includes the evaluation of the solution and, if necessary, amendment of it. Decision-making is the process of selecting one of the different options that meets particular criteria (Baysal, 2009). Individuals who can make effective decisions are satisfied with life, whereas individuals who cannot make effective decisions face difficulty in their daily lives (Uygur,

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2018). Problem-solving is defined as "the process of moving toward a goal when the path to that goal is uncertain" (Martinez, 1998: 605). In this process, a gap is perceived and resolved between the current situation and the target blocked either by definite or indefinite reasons (Huitt, 1992). In this process, metacognitive strategies that work under different conditions are developed rather than a routine which works under any and all circumstances (Dede, 2010). The steps that are followed in the process of problem solving include (Güner, 2000: 63): General orientation, defining the problem, determining the primary problems, selecting the target, producing alternatives, evaluating alternatives, making decisions, applying, and evaluating the results. Individuals who can make decisions and solve problems do learn not to give up immediately to become resilient.

In creative thinking process which is identified with the problem solving process, there are new ways to solve problems, new solutions are produced, new ideas are put forward, and new inventions are made (Yenilmez & Çalışkan, 2011: 51). The creative thinking that is defined as analytical, synthetic and evaluative thinking leading to creative expression (Collins & O'Brien, 2011) is the capacity to produce new, valuable and useful ideas (Sak, 2009). In other words, creative thinkers achieve this by thinking to higher levels. Critical thinking is "the art of analyzing and evaluating thinking with a view to improving it" (Paul & Elder, 2006: 4). It can be said that critical thinkers evaluate their own lives according to appropriate criteria. Within critical thinking process which must be taught for each subject matter and discipline (Dede, 2010) (1) important questions and issues are clearly and precisely introduced and formulated; (2) the relevant information is collected, evaluated and effectively interpreted by abstract ideas; (3) well-justified results and solutions are reached by comparing this information with appropriate criteria and standards; (4) by evaluating the assumptions, implications and results in practice if needed, alternative ideas are put forward open-mindedly; (5) others are communicated effectively to find solutions to complex problems (Paul & Elder, 2006).

Communication skills, which mean to much more than mutual conversations and dialogues, are related to what is (and, is not) said, why, when, and how (Canel, 2012). Communication defined as "the process of generating, transferring and interpreting information" (Dökmen, 2003: 19) is "a psycho-social process that puts two people into a relationship" (Cüceloğlu, 2002: 13). Individuals with communication skills which are important for the arrangement of interpersonal relations (Kılıçaslan, 2011) can establish healthy interpersonal relationships (Büyükfiliz, 2016) and be satisfied with these relationships (Koç, Terzi, & Gül, 2015). Thus, individuals can feel happy. Interpersonal communication is defined as "a psycho-social process where at least two individuals share their knowledge, feelings, thoughts and experiences in a particular way" (Kaya, 2018: 5). Individuals who establish interpersonal communication are aware of each other and this awareness connects each other and shapes each other's words (Oğuz, 2012). Thus, they can establish positive relationships or terminate their relationship constructively (Kumar & Chhabra, 2014: 182-183). Namely, interpersonal communication enables individuals to socialize.

The self-awareness skill, which is deemed as the prerequisite for communication, interpersonal relations and empathy, is recognizing one's self, character, strong and weak points, likes and dislikes. Self-awareness enables individuals to realize when they are stressed (WHO, 1994). Self-awareness can be thought of as a SWOT analysis individuals carry out on themselves. High self-awareness ensures high self-acceptance (Ryff, 1989b). Self-acceptance is the positive evaluation of one's self and past life, to recognize and accept his/her different aspects (Yeşiltepe, 2011). Empathy, which is divided into two as cognitive and affective (Jolliff & Farrington, 2006), is the ability to conceptualize what another human being's life is all about, and helps us understand and accept others even in a case that is not familiar to us (WHO, 1994). Empathy is both feeling what someone else feels and thinking what someone else thinks. When developing empathy, the individual senses feeling and thinking of the counterpart and conveys them to the counterpart properly (Rogers, 1970, 1975 cited in Dökmen, 1988).

Coping with emotions is that an individual recognizes his/her own and others' feelings, is aware of how behavior is affected by emotions, and reacts to them in proper ways. Intense feelings, such as anger or grief, may adversely affect health if not reacted properly (WHO, 1994). Coping with stress is the ability of the individual to identify the stress sources in life, to know how stress affects him/herself and to behave in a way that can control the level of stress. This could mean, for example, changing our physical environment or life-style, taking action to reduce sources of stress, or learning how to relieve in order inevitable stress not to cause health problems (WHO, 1994). Emotion management skills include managing anger, coping with grief and anxiety, dealing with loss, abuse, and trauma, while stress management skills include managing time, thinking positive, and techniques of relaxing (WHO, 2003: 9). Coping with stress can be considered as a more cognitive process than coping with emotions.

Enuring the life-long skills such as problem solving, communication etc. to children in pre-school period enables these skills to be learned more permanently (Akgün, Yarar, & Dinçer, 2011). Pre-service pre-school teachers who will enure life skills to children when they start the profession shall also be expected to have these skills and be equipped with these skills. It is emphasized that in order to enable students to learn and transfer one of the life skills, for example critical thinking skill, teachers should provide experiences and evaluate this skill and should give feedback (Huitt, 1998), and that it can only be possible with the critical thinking of teachers (Şenşekerci & Bilgin, 2008). Therefore, it is suggested that teachers should have both pre- and in-service training (Walsh & Paul, 1986). Pre-school teachers who develop empathy and can communicate effectively with their students will enable their students to create positive self-perception, develop a compatible personality, become more successful and maintain self-actualization (Çelik & Çağdaş, 2010).

It is suggested that life skills foster physical, mental and social well-being, that is, psycho-social competence (WHO, 1994). Well-being focuses on the avoidance of pain, satisfaction and happiness (subjective well-being) according to the hedonic approach, while focusing on meaning, self-actualization, and functioning of an individual in all his/her aspects according to the eudaimonic approach (psychological well-being) (Ryan & Deci, 2001). Ryff and Singer (2008) suggested that eudaimonia is the highest point of good that human beings can reach beyond happiness. Psychological well-being, conceptualized as emotional, physical, cognitive, spiritual, personal and social well-being (Roothman, Kirsten, & Wissing, 2003) is a perceived development against existential difficulties of life (e.g. to pursue meaningful goals, to grow and develop individually, to establish qualified links with others) (Keyes, Shmotkin, & Ryff, 2002). Individuals who feel psychologically well do not only survive, but also thrive. Psychological well-being, which is a micro-level structure, is about how an individual assesses him/herself and his/her life's quality (Ryff, Magee, Kling, & Wing, 1999). Human well-being is also described as living and doing well (Forgeard, Jayawickreme, Kern, & Seligman, 2011). Psychological well-being consists of many aspects such as individuals' life goals, relationships, and levels of awareness about their own potential, the quality of their relations with others, and their feelings about life (Ryff & Keyes, 1995). Psychological well-being of an individual is pertaining to looking for and realizing his/her own thoughts, evaluating him/herself according to his/her own standards, advocating his/her own values and making choices according to his/her values and putting an effort to reach his/her goals (Akın, 2009). Psychological well-being is becoming what you are throughout your survival in real life. In terms of psychological well-being, it is crucial that the individual has a purpose in life (Ryff, 1989c). However, not every purpose of the individual affects the level of psychological well-being equally. The objectives of an individual, which meet his/her primary needs, affect the level of well-being more than the non-primary objectives (Hamurcu, 2011). In other words, the priority of the needs is important in terms of well-being. Psychological well-being based on self-realization has a multidimensional structure (Ryan & Deci, 2001; Ryff, 1989a, Ryff, 2014). People with high psychological well-being evaluate themselves and their past lives positively, establish good quality relationships with the people around them, act autonomously, manage their lives and environment, believe that their lives have a meaning and purpose and they develop personally (Ryan & Deci, 2001; Ryff , 2014; Ryff & Singer, 2008). Individuals who feel psychologically well have better interpersonal relationships (Corsano, Majorano, & Champretavy, 2006) and social support systems (Chu, Saucier, & Hafner, 2010), with higher levels of intrinsic motivation and life satisfaction (Kaya & Çenesiz, 2016) and are more receptive of innovation and development (İkiz & Asıcı, 2017). On the contrary, people with low levels of psychological well-being perceive more stress (Cripps & Zyromski, 2009; Moeini, Shafii, Hidarnia, Babaii, Birashk, & Allahverdipour, 2008) and they feel more alone (Corsano, Majorano, & Champretavy, 2006). High or low levels of psychological well-being affect socialization of individuals. Psychological well-being requires not having a psycho-pathological disorder but this alone is not enough (Ryff, 1989a). Individuals who can establish good relations with others trust and respect others, want them to be happy, empathize with them, take care of them, do not act selfish and are satisfied with their relations with others; while individuals who cannot make good relations with others cannot get comfortable with others, distance themselves from others, cannot open him/herself, can hardly handle a relationship, even interrupts relationships with others just because of problems he/she faced in particular cases, and not only does not want to establish a relationship with others, but also prevents other people from establishing such relationship (Yılmaz, 2013).

The pre-school curriculum requires the pre-school teacher to develop "a safe and consistent relationship with the child" in terms of child's development (MoNE, 2013, p. 13). In other words, it can be said that the pre-school curriculum attaches importance to the psychological well-being of the pre-school teacher. Therefore, there is a need to investigate to what extent pre-service pre-school teachers have necessary life skills and whether their psychological well-being and life skills are related to each other or not. In the literature, there exist several studies suggesting that psychological well-being of pre-service teachers are affected by gender and socioeconomic level of the family (Kumcağız & Gündüz, 2016), parental attitude (Demirci & Şar, 2017; Kumcağız & Gündüz, 2016) and social skills education program (Gülaçtı, 2009). However, the results of some

studies indicate that psychological well-being of pre-service teachers did not significantly differ depending on gender, age, program in which they are enrolled (Öztan Ulusoy & Konaklı, 2017), grade level and academic achievement (Kumcağız & Gündüz, 2016) variables. Yet, some studies found that personality traits and self-understanding (Sarıcaoğlu, 2011), various values (hedonism, universalism and self-transcendence) (Telef, Uzman, & Ergün, 2013), fear of happiness (Sarı & Çakır, 2016), self-consciousness (Demirci & Şar, 2017), self-discrimination (Karababa, Mert, & Çetiner, 2018) and perceived social competence and assertiveness (Ateş & Çelik, 2018) significantly predicted pre-service teachers' psychological well-being. Some studies detected significant relations between psychological well-being of pre-service teachers and some variables such as smart phone addiction (Kumcağız & Gündüz, 2016), physical and emotional abuse (Bozgün & Pekdoğan, 2017). It is another finding in the literature that psychological well-being of pre-service teachers is one of the positive predictors of attitudes toward teaching profession (İkiz, Asıcı, & Kaya, 2018). Despite the fact that there is at least one study which examines the relationship between life skills and psychological well-being (Sujatha & Jayakumar, 2017), there are no studies found in Turkey examining the relationship between these two. The aim of this research, which is expected to complete the gap in literature, is to (1) examine the relationship between pre-service pre-school teachers' life skills and psychological well-being, (2) determine whether various variables related to pre-service pre-school teachers (gender, age, grade level, type of instruction, cumulated grade point average (CGPA), status of taking course about life skills) and life skills significantly predict the psychological well-being of pre-service pre-school teachers.

Method

Research Design

This research aims to examine the relation between pre-service pre-school teachers' life skills and psychological well-being, and determine whether various variables related to pre-service pre-school teachers (gender, age, grade level, type of instruction, cumulated grade point average, and status of taking course about life skills) and life skills significantly predict the psychological well-being of pre-service pre-school teachers. The design of this quantitative research, which aims to determine the relation between variables, is correlational design (Creswell, 2013). The dependent variable of the study is psychological well-being, while the independent variables are gender, age, grade level, type of instruction, CGPA, status of taking course about life skills, and life skills (coping with emotions and stress, empathy and self-awareness, decision-making and problem-solving, creative and critical thinking and communication and interpersonal relations).

Participants

Data collection tools were administered to all pre-service pre-school teachers studying at a state university. No sample was selected. 391 pre-service pre-school teachers provided feedback. The information about the pre-service pre-school teachers is depicted in Table 1.

Table 1. Characteristics of participants

		f	%
Gender	Female	338	86.4
	Male	53	13.6
Grade	Freshman	87	22.3
	Sophomore	81	20.7
	Junior	129	33.0
	Senior	94	24.0
Type of instruction	Morning instruction	202	51.7
	Evening instruction	189	48.3
Status of taking course about life skills	Yes	116	29.7
	No	272	69.6
		M	*SD*
Age		21.01	1.82
Cumulated grade point average		3.09	0.31

Data Collection Tools

Data were collected with 5-point Likert-type Life Skills Scale (LSS) consisting of five factors with coefficients of Cronbach's alpha ranging from 0.66 to 0.82, developed by Bolat and Balaman (2017) and 7-point Likert-type Psychological Well-being Scale (PWBS) consisting of eight-item, single-factor, Cronbach's alpha reliability coefficient of 0.80, developed by Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi and Biswas-Diener (2010) and adapted into Turkish by Telef (2013). The results of confirmatory factor analysis are shown in Table 2.

Table 2. Confirmatory factor analysis results

CFA	PWBS	Conformity	LSS	Conformity
X^2/sd	2.75	Excellent	1.85	Excellent
RMSEA	0.07	Good	0.047	Excellent
GFI	0.97	Excellent	0.89	Weak
AGFI	0.94	Good	0.87	Weak
RMR	0.05	Excellent	0.03	Excellent
NNFI	0.98	Excellent	0.98	Excellent
CFI	0.99	Excellent	0.98	Excellent

Based on the RMSEA values calculated, it can be suggested that the single factor structure of the PWBS has a good conformity to the scale, while the five-factor structure of the LSS has an excellent conformity to the scale (Kline, 1998). In addition, demographic information form was used to obtain data on various variables related to pre-service pre-school teachers (gender, age, grade level, type of instruction, CGPA, and status of taking course about life skills). Table 3 shows the coefficients of Cronbach's alpha calculated for the whole scales and sub-dimensions of each.

Table 3. Coefficients of Cronbach's alpha calculated for whole and sub-dimensions of scales

Scales and sub-dimensions	Cronbach's alpha
PWBS	.87
LSS	.92
Coping with emotions and stress (CES)	.74
Empathy and self-awareness (ESA)	.80
Decision-making and problem-solving (DMPS)	.82
Creative and critical thinking (CCT)	.81
Communication and interpersonal relations (CIR)	.76

Data Analysis

The quantitative data were analyzed through descriptive statistics, canonical correlation and hierarchical regression using a statistical package program. The significance level was assumed as .05.

Results and Discussion

The mean interval values were calculated to interpret the calculated mean values for each scale and its sub-dimensions (5-1 = 4; 4:5=0.8 for the 5-point Likert-type LSS; 7-1=6; 6/7=0.86 for the 7-point Likert-type PWBS). Based on these interval values, from 5.00 to 4.21 is interpreted as "Totally Agree", from 4.20 to 3.41 as "Agree", from 3.40 to 2.61 as "Neutral", from 2.60 to 1.81 as "Disagree", from 1.80 to 1.00 as "Totally Disagree", and, from 7.00 to 6.17 as "Certainly Agree", from 6.16 to 5.31 as "Agree", from 5.30 to 4.45 as "Slightly Agree", from 4.44 to 3.59 as "Neutral", from 3.58 to 2.73 as Slightly Disagree", from 2.72 to 1.87 as "Disagree", and from 1.86 to 1.00 as "Certainly Disagree".

Life Skills of Pre-service Pre-school Teachers

According to Table 4, pre-service pre-school teachers' life skills including communication and interpersonal relationships (*M*=4.15, *SD*=.56), creative and critical thinking (*M*=4.08, *SD*=.50), empathy and self-awareness (*M*=4.04, *SD*=.50), decision making and problem solving (*M*=4.03, *SD*=.50) and coping with emotions and stress (*M*=3.58, *SD*=.57) appears to be at high level. It is also possible to suggest that pre-service pre-school

teachers' communication and interpersonal relations skills are at the highest (*M*=4.15, *SD*=.56), and coping with emotions and stress skills (*M*=3.58, *SD*=.57) are at the lowest level.

Table 4. Mean and standard deviation values calculated for whole and sub-dimensions of scales

	M	*SD*
PWBS	5.64	0.88
CES	3.58	0.57
ESA	4.04	0.50
DMPS	4.03	0.50
CCT	4.08	0.50
CIR	4.15	0.56

Psychological Well-being of Pre-service Pre-school Teachers

As indicated in Table 4, pre-service pre-school teachers were found to agree with the items of the Psychological Well-being Scale (*M* =5.64, *SD*=.88). In other words, it is concluded that pre-service pre-school teachers' psychological well-being levels are high.

The Relationship between Pre-service Pre-School Teachers' Life Skills and Psychological Well-Being

Considering the relationship between life skills and psychological well-being, two canonical variates exist in this study. The canonical variate of psychological well-being consists of one continuous variable, and the canonical variate of life skills includes five continuous variables, namely, coping with emotions and stress, empathy and self-awareness, decision-making and problem-solving, creative and critical thinking, communication and interpersonal relationships. Before canonical correlation analysis, the following assumptions were checked (Tabachnick & Fidell, 2007): absence of outliers, missing data, multivariate normality, homoscedasticity, linearity, and multicollinearity.

As the number of variables in the psychological well-being variable set is one, the canonical correlation analysis generated one canonical pair. The canonical pair had a canonical correlation coefficient (Rc = .58) greater than .30 (Tabachnick & Fidell, 2007), which explained a 34% of the overlapping variance and a significant relation between two canonical variates (Wilk's $\lambda = .66$, $\chi^2(5) = 160.76$, $p < .05$). The canonical loadings and correlation coefficients are displayed in Table 5.

Table 5. Results of canonical correlation analysis

	First Canonical Pair	
Variables	Correlation	Standardized canonical coefficients
Life Skills variables		
Coping with emotions and stress	.65	.15
Empathy and self-awareness	.88	.37
Decision-making and problem-solving	.89	.32
Creative and critical thinking	.84	.26
Communication and interpersonal relations	.70	.10
Percent of Variance	.64	
Redundancy	.22	
Psychological Well-being variable	1.00	1.00
Percent of Variance	1.00	
Redundancy	.34	
Canonical correlation	.58	

As can be seen from Table 5, the relationship between two canonical variates is significant because the canonical loadings are greater than .30 (Tabachnick & Fidell, 2007). Since the canonical loadings of the psychological well-being variable and the variables included in the life skills set have the same sign, the relationship between them is positive. Namely, the higher the life skills of pre-service pre-school teachers, the higher their psychological well-being levels.

100% of the variance in the canonical pair is explained by the psychological well-being variable set and 64% by the set of life skills variables. Furthermore, the psychological well-being variable set explains 34% of the

variance in the life skills variable set, and the life skills variable set explains 22% of the variance in the psychological well-being variable set.

Life Skills as a Predictor of the Psychological Well-being of Pre-service Pre-school Teachers

Hierarchical regression analysis was conducted to determine whether gender, age, grade level, and CGPA of pre-service pre-school teachers, type of instruction, and status of taking course about life skills are predictors of psychological well-being. The dependent variable is psychological well-being, while the independent variables are gender, age, grade level, type of instruction, CGPA, status of taking course about life skills, and life skills (coping with emotions and stress, empathy and self-awareness, decision-making and problem-solving, creative and critical thinking and communication and interpersonal relations). Before the hierarchical regression analysis, "female" for gender, "senior" for grade level are determined as reference category out of dummy variables. Since the grade level variable has four levels, three new dummy variables are created and these variables are named as "Freshman-Senior", "Sophomore-Senior", and "Junior-Senior."

Table 6. Results of hierarchical regression analysis

Variables	*B*	*SE*	β	*t*	*Partial r²*	ΔR^2	ΔF
Model 1						.04	2.07*
Gender	-.33	.14	-.13	-2.34*	-.12		
Age	.07	.03	.14	2.09*	.11		
Freshman-Senior	.05	.17	.02	.30	.02		
Sophomore-Senior	.11	.15	.05	.74	.04		
Junior-Senior	.00	.12	.00	-.003	.00		
Type of instruction	-.01	.09	-.006	-.13	-.006		
CGPA	.11	.16	.04	.66	.03		
Model 2						.00	.36
Course of Life Skills	.06	.10	.03	.60	.03		
Model 3						.34	39.84*
CES	.15	.08	.10	1.94	.10		
ESA	.39	.11	.22	3.53*	.18		
DMPS	.33	.12	.19	2.71*	.14		
CCT	.27	.12	.15	2.25*	.12		
CIR	.09	.09	.05	.95	.05		

*p<.05

According to Table 6, it was observed that the gender and age tested in the first model explained 4% of the variance as significant predictors, and that male and older pre-service pre-school teachers had better psychological well-being, with $\Delta R^2 = .04$, $\Delta F(7, 378) = 2.07$, $p < .05$. In the second stage, it was found that the status of taking course about life skills added to the model was not a significant predictor, with $\Delta R^2 = .00$, $\Delta F(1, 377) = .36$, $p > .05$. In the last stage, it was seen that life skills explained a variance of 34%, with $\Delta R^2 = .34$, $\Delta F(5, 372) = 39.84$, $p < .05$. Among these skills, empathy and self-awareness (β = .22), decision making and problem solving (β = .19) and creative and critical thinking (β = .15) were found to be significant predictors and contributed to the explained variance. On the other hand, it was found that coping with emotions and stress and communication and interpersonal relations skills were non-significant predictors. The tested model accounted for 38% of the total variance.

Conclusion

The aim of this research was to examine the relationship between pre-service pre-school teachers' life skills and psychological well-being and to determine whether various variables related to pre-service pre-school teachers (gender, age, grade level, type of instruction, cumulated grade point average, and status of taking course about life skills) could significantly predict their psychological well-being or not. It is concluded that pre-service pre-school teachers' communication and interpersonal relations skills are at the highest level, but their skills to cope with emotions and stress are at the lowest level.

It can be suggested that the reason behind the high level of communication and interpersonal skills of pre-service pre-school teachers might be their high self-efficacy perceptions of communication skills. In other

words, pre-service pre-school teachers might feel highly self-efficacious about their own communication and interpersonal skills. Communication, one of the variables that significantly predicts pre-service pre-school teachers' self-efficacy (Kesicioğlu & Güven, 2014), is also one of the special field competencies of the pre-school teacher (General Directorate of Teacher Training and Development, 2017). It was concluded that pre-service pre-school teachers also perceived their competence related to this specific field as high (Ekinci & Kaya, 2016). Billheimer (2006) found out that pre-service early childhood teachers' levels of self-efficacy for creating positive climate in the classroom as well. However, pre-service pre-school teachers' self-efficacy beliefs about communication skills are not as high as those of pre-school teachers (Yoldaş, Yetim, & Küçükoğlu, 2016). Significant and positive relationships were detected between pre-school teachers' skills to communicate with children and self-efficacy beliefs and pre-school teachers' self-efficacy beliefs were found to be the best predictor of teacher-child communication skills (Ata, 2015).

It is challenging that pre-service pre-school teachers are at the lowest level for coping with emotions and stress, although they are at the highest for communication and interpersonal relations skills. It can be expressed that pre-service pre-school teachers cannot develop appropriate ways to cope with their feelings and they are not aware of their own feelings (Kuyumcu & Güven, 2012). There exists a positive correlation between pre-service teachers' coping with stress levels and emotional intelligence levels (Önen, 2012). Additionally, there are also studies which found that pre-service teachers' approaches to cope with stress and self-esteem were significantly correlated (Parmaksız, 2011) and that self-esteem significantly predicted the approaches to cope with stress (Karakuş & Dereli, 2011). It can be assumed that the participating pre-service pre-school teachers either did not have quite high emotional intelligence or self-esteem levels. Pre-service pre-school teachers should learn to cope with their emotions and stress because they might experience it in their professional journey due to lack of time, needs of children, non-teaching tasks, educational philosophy and practice, individual needs, problems with parents, interpersonal relations, attitudes toward and perceptions of early childhood programs (Kelly & Berthelsen, 1995) and give up this profession (Clipa & Boghean, 2015).

Psychological well-being levels of pre-service pre-school teachers were found as high. Parallel to this finding of the study, Bozgün and Pekdoğan (2017) too concluded that pre-service primary school and pre-school teachers have high psychological well-being. Besides, Royer and Moreau (2016) found out that overall well-being levels of early childhood teachers were high. But, as the Psychological Well-being Scale used in this current research is a self-report psychological well-being measure, the scores obtained from this measure should be cautiously interpreted.

The results of the canonical correlation analysis conducted in order to examine the relationship between pre-service pre-school teachers' life skills and psychological well-being indicate that there is a moderate relation between life skills and psychological well-being. The higher the life skills of pre-service pre-school teachers, the higher their psychological well-being levels. In line with this finding, Sujatha and Jayakumar (2017) found a significant correlation between female university students' life skills and psychological well-being. Considering that 86.4% of the sample of this study included female pre-service pre-school teachers, the significant relation between life skills and psychological well-being can be evaluated as an expected finding of the research.

According to the results of hierarchical regression analysis conducted to determine whether various variables related to pre-service pre-school teachers (gender, age, grade level, type of instruction, cumulated grade point average, status of taking course about life skills) and life skills predict pre-service pre-school teachers' psychological well-being, it was found that gender, age, empathy and self-awareness, decision-making and problem-solving and creative and critical thinking skills significantly predicted, while grade level, type of instruction, cumulated grade point average, status of taking course about life skills, skills of coping with emotions and stress and of communication and interpersonal relations were not significant.

Although there are studies investigating the significant effect of gender on the psychological well-being (Roothman, Kirsten, & Wissing, 2003; Akhter, 2015) of university students (Chraif & Dumitru, 2015; Geçgin & Sahranç, 2017; Karabeyeser, 2013; Karaca & Yerlisu Lapa, 2016; Ulu, 2018), studies concluding that it significantly affects psychological well-being of pre-service teachers (Kumcağız & Gündüz, 2016) are relatively few in number. Although it is emphasized in the literature that the significance is in favor of females, it is concluded that male pre-service pre-school teachers feel psychologically much better than female pre-service pre-school teachers. One of the possible reasons can be explained by the fact that in societies with a patriarchal family structure, men are freed more in their decisions, and the expectation of social success towards them is relatively lower (Christopher, 1999). Another reason could be that 86.4% of the sample consists of female pre-service pre-school teachers, while 13.6% of the sample includes male ones.

Although there are studies that conclude that there is no significant effect of age on the psychological well-being of university students (Aydın, Şahan Birol, & Temel, 2018) and pre-service teachers (Öztan Ulusoy & Konaklı, 2017), this research indicated that age of pre-service pre-school teachers predicted their psychological well-being significantly. Ryff and Keyes (1995) found age differences in varied dimensions of well-being as well. Güler Edwards (2008) found that age was the predictor of psychological well-being and that young and middle-aged individuals determined more goals for themselves than older individuals. As pre-service pre-school teachers, whose average age is 21.01 years, have particular goals, it can be thought to enable their psychological well-being.

It has been concluded that decision-making and problem-solving skills significantly predict pre-service pre-school teachers' psychological well-being. Decision-making is found as the significant predictor of psychological well-being (Miller, 2001; Venkatesan & Rohatgi, 2018) as well as problem-solving (Miller, 2001). Dilmaç and Bozgeyikli (2009) found a significant relation between pre-service teachers' decision-making styles and their subjective well-being, even though not for psychological well-being specifically. It is a finding in the related literature that subjective well-being is significantly correlated with psychological well-being (Bilgin, 2017; Sarı & Çakır, 2016). From this viewpoint, it can be considered as an expected finding that pre-service pre-school teachers' decision making skills is a significant predictor of their psychological well-being. Given the fact that pre-school teachers' reasonable and independent decision-making skills negatively predict their test anxiety (Dereli & Acat, 2011); and their rational decision-making styles negatively predict their academic procrastination (Balkıs, 2007), it could be expected that pre-service pre-school teachers who have the ability of decision-making would have less procrastination and less anxiety and feel psychologically much better. The relation between psychological well-being and stress is found to be mediated by social problem-solving (Chang, D'Zurilla, & Sanna, 2009). Considering the fact that pre-service pre-school teachers had higher psychological well-being levels although their coping with emotions and stress skills were at the lowest level, levels of social support perceived by pre-service pre-school teachers can be considered to be high. Yiğit (2013) found that subjective well-being of pre-service teachers predicted social problem-solving skills significantly, and that pre-service teachers with high subjective well-being had positive and rational orientations to social problems and they did not avoid these problems and they carefully focused on the problems. Based on this finding, it can be expected that pre-service pre-school teachers' psychological well-being can be significantly predicted by problem solving skills. As a matter of fact, Traş, Arslan and Mentiş Taş (2011) found that pre-service teachers who approached problems more positively developed higher self-esteem and sense of humor with a higher level of self-development. As the emotional intelligence levels of pre-service pre-school teachers in this study are thought to be not very high, significant prediction of the psychological well-being by problem solving skills can be considered as an expected finding because there was not any significant relation between problem solving skills and emotional intelligence levels of pre-service pre-school teachers (except compatibility) (Ekinci Vural, 2010). This finding of the research should be interpreted with due consideration, regarding that pre-service teachers (Ekinci Vural, 2010; Samancı & Uçan, 2015) and in-service ones (Çınar, Hatunoğlu, & Hatunoğlu, 2009) have problem solving skill perception higher than the average, which means, in other words, a higher self-efficacy. Indeed, teacher self-efficacy was found as the best predictor of in-class social problem-solving (Ulaş Marbouti, 2015).

As a result of this research, it was found out that creative thinking and critical thinking predicted significantly the psychological well-being of pre-service pre-school teachers. In other words, pre-service pre-school teachers feel psychologically better as they think more critically and creatively. Although there was no significant relation between creativity and psychological well-being (Bilgin, 2017), it was concluded that the teaching of creative and critical thinking skills not only improved the focus of internal control, but also increased psychological well-being (Rezaei Kargar, Ajilchi, Kalantar Choreishi, & Zohoori Zangene, 2013).

It was also found out that pre-service pre-school teachers' empathy and self-awareness skills significantly predict their psychological well-being. Pre-service teachers' self-knowledge is a positive predictor of their psychological well-being (Demirci & Şar, 2017). In other words, as the level of self-knowledge of pre-service pre-school teachers increases, the levels of psychological well-being will also increase. In addition, Deniz, Erus, and Büyükcebeci (2017) found that emotional intelligence is the full mediator in the relation between conscious awareness and psychological well-being. Based on this finding, it can be said that pre-service pre-school teachers' emotional intelligence may develop with the increase of conscious awareness and this may then increase the level of their psychological well-being. Since emotional intelligence levels of pre-service pre-school teachers are thought to be not very high, so the level of empathy and self-awareness is not expected to be very high. Hence, pre-service pre-school teachers' empathy and self-awareness skills are not as high as communication and interpersonal relationships and creative and critical thinking skills. Correspondingly, In-Sook and Yu-Mi (2018) concluded that pre-service early childhood teachers had high empathetic ability and that

their empathetic ability had a significant effect on and was positively related to their efficacy. Regarding this, it can be said that pre-service pre-school teachers' beliefs of self-efficacy might mediate the relation between their empathy skills and psychological well-being.

In this study, it was found that the grade level did not significantly predict the psychological well-being of pre-service pre-school teachers. This is an expected finding because pre-service pre-school teachers of different ages might be enrolled in the same grade level. Thus, their ages, but not grade levels significantly predicted their psychological well-being. This is consistent with the findings of the studies that reveal that the grade level does not have any significant effect on psychological well-being of university students (Aydın, Şahan Birol, & Temel, 2018) and pre-service teachers (Kumcağız & Gündüz, 2016). Yet, some studies that support the fact that the grade level has a significant influence on university students' psychological well-being (Aydın, Kahraman, & Hiçdurmaz, 2017; Tabe Bordbar, Nikkar, Yazdani, & Alipoor, 2011; Walker, 2009), though few in number, exist.

In this study, it was found that the type of instruction did not significantly predict the psychological well-being of pre-service pre-school teachers. Whether pre-service pre-school teachers are exposed to the morning instruction or evening one does not significantly predict their psychological well-being.

Although academic achievement of university students was found to be significantly predicted by their psychological well-being (Ateş, 2016), this research found out that pre-service pre-school teachers' cumulated grade point average did not significantly predict their psychological well-being. Pre-service pre-school teachers' cumulated grade point averages were relatively high, but their being academically successful may not guarantee their feeling psychologically better. Supporting this result, Kumcağız and Gündüz (2016) stated that academic achievement of pre-service teachers has no significant effect on their psychological well-being. On the other hand, the related literature also reveals that academic performance significantly predicts psychological well-being (Punia & Malaviya, 2015; Turashvili & Japaridze, 2012) and academic performance is correlated with psychological well-being of university students (Trucchia, Lucchese, Enders, & Fernández, 2013).

As a result, it was found out that status of taking course about life skills did not significantly predict the psychological well-being of pre-service pre-school teachers. This is because pre-service pre-school teachers might perceive a course about life skills as a course that gives them an easy passing grade, but does not teach too much.

It was found that skills of coping with emotions and stress and communication and interpersonal relationships did not significantly predict pre-service pre-school teachers' psychological well-being. Contrary to this finding of the research, Freire, del Mar Ferradás, Valle, Núñez and Vallejo (2016) found out that psychological well-being of university students significantly predicted their strategies of coping with stress. In addition, Kuyumcu and Güven (2012) concluded that the university students' emotional awareness and expressions significantly predict their psychological well-being, and that emotional awareness facilitated developing the strategy of coping with emotions and defining the situation. However, the psychological well-being of pre-service pre-school teachers was not predicted by their coping with emotions and stress skills. This can be attributed to the fact that pre-service pre-school teachers' skills of coping with emotions and stress are at the lowest level. In addition, it was found that strategies for coping with stress of university students, including pre-service teachers, are significant predictors of happiness levels and that there is a positive relation between coping with stress strategies and happiness levels (Kaya & Demir, 2017). Considering this finding, it can be suggested that the level of happiness of pre-service pre-school teachers who have the lowest level of coping with emotions and stress skills is accordingly low. It has been stated that people with high emotional awareness levels pay more attention to others and set goals around them (Dizen, Berenbaum, & Kerns, 2005). Although the skills of coping with emotions and stress were at the lowest level, communication and interpersonal relations skills of pre-service pre-school teachers were at the highest level. However, the psychological well-being of pre-service pre-school teachers was not significantly predicted by their communication and interpersonal relations skills. This finding might be explained by the high self-efficacy perceptions of pre-service pre-school teachers regarding their communication and interpersonal relations skills.

Recommendations

Suggestions can be derived from this study in order for practice including; training programs that enable pre-service pre-school teachers gain the skills of coping with emotions and stress might be developed and implemented; happiness levels of pre-service pre-school teachers might be increased; creative and critical

thinking skills can be taught; life skills course can be integrated with the content of the pre-school teacher training program or can be made to form the core of this program's content, rather than imposing it to pre-service pre-school teachers only through a single course. It must be noted that this research is limited with the data gathered from 391 pre-service pre-school teachers. Therefore, the results should be interpreted cautiously. Studying of psychological well-being and life skills in terms of different variables with larger and further samples shall be expected to bring depth to the relevant literature and advance the generalizability of the results. In addition, further studies might be conducted about the reasons of pre-service pre-school teachers' possible high self-efficacy perceptions related to communication and interpersonal relationships and problem solving skills, and pre-service pre-school teachers' emotional intelligence or self-esteem levels. Pre-service pre-school teachers' conscious awareness might be developed in order to increase their emotional intelligence levels. Another area of further investigation could be to search for the reasons for why psychological well-being levels of pre-service pre-school teachers are high. Testing the relationships between pre-service pre-school teachers' subjective well-being, psychological well-being, and decision-making skills with a model could be another area for further research.

References

Akbıyık, C., & Seferoğlu, S. S. (2006). Eleştirel düşünme eğilimleri ve akademik başarı [Critical thinking dispositions and academic achievement]. *Çukurova Üniversitesi Eğitim Fakültesi Dergisi, 2*(32), 90-99.

Akgün, E., Yarar, M., & Dinçer, Ç. (2011). Okul öncesi öğretmenlerin sınıf içi etkinliklerde kullandıkları sınıf yönetimi stratejilerinin incelenmesi [The evaluation of classroom management strategies of preschool teachers in classroom activities]. *Pegem Eğitim ve Öğretim Dergisi, 1*(3), 1-9.

Akhter, S. (2015). Psychological well-being in student of gender difference. *The International Journal of Indian Psychology, 2*(4), 153-161.

Akın, A. (2009). *Akılcı duygusal davranışçı terapi odaklı grupla psikolojik danışmanın psikolojik iyi olma ve öz-duyarlık üzerindeki etkisi [The effect of rational emotive behavioral therapy based group counseling to the psychological well-being and self-compassion]*. Unpublished doctoral dissertation, Sakarya University, Sakarya.

Ata, A. (2015). *Factors effecting teacher-child communication skills & self-efficacy beliefs: An investigation on preschool teachers.* Unpublished master's thesis, Middle East Technical University, Ankara.

Ateş, B. (2016). Üniversite öğrencilerinde akademik başarının yordayıcısı olarak psikolojik iyi oluş ve sosyal yetkinlik [Psychological well-being and social competence as a predictor of academic success of university students]. *Elektronik Sosyal Bilimler Dergisi, 15*(59), 1203-1214.

Ateş, B., & Çelik, O. (2018). Öğretmen adaylarında psikolojik iyi oluşun yordayıcısı olarak algılanan sosyal yetkinlik ve güvengenlik [Perceived social competence and assertiveness as a predictor of psychological well-being in pre-service teachers]. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi, 20*(2), 444-460.

Aydın, A., Kahraman, N., & Hiçdurmaz, D. (2017). Hemşirelik öğrencilerinin algılanan sosyal destek ve psikolojik iyi olma düzeylerinin belirlenmesi [Determining the levels of perceived social support and psychological well being of nursing students]. *Psikiyatri Hemşireliği Dergisi, 8*(1), 40-47.

Aydın, E., Şahan Birol, S., & Temel, V. (2018). Üniversite takımlarında oynayan sporcuların psikolojik iyi oluş düzeylerinin belirlenmesi [The determining of psychological well-being levels of athletes playing in university teams]. *Journal of Human Sciences, 15*(3), 1541-1550. doi:10.14687/jhs.v15i3.5236

Balkıs, M. (2007). Öğretmen adaylarının davranışlarındaki erteleme eğiliminin, karar verme stilleri ile ilişkisi [The relationships between student teachers' procrastination behaviors, and decision making styles]. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 1*(21), 67-83.

Baysal, Z. N. (2009). Demokrasi eğitimi için karar verme modelinin kullanılması: İlköğretim üçüncü sınıf Hayat Bilgisi dersi örneklemesi [An application of the decision-making model for democracy education: A sample of a third grade social sciences lesson]. *Kuram ve Uygulamada Eğitim Bilimleri, 9*(1), 53-84.

Bilgin, D. (2017). *Understanding the relationship between happiness and creativity in terms of the dimensions of psychological and subjective well-being.* Unpublished master's thesis, Istanbul Bilgi University, Istanbul.

Billheimer, B. C. (2006). Teacher self-efficacy in early childhood settings: Differences between early childhood and elementary education candidates. Unpublished master's thesis, East Tennessee State University, Johnson City, Tennessee.

Bolat, Y., & Balaman, F. (2017). Yaşam becerileri ölçeği: Geçerlik ve güvenirlik çalışması [Life skills scale: Validity and reliability study]. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi, 6*(4), 22-39.

Bozgün, K., & Pekdoğan, S. (2017). Öğretmen adaylarının çocukluk çağı örselenmeleri ile psikolojik iyi olmaları arasındaki ilişkinin incelenmesi [The examination of the relationship between childhood abuse

and psychological well-being of preservice teachers]. *Turkish Studies – International Periodical for the Languages, Literature and History of Turkish or Turkic, 12*(4), 111-126.

Büyükfiliz, B. (2016). *18-25 yaş arası genç yetişkinlerde problemli İnternet kullanımı ve iletişim becerileri arasındaki ilişki [Relationship between communication skills and problematic Internet usage in 18-25 ages young adults]*. Unpublished master's thesis, Uskudar University, Istanbul.

Canel, A. N. (2012). *Aile yaşam becerileri* (2. baskı) [*Life skills of a family* (2nd ed.)]. Istanbul: Nakış Ofset.

Chang, E. C., D'Zurilla, T. J., & Sanna, L. J. (2009). Social problem solving as a mediator of the link between stress and psychological well-being in middle-adulthood. *Cognitive Therapy and Research, 33*(1), 33-49.

Chraif, M., & Dumitru, D. (2015). Gender differences on wellbeing and quality of life at young students at psychology. *Procedia-Social and Behavioral Sciences, 180,* 1579-1583.

Christopher, J. C. (1999). Situating psychological well-being: Exploring the cultural roots of its theory and research. *Journal of Counseling and Development, 77*(2), 141-152.

Chu, P. S., Saucier, D. A., & Hafner, E. (2010). Meta-analysis of the relationships between social support and well-being in children and adolescents. *Journal of Social and Clinical Psychology, 29*(6), 624-645.

Clipa, O., & Boghean, A. (2015). Stress factors and solutions for the phenomenon of burnout of preschool teachers. *Procedia-Social and Behavioral Sciences, 180,* 907-915.

Collins, J. W., & O'Brien, N. P. (2011). *The Greenwood dictionary of education.* Westport, CT: Greenwood Press.

Corsano, P., Majorano, M., & Champretavy, L. (2006). Psychological well-being in adolescence: The contribution of interpersonal relations and experience of being alone. *Adolescence, 41*(162), 341-353.

Creswell, J. W. (2013). *Araştırma deseni, nitel, nicel ve karma yöntem yaklaşımları* (S. B. Demir, Çev.) [*Research design, qualitative, quantitative and mixed methods approaches* (S. B. Demir, Trans.)]. Ankara: Eğiten Kitap.

Cripps, K., & Zyromski, B. (2009). Adolescents' psychological well-being and perceived parental involvement: Implications for parental involvement in middle schools. *RMLE Online, 33*(4), 1-13.

Cüceloğlu, D. (2002). *Yeniden insan insana* (27. basım) [*To human again* (27th ed.)]. Istanbul: Remzi Kitabevi.

Çelik, E., & Çağdaş, A. (2010). Okul öncesi eğitim öğretmenlerinin empatik eğilimlerinin bazı değişkenler açısından incelenmesi [A research regarding the emphatic tendencies of preschool education teachers in terms of some variables]. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 23,* 23-38.

Çınar, O., Hatunoğlu, A., & Hatunoğlu, Y. (2009). Öğretmenlerin problem çözme becerileri [Teachers' problem solving skills]. *Erzincan Eğitim Fakültesi Dergisi, 11*(2), 215-226.

Dede, C. (2010). Comparing frameworks for 21st century skills. In J. Bellanca & R. Brandt (Eds.), *21st century skills: Rethinking how students learn* (pp. 51-75). Bloomington, IN: Solution Tree Press.

Demirci, İ., & Şar, A. H. (2017). Kendini bilme ve psikolojik iyi oluş arasındaki ilişkinin incelenmesi [Examining the relationship between self-knowledge and psychological well-being]. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi, 6*(5), 2710-2728.

Deniz, M. E., Erus, S. M. & Büyükcebeci, A. (2017). Bilinçli farkındalık ile psikolojik iyi oluş ilişkisinde duygusal zekanın aracılık rolü [Relationship between mindfulness and psychological well-being: The mediating role of emotional intelligence]. *Türk Psikolojik Danışma ve Rehberlik Dergisi. 7*(47), 17-31.

Dereli, E., & Acat, M. B. (2011). Okulöncesi öğretmenliği bölümü öğrencilerinin karar verme stratejileri ile sınav kaygıları arasındaki ilişki [The relationships between decision making strategies and test anxiety of pre-school education teacher department students]. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi, 12*(2), 77-87.

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D.-W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97,* 143-156.

Dilmaç, B., & Bozgeyikli, H. (2009). Öğretmen adaylarının öznel iyi olma ve karar verme stillerinin incelenmesi [A research on subjective well-being and decision making of teacher candidates]. *Erzincan Eğitim Fakültesi Dergisi, 11*(1), 171-187.

Dizen, M., Berenbaum, H. & Kerns, J. G. (2005). Emotional awareness and psychological needs. *Cognition and Emotion, 19*(8), 1140-1157.

Dökmen, Ü. (1988). Empatinin yeni bir modele dayanılarak ölçülmesi ve psikodrama ile geliştirilmesi [A new measurement model of the empathy and developing empathy by using psychodrama]. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, 21,* 155-190.

Dökmen, Ü. (2003). *İletişim çatışmaları ve empati* (22. baskı) [*Communication conflicts and empathy* (22nd ed.)]. Istanbul: Sistem Yayıncılık.

Ekinci Vural, D. (2010). Okul öncesi öğretmen adaylarının duygusal zekâları ile problem çözme becerileri arasındaki ilişki [The correlation between emotional intelligence and problem solving skills of teacher candidates]. *e-Journal of New World Sciences Academy, 5*(3), 972-980.

Ekinci, N., & Kaya, D. (2016). Okul öncesi eğitimi öğretmen adaylarının özel alan yeterlik algılarının incelenmesi: İletişim, yaratıcılık ve estetik [An examination of special field competency perceptions of prospective preschool teachers: Communication, creativity and esthetics]. *Sakarya University Journal of Education, 6*(1), 141-157.

Forgeard, M. J. C., Jayawickreme, E., Kern, M. L., & Seligman, M. E. P. (2011). Doing the right thing: Measuring wellbeing for public policy. *International Journal of Wellbeing, 1*(1), 79-106.

Freire, C., del Mar Ferradás, M., Valle, A., Núñez, J. C., & Vallejo, G. (2016). Profiles of psychological well-being and coping strategies among university students. *Frontiers in Psychology, 7*. doi: 10.3389/fpsyg.2016.01554

Geçgin, F. M., & Sahranç, Ü. (2017). Belirsizliğe tahammülsüzlük ile psikolojik iyi oluş arasındaki ilişki [The relationships between intolerance of uncertainty and psychological well-being]. *Sakarya University Journal of Education, 7*(4-special issue), 739-755.

Gülaçtı, F. (2009). *Sosyal beceri eğitimine yönelik programın üniversite öğrencilerinin, sosyal beceri, öznel ve psikolojik iyi olma düzeylerine etkisi [The effects of group guidance program based on social skill training on the levels of students' social skill, subjective and psychological well-being]*. Unpublished doctoral dissertation, Atatürk University, Erzurum.

Güler Edwards, A. (2008). *Relationship between future time orientation, adaptive self-regulation, and well-being: Self-type and age related differences.* Unpublished doctoral dissertation, Middle East Technical University, Ankara.

Güner, P. (2000). Sorunlarla etkili baş etme yolu: Problem çözme [The effective coping strategy: Problem solving]. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi, 3*(1), 62-67.

Hamurcu, H. (2011). *Ergenlerin yetişkinlik inançları ve psikolojik iyi oluşlarını yordamada psikolojik ihtiyaçlar [Psychological needs on regression of adolescents' competence beliefs and psychological well-being]*. Unpublished doctoral dissertation, Selçuk University, Konya.

Huitt, W. (1992). Problem solving and decision making: Consideration of individual differences using the Myers-Briggs Type Indicator. *Journal of Psychological Type, 24*, 33-44.

Huitt, W. (1998). *Critical thinking: An overview.* Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Retrieved February 25, 2019 from, http://www.edpsycinteractive.org/topics/cognition/critthnk.html [Revision of paper presented at the Critical Thinking Conference sponsored by Gordon College, Barnesville, GA, March, 1993.]

In-Sook, C., & Yu-Mi, P. (2018). The influence of pre-service early childhood teacher's empathetic ability and interpersonal competence on teacher's efficacy. *Journal of the Korea Academia-Industrial Cooperation Society, 19*(11), 454-462.

İkiz, F. E., & Asıcı, E. (2017). The relationship between individual innovativeness and psychological well-being: The example of Turkish counselor trainees. *International Journal of Progressive Education, 13*(1), 52-63.

İkiz, F. E., Asıcı, E., & Kaya, Z. (2018). Yaşam amaçları ve psikolojik iyi oluşun öğretmenlik mesleğine yönelik tutumu yordayıcı rolü [The predictive roles of life goals and psychological wellbeing on attitudes towards teaching profession]. *Bayburt Eğitim Fakültesi Dergisi, 13*(25), 7-26.

Jolliffe, D., & Farrington, D. P. (2006). Development and validation of the basic empathy scale. *Journal of Adolescence, 29*(4), 589-611.

Karababa, A., Mert, A., & Çetiner, P. (2018). Üniversite öğrencilerinde psikolojik iyi olmanın bir yordayıcısı olarak benlik ayrımlaşması [Self-differentiation as a predictor of psychological well-being among university students]. *Ahi Evran Universitesi Kırşehir Eğitim Fakültesi Dergisi, 19*(2), 1235-1248.

Karabeyeser, M. (2013). *Üniversite öğrencilerinin anne-baba tutumları ve stresli yaşam olaylarına göre psikolojik iyi oluşu [Psychological well-being of university students according to parental attitudes and stressful life events]*. Unpublished master's thesis, Hacettepe University, Ankara.

Karaca, A. A., & Yerlisu Lapa, T. (2016). Serbest zaman katılımı, psikolojik iyi olma ve serbest zaman engelleri ile baş etme stratejilerinin üniversite öğrencileri üzerinde incelenmesi [Examining of leisure time participation, psychological well-being and leisure negotiation of university students]. *Journal of Human Sciences, 13*(2), 3293-3304. doi:10.14687/jhs.v13i2.3778

Karakuş, Ö., & Dereli, E. (2011). Öğretmen adaylarının benlik saygısı ve stresle başa çıkma stillerinin incelenmesi [Examination of teachers candidates' self-esteem and stress coping styles]. *E-International Journal of Educational Research, 2*(4), 89-104.

Kaya, A. (2018). İletişime giriş: Temel kavramlar ve süreçler [Introduction to communication: Basic concepts and processes]. A. Kaya (Ed.), *Kişilerarası ilişkiler ve iletişim* (12. baskı, s. 5) içinde [In A. Kaya (Ed.), *Interpersonal relations and communication* (12th ed., p. 5)]. Ankara: Pegem Akademi.

Kaya, Ö. S., & Demir, E. (2017). Kendini toparlama gücü ve stresle başa çıkma stratejilerinin mutluluk düzeyini yordama gücü [The power of resilience and coping strategies with stress to predict happiness]. *Sakarya Üniversitesi Eğitim Fakültesi Dergisi, 33,* 18-33.

Kaya, Z., & Çenesiz, G. Z. (2016, September 5-7). *Öğretmen adaylarının içsel ve dışsal motivasyonları ile psikolojik iyi oluş ve yaşam doyumları arasındaki ilişki [The relationship among internal and external motivations, psychological well-being and life satisfaction of teacher candidates]*. Paper presented at the 19th National Psychology Congress, Izmir.

Kelly, A. L., & Berthelsen, D. C. (1995). Preschool teachers' experience of stress. *Teaching and Teacher Education, 11*(4), 345-357.

Kesicioğlu, O. S., & Güven, G. (2014). Okul öncesi öğretmen adaylarının özyeterlik düzeyleri ile problem çözme, empati ve iletişim becerileri arasındaki ilişkinin incelenmesi [Investigation of the correlation between preservice early childhood teachers' selfefficacy levels and problem solving, empathy and communication skills]. *Turkish Studies - International Periodical For The Languages, Literature and History of Turkish or Turkic, 9*(5), 1371-1383.

Keyes, C. L. M., Shmotkin, D., & Ryff, C. D. (2002). Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology, 82*(6), 1007-1022.

Kılıçaslan, E. (2011). *İletişim kurma becerileri [Communication skills]*. Istanbul: Kriter Yayınevi.

Kline, R. B. (1998). *Methodology in the social sciences. Principles and practice of structural equation modeling.* New York, NY: Guilford Press.

Koç, B., Terzi, Y., & Gül, A. (2015). Üniversite öğrencilerinin iletişim becerileri ile kişilerarası problem çözme becerileri arasındaki ilişki [The relationship between university students' communication skills and their interpersonal problem solving skills]. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi, 4*(1), 369-390.

Kumar, J., & Chhabra, A. (2014). Life skill education for adolescents: Coping with challenges. *Scholarly Research Journal for Humanity Science & English Language, 1*(2), 181-190.

Kumcağız, H., & Gündüz, Y. (2016). Relationship between psychological well-being and smartphone addiction of university students. *International Journal of Higher Education, 5*(4), 144-156.

Kuyumcu, B., & Güven, M. (2012). Türk ve İngiliz üniversite öğrencilerinin duygularını fark etmeleri ve ifade etmeleri ile psikolojik iyi oluşları arasındaki ilişki [The relationship between the emotional awareness expression of emotion and psychological well-being of Turkish and English university students]. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 32*(3), 589-607.

Martinez, M. E. (1998). What is problem solving? *The Phi Delta Kappan, 79*(8), 605-609.

Miller, L. S. (2001). *Psychological well-being among university students: Problem solving, career-decision-making attitudes, and program commitment.* Unpublished doctoral dissertation, University of Ottawa, Canada.

Milli Eğitim Bakanlığı [Ministry of National Education]. (2013). *Okul öncesi eğitimi programı [Pre-school curriculum]*. Ankara: Temel Eğitim Genel Müdürlüğü.

Moeini, B., Shafii, F., Hidarnia, A., Babaii, G., Birashk, B., & Allahverdipour, H. (2008). Perceived stress, self-efficacy and its relations to psychological well-being status in Iranian male high school students. *Social Behavior and Personality: An International Journal, 36,* 257-266.

Oğuz, T. (2012). Bireylerarası iletişim [Interpersonal communication]. In E. N. Orhon & U. Eriş (Eds.), *İletişim bilgisi [Knowledge of communication]*. Eskişehir: Anadolu Üniversitesi Açıköğretim Fakültesi Yayınları.

Öğretmen Yetiştirme ve Geliştirme Genel Müdürlüğü [General Directorate of Teacher Training and Development]. (2017, November 6). *Okul öncesi öğretmeni özel alan yeterlikleri [Special field competencies of pre-school teachers]*. Retrieved February 25, 2019 from http://oygm.meb.gov.tr/meb_iys_dosyalar/2017_11/06160307_5-YYretmen_Yeterlikleri_KitabY_okul_Yncesi_YYretmeni_Yzel_alan_yeterlikleri_ilkYYretim_parYa_8.pdf

Önen, A. S. (2012). Öğretmen adaylarının kişilik özellikleri ve duygusal zekâ düzeylerinin stresle başa çıkmalarına etkileri [The effects of student teachers' personality traits & EQ levels on stress coping]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 42,* 310-320.

Öztan Ulusoy, Y., & Konaklı, T. (2017). Relationship between psychological well-being and happiness levels of students trained in different departments. In R. Efe, I. Koleva, E. Atasoy, & V. Kotseva (Eds.), *Current trends in educational sciences* (pp. 527-535). Sofia: St. Kliment Ohridski University Press.

Pan American Health Organization. (2001). *Life skills approach to child and adolescent healthy human development.* Washington, DC: Adolescent Health and Development Unit, Division of Health Promotion and Protection.

Parmaksız, İ. (2011). Öğretmen adaylarının benlik saygısı düzeylerine göre iyimserlik ve stresle başaçıkma tutumlarının incelenmesi [The research for teacher candidates, about their optimism and their style of coping with stress according to their self-esteems levels]. Unpublished master's thesis, Selçuk University, Konya.

Paul, R., & Elder, L. (2006). *The miniature guide to critical thinking: Concepts and tools.* Retrieved January 8, 2019 from https://www.criticalthinking.org/files/Concepts_Tools.pdf

Punia, N., & Malaviya, R. (2015). Psychological well-being of first year college students. *Indian Journal of Educational Studies: An Interdisciplinary Journal, 2*(1), 60-68.

Rezaei Kargar, F., Ajilchi, B., Kalantar Choreishi, M., & Zohoori Zangene, Z. (2013). The effect of teaching critical and creative thinking skills on the locus of control and psychological well-being in adolescents. *Procedia-Social and Behavioral Sciences. 82*, 51-56.

Roothman, B., Kirsten, D. K., & Wissing, M. P. (2003). Gender differences in aspects of psychological well-being. *South African Journal of Psychology, 33*(4), 212-218.

Royer, N., & Moreau, C. (2016). A survey of Canadian early childhood educators' psychological wellbeing at work. *Early Childhood Education Journal, 44*(2), 136-146.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141-166.

Ryff, C. D. (1989a). Happiness is everything, or is it? Explorations on the meaning of psychological wellbeing. *Journal of Personality and Social Psychology, 57*, 1069-1081.

Ryff, C. D. (1989b). In the eye of the beholder: Views of psychological well-being among middle-aged and older adults. *Psychology and Aging, 4*(2), 195-210.

Ryff, C. D. (1989c). Beyond ponce de leon and life satisfaction: New directions in quest of successful aging. *International Journal of Behavioral Development, 12*(1), 35-55

Ryff, C. D. (2014). Psychological well-being revisited: Advances in the science and practice of eudaimonia. *Psychotherapy and Psychosomatics, 83,* 10-28.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*(4), 719-727.

Ryff, C. D., & Singer, H. B. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies, 9*, 13-39.

Ryff, C. D., Magee, W. J., Kling, K. C., & Wing, E. H. (1999). Forging macro-micro linkages in the study of psychological well-being. In C. D. Ryff and V. W. Marshall (Eds.), *The self and society in aging processes* (pp. 247-278). New York: Springer.

Sak, U. (2009). *Üstün yetenekliler eğitim programları [Curriculum for the gifted]*. Ankara: Maya Akademi.

Samancı, O., & Uçan, Z. (2015). Sınıf öğretmeni adaylarının sosyal sorun çözme beceri düzeylerinin incelenmesi [A research on classroom teacher candidate's abilities about solving social problems]. *Bartın Üniversitesi Eğitim Fakültesi Dergisi,* 14. Uluslararası Katılımlı Sınıf Öğretmenliği Eğitimi Sempozyumu Özel Sayısı, 152-162.

Sarı, T., & Çakır, S. G. (2016). Mutluluk korkusu ile öznel ve psikolojik iyi oluş arasındaki ilişkinin incelenmesi [The relationships of fear of happiness with subjective and psychological well-being]. *Eğitim ve Öğretim Araştırmaları Dergisi, 5*(Özel Sayı), 222-229.

Sarıcaoğlu, H. (2011). *Üniversite öğrencilerinin psikolojik iyi olma düzeylerinin kişilik özellikleri ve öz-anlayış açısından incelenmesi [Investigating psychological well-being, personality traits and self compassion levels of university students]*. Unpublished master's thesis, Selçuk University, Konya.

Sujatha, & Jayakumar, K. N. (2017). Relationship between psychological well-being and life skills among students of Women College. *International Journal of Indian Psychology, 4*(4), 56-62.

Şenşekerci, E., & Bilgin, A. (2008). Eleştirel düşünme ve öğretimi [Critical thinking and its teaching]. *Uludağ Üniversitesi Fen Edebiyat Fakültesi Sosyal Bilimler Dergisi, 9*(14), 15-43.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn & Bacon/Pearson Education.

Tabe Bordbar, F., Nikkar, M., Yazdani, F., & Alipoor, A. (2011). Comparing the psychological well-being level of the students of Shiraz Payame Noor University in view of demographic and academic performance variables. *Procedia-Social and Behavioral Sciences, 29*, 663-669.

Telef, B. B. (2013). Psikolojik iyi oluş ölçeği: Türkçeye uyarlama, geçerlik ve güvenirlik çalışması [The adaptation of psychological well-being into Turkish: A validity and reliability study]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 28*(3), 374-384.

Telef, B. B., Uzman, E., & Ergün, E. (2013). Öğretmen adaylarında psikolojik iyi oluş ve değerler arasındaki ilişkinin incelenmesi [Examine the relation between psychological wellbeing and values in teacher candidates]. *Turkish Studies - International Periodical For The Languages, Literature and History of Turkish or Turkic, 8*(12), 1297-1307.

Traş, Z., Arslan, C., & Mentiş Taş, A. (2011). Öğretmen adaylarında mizah tarzları, problem çözme ve benlik saygısının incelenmesi [Analysis of humor styles, problem solving and self- esteem of prospective teachers]. *Uluslararası İnsan Bilimleri Dergisi, 8*(2), 716-732.

Trucchia, S. M., Lucchese, M. S., Enders, J. E., & Fernández, A. R. (2013). Relationship between academic performance, psychological well-being, and coping strategies in medical students. *Revista de la Facultad de Ciencias Médicas/Universidad Nacional de Córdoba, 70*(3), 144-152.

Turashvili, T., & Japaridze, M. (2012). Psychological well-being and its relation to academic performance of students in Georgian context. *Problems of Education in the 21st Century, 49*, 73-80.

Ulaş Marbouti, J. (2015). *In-class social problem solving abilities of classroom teachers: A self-determination theory based study*. Unpublished doctoral dissertation, Middle East Technical University, Ankara.

Ulu, M. (2018). İlahiyat Fakültesi öğrencilerinin psikolojik iyi oluşları ile değer yönelimleri arasındaki ilişki [On the relationship between psychological well-being and value orientations of students of Theology Faculty]. *Journal of Sakarya University Faculty of Theology, 20*(37), 183-215.

Uygur, S. S. (2018). Lise öğrencilerinde problem çözme becerilerinin akılcı olmayan inanç düzeyi ve karar verme stillerine göre yordanması [Predicting the problem solving skills of high school students according to irrational beliefs and decision making styles]. *Elektronik Sosyal Bilimler Dergisi, 17*(67), 1014-1026.

Venkatesan, M., & Rohatgi, A. (2018). Personality dispositions, resilience, and decision making and their impact on psychological well-being of management graduates. *Prabandhan: Indian Journal of Management, 11*(1), 22-38.

Walker, C. J. (2009, August 6-9). *A longitudinal study on the psychological well-being of college students.* Poster presented at the 117th Annual Convention of the American Psychological Association, Toronto, Canada.

Walsh, D., & Paul, R. W. (1986). *The goal of critical thinking: From educational ideal to educational reality.* Washington, D.C.: Amerikan Federation of Teachers Educational Issues Department.

World Health Organization. (1994). *Life skills education for children and adolescents in schools: Introduction and guidelines to facilitate the development and implementation of life skills programmes.* Geneva, Switzerland: Department of Mental Health and Substance Abuse, World Health Organization.

World Health Organization. (2003). *Skills for health. Skills-based health education including life skills: An important component of a child-friendly/health-promoting school.* Geneva, Switzerland: World Health Organization. Retrieved February 14, 2019 from https://www.who.int/school_youth_health/media/en/sch_skills4health_03.pdf

Yenilmez, K., & Çalışkan, S. (2011). İlköğretim öğrencilerinin çoklu zeka alanları ile yaratıcı düşünme düzeyleri arasındaki ilişki [Relationship between multiple intelligences and creative thinking of secondary school students]. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi, 17,* 48-63.

Yeşiltepe, S. S. (2011). *Öğretmenlerin evlilik uyumlarının psikolojik iyi oluş ve bazı değişkenler açısından incelenmesi [Investigation of teacher's marital adjustment terms of psychological well being and some of variables]*. Unpublished master's thesis, Çukurova University, Adana.

Yılmaz, M. F. (2013). *Üniversite öğrencilerinin psikolojik iyi oluşlarının problemli İnternet kullanımı ve bazı demografik değişkenler açısından incelenmesi [Investigation of psychological well-being of university students in terms of problematic Internet use and various demographic variables]*. Unpublished master's thesis, Anadolu University, Eskişehir.

Yiğit, R. (2013). Öğretmen adaylarının öznel iyi oluşu ile sosyal problem çözme becerileri arasındaki ilişkinin incelenmesi [Examination of relationship between well-being of teacher candidates and levels of social problem solving skill]. *İlköğretim Online, 12*(2), 550-560.

Yoldaş, C., Yetim, G., & Küçükoğlu, N. E. (2016). Okul öncesi öğretmen ve öğretmen adaylarının özyeterlik inançlarının karşılaştırılması [Pre-school teachers and teachers' self-efficacy beliefs comparison]. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi, 48,* 90-102.

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The School Readiness of 60-65 Months Old Students: A Case Study*

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Abstract

The aim of this study is to determine the school readiness of the 60-65 months first grade primary school students. The study was designed in accordance with qualitative case study. The participants of the study was composed of 20 teachers and 15 parents in Van/Turkey provincial districts in the 2017-2018 academic year. Semi-structured interview forms and an observation form were used as data collection tools in the study. Descriptive analysis was used in the analysis of the obtained data. As a result of the study, it was found that the students who start primary school in the age range of 60-65 months were not ready to start school and had difficulty in physical, emotional, cognitive and psycho-social readiness. In addition, this group falls behind the students in the 66-72 months in each of these areas.

Key words: Readiness, School starting age, School readiness, 60-65 months old students

Introduction

The school is a small society where children remain separated from their families for a while, and get involved in a certain order and plan for the first time. The effect of entry to this society on the student determine his / her perspective on school and education in the following years. Starting school means a first and challenging environment change for an individual at that age (Seven, 2011). The child's keeping pace with the new society necessitate cognitive, physical, emotional and psycho-social preconditions. At this point, the basic concept that comes to mind is the school readiness.

School Readiness

The readiness is getting prerequisite behaviors (Ülgen, 1997; Yılmaz & Sünbül, 2003), achieving a developmental role through learning and maturation (Başaran, 1998), the state of readiness of the nervous system to learn (Binbaşıoğlu, 1995), and the previous basic skills of organism learning a new task (Slavin, Karweit, & Wasik, 1994). The readiness is one of the important inputs of the teaching-learning process (Bloom, 1976). When the readiness is considered in terms of being ready for school, it can be expressed with different concepts such as "school maturity", "maturity to start school" or "school readiness" that is used more frequently (Mercan-Uzun, 2015).

School readiness can be expressed as a combination of emotional, behavioral, and cognitive skills necessary for a child to learn, study, and perform tasks (Rafoth, Buchenauer, Crissman & Halko, 2004; UNICEF, 2012). Factors affecting the school readiness are generally seen as physical, cognitive, emotional and social/environmental (Cinkilic, 2009; Çelenk, 2008; Özkesemen, 2008; Rafoth et al., 2004; Teke, 2010). It is possible that there will be differences in the dimensions of the readiness when it is taken as a whole. A student with the ability to physically start schooling may not be sufficient emotionally and will likely not overcome the "fear of being separated from the home / parent" (Yörükoğlu, 1993); it should not be overlooked a student who get along well with his / her peers and easily communicate / socialize may not develop the necessary cognitive competences related to the courses. Determining whether a child is ready for the tasks necessary to start the school is one of the important steps that will prevent him from failing in his first experience (Bağçeli-Kahraman & Başal, 2013; Oktay, 2010). Because cognitive, behavioral, emotional and social competences are significant

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predictors of school success in early childhood (Ladd & Burgess, 1999; McClelland, Morrison & Holmes, 2000; Ramey & Ramey, 2004).

The most basic feature of physical readiness is the healthy functioning of the five sensory organs. Small and large muscle development; eye-hand coordination; not being behind the peers in terms of height and weight; and a well speaking ability is included in the scope of this praxis. Physically, the individual who arrives at a level where he can perform the development tasks of the current period will also provide the necessary readiness for the next task. The fact that children are physically developed also has an important place in learning how to read and write (İnanç, Bilgin & Atıcı, 2005; Mercan-Uzun, 2015). While children in the five-year-old group develop in skills such as hand work, painting and drawing that require fine motor skills, these children have difficulties in drawing and writing the same things that are put in front of them. On the other hand, the children in the age group of six show a serious development in these issues (Kasten, 2017).

Scientific studies show that there is a direct relationship between learning and brain development (Ramey & Ramey, 2004). The cognitive readiness is expressed as the ability to learn and to have the prerequisite behavior and knowledge for a new learning (Tuna & Kaçar, 2005). The reason of the differences between the learning speed and level of students is explained by their cognitive readiness that is acquiring the necessary prior knowledge (Bloom, 1976). Asking questions about the correctness and inaccuracy of the learned knowledge, making analysis and synthesis, making evaluations and taking decisions are indicators whether an individual is cognitively ready or not (Ünal, 2005; Yenilmez & Kakmacı, 2008). At the age of five, children develop cognitively, especially in terms of establishing a cause-effect relationship. Besides, children, at the age of six, have significant improvements in problem solving, analogue thinking, deductive and inductive conclusions (Kasten, 2017). The ability of the students to perceive the directions, to follow them, to have the necessary cognitive ability to perform the task, and so on is related to cognitive readiness.

Emotional readiness can be defined as a child's self-awareness; being able to control his emotions in different situations; being able to balance between their own inner world and their expectations (Kandır, 2003). Children who are ready to study emotionally have a high level of school achievement while children who are not ready face serious emotional difficulties and risks, especially in the early years of school (Raver, 2003). Although IQ is emphasized more often, it is controversial whether emotional quotient (EQ) of children have a greater role in their following achievements which is the ability to understand and control their own emotions and the ability to read and respond to others' emotions. However, emotional quotient is a function of the brain. Both our emotional and social experiences are managed by a large neural structure known as the limbic system (Eliot, 2000). Therefore; it can be said that the physical, cognitive, emotional and psycho-social readiness, which are regarded as different dimensions of readiness, are not independent of each other. A student who starts primary school is supposed to develop some entrance behavior such as positive attitude towards reading, teaching and learning, confidence in class, and being able to cope with separation from parents.

Social development refers to the child's ability to interact socially. It includes social skills such as school integration, cooperation (Kagan, Moore & Bredekamp, 1995) and the process of adaptation to the society in which the child lives (Kandır, 2003). First grade students enter a new social environment and this new social environment challenges children in many ways. These students find themselves in a social environment in which they have never been before under the control of a teacher who they have never met before. In the classrooms, students see new desks, books, postcards, clocks, chants, maps etc. that they have never seen before. They meet with many new elements and spend a few hours of their time there (Entwisle & Alexander, 1998). Therefore; it is necessary to have competencies to cope with this new social environment. Psycho-social readiness involves some behaviors that an individual as a social entity is expected to show at almost all ages: complying with the rules of a newly entered society, communicating with individuals in society, being a part the society, and so on. The necessary competencies are related to the school starting age.

School Starting Age

Starting school is considered as a very important development task, because it can be very effective on the child's future success and behavior patterns (Entwisle, Alexander & Olsen, 2005). The calendar age is regarded as the basic criterion for starting school. Although calendar age is an important criterion, it is hard to say that it is sufficient by itself. It is also possible that the students who are not at calendar age might be in good physical, emotional and psycho-social conditions; on the contrary, students at calendar age may not be good at abovementioned skills of readiness (Yörükoğlu, 1993). Despite all, taking calendar age as basis is a fair approach for students to start school (Rafoth et al., 2004). Furthermore, when taken into consideration that physical development, cognitive development and social development of children show certain characteristics at

certain ages/periods, it is understandable that calendar age is considered as a criterion for starting school. The important aspect is to identify the students who are too young but ready or old enough but not ready to start school.

States specify an age (usually 5 for kindergarten, 6 for primary) as school starting age, and when children reach that age, they can start school (Rafoth et al., 2004). In Turkey, according to the Primary Education Law No. 222 and the Regulation on Primary Education Institutions, it is fundamental for the children in the age group of 69-80 months to make primary education registration under the law 6287. Nonetheless, the registration of children who are not physically and mentally mature could be delayed for one year in the direction of their request. After the legal regulation known as "4+4+4 Education System" (The Intermittent Compulsory Education System for 12 Years), with the amendment on July 21, 2012, it is compulsory for the children who complete 66 months in 2012-2013 academic year to start school. Children between the ages of 60-65 months will be able to start school with their parents' request (Official Gazette of Turkey, 2012). One year later, children in the age range of 66-71 months were provided with more flexible conditions and the opportunity to postpone the registration of the children between 66-68 was given to parents and the registration of the children of 69-71 months could be postponed for one year by doctor report (Official Gazette of Turkey, 2013). The most important point in this process is that whether 60-65 months old students have the necessary readiness to start school. Because, age is an important factor in school success, and those who are younger are less successful than older ones (Davis, Trimble & Vincent, 1980; Sharp & Hutchison, 1997; Shepard & Smith, 1986). Development in early childhood is known to be rapid. Although a five-month process doesn't make a significant difference for adults, for children, this process is of crucial importance. In this context, it is important to examine the readiness of these students to start school.

Purpose of the Research

In this research, it is aimed to examine the school readiness of 60-65 months old students who are in the first grade in primary school. In response to this general purpose, the answers to the following questions are sought: (1) How is the physical readiness of the 60-65 month old students at the beginning of the first semester? (2) How is the cognitive readiness of the 60-65 month old students at the beginning of the first semester? (3) How is the emotional readiness of the 60-65 month old students at the beginning of the first semester? (4) How is the psycho-social readiness of the 60-65 month old students at the beginning of the first semester?

Method

Research Design

This research is a qualitative case study investigating the school readiness of 60-65 months old students. The case study is a multidimensional, systematic and in-depth empirical research pattern that involves collecting data from multiple sources within the real-world context (Creswell, 2012; Patton, 2002; Yin, 2009). We define this study as a case study, because the school readiness of the students was evaluated in four dimensions (physical, cognitive, emotional and psycho-social) by collecting data from teachers, parents and students through interviews and observations in the real world context.

The case of the study is first grade students between 60-65 months. With the law adopted in Turkey, these children may start school at the request of their parents. These children are, in particular, younger than their classmates (66-72 months old). Thus, whether children are ready for school or not is a controversial issue.

Participants

The participants of the study are composed of 20 primary school teachers who work in state schools and 15 parents in Van province in Turkey in 2017-2018 academic year. Criterion sampling method was used to select participants. This sampling method is used when there are observation-interview units consisting of people, events, objects or situations with certain qualities in the research (Büyüköztürk, Çakmak, Akgün, Karadeniz & Demirel, 2013). The cases that meet predetermined criterion are selected in this sampling method (Patton, 2002). The basic criterion of this study is the presence of 60-65 month-old students in the classroom of interviewed teachers; and that the parents should have children aged between 60-65 months who start the school. Demographic information of participants is given in Table 1.

Table 1. Demographic information of participants

Participant	**Variable**		**n**
Teachers	Gender	Female	11
		Male	9
	Seniority	1-5 years	3
		6-10 years	4
		11-15 years	10
		16 years and above	3
Parents	Occupation	Laboratory worker	1
		Housewife	14
	Monthly income	1000-1500 Turkish Liras (TL)	5
		1501-2000 TL	7
		2001 TL and over	3
	Graduation	Not literate	3
		Primary school	5
		Secondary school	2
		High school	3
		Associate degree	1
		Under-graduate	1

Of the 20 teachers in the study group, 11 are female and 9 are male. The seniority of 3 teachers is 1-5 years; of 4 teachers is 6-10 years; of 10 teachers is 11-15 years; of 3 teachers is 16 years and above. 2 teachers are Education Institute graduates, and the remaining 18 teachers are bachelors of Faculty of Education. All 15 parents interviewed are females / mothers. One of them works as a laboratory worker and the other 14 are housewives. The numbers of families' students who continue to study at the schools vary between 2 and 4. Of 15 parents, 5 have 1000-1500 Turkish Liras (TL) monthly income; 7 have 1501-2000 TL monthly income; and 3 have 2001 TL and over monthly income. 3 of the interviewed parents are not literate. Of the remaining parents, 5 are primary school graduates, 2 are secondary school graduates, 3 are high school graduates, 1 has associate degree and 1 is under-graduate.

In addition to participants interviewed in the study, a student in the 60-65 months age range was regularly observed. Observed student is a girl born on 06.07.2012. Therefore, as of the date (18.09.2017) when the school started, she was 62-months and 12-days old. She is the youngest member of a family with 3 children. Her father is a construction worker; her mother is a housewife. The student didn't receive pre-school education and started school at the request of her family. At the beginning of the first semester this pupil was measured as 107 centimeters in height and 16 kilograms in weight.

Data Collection

Interviews and observations were performed for data collection. Two semi-structured interview forms and one observation form developed by the researchers were used as data collection tool in the research.

Interviews

Interview is considered as the most appropriate way of collecting data in terms of discovering the thoughts and perceptions of others and the diversity in viewpoints (Patton, 2002). Semi-structured interview forms, developed by researchers, were used to obtain the views of teachers and parents in this research. This type of interview, in which regulations can be made in the questions and the sequence of questions, can be structured during the interview, depending on the knowledge and ability of the investigator, to reach a structured interview level (Breakwell, 1995; cited in Büyüköztürk et al., 2013).

In the development process of the interview forms, literature was reviewed, draft forms were prepared, 2 field experts and 1 language expert were consulted about the draft form prepared. At the end of these stages, teacher and parent interview forms, each consisting of 5 questions, were prepared. Before the application, the teacher form was examined by 3 teachers, the parent form was examined by 2 parents, the forms were read aloud and the interview forms were finalized after the appropriateness was confirmed.

Interviews took approximately 30 minutes. The interviews were recorded with the permission of participants. In this way, it is aimed to listen to the answers repeatedly and to prevent data loss. The answers were arranged and analyzed according to the rules of writing and orthography.

Observations

In order to diversify the data and follow the teaching process, a student between 60-65 months age was observed by the researchers for 6 weeks in a class. During these observations, the observation form developed by the researchers was used. During the development of the observation form, the literature was reviewed and expert opinion was taken. Observations were made at a point in the class where the focused student could be observed, without intervention in the process. Observations focused on the students' physical, cognitive, emotional and psycho-social readiness in accordance with research questions. The actual name of the student observed in the study was not used, but nickname (Elif) was used instead.

Analysis of Data

Descriptive analysis technique was used in the analysis of the data. In this analysis technique, the obtained data is summarized and interpreted on the basis of the predetermined themes or the research questions (Yıldırım & Şimşek, 2011). In the process of data analysis, firstly, the notes from the observations and the answers of the teachers and parents to the interview questions were arranged in accordance with writing rules. After this stage, the written document was read several times by the researchers for general understanding. Some codes were determined (research questions) and the data was analyzed on the basis of these codes at the next stage. After then, the codes were gathered under themes (physical readiness, cognitive readiness, emotional readiness, and psycho-social readiness). Lastly, the data were summarized, interpreted, and the relationships among these themes were noted. The followings are sample codes and themes for the analysis of the research data:

Theme	**Code**	**Data**
Physical readiness	Fine motor skills	*"In general, they are insufficient in terms of fine motor skills. That affects their writing abilities. In this regard, they are like inclusive students. They have trouble with holding the pen. "*
Cognitive readiness	Perception	"*The younger students understand the instructions late while dealing with the tasks. Students of 66-72 months are better."*
Emotional readiness	Attitude towards school	*"Somehow, the student did not like the teacher and the school"*
Psycho-social readiness	Socializing	*"These children are not very social. They are egoistic, they play parallel games, and it is not a problem for them to be independent. The 66-72 months old students are better for cooperation. They easily enter groups and adapt. "*

Validity and Reliability

Various strategies can be used to ensure trustworthiness/validity and reliability in qualitative studies. The main strategies used in this study are given below (Lincoln & Guba, 1985; Merriam, 1995):

- **Triangulation**: Multiple sources (teachers, parents and a student) and data collection methods (interviews and observations) were used for triangulation.
- **Member Checks**: Participants (two teachers and two parents) checked the findings and confirmed that the results reflect their experiences.
- **Peer Examination**: An expert in Curriculum and Instruction Department examined the data, codes, themes and interpretations and confirmed them.
- **Detailed Descriptions**: The research design, participants, data collection process, and findings were explained in detailed and the results were quoted directly.
- **Reliability Formula**: Miles & Huberman (1994) reliability formula [Reliability = Opinion Union / (Consensus Unit + Opinion Separation)] was used in the analysis of data. The researchers analyzed the data separately, after then compared the results and tried to reach a consensus. As a result of this process, the agreement between the researchers was determined as 92%. More than 70% of the value of reliability indicates that the results are reliable.

Results

In this section, results obtained in the study are presented. The main themes of physical, cognitive, emotional and psycho-social readiness are detailed with sub-themes determined in the interviews with teachers (T) and parents (P) and observations (O) made in class.

Physical Readiness

Height and Weight

As a result of the interviews and observations, it was found that 60-65 months old students are inadequate physically. The participants asserted that the length and weight of these students are less than those of the students aged between 66-72 months. The participants stated these students cannot carry their school bags, cannot wash their hands in the washbasins and have difficulty in the school canteen when shopping because of their insufficient weight and height. It has also been determined that the observed student writes and draws standing because of her shortness.

> *"Compared with the other children, they are short, weak and their hand muscles are not developed. They hardly carry their bags."* ***(T10)***
> *"I think they are not physically ready. School sinks are not short enough, they have difficulty in washing their hands. They are weaker and shorter than others."* ***(T11)***
> *"His weight is good, but he's a bit short in height. He said it was difficult when shopping in the school canteen."* ***(P1)***
> *"His hand does not reach to the sink; he cannot wash his hands. He's a little short, his bag is heavy on him, I carry his bag."* ***(P3)***
> *"The boy is a bit short compared to his classmates. His desk is a little big."* ***(P6)***
> *"Elif is sitting on the ringside desk. She is a little short; the table is too big for her. While she is studying on her desk, she writes and draws standing."* ***(O1)***

Thin Muscle Development

Most of the teachers agree that thin muscles of pupils aged between 60-65 months are not developed sufficiently. For this reason, these students have trouble holding a pencil, and they cannot complete their studies like writing which is one of the critical gains of the first class. A teacher remarked that these students are like inclusive students because of their low physical readiness level.

> *"I do not think they're ready. They are physically inadequate. Their thin muscles are not sufficiently developed."* ***(T1)***
> *"They are generally insufficient in terms of fine motor skills. This also affects the writings of students. In this regard, they are like inclusive students. They have trouble holding a pencil."* ***(T6)***
> *"I do not think they are physically ready. Muscle structures are weak, small and students are weak. They often fall into place."* ***(T8)***

Fatigue

Another result related to the physical readiness is that the students aged between 60-65 months get tired much faster than those who are aged between 66-72 months. Participants have attributed this to the abovementioned physical development in general, particularly the muscular development which is not sufficiently developed. In addition, it has been found that students are slow to work due to their rapid fatigue. It is stated by the participants that the students between the ages of 60-65 months are behind the 66-72 months old students in performing the assigned tasks. Also, the observations made support the expressions of the participants. Below are some interviews and observation notes on this topic.

> *"I do not think they are physically ready to start the school. Because their muscles are not developed enough, they get tired quickly and stop writing. There is a gap between them and 66-72 months old students."* ***(T13)***
> *"They are not physically ready to carry this load. They cannot write, they get tired and are fed up with the events quickly. Students who are aged between 66-72 months are more comfortable."* ***(T15)***

"S/he pauses a lot when doing his/her homework. S/he says 'We have already written at school, I'm very tired'." ***(P9)***
"We have difficulty when he studies at home. He often complains that his hands are tired." ***(P14)***
"They fulfill the task given as a whole class. When entering into the last 10 minutes of class, Elif stopped writing and waited still while her head wan on the desk." ***(O3)***
"They are not able to completely write vertical basic letters because of the inadequacy of their muscular skills. They write more slowly than students who are 66-72 months old." ***(T3)***
"Their psycho-motor development is less than 66-72 months old students, so, they fulfill their tasks slowly and awkwardly. Despite the children's' desire, their strength falls short." ***(T7)***
"He writes one-page homework in 2-3 hours." ***(P2)***
"After dinner, he does his homework partly and slowly and extends his homework over a period of time till sleeping." ***(P11)***
"The teacher asked them to fulfill the tasks given on the pages which are about the letters from they have learned through fascicule. At the moment, while most of the students in the class are doing the tasks on the 9th or 10th page, Elif is doing the tasks on the fourth page" ***(O2)***

Cognitive Readiness

Perception

One of the results in the study related to cognitive readiness is that students who are aged between 60-65 months have more difficulties in perceiving and following the directives than students who are between the ages of 66-72 months. It has been found out that the teachers especially point out to negative opinions in this regard. In addition, through the observations made, it was determined that the children aged between 60-65 months have problems in comprehending and fulfilling the tasks given. Below are some interviews and observation notes on this topic.

"60-65 months aged students do not listen to the lesson. Listeners do not understand, either. They understand what they will do later than other students." ***(T5)***
"Younger students have trouble in perception. They quickly forget what is said, they cannot fulfil their duties." ***(T8)***
"Students in the age range of 60-65 months have difficulty in pursuing, generalizing, reasoning. Students older than 66 months old students are more active in the class and their perceptions are clearer." ***(T10)***
"Younger students double-take what is said when they fulfil their tasks. The students who are aged between 66-72 months are more ready, and able to understand and practice better." ***(T17)***
"I observed that the students aged between 60-65 months have more difficulty in perceiving directives and establishing a connection between subjects." ***(T20)***
"The teacher said they would fold the corner of the page that is open in front of them and paint the page at home. Elif did not fold the corner of the page. She turned the next page." ***(O2)***
"Teacher called Elif to the blackboard. Write 'ka' said teacher. Elif wrote 'el'." ***(O3)***

It has been determined that some of the parents have different views on the cognitive readiness of the students who are aged between 60-65 months. These parents stated that they don't have problems in perceptions and fulfilment of their assigned tasks. These participants asserted that their children's perception is good, and they understand everything. Here are some interviews related to this:

"His perception is good. He understands everything you say." ***(P1)***
"When I want something from him at home, he immediately understands it and does it beautifully." ***(P6)***
"My child's perception is very clear. He does the work that needs to be done at home and does what we want from him without repetition." ***(P14)***

Fulfil the Tasks

It has been reached that the students who are aged between 60-65 months do not fulfil the tasks given in the lesson or homework, cannot complete them, and sometimes parents do their homework. Teachers stated that these students have a limited time of attention, that they did wrong tasks, and that they were late to read. Parents also stated that their children were not able to perform the assigned tasks adequately. When the opinions are

examined; it is seen that physical deficiencies are also the cause of cognitive problems. Below are some observations and interviews related to this topic:

> *"Students aged between 60-65 months need more help. Attention time is shorter than students aged between 66-72 months. They cannot do the given missions on time or they do wrong."* ***(T3)***
> *"Students aged between 60-65 months cannot do assignments-homework, they have their families done it. They fall behind in the class."* ***(T6)***
> *"Students aged between 60-65 months have a harder time of fulfilling the duties given in comparison to those in the range of 66-72 months. Especially, it can be said that they reach the level of reading later."* ***(T20)***
> *"He starts doing the homework. Towards the end, I hold his hand and we write together. Suddenly, I notice that I keep writing and he watches me. What can I do? The child cannot do it alone."* ***(P4)***
> *"The teacher gave the task of painting the open page in front of them, the ones with the "l" letter. There are 10 pictures on the page, Elif painted only 2 of the 7 pictures that need to be painted."* ***(O1)***

Emotional Readiness

Attitude towards School

Another dimension of the 60-65-month-old children's readiness is the emotional readiness. At this point, important findings obtained is that the students aged between 60-65 months have a negative attitude towards students, teachers and school. Teachers have indicated that those children have developed negative attitudes towards the school, the lesson and the teaching because they are not emotionally prepared and that 66-72 months old children are ready. Similarly, some parents reported that their children don't like school and teachers. It has been noted by some participants that the 60-65 months old students exhibit a negative attitude towards school when they cannot overcome the task they are supposed to do.

> *"Students who are not emotionally ready are unhappy at school and have trouble. These troubles cause students to develop a negative attitude towards school and teacher and a feeling of inadequacy."* ***(T13)***
> *"The 60-65 month old children are at play age. They are far behind the students aged between 66-72 months old in terms of interest to lessons, teachers and school "(P18)*
> *"School, homework, lectures turn into torment for students aged between 60-65 months. They do not like it, they have hard times, and as a result they take a dislike to school and teacher."* ***(T11)***
> *"Before the school starts, he would be very happy to mention about the school. But starting from the first day, he began to show a bad attitude towards the teacher and dislike school. This still continues. I do not understand why."* ***(P10)***
> *"The bell rang. Some of the female students ran to hold their teacher's hands and walk in the corridor with her. Up to now, it hasn't been observed that Elif approached her teacher and held her teacher's hand"* ***(O6)***

Separation from Families

Another result related to emotional dimension is that children who are aged between 60-65 months, experience problems when separated from their families. It has been stated by the teachers and parents that the students aged between 60-65 months are not easily able to leave their families when starting the school and that the school is more difficult for them than the students aged between 66-72 months. The teachers stated that some of the younger students have come to lesson with their parents for weeks. Also, a parent marked that her child cries and hides when it is time to go to school. Here are some opinions on this topic:

> *"I cannot say they are very prepared emotionally. Separation of 60-65 months old children from their family is a dramatic situation compared to 66-72 months old children. They want more attention than others."* ***(T4)***
> *"I do not think 60-65 months old students are emotionally ready to start school. They do not want to leave the family. One of the students came to lesson with his mother for 3 weeks."* ***(T12)***
> *"They want a lot of care. This level of care can only be found within the family. That is why they do not want to be separated from their parents."* ***(T15)***

"To tell you the truth, each day of the first two weeks was a torment for us. She did not want to leave us. She cried and didn't want to come to school, and was hiding when it was time to go school." ***(P5)***
"He did not warm up to school. He thought as if the school takes her away from her family. He did not go into class without me or his father." ***(P8)***
"He once said to me," I do not like school, I like my family, I do not want to leave you." ***(P12)***

Self-Confidence

The students aged between 60-65 months don't trust themselves, during the events they remain in the background and they became introverted. The participants stated that these students are insufficient in terms of self-confidence, sense of success, self-expression. It has been expressed by some participants that this is a consequence of not having an adequate physical and cognitive readiness level. Here are some notes on this topic:

"When these students (60-65 months) fall behind in literacy activities, they begin to have confidence issues. They keep themselves in the background" ***(T5)***
"The younger children are insufficient in terms of self-confidence, sense of success, self-expression. The students who are aged between 66-72 months are much better in these matters." ***(T12)***
"Students aged between 60-65 months are also far behind emotionally. They are more emotional than the others. They feel bad when they fall behind in certain subjects. Their self-esteem disappears" ***(T16)***
"Students who are aged between 60-65 months have lower self-confidence. They cannot express themselves, they turn in upon themselves and live in their own world." ***(T20)***
"Normally, he is an active boy who makes a mess of the house. But he becomes introverted at school, as if he wasn't the same self-confident child as in the house." ***(P4)***
"The school is very crowded for her. He is also small. He feels himself in danger and alone. The school is an unsafe place for him." ***(P15)***
"The teacher writes the letters learned at the beginning of the lesson. He wants the students to read letters-syllables. While most of the class repeat the letters aloud. Elif does not, she watches her friends around." ***(O4)***

Psycho-Social Readiness

Socialization

It has been found that students aged between 60-65 months had difficulty in socialization and involving in group work, and that they were not as successful as students in the age range of 66-72 months. In interviews, teachers stated that 60-65 month old children didn't participate in playgroups, their communication was not good, they were not participative, they spent time alone and developed more close relationships with their own family members than their friends. Parents seem to have similar expressions. In addition, observation data supporting these findings have been obtained. The citations about this subject are as follows:

"The 66-72 month old students make friends more quickly; they can create a play group. Younger students spend time alone or around their teacher." ***(T3)***
"These children are not very social. They are egoists, play parallel games; it is not a problem for them to be independent. The 66-72 month old students are better for cooperation. They easily enter groups and adapt." ***(T6)***
"The 60-65 month old students experience a more dominant relationship with their parents and siblings which keeps them away from sharing, cooperating, and expecting acceptance in the school." ***(T7)***
"Since 60-65 month old students cannot perform the necessary tasks in the games, they are not included to the games by other students because they are slow. That's why their communication with their friends is not very good." ***(T14)***
"60-65 month old students have problems in friendships. They do not know how to share." ***(T18)***
"Young students who have difficulty academically also have difficulty in socializing. The feeling of failure turns them into independent, group-independent individuals." ***(T20)***
"He's fallen behind on some issues because he's a few months younger than the others. In that case, they did not include him the games." ***(P7)***

"Some students in the class have known each other since kindergarten. Ours did not go to kindergarten. It's a bit difficult to establish friendship." ***(P12)***
"The bell rang. Everybody ran out. Elif walked out. He ran alone for a while, then sat on the bench. I approached her when the bell rang and I asked why she walked alone. She said, "I have no friends." ***(O1)***

Obey the Rules

Another important result related to psycho-social readiness is the adoption of students aged between 60-65 months to class and school rules. Particularly, teachers consider students to be problematic in adhering to the rules of class and school, while parents are of different opinions. The teachers stated that these students don't accept the rules, consider themselves at home, go to class late, and sleep in the class. While some parents stated that their children obey class and school rules, some said they did not.

"They always stand up and have trouble keeping up with class rules, which makes it hard for other students to accept them." ***(T2)***
"Students between the ages of 60-65 months have trouble getting use to the school rules. They tend to consider themselves at home and exhibit behaviors such as sleeping, going to class late, eating late and collecting their stuff late. The students who are older never lose their leadership in the games." ***(T11)***
"In terms of acceptance by colleagues, adoption of class rules, adaptations, students aged between 66-72 months are better than those aged between 60-65 months." ***(T16)***
"They have trouble keeping up with school and classroom rules, and have problems with interiorizing classroom rules." ***(T18)***
"My child follows the rules, sit quietly, make no noise at all" ***(P11)***
"My child is a little hyperactive. He cannot sit for a long time. He stands, wonders and jumps. That's why he cannot adopt the rules anyhow." ***(P6)***
"My daughter was not accustomed to classroom rules, lessons, sitting and listening because she did not go to kindergarten. It was a little difficult. But now it looks good." ***(P5)***

Discussion and Conclusion

In this study, it was aimed to determine the school readiness of the first grade students who started school at the ages of 60-65 months. The results were presented and discussed in four dimensions (physical, cognitive, emotional, psycho-social readiness).

As a result of the study, it was found that the first grade students who start school at the age of 60-65 months old do not have the necessary physical readiness. 60-65 month old students fall behind in terms of height, weight, thin muscle development compared to those in the age range of 66-72 months; they get tired quickly in writing activities; when they fulfil their assigned tasks, and it was concluded that they show a slow progress and finish the tasks lately. This result coincides with the result of the study by Ünver, Dikbayır & Yurdakul (2015). In their study, they concluded that "students who are younger in terms of a few months have difficulty in studies that require fine muscle skills such as cutting and writing". Moreover, Arı (2014) concluded that 60-65 months old students are not able to close the scissors, cannot close the button of the zipper / trousers and are smashed due to shortness in breaks. In the study conducted by Sak, Şahin-Sak & Tuncer (2016), it was concluded that children attending pre-school education stated that they expect a new physical environment in primary school. Therefore, it is necessary to be physically ready to cope with this new physical environment.

It was concluded that students aged between 60-65 months have more cognitive problems than older students. Most of 60-65 months old students are faced with problems in perceiving and fulfilling their tasks given properly. These students have problems with reading, writing and learning the letters. Students between the ages of 66-72 months perform better in terms of perceiving, fulfilling and learning letters. Gündüz & Çalışkan (2013) reached a similar result. In their study, they examined the school maturity and literacy skills of children aged between 60-84 months, it was found that the perception levels, school maturity and literacy skills of the students aged between 66-72 and 72-84 months are better than 60-65 month old students. Öztürk & Uysal (2013) concluded that "the students who are 60-66 months old have difficulty in the visual perception, in writing the letters, in defining the visual expressions" as a result. In another study, Sharp & Hutchison (1997) found that autumn-born (older) children achieved better test scores than summer-born (younger) ones in England and Wales. Additionally, Hámori (2007) concluded that there is a positive correlation between school starting age and academic performance. On the other hand, in this study, some parents stated that their children are ready

cognitively and they have no deficiencies in perception contrary to opinions of teachers. In this sense, it cannot be said that the views of teachers and parents completely overlap.

Starting school at early ages have a negative impact on self-esteem and learning motivation to learn and can increase anxiety (Sharp, 2002). Emotional factors such as self-confidence, self-esteem, and mother dependence have a significant impact on school readiness (Birch & Ladd, 1997). The results obtained from the study revealed that the students between the ages of 60-65 months have some emotional problems. Students in this age group have difficulty in remain separate from their families; they were introverted and showed lack of self-confidence; self-esteem; and they have negative attitude towards school, teachers, and learning. Similar results were obtained in the related studies. Canbulat (2007) reached the conclusion that the adaptation level of 66 months old and older students to school is better than those aged between 60-65 months. In another study, Yoleri & Tanış (2014) reached the conclusion that the adaptation level of 72 months old students is better than 60 months old students. Similarly, Kerimoğlu (2014) reached the conclusion that 5-year-old group (60-month-old) are more likely to experience problems of restlessness, anxiety and shyness than 6-and 7-year-old groups (72-84-month-old).

In the study, it was concluded that the students who started school at the age of 60-65 months have psycho-social problems and thus they are not fully ready. The most important result related to socialization defined as becoming a group and acquire the values of that group (Gander & Gardiner, 2004). This age group is far behind in terms of socializing, participating in groups, spending time with other students and teachers, communicating, adopting class and school rules, and adhering to rules than the students aged between 66-72 months. However, student-teacher and student-student relations have an important role in adapting to school (Birch & Ladd, 1997; Gülay, 2011; Ogelman & Erten, 2013). According to this result, which also coincides with the results of Kapçı, Asar, Çelik, Daşcı & Avşar (2013), students aged between 60-65 months suffer social problems both in the beginning of the process and in the following periods. Kerimoğlu (2014) carried out a study and reached a similar result that five-year-old students have problems in social relationships such as carelessness, hyperactivity and that they don't follow the directions and obey the rules. Erdoğan-Işıkoğlu & Şimşek (2014) approached this issue from a different perspective and stated that sharing the same environment with the older students cause the younger students aged between 60-65 months have difficulty in communication and socialization. The children in this situation should be encouraged and supported for their personal enterprises and they should be cared (Kasten, 2017). In this study, it was also found that physical disability is one of the obstacles that hinders the socialization of children aged between 60-65 months. Because, psychomotor readiness serves as a tool for learning and child's social relationships (Cobb, 2001).

When the results obtained in this study are evaluated as a whole, 60-65 months old students come out to have experienced some important problems related to the school readiness. Although these problems were investigated in different dimensions, it was observed that these dimensions affect each other. Especially, students who are not ready physically do not fulfil their tasks, socialize adequately and develop positive attitudes towards school/teacher/learning. Thus, school success of these students is less than 66-72 months old students. Similarly, in the study conducted by Şahin, Sak & Tuncer (2013), it was determined that the most emphasized dimension affecting school readiness by participants was physical readiness.

Recommendations

In the light of the results obtained in the study, some suggestions can be made. Firstly, it can be said that the school starting age policy in Turkey should be revised, and specialized reports and readiness tests (e.g. the Metropolitan Readiness Tests) can be utilized instead of parental preference. Because, it is known that school starting age have a positive effect on school success (Hámori, 2007), and developed countries tend to keep the school starting age higher (Dee & Sievertsen, 2018). Secondly, the school and the families should collaborate to ensure the physical, cognitive, emotional and psycho-social readiness of students and the parents whose children's school readiness is insufficient should be informed. In addition, families should be encouraged to send their children to pre-school education. Because, pre-school education has a positive effect on development areas of children and therefore, it is important for theirs primary school readiness (Şahin, Sak & Tuncer, 2013). Lastly, the size of the desks and sinks, and the materials used in the teaching process should be suitable for all students.

References

Arı, A. (2014). İlkokul birinci sınıfa başlama yaşına ilişkin öğretmen görüşleri [Teacher views about the starting age of the first grade elementary school]. *Kuram ve Uygulamada Eğitim Bilimleri, 14(3),* 1031-1047.

Bağçeli-Kahraman, P., & Başal, H. A. (2013). Okula hazırbulunuşluğu değerlendirme testinin uyarlama çalışması [The adaptation study of school readiness evaluation test to Turkish]. *The Journal of Academic Social Science Studies, 6*(1), 889-911.

Başaran, İ. E. (1998). *Eğitim psikolojisi [Educational psychology] (5th Edition).* Ankara: Aydan Press.

Binbaşıoğlu, C. (1995). *Eğitim psikolojisi [Educational psychology] (9th Edition).* Ankara: Yargıcı Press.

Birch, S. H., & Ladd, G. W. (1997). The teacher-child relationship and children's early school adjustment. *Journal of School Psychology, 35*(1), 61-79.

Bloom, B. S. (1976). *Human characteristics and school learning.* McGraw-Hill.

Büyüköztürk, Ş., Çakmak, E., Akgün, Ö.E., Karadeniz, Ş., & Demirel, F. (2013). *Bilimsel araştırma yöntemleri [Scientific research methods]*. Ankara: Pegem Akademi Press.

Canbulat, T. (2007). Kesintili zorunlu eğitimden etkilenen ilkokul birinci sınıf öğrencilerinin okula uyum ve okula hazır bulunuşluk düzeylerinin değerlendirilmesi [Evaluation of school compliance levels and readiness for school of freshmen's who are affected from intermittent mandatory training]. *Kastamonu Eğitim Dergisi, 25(4),* 1573-1586.

Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five approaches.* California: Sage Publications Ltd.

Cobb, N. J. (2001). *The child: Infants and children*. California: Mayfield Pub. Co.

Çelenk, S. (2008). İlköğretim okulları birinci sınıf öğrencilerinin ilkokuma ve yazma öğretimine hazırlık düzeyleri [Level of readiness for reading and writing education among first grade students of primary schools]. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 8*(1), 83-90.

Davis, B. G., Trimble, C. S., & Vincent, D. R. (1980). Does age of entrance affect school achievement?. *The Elementary School Journal, 80*(3), 133-143.

Dee, T. S., & Sievertsen, H. H. (2018). The gift of time? School starting age and mental health. *Health economics, 27*(5), 781-802.

Eliot, L. (2000). *What's going on in there?: how the brain and mind develop in the first five years of life.* USA: Bantam Books.

Entwisle, D. R., & Alexander, K. L. (1998). Facilitating the transition to first grade: The nature of transition and research on factors affecting it. *The Elementary school journal, 98*(4), 351-364.

Entwisle, D. R., Alexander, K. L., & Olsen, L. S. (2005). First grade and educational attainment by age 22: A new story. *American Journal of Sociology, 110*(5), 1458– 1502.

Erdoğan-Işıkoğlu, N., & Şimşek. Z. C. (2014). Birinci sınıfa başlayan çocukların, velilerin ve öğretmenlerin okula uyumlarının incelenmesi [Investigation of school readiness of first grade children, parents and teachers]. *International Journal of New Trends In Arts, Sports & Science Education, 3*(2). 62-70.

Gander, M. J., & Gardiner, H. W. (2004). *Çocuk ve ergen gelişimi [Child and adolescent development]*. (Translate: A. Dönmez, N. Çelen & B. Onur.). Ankara: İmge Press.

Gülay, H. (2011). 5-6 yaş grubu çocuklarda okula uyum ve akran ilişkileri [School adjustment and peer relationships of 5-6 years old children]. *Elektronik Sosyal Bilimler Dergisi, 10*(36), 1-10.

Gündüz, F., & Çalışkan, M. (2013). 60-66, 66-72, 72-84 Aylık Çocukların Okul Olgunluk ve Okuma Yazma Becerilerini Kazanma Düzeylerinin İncelenmesi [Investigating the level of 60-66, 66-72, 72-84 monthold children's school readiness and acquisition of literacy skills]. *Turkish Studies – International Periodical For The Languages, Literature and History of Turkish or Turkic, 8*(8), 379-398.

Hámori, S. (2007). *The effect of school starting age on academic performance in Hungary* (No. BWP-2007/2). Budapest Working Papers on the Labour Market.

İnanç, B. Y., Bilgin, M., & Atıcı M. K.(2005). *Gelişim psikolojisi [Development psychology]*. Adana: Nobel Press.

Kagan, S.L., Moore, E. & Bredekamp, S. (Eds.). (1995). *Reconsidering children's early development and learning: Toward common views and vocabulary*. Report of the National Education Goals Panel, Goal 1 Technical Planning Group. Washington, DC.

Kandır, A. (2003). *Gelişimde 3-6 yaş çocuğum büyüyor [My 3-6 years old child is growing in development]*. İstanbul: Morpa Kültür Press.

Kapçı, E., Artar, M., Çelik, E.G., Daşcı, E., & Avşar, V. (2013). *İlkokul birinci sınıfa farklı yaşlarda başlayan çocukların ruhsal ve sosyal gelişimi ile akademik benlik algılamaları açısından karşılaştırılması [A comparison between the psychological, social development and academic self-perceptions of children who started at different ages of primary school]*. Unpublished Project, Ankara University.

Kerimoğlu, F. (2014). *Farklı yaştaki çocukların oluşturduğu ilkokul 1. sınıflara ilişkin öğretmen değerlendirmmesi [Teachers' evaluations of 1st grade elementary school classrooms consisting of*

children from different ages] (Unpublished Master Thesis). Ankara University Educational Sciences Institute, Ankara.

Kasten, H. (2017). *4-6 yaş çocuk gelişimi & gelişim psikolojisinin temel esasları II [Basic principles of 4-6 years old child development and developmental psychology II]* (Translate Edt. Oğuz Emre). Ankara: Anı Press.

Ladd, G. W. & Burgess, K. (1999). Charting the relationship trajectories of aggressive, withdrawn, and aggressive/withdrawn children during early grade school. *Child Development, 70*(4), 910–929.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

McClelland, M. M., Morrison, F. J., & Holmes, D. L. (2000). Children at risk for early academic problems: The role of learning-related social skills. *Early Childhood Research Quarterly, 15*(3), 307–320.

Mercan-Uzun, E. (2015). *Okul öncesi dönemde uygulanan "okula hazırız" eğitim programının ilkokul birinci sınıf öğrencilerinin okula uyum ve hazırbulunuşluk düzeylerine etkisi* [*The effects of 'we're ready for school' education program - applied in preschool year - on school adaptation and school readiness of 1st grade elementary school students*] (Unpublished Doctorate Thesis). Ondokuz Mayıs University Educational Sciences Institute, Samsun.

Merriam, S. (1995). What can you tell from an N of l?: Issues of validity and reliability in qualitative research. *PAACE Journal of lifelong learning, 4*, 50-60.

Official Gazette of Turkey. (2012). *Millî eğitim bakanlığı ilköğretim kurumları yönetmeliğinde değişiklik yapılmasına dair yönetmelik [Regulation on amendments to the regulation of the Ministry of National Education]*. Date: 21.07.2012, Number: 28360.

Official Gazette of Turkey. (2013). *Millî eğitim bakanlığı ilköğretim kurumları yönetmeliğinde değişiklik yapılmasına dair yönetmelik [Regulation on amendments to the regulation of the Ministry of National Education]*. Date: 14.08.2013, Number: 28735.

Ogelman, H. G., & Erten, H. (2013). 5-6 yaş çocuklarınınn akran ilişkileri ve sosyal konumlarının okula uyum düzeyleri üzerindeki yordayıcı etkisi (boylamsal çalışma) [Following relations of 5-6 year-old children, who attend preschool education, in terms of social position, peer relationships and school adjustment levels (longitudinal study)]. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 30*, 153-163.

Oktay, A. (2010). *İlköğretime hazırlık ve ilköğretim programları [Preparation for primary education and primary school curricula]*. Ankara: Pegem Akademi Publishing.

Özkesemen, A. (2008). *Okul öncesi eğitimi alan ve almayan 1. sınıf öğrencilerinin akademik başarılarının yeni müfredat programına göre değerlendirilmesi [In terms of the new curriculum an assesstment of the academic success of the first grade students who had preschool education and who had not.]* (Unpublished Master Thesis). Kafkas University Social Sciences Institute, Kars.

Öztürk, E., & Uysal, K. (2013). İlkokul 1.sınıf öğrencilerinin okuma–yazma süreçlerinin takvim yaşı yönünden karşılaştırılması [Comparison of primary school first graders' literacy process in terms of chronological age]. *Turkish Studies- International Periodical for the Languages, Literature and History of Turkish or Turkic, 8*(8), *1041-1054.*

Patton, M. Q. (2002). *Qualitative research and evaluation methods (3rd ed.),* California: Sage Publications, Inc.

Rafoth, M. A., Buchenauer, E. L., Crissman, K. K., & Halko, J. L. (2004). School readiness-preparing children for kindergarten and beyond: Information for parents. *School and Home,* 1-3.

Ramey, C. T., & Ramey, S. L. (2004). Early learning and school readiness: Can early intervention make a difference?. *Merrill-Palmer Quarterly, 50*(4), 471-491.

Raver, C. C. (2003). Young children's emotional development and school readiness. *Social policy report, 16*(3), 3-19.

Sak, R., Şahin-Sak, İ. T., & Tuncer, N. (2016). Turkish preschool children's perceptions and expectations related to 1st-grade education. *Childhood Education, 92*(2), 149-154.

Seven, S. (2011). Okula uyum öğretmen değerlendirmesi ölçeği'nin geliştirilmesi [Developing of adaptation to school teacher assessment scale]. *Türk Eğitim Bilimleri Dergisi Kış, 9(1), 29-42.*

Şahin, İ. T., Sak, R., & Tuncer, N. (2013). Okul öncesi ve birinci sınıf öğretmenlerinin ilköğretime hazırlık sürecine ilişkin görüşlerinin karşılaştırılması [A comparison of preschool and first grade teachers' views about school readiness]. *Kuram ve Uygulamada Eğitim Bilimleri, 13*(3), 1691-1713.

Sharp, C. (2002, November). School starting age: European policy and recent research. In *LGA Seminar "When Should Our Children Start School?"*.

Sharp, C., & Hutchison, D. (1997). *How do season of birth and length of schooling affect children's attainment at key stage 1?: A question revisited*. Slough: NFER.

Shepard, L. A., & Smith, M. L. (1986). Synthesis of research on school readiness and kindergarten retention. *Educational Leadership, 44*(3), 78-86.

Slavin, R., Karweit, N., & Wasik, B. (1994). *Preventing early school failure: Research, policy, and practice.* Needham Heights, MA: Allyn & Bacon.

Teke, H. (2010). *Ana sınıfı öğretim programının ilköğretim 1. kademe 1. sınıf öğrencilerinin hazırbulunuşluk düzeylerine etkisinin öğretmen görüşlerine göre incelenmesi [Analysing the effect of pre-school curriculum in first grade level on student?s level of school readiness according to the views of teachers]* (Unpublished Master Thesis). Selçuk University Social Sciences Institute, Konya.

Tuna, A., & Kaçar, A. (2005). İlköğretim matematik öğretmenliği programına başlayan öğrencilerin lise 2 matematik konularındaki hazır bulunuşluk düzeyleri [Level of mathematics teacher candidates' readiness to high school 2 mathematics subjects]. *Kastamonu Eğitim Dergisi, 13*(1), 117-128.

UNICEF. (2012). School readiness: A conceptual framework. United Nations Children's Fund: New York.

Ülgen, G. (1997). *Eğitim psikolojisi [Educational psychology]*. İstanbul: Alkım Press.

Ünal, M.(2005). *Eğitim fakültelerinde ortak ders olarak okutulan yabancı dil derslerinde öğrencilerin bilişsel hazırbulunuşluk düzeylerinin akademik başarıya etkisi (The effects of students' cognitive readiness on their academic accomplishment in foreign language courses in the faculties of education]* (Unpublished Master Thesis). Gazi University Educational Sciences Institute, Ankara.

Ünver, G. B.,Dikbayır, A., & Yurdakul, B. (2015). Kesintili zorunlu eğitim ilkokul birinci sınıf uygulamalarının incelenmesi [Investigation of first grade applications in discrete compulsory education]. *K. Ü. Kastamonu Eğitim Dergisi 23* (4), 1647-1664.

Yenilmez, K., & Kakmacı, Ö. (2008). İlköğretim yedinci sınıf öğrencilerinin matematikteki hazır bulunuşluk düzeyi [Level of mathematics readiness of primary school seventh grade students]. *Kastamonu Eğitim Dergisi,* 16(2), 529-542.

Yılmaz, H., & Sünbül, A. M. (2003). *Öğretimde planlama ve değerlendirme [Planning and evaluation in teaching]*. Ankara: Mikro Publishing.

Yin, R. K. (2009). *Case study research: design and methods.* Los Angeles: Sage Publications.

Yoleri, S., & Tanış, H. M. (2014). İlkokul birinci sınıf öğrencilerinin okula uyum düzeylerini etkileyen değişkenlerin incelenmesi [Determination of the factors affecting adjustment levels of first class students at elementary school]. *Karabük Üniversitesi Sosyal Bilimler Dergisi*, *4*(2), 130-141.

Yörükoğlu, A. (1993). *Çocuk ruh sağlığı [Child's mental health]*. İstanbul: Özgür Press.

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Analyzing the Digital Addiction of University Students through Diverse Variables: Example of Vocational School

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Abstract

Today, when information technologies are evolving rapidly, digital platforms such as computers, the internet, social media and smartphones have become essential parts of our lives. These digital platforms are intensely used by people with a variety of ages. Students mostly use digital platforms to communicate, navigate on social media and playing online and offline games. The digital platforms, which are used for those diverse aims, influence our lives and especially create addiction for students. In this context, the students of vocational schools may be negatively influenced by the intense usage of digital platforms. This study in this regard aims to examine the digital addiction levels of vocational school students and the degree of this addiction based on their genders, departments, school years and levels of income. A survey method was used in this study. 318 foundation degree students from different departments at Sakarya University and Sakarya University of Applied Sciences participated in this study. In order to collect data, a demographics form and the "Digital Addiction Scale", developed by Kesici and Tunc (2018), were used. The results of the study suggest that the participants have a medium-level addiction. While the students have a mid-level addiction at overuse, non-restraint, emotion situation and sticking sub-dimensions, they have a low-level addiction at inhibiting the flow of life. The digital addiction of vocational school students does not differ according to their school years, genders and income levels of their families but differ by their departments. It is advised that for today's students to use digital courses in an accurate and effective way, new educational methods should be used, and students, parents, teachers and administrators need to be trained to learn the negative psychological and physical effects caused by digital addictions such as the internet, smartphones, computers and social media addictions.

Key words: Digital platforms, Digital addiction, Vocational school students

Introduction

In this technology era, almost every age group intensely uses the technology opportunities presented to them. Computers, the internet, mobile devices, smartphones and social media are leading these new technologies. These technologies have become indispensable parts of people's lives (Çalışkan, Yalçın, Aydın & Ayık, 2017), and also called "digital devices" in the literature. Digital devices and particularly their applications have a significant place in individuals' daily lives. The important point here is to use them to effectively. If they are used properly, they will ease our lives; but if not, they may cause negative effects on all users especially the youth and the children (Arslan, Kırım, Karaman & Çetinkaya, 2015). Antisocial individuals who are alone and who stay away from social life are an example of the negative results of improper technology use. Furthermore, these people may have physical disorders in the long run. Another negative result is that the improper use of digital technologies leads to digital addiction.

The concept of addiction is defined as the inability to stop or control a substance or behaviour (Egger & Rauterberg, 1996). Addiction is a desire and an aspiration resulting from a substance being taken up with repeated doses and increasing amounts, not to eliminate the symptoms of an organic disease. In the event of an interruption, a number of unimaginable mental and physical disorders occur (Ziyalar, 1999). In other words, addiction is a recurrent chronic brain disease characterized by the search and use of impulsive substance or virtual exercise, despite its harmful consequences (Tarhan & Nurmedov, 2011). In the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders) criteria, prepared by the American Association of Psychologists, the concept of addiction has been extended and it has taken the form of Substance Use and Addictive Disorders. With this change, the first time in the DSM, it was officially recognized that substance addiction syndromes as 'behavior' syndromes were not only dependent on substance. In this way, not only substance addictions, but also

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compulsive behaviours with substance abuse and compulsive behaviours (pathological gambling habits, internet addiction), which did not follow with substance abuse, entered the same categorical classification (Markel, 2012). In this regard, addiction can be defined as people losing control over any object, person, tool or device and the idea that life cannot continue without it. Main three elements of addiction are explained as (Toraman, 2013):

- An uncontrolled desire to obtain the substance under any circumstances and situations,
- The indispensability to increase the time and amount of the substance (tolerance)
- The psychological and physiological need for the used material and its effects (abstinence).

If the induvial is addicted to something, this addiction and the usage of it influence most of his/her life. Thus s/he spends most of his daily life dealing with it sometimes forgetting her/his responsibilities (Kodaman & Dinç, 2016). Today the types of addictions such as the internet, computer, social media, video and digital games and smartphones are usually of digital ones. All of these could also be named as "digital addiction".

For example, use of the internet very intensive, desire to be constantly on the internet, being unhappy and nervous and exhibit aggressive behaviour towards the environment when there is no internet to show an indication of internet addiction (Arısoy, 2009). From this point of view, internet addiction is a different type of digital addiction. When we look at the social media, which is another digital medium, individuals use social media more and more every day and they confront some negative situations such as addiction. Social media addiction is expressed as a type of addiction that shows similar characteristics to substance addiction patterns (Tang and Koh, 2017). So that individuals use social media for any reason whatsoever and they confront some negative situations as a result of this use. Smartphone addiction can be considered as a kind of technological addiction (Lin, Chang, Lee, Tseng, Kuo & Chen, 2014). Smartphone addiction can be defined as excessive use of the phone, inability to interfere with the desire to use it, problems with stopping or disabling usage, being stressed when not in use, and not telling the correct use time (Kwon, Lee, Won, Park, Min, Hann, Gu, Choi & Kim, 2013; Savcı & Aysan, 2017). Today, all this technology can be considered in the context of digital addiction on environments or devices. Lee & Chae (2007) described the extent of digital addiction as follows: If an individual is taking photos of his / her meal every day and taking care to share it on the Internet, if everything is shared via social media, it is digitally dependent if it is believed to get information about the people he does not know much about (Eryılmaz & Çukurluöz, 2018).

Digital addiction has emerged and spread wide as a result of the rise of digital technologies in our age and the integration of mass media into digital technologies (Arslan et al., 2015). Instead of taking part in a dynamic life, digital addiction requires continuity of a static life in terms of requiring dependence on a continuous screen, and in this respect, it can lead to many physical discomforts due to a sedentary life (Kabakçı, Odabaşı & Çoklar, 2008). Especially youngsters of our age use Twitter all the time including midnight, send SMS even in the bathroom or control his / her phone while having a conversation with a friend (Kaltiala-Heino, Lintonen & Rimpela, 2004). As a result of these behaviours, digitally addicted individuals are rapidly increasing day by day and now they are counted on among the dependencies in the world. The number of digital addicted people is nowadays increasing, and they are deemed to be among "addicted ones" although once they were not.

Some studies about digital addiction suggest that young people and adults feel unsatisfied and out of place when they cannot use their phones, control their e-mails and share something on social media courses (Laura & Richard, 2004; Mossbarger, 2008). Digital addiction therefore negatively influences the academic success of university students, force them to waste more time on virtual platforms and harm their relationship with their families and friends (Anderson, 2001; Sanders, Field, Diego & Kaplan, 2000). Various studies about digital addiction may help with diluting the effects of digital addiction. Eryilmaz and Çukurluöz's (2018) research demonstrates that high school students are directly addicted to social media and indirectly to mobile phones and the internet. Arslan et al.'s (2015) study about measuring the digital addiction levels of university and high school students also suggests that their addiction level to social media, internet and mobile phone is high. Kalaman and Bat (2016) also examined the addiction levels of university students and argue that their addiction is high. Yılmaz, Şahin, Haseski and Erol (2014) analysed the addiction levels of high school students according to diverse variables and the results show that the majority of the students are mid-level internet addicted. Balcı and Gülnar (2009) report that more than half of the participants are internet addicted at a problematic degree. However, Aktan (2018) found out that social media addiction among university students was not that high. Gül and Diken (2018) analysed the social media addiction of science teacher candidates and found that their addiction level was medium level. Yusufoğlu (2017) analysed the effects of smartphones, internet and social media on daily lives and especially on leisure times of school of economics and administrative sciences students. The outcomes of the study suggest that the students spend much time with their smartphones, but they

do not have the socialisation level they expect and that they create a serious addiction feeling. Aljomaa, Qudah, Albursan, Bakhiet and Abduljabbar (2016) also reached similar results which state that 48% of the participants are smartphones addicts.

Today, students from almost all ages are confined to digital platforms. This confinement particularly creates a danger for the university students who will soon get a start in business. However, studies which examine the addiction levels of vocational school students who are described as "semi-skilled workers", are scarce in the literature (Çiftçi, 2018; Vurgun & Akpınar, 2018). Therefore, it is important to conduct a study to learn the digital addiction levels of vocational school students.

Vocational school students can work in different fields after graduation. For this reason, it is important to determine the time spent in the digital environment of the vocational school students. If this period reaches the degree of addiction, in other words, digital addiction individuals may create problems for the units they work for. In order to avoid such an addiction in the future, the determination of digital addiction situations while being a student can help to prevent the negativities in working life.

This study aims to examine vocational school students' digital addiction levels based on diverse variables. The research questions include the followings:

1. What are digital addiction levels of vocational school students?
2. How do their digital addiction levels differ in terms of:
   a. their school years,
   b. genders,
   c. departments,
   d. monthly family income?

Methodology

Research Model

The survey method was used in the study. Survey methods are the research approaches which aim to depict a current or past situation as it is. The object or participant which/who is the main issue of the research is considered in line with their contexts (Karasar, 2005).

Participants

The 318 foundation degree students who participated in this study are from different departments at Sakarya University and Sakarya University of Applied Sciences. Table 1 shows the demographic information of the participants.

Table 1: The characteristics of the participants

Variables		f	%
Grade	1. Grade	194	61,0
	2. Grade	124	39,0
Gender	Male	130	40,9
	Female	188	59,1
Departments	Business Management	27	8,5
	Finance	69	21,7
	Computer Programming	29	9,1
	Computer Aided Design and Animation	30	9,4
	Child Development	62	19,5
	Immediate Aid	21	6,6
	Opticianry	57	17,9
	Graphic-Design	23	7,2
Monthly Family Income	Less than 1500 TL	35	11,0
	1501-2500 TL	126	39,6
	2501-3500 TL	74	23,3
	3501-5000 TL	51	16,0
	More than 5000 TL	32	10,1
Total		318	100

Totally, data were collected from 318 students. 130 of the participants (40,9%) were male and 188 of them (29,1%) were female. While 194 (61,1%) of these students were 1st years, 124 (39%) of them were second grades.

Data Collection Tool

In order to collect data, the demographic form developed by the researcher and the "digital addiction scale" developed by Kesici and Tunc (2018) has been used. The scale consists of 19 items, which are rated on 5-point Likert-type scale (1. Strongly Disagree, 2. Disagree 3. Undecided 4. Agree 5. Strongly Agree). The scale was structured on 5 factors and these factors are: overuse (5 items), non-restraint (5 items), inhibiting the flow of life (3 items), emotional state (5 items) and not being able to give up (4 items). The lowest score in the scale is 23 and the highest is 115. It is pre-assumed that higher levels obtained from the scale indicate more inclination to being digitally addicted. In the original study, the Cronbach Alpha reliability coefficient of the scale was found as .874, and the scale explained 59.51% of the variance. The x^2/df ratio was 2.326 and other fit indices were satisfactory (Kesici & Tunc, 2018). The internal consistency of vocational school students was calculated as .893 after applying the scale.

Data Analysis

In the digital addiction scale, the highest score for each item is 5 and the lowest one is 1. High scores relatively indicate that the digital addiction level of the individual is high (Kesici & Tunc, 2018). For this reason, as demonstrated in Table 2, in order to comment about and evaluate the digital addiction levels of vocational school students, three ranges of assessment and criteria were determined over the overall value.

Table 2. Assessment criteria of digital addiction

Evaluation Criteria	Evaluation Range
Low Level	1,00 – 2,33
Medium Level	2,34 – 3,67
High Level	3,68 – 5,00

The data collected from the students were analysed via SPSS 22.0 (Statistical Package for the Social Sciences). The significance of data analysis has been calculated as .05. The digital addiction levels of vocational school students have been determined through the digital addiction scale. Independent sample t-test was used while examining the differences in terms of the variables, which have two different sub-groups, and one-way analysis of variance (Anova) test was used while examining the differences in terms of the variables which have more than two sub-groups.

Findings and Discussions

This study aimed to examine the digital addiction levels of vocational school students. The assessment regarding the different variations of this addiction are given in the following sections:

The Digital Addiction of Vocational School Students

Table 3 provides the vocational school students' scores of digital addiction scale.

Table 3: The descriptive results regarding the scores of digital addictions of the students

Sub- Dimensions	$\overline{X}$	sd
Overuse	2.48	.82
Non-restraint	2.44	1.00
Inhibiting The Flow of Life	2.16	.87
Emotional State	2.50	.90
Dependence	3.58	.97
General	2.58	.68

According to the analysis, the average of the digital addiction levels of vocational school students has been found as 2.58. It is possible to state that the digital addiction levels of vocational school students are at medium-level. When the sub-dimensions of the scale are examined, it can be seen that the digital addiction of the vocational school students is at medium level, with 2.48 for "Overuse" sub-dimension, 2.44 for "Non-restraint"

sub-dimension, 2.50 for "Emotional State" sub-dimension and 3.58 for "Dependence" sub-dimension. However, their digital addiction is at low-level at "Inhibiting the Flow of Life" sub-dimension with 2.16.

Analysing the Digital Addiction of the Students in terms of their School Years

The independent sample t test analysis results which demonstrate if the digital addiction of the vocational school students differ in terms of their school years are given in Table 4.

Table 4: The digital addiction of the students in terms of their grade levels

Sub-Dimensions	Groups	n	$\overline{X}$	Sd	df	t	p
Overuse	1st Grade	194	2.48	.82	316	.179	.858
	2nd Grade	124	2,47	.82			
Non-restraint	1st Grade	194	2.42	1.00	316	-.320	.749
	2nd Grade	124	2.46	1.01			
Inhibiting the Flow of Life	1st Grade	194	2.18	.90	316	-1.067	.287
	2nd Grade	124	2.22	.82			
Emotional State	1st Grade	194	2.53	.90	316	.602	.547
	2nd Grade	124	2.47	.90			
Dependence	1st Grade	194	3.59	.98	316	318	.750
	2nd Grade	124	3.55	.97			
Digital Addiction (General)	1st Grade	194	2.58	.68	316	-.065	.949
	2nd Grade	124	2.59	.68			

Table 4 suggests that the digital addiction level of vocational school students does not show a significant difference in terms of their school years [t(316) = -.065, p>.05]. There is also no significant difference in the sub-dimensions of the scale for the digital addiction of the students based on their school years.

Analysing the Digital Addiction of the Students in terms of Gender

The independent sample t-test analysis results which demonstrate if the digital addiction of the vocational school students differ in terms of their gender are given in Table 5.

Table 5: The digital addiction of the students in terms of gender

Sub-Dimensions	Groups	n	$\overline{X}$	Sd	df	t	p
Overuse	Male	130	2.34	,81	316	-2.586	.010
	Female	188	2,58	,81			
Non-restraint	Male	130	2,28	1,01	316	-2.306	.022
	Female	188	2,54	,99			
Inhibiting The Flow of Life	Male	130	2,11	,85	316	-.906	.366
	Female	188	2,20	,88			
Emotional State	Male	130	2,55	,90	316	.819	.413
	Female	188	2,47	,91			
Dependence	Male	130	3,41	,96	316	-2.585	.010
	Female	188	3,69	,96			
Digital Addiction (General)	Male	130	2,49	,65	316	-1.946	.052
	Female	188	2,64	,69			

Table 5 suggests the digital addiction level of vocational school students does not show a significant difference in terms of their genders [t(316) = -1.946, p>.05]. In addition, the digital addiction of the vocational school students does not differ significantly at two sub-dimensions: with [t(316) = -.906, p>.05] at inhibiting the flow of life and with [t(316) =.819, p>.05] at emotional state. Yet, meaningful difference at digital addiction levels of the vocational school students is present in terms of their gender at the following sub-dimensions: overuse sub-dimension with [t(316) = -2.586, p<.05], non-restraint sub-dimension t(316) = -2.306, p<.05] and dependence sub-dimension with [t(316) = -2.585, p>.05]. In other words, girls are more addicted than boys in overuse, non-restraint and dependence sub-dimensions.

Analysing the Digital Addiction of the Students in terms of Departments

The one-way analysis of variance (Anova) test results which demonstrate if the digital addiction of the vocational school students differs in terms of departments have been given in Table 6.

Table 6: The digital addiction of the students in terms of departments

Sub-Dimensions	Source of Variance	Sum of Squares	df	Mean Squares	F	p	Significant Difference
Overuse	Between Groups	5,162	7	,737	1,110	,356	-
	Within Goups	205,944	310	,664			
	Total	211,106	317				
Non-restraint	Between Groups	14,212	7	2,030	2,063	,047	2-4
	Within Goups	305,141	310	,984			
	Total	319,353	317				
Inhibiting The Flow of Life	Between Groups	17,163	7	2,452	3,427	,002	2-3
	Within Goups	221,817	310	,716			
	Total	238,980	317				
Emotional State	Between Groups	8,463	7	1,209	1,498	,167	-
	Within Goups	250,220	310	,807			
	Total	258,683	317				
Dependence	Between Groups	13,221	7	1,889	2,050	,049	6-1
	Within Goups	285,579	310	,921			
	Total	298,800	317				
Digital Addiction(General)	Between Groups	6,841	7	,977	2,174	,036	6-1 6-3
	Within Goups	139,372	310	,450			
	Total	146,213	317				

(1: Business Management, 2: Finance, 3: Computer Programming, 4: Computer-enhanced Design and Animation, 5: Child development, 6: Immediate Aid, 7: Opticianry, 8: Graphic-Design)

Analysis results suggest that the digital addiction level of vocational school students differ significantly in terms of departments [F (7-310) = 2.174, p<.05]. The LSD test results, performed to find out the significance of the differences among departmental groups, demonstrate that the means of Immediate Aid department students (X = 2,90) are significantly higher than Business Management (X = 2,36) and Computer Programming (X = 2,34) departments. There is also a significant difference at some sub-dimensions of the scale: with [F(7-310) = 2.063, p<.05] at non-restraint sub-dimension, with [F(7-310) = 3.427, p<.05] at inhibiting the flow of life sub-dimension and with[F(7-310) = 2.050, p<.05] at dependence sub-dimension. The results of LSD test reveal that the digital addiction of finance department students is significantly higher at non-restraint sub-dimension than Computer-enhanced Design and Animation students. It is also higher among finance department students at inhibiting the flow of life dimension compared to Computer Programming and Graphic-Design departments. However, at dependence sub-dimension, the digital addiction of Immediate Aid students is higher than Business Management students. On the other hand, there is a significant difference at the digital addiction of the vocational school students in terms of their departments at Overuse sub-dimension by [F(7-310) = 1.110, p>.05], and at emotional state sub-dimension [F(7-310) = 1.498, p>.05].

Analysing the Digital Addiction of the Students in terms of their Monthly Income

The one-way analysis of variance (ANOVA) test results which demonstrate if the digital addiction of the vocational school students differs in terms of their monthly income have been given in Table 7.

Table 7: The digital addiction of the students in terms of their monthly income

Sub-Dimension	Source of Variance	Sum of Squares	df	Mean Squares	F	p	Significant Difference
Overuse	Between Groups	1,088	4	,272	,405	,805	-
	Within Goups	210,018	313	,671			
	Total	211,106	317				
Non-restraint	Between Groups	5,001	4	1,250	1,245	,292	-
	Within Goups	314,352	313	1,004			
	Total	319,353	317				
Inhibiting The Flow of	Between Groups	5,546	4	1,387	1,859	,117	-

Life		Within Goups	233,434	313	,746		
		Total	238,980	317			
		Between Groups	6,023	4	1,506		
Emotional State		Within Goups	252,660	313	,807	1,865	,116	-
		Total	258,683	317			
		Between Groups	7,198	4	1,799		
Dependence		Within Goups	291,602	313	,932	1,932	,105	-
		Total	298,800	317			
		Between Groups	3,442	4	,861		
Digital (General)	Addiction	Within Goups	142,771	313	,456	1,886	,113	-
		Total	146,213	317			

Analysis results suggest that the digital addiction level of vocational school students does not differ significantly in terms of their monthly income [F(4-313) = 1.886, p>.05]. In addition, it does not differ significantly in sub-dimensions: at Overuse sub-dimension by [F(4-313) =1.245, p>.05], at inhibiting the flow of life dimension sub-dimension by [F(4-313) = 1.859, p>.05], at emotional state sub-dimension by [F(4-313) = 1.865, p>.05] and inhibiting the flow of life sub-dimension by [F(4-313) = 1.932, p>.05].

Discussion and Conclusion

This study examined the digital addictions of vocational school students in terms of different variables and it concludes that the addiction level of the participating students is medium. The results also indicate that the participants display a medium-level addiction in the sub-dimensions of non-restraint, overuse and emotional state. Nevertheless, their addiction is at low-level in the sub-dimension of inhibiting the flow of life. Based on these results, it is possible to state that the digital addictions of the students (internet, computer, social media, video and digital games and smartphones) refer to a problematic use of digital tools and platforms. Furthermore, it is observed that students use these tools and platforms excessively, and they cannot keep themselves away from them.

The digital addictions of vocational school students do not differ significantly in terms of their school years. In other words, there is no difference in the digital addiction levels of the first- and second-year students. This result is similar to the results of other studies in the literature. For example Eryılmaz and Çukurluöz (2018) also found out that there was not a significant difference according to students' school years. Çalışkan et al. (2017) similarly state that there is not a significant difference at smart-phone addiction levels of teacher candidates at Teaching Computer and Education Technologies Department in different grades.

Similar to the results as to the variable of school years, the digital addictions of vocational school students also do not differ significantly in terms of gender. This result is similar to the results of other studies in the literature. For example, Arslan et al.'s study (2015), while the video game and social media addiction of high school and university students differ in terms of gender, they found no significant difference between the negative influence of digital addiction on the life. Balcı and Gülnar (2009) also found no significant difference between internet addiction of university students in terms of gender. Aktan (2018) analysed the social media addiction of the university students and he also found no significant difference between university students in terms of gender. Nevertheless, Yılmaz, Şahin, Haseski and Erol (2014) found a significant difference between high school students in terms of gender. Göldağ (2018) analysed the digital game addiction levels of high school students and found a significant difference between them in terms of gender. Eryılmaz and Çukurluöz (2018) did not find a significant difference between the digital platform addictions of high school students in terms of gender. In the literature review, while some studies state that there is not a significant difference at digital platforms' addiction in terms of gender (Çalışkan et al., 2017; Gül & Diken, 2018; Kuyucu, 2017; Minaz & Çetinkaya Bozkurt, 2017), some others indicate the opposite (Çakır, Balta & Horzum, 2008; Doğan & Tosun, 2016; Ekinci, Yalçın, Özer & Kara, 2017; Hakoama & Hakoyama, 2011; İnan, 2010; Kawasaki et al., 2006; Park & Lee, 2014).

Another result of the study demonstrates that the digital addictions of the vocational school students differ significantly in terms of departments. The students of Immediate Aid are more addicted than those who study Business Management and Computer Programming. In this regard, Abu Jedy (2008) also found out that the smartphone addiction of the students differs according to the programs they study. Aktar (2018), connately, concludes that the digital addiction of university students shows an alteration according to their departments. However, Karasu, Bayır and Çam (2017) in their research found that there was no difference between the internet addiction of the university students with reference to their departments.

This study also found out that the digital addiction of the vocational school students does not show differ significantly in terms of monthly income. This result is similar to the results of other studies in the literature. For example, Arslan et al. (2015) explored the digital addiction levels of high school and university students and found out that there was not a correlation between their addiction and family monthly income. Nevertheless, Göldağ (2018) concluded his study stating that the digital addiction levels of high school students showed a significant difference with reference to their families' monthly income. Ekinci, Yalçın, Özer and Kara (2017) also reported the same result and found out that the digital addiction levels of the students and their families' monthly income were correlated. Some other studies in the literature also report a significant correlation between family income and digital addiction levels (Balcı & Gülnar, 2009; Çakır, Balta & Horzum, 2008; Karasu, Bayır & Çam, 2017).

In today's technology age, individuals of almost any age use digital environment. As a result, individuals spend a long time in digital environments. In this study, it has been seen that in similar studies in the literature, individuals are dependent on digital environment such as internet, social media and smart phone in different ways. It is also known that students use digital environment for different purposes from the beginning of their university education. For this reason, it is concluded that there is no difference between the digital addictions of the students according to their class levels, gender and income levels. One of the main reasons is that students use digital tools such as smart phones, social media and internet in their friends.

Based on the results discussed above, it is possible to express that the vocational school students seem to face a digital addiction problem. Although there might be some other reasons for this addiction, one of the prominent causes may that they are very much engaged with information technologies such as smartphones, internet, social media and digital games. Therefore, some provisions need to be taken for preventing the increase of this addiction. Along with this, students, parents, teacher and administrative staff should be informed that digital addictions such as smartphone, the internet, social media addictions might be harmful on their physics and psychology in the long run. Since this study was conducted with vocational school students, it also gives insight about the digital addiction levels of other age groups and may contribute to the literature looking for the causes of digital addiction.

References

Abu-Jedy, A. (2008). Mobile phone addiction and its relationship with self-discloser among aample of students from university of Jordan and Amman Al-Ahliyya University. *Jordan Journal of Educational Science*, 4(2), 137-50.

Aktan, E. (2018). Üniversite öğrencilerinin sosyal medya bağımlılık düzeylerinin çeşitli değişkenlere göre incelenmesi. [Assessment of social media addiction levels of university students by numerous variables]. *Erciyes İletişim Dergisi, 5*(4), 405-421.

Aljomaa, S. S., Qudah, M. F. A., Albursan, I. S., Bakhiet, S. F. & Abduljabbar, A. S. (2016). Smartphone addiction among university students in the light of some variables. *Computers in Human Behavior*, 61, 155-164.

Anderson, K. J. (2001). Internet use among college students: An exploratory study. *Journal of American College Health, 50*, 21-26.

Arısoy, Ö. (2009). İnternet bağımlılığı ve tedavisi. [Internet addiction and its treatment]. *Psikiyatride Güncel Yaklaşımlar Dergisi, 1*(1), 55-67.

Arslan, A., Kırım, A. M., Karaman, M. & Çetinkaya, A. (2015). Lise ve üniversite öğrencilerinde dijital bağımlılık. [Digital addiction in high school and university students]. *Uluslararası Hakemli İletişim ve Edebiyat Araştırmaları Dergisi, 8*, 34-58.

Balcı, Ş. & Gülnar, B. (2009). Üniversite öğrencileri arasında internet bağımlılığı ve internet bağımlılarının profili. [Internet addiction among university students and the profile of internet addicts]. *Selçuk İletişim Dergisi, 6*(1), 5-22.

Çakır-Balta, Ö. & Horzum, M. B. (2008). Web tabanlı öğretim ortamında öğrencilerin internet bağımlılığını etkileyen faktörler. [The factors that affect internet addiction of students in a web based learning environment]. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, 41*(1), 187-205.

Çalışkan, N., Yalçın, O., Aydın, M. & Ayık, A. (2017). BÖTE öğretmen adaylarının akıllı telefon bağımlılık düzeylerini belirlemeye yönelik bir çalışma. [A study on defining smart phone addiction level of prospective teachers of CEIT]. *International Journal of Eurasia Social Sciences*, 8(22), 111-125.

Çiftçi, H. (2018). Social media addiction in university students. *MANAS Journal of Social Studies, 7*(4), 417-434.

Doğan, U. & Tosun, H. İ. (2016). Lise öğrencilerinde problemli akıllı telefon kullanımının sosyal kaygı ve sosyal ağların kullanımına aracılık etkisi [The mediating effect of high school students' problematic

smartphone usage on social anxiety and the use of social networks]. *Adıyaman Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 8(22), 99-128.

Egger, O. & Rauterberg, M. (1996). *Internet behaviour and addiction.* Unpublished master's thesis, Work & Organisational Psychology Unit (IfAP), Swiss Federal Institute of Technology (ETH), Zurih.

Ekinci, N. E., Yalçın, İ., Özer, Ö. & Kara, T. (2017). An investigation of the digital game addiction between high school students. *Journal of Human Sciences, 14*(4), 4989-4994.

Eryılmaz, S. & Çukurluöz, Ö. (2018). Lise öğrencilerinin dijital bağımlılıklarının incelenmesi: Ankara ili, Çankaya ilçesi örneği.[Examination of high school students digital addiction: Province of Ankara, Çankaya district sample]. *Elektronik Sosyal Bilimler Dergisi, 17*(67), 889-912.

Göldağ, B. (2018). Lise öğrencilerinin dijital oyun bağımlılık düzeylerinin demografik özelliklerine göre incelenmesi. [The investigation of the digital play dependency levels of high school students with respect to demographic characteristics]. *YYÜ Eğitim Fakültesi Dergisi, 15*(1), 1287-1315.

Gül, Ş., & Diken, E.H. (2018). Fen bilgisi öğretmeni adaylarının sosyal medya bağımlılıklarının incelenmesi. [An investigation of the preservice science teachers' social media addictions]. *E-Kafkas Eğitim Araştırmaları Dergisi, 5*(1), 41-50.

Hakoama, M. & Hakoyama, S. (2011). The impact of cell phone use on social networking and development among college student. *The American Association of Behavioral and Social Sciences*, 15, 1-20.

İnan, A. (2010). *İlköğretim II. Kademe ve lise öğrencilerinde internet bağımlılığı.* [Internet addiction in secondary and high school students.] Unpublished Master Thesis, Atatürk University, Institute of Social Sciences, Erzurum, Turkey.

Kabakçı, I., Odabaşı, H. F. & Çoklar, A. N. (2008). Parents' views about internet use of their children. *International Journal of Education and Information Technologies, 2*(4), 248-255.

Kalaman, S. & Bat, M. (2016). İnternet bağımlılığı ve medya kullanımı: Üniversite öğrencileri üzerine bir araştırma. [Internet addiction and media usage: A study about undergraduate students]. *Uluslararası Sosyal Araştırmalar Dergisi, 9*(47), 878-885.

Kaltiala-Heino, R., Lintonen, T. & Rimpela, A. (2004). Internet addiction? Potentially problematic use of the internet in a population of 12-18 year-old adolescents. *Addiction Research and Theory, 12*(1), 89-96.

Karasar, N. (2005). *Bilimsel Araştırma Yöntemi*. [Scientific Research Method]. Ankara: Nobel Yayın Dağıtım.

Karasu, F., Bayır, B. & Çam, H. H. (2017). Üniversite öğrencilerinin internet bağımlılığı ile sosyal destek arasındaki ilişkinin incelenmesi. [Examination of the relationship between the internet addiction of university students and the social support]. *Sosyal Bilimler Dergisi, 7*(14), 372-386.

Kawasaki, N., Tanei, S. & Ogata, F. (2006). Survey on cellular phone usage on students in Thailand. *Journal of Physiological Anthropology*, 25(6), 377-382.

Kesici, A. & Tunç, N. F. (2018). The development of the digital addiction scale for the university students: Realibity and validity study. *Universal Journal of Educational Research, 6*(1), 91-98.

Kodaman, U. & Dinç, M. (2016). *Teknolojiye bağımlı yaşama! [Do not live dependent of technology!]*. İstanbul: Kültür Sanat Press.

Kuyucu, M. (2017). Gençlerde akıllı telefon kullanımı ve akıllı telefon bağımlılığı sorunsalı: "Akıllı telefon(kolik)" üniversite gençliği. [Use of smart phone and problematic of smart phone addiction in young people: "Smart phone (colic)" university youth]. *Global Media Journal TR Edition*, 7(14), 328-359.

Kwon, M., Lee, J-Y, Won, W-Y, Park, J-W, Min, J-A, Hann, C., Gu, X., Choi, J-H. & Kim, D-J. (2013). Development and validation of a smartphone addiction scale (SAS), *Plos One, 8*(2), 56-93.

Laura, A. N. & Richard, N. (2004). Development of a psychometrically sound internet addiction scale: A preliminary step. *Psychology of Addictive Behaviors, 18*(4), 381-384.

Lee, S.J. & Chae, Y. G. (2007). Children's internet use in a family context: influence on family relationships and parental mediation. *Cyberpsychology & Behavior, 10*(5), 640-644.

Lin, Y-H., Chang, L-R., Lee, Y-H., Tseng, H-W., Kuo, T-B. & Chen, S-H. (2014). Development and validation of the smartphone addiction invertory (SPAI). *Plos One, 9*(6), e98312.

Markel, H. (2012). The D.S.M. Gets Addiction Right. https://www.nytimes.com/2012/06/06/opinion/the-dsm-gets-addiction-right.html?_r=3&

Minaz, A. & Çetinkaya Bozkurt, Ö. (2017). Üniversite öğrencilerinin akıllı telefon bağımlılık düzeylerinin ve kullanım amaçlarının farklı değişkenler açısından incelenmesi. [Investigation of university students smartphone addiction levels and usage purposes in terms of different variables]. *Mehmet Akif Ersoy Üniversitesi, Sosyal Bilimler Dergisi*, 9(21), 268-286.

Moosborger, B. (2008). Is internet addiction addressed in the classroom? A survey of psychology textbooks. *Computers in Human Behavior, 24*, 468-474.

Park, N. & Lee, H. (2014). Gender difference in social networking in smartphones: A case study of Korean college student smartphone ssers, *International Telecommunications Policy Review*, 21(2), 1-18.

Sanders, C. E., Field, T. M., Diego, M. & Kaplan, M. (2000). The relationship of internet to depression and social isolation among adolescents. *Adolescence, 35*(138), 237-242.

Sarwar, M. & Soomro, T. R. (2013). Impact of smartphone's on society. Euroean Journal of Scientific Research, 98(2), 216-226.

Savcı, M. & Aysan, F. (2017). Technological addictions and social connectedness: predictor effect of internet addiction, social media addiction, digital game addiction and smartphone addiction on social connectedness. *Düşünen Adam The Jounal of Physchiatry and Neurological Sciences, 30*, 202-216.

Tang, C. S. & Koh, Y. Y. W. (2017). Online social networking addiction among college students in Singapore: Comorbidity with behavioral addiction and affective disorder. *Asian Journal of Psychiatry, 25*, 175-178.

Tarhan, N. & Nurmedov, S. (2011). *Bağımlılık.* [Addiction]. İstanbul: Timaş.

Toraman, M. (2013). *İnternet bağımlılığı ve sosyal ağ kullanım düzeylerinin ortaöğretim öğrencilerinin akademik başarıları ile ilişkisinin incelenmesi.* [Investigation of the relationship of secondary school students' academic achievement with Internet addiction and social networking use levels] Unpublished Master Thesis. Fırat University, Institute of Education Sciences, Elazığ, Turkey.

Vurgun, Ş. & Akpınar, G.M. (2018). Measurement of digital media dependencies in university students: Adnan Menderes University Atça vocational school example. *The Journal of Kesit Academy, 4*(17), 389-401.

Yılmaz, E., Şahin, Y. L., Haseski, H. İ & Erol, O. (2014). Lise öğrencilerinin internet bağımlılık düzeylerinin çeşitli değişkenlere göre incelenmesi: Balıkesir ili örneği. [An analysis of internet addiction among high school students with respect to several variables: Balıkesir province sample]. *Eğitim Bilimleri Araştırmaları Dergisi, 4*(1), 133-144.

Yusufoğlu, Ö. Ş. (2017). Boş zaman faaliyeti olarak akıllı telefonlar ve sosyal yaşam üzerine etkileri: Üniversite öğrencileri üzerine bir araştırma. [Smart phones as leisure activities and their impact on social life: A research on students of the university] *İnsan ve Toplum Bilimleri Dergisi*, 6(5), 2414-2434.

Ziyalar, A. (1999). *Sosyal Psikyatri*. [Social Psychiatry]. İstanbul: Yüce Press.

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3rd Grade Students' Status of Spending Time with Their Families and Implementation of Values Education in Family in the Turkish Context

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3rd Grade Students' Status of Spending Time with Their Families and Implementation of Values Education in Family in the Turkish Context*

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Abstract

The purpose of this study was to determine how the primary school students spent their time with the parents and how their families spent their time with children and try to give the study group the value of giving importance to family unity through various activities. The study was carried out as an action research. The participants of the research included 26 students, studying in Turkey. Before the action plan was formed, interviews were held with parents and students to determine how the students spend their time with the parents and how their families spent their time with the children. As a result of the analysis, an action plan was formed based on classroom activities and domestic activities. Within the framework of the action plan, case analysis, workshop and family entertainment design were carried out. After the family entertainment, parents' and students ' opinions about the activities were taken. As a result of the research, it was seen that students spent their time with their families at home non-interactively by watching television mostly. After the activities, the students and parents said that they were pleased with the activity and that the activity allowed them to spend time together.

Key words: Values education, Spending time with family, Family unity, Turkish students

Introduction

Values are the basic beliefs and criteria that guide people's acts, emotions and feelings as well as make the culture and society meaningful, and also, enable people to evaluate the acts as it is desired or undesired (Suparka and Johnson, 1975; Halstead and Taylor, 2000; Akbaş, 2004). More specifically, values have some functions of making life meaningful, shaping social life, guiding the life of people, and evaluating the facts and events (Aydın, 2011; Aydın and Gürler, 2012; Bayırlı, 2018). Therefore, it is safe to argue that values are very significant in understanding the acts of people, because values can be said to be the starting point of behaviour (Okumuş, 2010). The importance of values makes its teaching valuable. The studies conducted for this purpose are called 'values education' in the current literature. (Suparka and Johnson, 1975). Values education is very important and necessary for both quality education and emotional, social, moral, and academic educational goals (Lovat and Clement, 2008; Lovat, 2017).

Especially in recent years in Turkey and in the world, social violence, bad habits, intolerance, lack of love and insecurity behaviors such as disdain are all observed to increase (Deveci and Ay, 2009). Behavioural disorders and social problems are mainly the results of the erosion of values and the fact that values are not internalized by individuals (Okumuş, 2010). Behavioral disorders and value erosions caused by factors such as modernism, industrialization and social change mostly affect the family institution (Bayer, 2013).

The family is the place in which human beings are born and raised, and they acquire their first skills in life and their values such as love, respect, compassion, sharing and cooperation. It is also a kind of informal school in which individuals' affective, cognitive, and bodily skills are improved. The family institution is the first school of the earth and it is the assurance of next generations. Such distinctive characteristics make the family institution different from other social institutions. Therefore, it is a social requirement that the unity of family should be protected, because family is the corner stone of the society. Everything that affects family deeply also

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affects society (Bayırlı, 2018). It is only possible to keep the family alive through adopting and protecting the family values. The results of the research entitled 'Family Values in Turkey' indicate that family has still a significant position in Turkish society and has the function of the source for trust (Coşkun Keskin, 2012).

It is very important for family members to spend time together in order to protect family values, to ensure family unity and to perform family routines in a healthy way. Family is the first and most important social environment of children. Spending quality time and sharing with parents are both of great importance for children's development. Developing technology and changes in today's living conditions seem to have influenced the social relationship between children and parents (Özyürek and Gürleyik, 2016). There are several resons for diminishing period for family members to spend time together such as the increased time allocated for Internet and social media (Demir, 2016), for watching television (Dumazedier, 1991), the employment of women, and the higher rates of divorce and of single-parent families and all these factors have negative effects on children development (Sandberg and Hofferth, 2001). However, it is certain that parents' spending time with their children increases the family relationships, helps parents get to know their children better, provides guidance to them, makes it possible for children to see their parents as a model and supports the social as well as emotional development of the child. Moreover, it makes children to feel that they are valued and loved by their parents which improve their self-confidence (Saygılı, 2016). It is reported that one of the activities carried out by parents and children, namely reading books, significantly improve children's linguistic skills and their interest in reading books (Brown et al. 2001). In short, parents' spending time with their children has many advantages for children and family.

In the recent period a concept has been developed to describe such advantages, namely spending quality time with children (Türkoğlu, Çeliköz and Uslu, 2013). Güneş (2015) argues that spending quality time with children does not refer to bringing the child to a park, but to be part of the child's mental state. Yavuzer (2001), states that the important things during the time with children are intensity and quality of time instead of its quantity and amount. He adds the fact that parents do not bring presents to their children as a way to compensate their inability to spend time with their children which may have undesired effects on children. Therefore, it can be argued that spending quality time with children does not refers to being together in the same environment, but to be able to have the same emotions and views together.

Family members can spend quality time together through regular family events and meetings. For instance, Cüceloğlu (2017) argues that regular weekly family meetings has various functions and positive effects on family members, including listening skills, problem solving skills, ability to produce ideas on a subject, sense of responsibility, sense of belonging to the family and of feeling of being important, of giving value to other people as well as establishing family values and culture. Furthermore, entertaining activities with family members have several advantages such as maintaining the family unity, spending quality time, improving distinct skills and familial communication. Such activities can be regarded as the alternatives to playing computer games or other activities which make family members isolated.

In accordance with these informations, the aim of this study was to analyse how third grade primary school students spent time with their parents and how these parents spent time with their children. Moreover, it aimed at providing an opportunity for students to organize an entertaining activity in-class and at home, to raise their awareness about the significance of the family unity. The research questions was developed in parallel to this aim and are given as follows:

1. How do the students spend time with their families?
2. How do the parents spend time with their children?
3. What activities can be done to improve the value of attaching importance to the family unity?
4. As a result of these activities, which values and skills may students exhibit?

Method

The study was designed based on the action research which is one of the qualitative research methods. Action research is a research approach that involves collecting data and analysing data systematically together with an expert or a researcher in the field of work in an institution in order to understand and solve problems that occur during the implementation of an application (Patton, 2002; Yıldırım and Şimşek, 2016). Action research is a cyclical process rather than a linear improvement process (Grundy, 1994). Action research consists of several steps which were all followed in the current study. The first one is the observations (Stringer, 2007). The second step of the action research is interviews. In the current study following the observations, the researchers conducted interviews with students and families to describe their situation and identify problems. The next step

of this research technique is to produce an action plan based on the data collected. Based on the data gathered from the observations and interviews an action plan was developed. The plan was developed taking into account the most significant principles of the action research, namely 'tendency to solve the problems'. In other words, the plan was developed to focus on the solutions for the problems identified during the observations and interviews. The last two steps of the action research are the reviews of the plan and evaluation. After reviewing the action plan, the implementation phase was started, and the evaluation process was carried out at the end of the implementation.

Participants

The participants of the study were chosen through the convenient sampling. This sampling technique is mostly used when the other sampling techniques do not provide the number of participants needed. Therefore, in this method, the researcher prefers individuals and groups to collect the data easily (Yıldırım and Şimşek, 2016; Sönmez and Alacapınar, 2014). The participants of the study were 26 third grade students attending a public elementary school in Turkey. In this group, 11 were girls and 15 were boys. Their parents were also included in the study. Parents who participated in the study had a moderate economic level and low educational level.They were interviewed and they participated in some of the activities in the study.

In the discussion of the findings the direct quotations are given with the codes (a number and an abbreviation of his/her gender; i.e., G for girls and B for boys) for the participants. For instance, a girl with the number of 15 was represented as 'G15'. Whenever the reference was made to the parents, P was used. Furthermore, if this person was the mother of the student, M was used, and if the person was the father F was used. When both parents were involved both's abbrevaitions were indicated.

Data Collection Tools

Since the research was designed as qualitative research techniques, data collection tools were used in accordance with the nature of qualitative research. In action research, researchers do not rely on a single type of data collection tool (Johnson, 2005). Therefore, in the current study the data were gathered using three different data collection tools, namely participatory observation, semi-structured interviews and documents. Semi-structured interviews were conducted with students and their parents to describe their current situation and to identify problems before the action plan was implemented. In order to see the real interaction in the classroom environment in more detail during the observation, the delivery of the lesson was recorded in video. In the document analysis, researcher used the work sheets obtained from the activities carried out within the framework of the action plan and the interview forms which included the opinions of the students and their parents.

Data Collection Procedure

In order to describe the current situation and to identify the potential problems semi-structured interviews were carried out with the students and their parents. During the interviews a problematic situation was identified in which the students did not spend time with their parents in an interactive manner. In order to address this problem, an action plan was developed in which several home and classroom activities were contained. The act ivies in the study were designed around the theme of My Unique Home in the framework of the third grade life sciences course. This gain is stated as follows: 'Students explain the contribution of having fun with his family to the family members, make plans for it, and effectively present the views of their plans.' This specific gain aims to contribute to the family members' values and skills development as well as family unity by having fun with the family. It is a part of the love and respect values that the course covers and attempts to encourage the values of 'loving family members and relatives' and 'being respectful to family members'. In the educational program for the course of life sciences this gain is related to the skill of 'Self-Management (entertainment)' and its sub-skills of 'to be able to find the appropriate person, time and places for having fun' and 'Effective Use of Resources (Planning and Production)' (MONE 2009).

The action plan covered three-hour class time. At the beginning a case study was analysed and examined. Then the groups of the students discussed which activities could be covered in the entertaining events with family members. After the activities produced by students were re-read in groups, students designed an entertainment activity with family members. The activities designed after this step was implemented in a suitable time in the

family. The data collected through the observations, semi-structured interviews and documents were analysed using content analysis.

Validity and Reliability

The main purpose of action research is to use the findings by making effective changes or choices on the data. The prerequisite for achieving this objective is to ensure that the collected data are both valid and reliable (Johnson, 2005). There are a number of strategies to improve the validity in qualitative research. These include long-term interaction, depth-oriented data collection, triangulation, expert review and participant confirmation (Yıldırım and Şimşek, 2016). Given that one of the authors was the classroom teachers of the students, he had a three-year interaction with them. This situation can be said to increase the validity of the research. Furthermore, the data triangulation was achieved through the simultaneous use of the various data collection tools, namely participatory observation, semi-structured interviews, and document analysis. In the data analysis process the codes were reviewed by two field experts.

Results

First of all, interview questions which were developed in order to determine how the families in the study group spent time with their children were asked to both the children and their parents. The findings obtained are given as follows:

Descriptive results based on interviews with the students and parents

The following figure shows how the students spent their time with their parents.

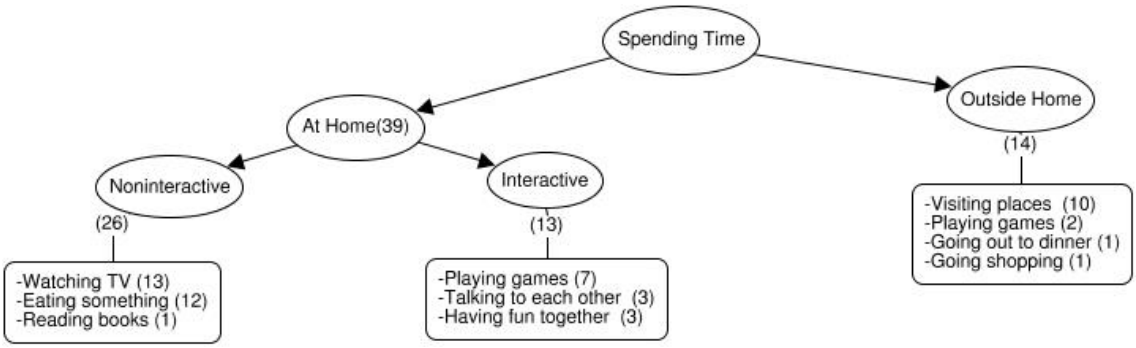

Figure 1. Students' ways to spend their time with their parents

As can be seen in Figure 1 the students participating in the study spend time with their families both at home and outside home. It is also seen that when the students spend time at home with their families, it involves both interactive and non-interactive activities. Some of the non-interactive activities are as follows: watching television (13), eating (12), and reading books (1). The interactive activities are playing games (7), talking to each other (3), and having fun together (3). Figure 1 clearly indicates that non-interactive activities (26) are much more frequent than interactive ones (13). It was found that the students spend most of their time with their families in the house watching television. Outside the home they mostly engage in visiting places (10), playing games (2), going out to dinner (1), and going shopping (1). Figure 1 also shows that the students mostly engaged in the activities with family members at home (39) rather than outside the home (14). Some of the direct quotations are given as follows.

At home	Non-interactive	*'Eating fruit and watching television…'G6* *'We eat fruit on some days. Some days, everyone is watching television.' B7* *'I'm having a good time, for instance eating fruit, drinking tea, and watching television.'G15*
	Inter-active	*'We are playing games and having wonderful time together.'B4* *'I'm having fun with my family. For example, I play a ball with my father.' B9* *'We are spending time together talking to each other.' G28*

Out of Home

'I'm spending time with my parents visiting some places.' G1
'I'm spending time with my parents by visiting some places and shopping centers.' G2
'I am spending time with my parents by having dinner and visiting somewhere.' G17

The following Figure 2 shows how the parent spent their time with their children.

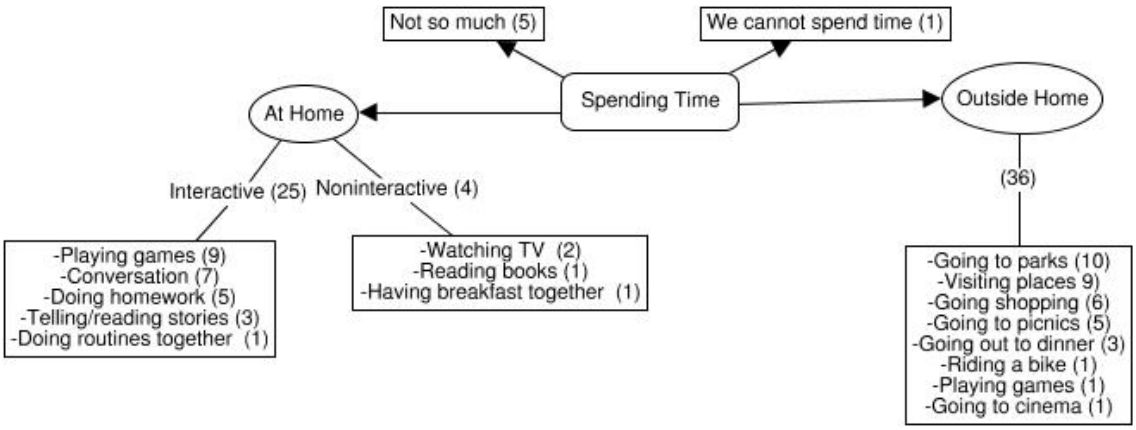

Figure 2. Parents' ways to spend their time with their children

Figure 2 shows that the majority of parents said that they spend time outside with their children. There were also parents reporting that they did not spend so much time with their children (5) or they did not spend any time with their children (1). The interactive activities outside home are stated as follows: going to parks (10), visiting places (9), going to shopping (6), going to picnics (5), going out to dinner (3), riding a bike (1), playing games (1), and going to cinema (1). The interactive activities at home were stated as follows: playing games (9), conversation (7), doing homework (5), telling/reading stories (3), and doing routines together (1). The interactive activities at home were stated as follows: watching television (2), reading books (1), and having breakfast together (1). Some of the direct quotations are given as follows.

At home

Non-interacti-ve

'We try to spend as much time as possible… We watch television together.' PF22
'We watch movies together.' PMF 18
'We sometimes read books together.' PM25

Interactive

'Yes, we spend time with our children. We play games together.' PMF5
'Yes, we spend time with our children. We play games, talk about religious topics, and we study together.' PMF 9
'Sure we spend time together. We play games. We tell stories to each other. We make plans together.' PMF 20
'We listen to him. We listen to his problems.' PMF 17
'We talk about what he did at school in the evening.'PF22

Out of Home

'Yes, I spend time with my children. I listen to him. If his wish is something good for him, I do it. For instance, we go picnics, parks, and shopping and while doing them, I try to tell him about some values.' PF15
'We talk to each other and we go to parks, shopping and other places together.' PM27
'We visit the places that we want to see and he rides a bike with his father.'PMF 5

An analysis of Figures 1 and 2 showed that some of the statements by the students and their parents were the same, but there were also some differences. The students reported that they mostly spent time with their parents by watching television (13) while just two parents reported that they spent time with their children by watching television. Moreover, a number of students reported that they mostly spent time with their parents by eating and drinking something (12), but only one parent reported that they spent time with their children by eating and drinking something. The activity of reading books was reported by one student and one parent. Interactive activities at home were reported 13 times by the students. However, it was much more frequently stated by the parents (more specifically 25 times). The activity of playing games was reported by the parents (9) and students (7) at nearly equal frequency. The activity of conversation/talking to other was reported three times by the students and seven times by the parents. The activities reported only by the parents included studying/doing homework (5), story telling/reading story books (3) and doing everything together (1). The activity that was only reported by the students was spending time with fun (3). Concerning the activities outside the home, the

activity of visiting parks (10) was one of the most frequently reported activities by the parents, but the students did not mention it. Other outdoor activities stated only by the parents were going to picnics (5), riding a bike (1), and going to the cinema (1).

Results on Home and Class Activities

Below is an overview of the activities carried out at home and in the classroom within the framework of the action plan.

Results on the Activity of 'Surprise' Case Study

The first activity covered in the action plan was 'Surprise' case study. It was designed to tell the story of a child who planned a surprise family entertainment to avoid the isolation of the family members due to the fact they spent their time by playing computer games or using smart phones or watching television.

After analyzing this case study, the students described the contribution of such family entertainment to family unity. The reported contributions were as follows: gaining positive emotions (19), ensuring family unity (16), ensuring positive communication (4), gaining positive personality trait (2), and gaining knowledge. The findings are given in Table 1.

Table 1. Contribution of family entertainment to family unity

Themes	Codes	∑
Gaining positive emotions	Happiness (10) Entertainment (8) Excitement (1)	19
Ensuring family unity	Spending time together (8) Bringing the family members together (5) Increasing relationships (3)	16
Ensuring Positive Communication	Taking care of each other (2) Talking to each other (1) Listening to each other (1)	4
Acquiring Positive Personality Characteristics	Being moral and honest (1) Being compatible (1)	2
Acquiring information	Increased information (2)	2

In regard to these findings some sample direct quotations from the statements of the students are given as follows:

'Entertaining events have contributions such as spending time together and having fun.' G22
'Everybody in the family care for one another.' B13
'It has several contributions: watching television is not so good for us. But if we play games together I may have fun and learn something.' G1
'Our relationships become increased as well as our information is improved.' E16

Results on Workshop

Following the 'Surprise' case study activity, the groups of students discussed what kind of activities can be covered in the entertainment events with family members. Then, the groups wrote these activities under the activity sheet of 'We are Designing an Entertainment'.

There were five groups of students which produced a total of 51 activities. The activities designed by the groups of the students were as follows: out-of-home activities (21), production-based activities (16), activities for reading and writing (13), game-based activities (8), food-based activities (6), activities based on sharing of memories (5), recreational activities (2), and housework activities (2).

It can be said that the majority of the students ' activities are composed of activities that allow family members to interact with each other. Although the majority of the students expressed that they spent time watching

television and eating and drinking from non-interacting activities with their parents before the action plan was implemented, it was found that they had little interest in doing non-interacting activities during family entertainment. However, they also developed some noninteractive activities such as reading books (3), watching movies (1), listening to songs (1), and going to cinema (3).

After the activities designed by student groups, each student was asked to plan his or her own family entertainment based on the activities determined. These activities were as follows: activities outside the home (21), reading-based activities (19), production-based activities (16), eating and drinking activities (12), game-based activities (11), activities based on entertainment (4), memory-based activities (5), and housework activities (1).

The activities developed by individual students were also mostly interactional. The most frequent activities were food preparation (11), playing various games (11), going to picnic (9) and writing poetry to family (8). They also developed much more interesting activities such as looking at old photos (4), and watching old wedding videos (1). It can be suggested that the students became happy and had fun while sharing memories with family members. The following direct quotations show how the students were planning to implement the activities that they developed.

> *'I will tell the joke first. Then I will write a poem. Then I will find the photographs of my father and brother. Then I will surprise on Thursday at 19.30. Let's have fun.' G17*
> *'I will distribute gifts to my family without help from anyone. I will do a watch on a picture of parents. I will prepare food with the help of my sister and my aunt.' G28*

Students' and Parents' Opinions about Family Entertainment Event

Following the implementation of the event the interview forms were filled by the students and their parents. The following figure shows the parents' and students' satisfaction with the entertaining activity and their justifications.

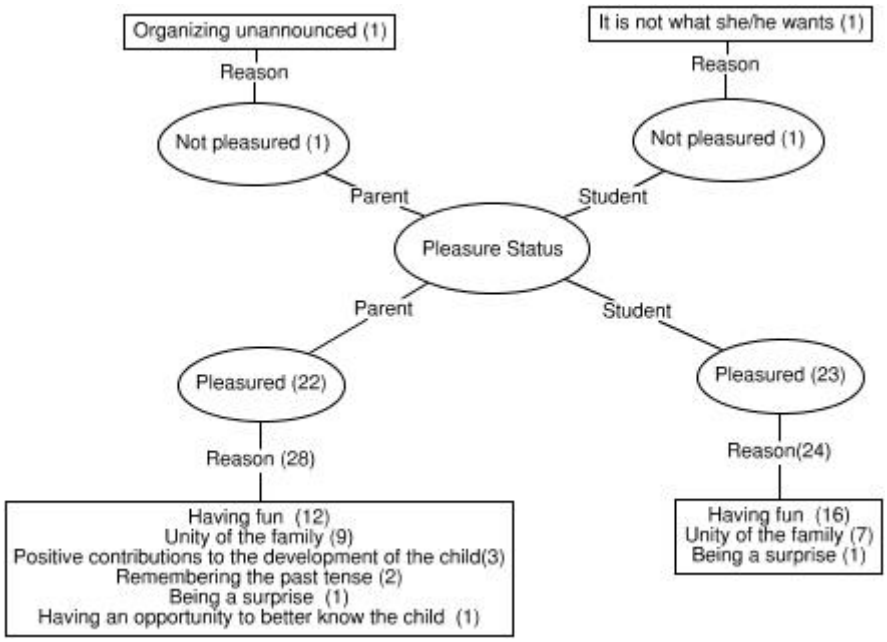

Figure 3. Satisfaction of students and families with family entertainment event

As can be seen in Figure 3, of the 24 parents participating in the the event, 22 reported that they were satisfied with the event that their child planned and implemented.

Moreover, of the 24 students who planning and implementing the activity, 23 reported that they were satisfied with the activity. The reasons given by the parents and students for being satisfied with the activities seemed to be the same. The students and families stated that they were mostly satisfied with the activities because they had fun together, and these activities provided family unity. Some of the reports by the students and parents are given as follows:

Themes	Reports by parents	Reports by students
Having fun	*'Yes, it was fun. After spending time with the children, we will be very happy to see the kite in the skies.' P14*	*'Yes, because we had such fun for the first time.' G6*
	'We were satisfied with it. It is the happiest thing to have all the family members together and to have all the good feelings together.' P25	*'Yes, because I played a very different game. I had so much fun as it was my father's childhood game.' G15*
Unity of family	*'Yes, I was satisfied with it. It had been really nice and fun. We have not done anything with him in a long time. The best thing was to make a pie together.' P23*	*'Yes, I am pleased with it. Because for the first time we did something ourselves. We made such fun for the first time.' B23*
	'Yes. It makes people happy to have fun with their family, play games, share things.' P18	*'I was satifsfied with it. Because it made everybody happy. Everyone left the device at his/her hand.' G11*
Improvement of children	*'The pie made by her and her mother was very nice. In addition, she is learning and educating herself.' P1*	
Remembering the old days	*'Yes, I was satisfied with it. I felt like I was back to my childhood.' P15*	

In the following figure, the ideas of parents and students about the contribution of family fun to family unity are given.

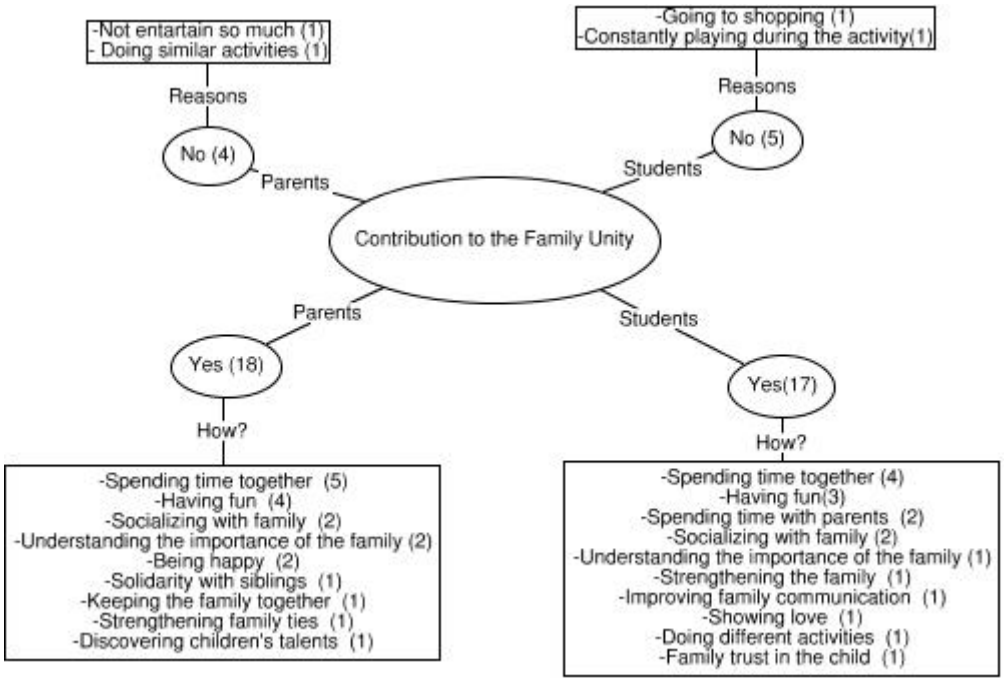

Figure 4. Ideas of parents and students about the contribution of family fun to family unity

Figure 4 indicated that all of the 18 parents who took part in the entertainment activities planned and organized by the children thought that such an activity had positive contributions to the unity of family.

Of 17 students who planned and organized an entertaining family activity reported that their activities positively contributed to the unity of family. As can be seen in both figures most of the parents and children had the idea that such activities positively contributed to the unity of family. On the other hand, there were some parents and students who did not think that such activities had positive effects on the unity of family. One of the parents reported that she did not entertain herself so much. The other one reported that the activity was not so much new because they did similar activities together. One of the students reported that it did not contribute to the unity of family because they went shopping as an activity. It can be argued that this student considered shopping as a non-interactive time with parents, suggesting that such activities did not contribute to the family unity. Another student stated that the activity was not a contribution to the unity of family, suggesting that they were constantly playing during the activity. The reports by the students and parents about the topic are given as follows:

Parent reports	Students reports
'Yes, it contributed to socialisation. Siblings agreed to act together and we could see the solidarity among them.' P4	*'It contributed to the unity of family. Having fun together allowed them to know their love to each other.' G28*
'This little entertainment contributed to our family unity. My husband came home tired from work. I was also getting tired all day long. By playing this game, we got a little rest. Our children were happy too.' P5	*'It contributed to the unity of family. It allowed for my parents to spend time with me and take care of me.' B24*
'It definitely contributed to the unity of family. I noticed the excitement of doing something with my son. I know he produced some pretty cool ideas.' P23	*'I was so happy that I planned and implement the activity. Because we were all together.' B16*
'Yes, it contributed to the unity of family. It contributed to strengthening the spiritual strength of family ties.' P25	*'There was no contribution to the unity of family. Because we went shopping.' B3*

Conclusion

It is very important for family members to spend time together to ensure family unity and to maintain it in a healthy manner. One of the biggest problems that reduce the family unity is that family members do not spend time with each other. There are many reasons for this as follows: increased hours of working and periods, fatigue due to factors such as traffic and noise pollution and development and spread of mass media. Particularly the increased frequency of watching television and using computers and smart phones seems to reduce the amount of time for family members to spend time together.

The findings of the current study suggested that the students mostly spent time with their parents through non-interactive activities. More specifically, it was understood that the students spent most of their time at home watching television with their parents. Similarly, Kaya and Tuna (2010) concluded that the students spent most of their time watching television (39%) with their parents. As for the parents, it was found that they often spent time with their children outside the home. The most frequently stated activity for them was 'going to parks'. It is possible that the parents spent time outside their home with their children in a non-interactive way because families may only take their children to the park and the children may play themselves. For instance, Güneş (2015) argues that taking children to a park is not an activity which refers to spending quality time with their children. According to Güneş spending quality time with children refers to be a part of the spiritual dimension of the children.

The findings of this study also suggested that the parents spent more time with their children through the interactive activities (25) than the activities without interaction. It has been found that parents spend time most with their children using to play games activity among interactive activities. Similarly, Şahin, Coşgun and Kılıç (2017) found in their study that fathers spent most of their time playing with their children. Based on this, it can be said that this study is consistent with the findings of the studies in the literature. On the other hand, it was found that there were some inconsistencies in the student and parent reports about the implementation of some activities. Although the students reported that they spent more time with their parents through watching television (13), which was one of the most non-interactive activities for them, it was stated by the parents that they spent less time through this activity with their children (4). This may be due to the fact that the parents did not consider television watching as a special event for spending time with the children and instead, they might regard it as a daily routine. However, for the students it seemed that watching television was an activity through which they could spent their time with the parents.

It was found that the students mostly planned activities outside the home, activities for reading, activities based on production, activities related to eating and drinking, and activities related to games. They reported that they mostly wanted to prepare meal (11) and play games with their parents (11).

It was found that the majority of the students were satisfied with the family fun activity they had planned and implemented. The reasons for their satisfaction were as follows: having fun with family members, contributing to the unity of family and creating a surprise for the parents. The majority of the parents also stated that they were satisfied with family fun activity. The reasons for their satisfaction were as follows: having fun with family members, contributing to the unity of family and to the development of the students, having an opportunity to

better know the child and creating a surprise for the family members. Similarly, Türkoğlu, Çeliköz and Uslu (2013) reached the following conclusion that the fathers participated in the study stated that they would be happy when they spent quality time with their children and they would know them better through such an occasion. It is noteworthy that the students stated that they had planned a family fun activity for the first time suggesting that they were passive in this regard.

According to the findings, the majority of the students felt that family fun activity was a significant contribution to the family unity. For them such activities contributed to the unity of the family by giving them opportunity to spend time together, entertaining everybody in the family, giving the family the opportunity to spend time with the child and understand the importance of being together, doing other activities based on this activity, allowing the family members to show their love to each other, ensuring the trust in the child and increasing communication within the family. Through the family fun, the family members showed their love to each other, and it can be given as an example of the adoption of the value of love, which is one of the objectives to be acquired by the students and their parents. Tonga (2016) in his study that took two years and in which weekly family meetings about values were held, the participants stated that family meetings positively affected communication in the family and family members had the opportunity to get to know each other better.
In the current study there were five students who reported that the activity they planned did not have any contribution to the unity of family. Their reports seemed to be related to the form of the activity. For instance, one of the participants planned shopping as an activity and later he reported that it did not contribute to the unity of the family.

It was also found that the majority of the parents thought that family fun activity contributed to the family unity. For them such activities contributed to the unity of the family by giving them opportunity to spend time together, entertaining everybody in the family, giving the family the opportunity to spend time with their child and understand the importance of being together, and allowing the family members to show their love to each other. The parents stated that family fun activity contributed very much to them and their children in their busy work schedules.

It can be stated that the participants generally exhibited the value of 'love' and its sub-value of 'to love his family'. The value that was mostly emphasized by the students and parents in the study was found to be the value of giving importance to the family unity. The students and their parents often emphasized that this entertainment allowed the family members to come together and provided socialization within the family, and the atmosphere of respect, love and happiness at home. Furthermore, the activities also supported the skills of 'self-management' and 'using resources effectively'. The activities also encouraged the skills of 'self management and making decisions'. Because the students actively took part in the planning of their activities with their families and made decisions about the activities. Türkoğlu, Çeliköz, and Uslu (2013) concluded that when fathers spend their time with children, it may have positive effects on children's social-emotional, linguistic, cognitive, and psycho-motor development and self-care skills. Another benefit of the activities planned and implemented by the children is found to allow parents to understand the values and abilities of their children. In the present study it was also found that when parents spent their time with children, the children might acquire some skills. Similarly, Cooksey and Fondell (1996) concluded that when parents spend time with their children, this interaction has many positive effects on children. Cabrera, Tamis-LeMonda, Bradley, Hofferth and Lamb (2000), in their study, say that time spent by fathers with their children contributed to their cognitive and emotional development. It can be said that the current study contributed to the problems of family members who spent time without interacting with each other before the preparation of the action plan and to the development of special activities for spending time with the children and their families. Through such activities the students felt the importance of the family and the value of 'giving importance to the family unity'.

Recommendations

The findings suggest that the elimination of the value of *"paying importance to the family unity"* from the 2018 curriculum for the course of life science by the Ministry of National Education should be avoided. In other words, the value of *"paying importance to the family unity"* should be added to the curricula. Teachers may be offered suggestions to provide parents with conditions and encourage them to spend more time with their children. Parents may be suggested that they should spend time with their children at home, listen to them and create a respectful home atmosphere in order to develop a healthy character in their children.

References

Akbaş, O. (2004). Evaluation of the Degree of Reaching of Affective Goals at the Elementary Level in Turkish National Education System. PhD Diss., University of Gazi.

Aydın, M. (2011). Değerler, İşlevleri ve Ahlak [Values, It's Functions and Moral]. *Eğitime Bakış Dergisi [Journal ofView of Education]*. *7*(19), 39-45.

Aydın, M. Z. and Gürler, Ş. A. (2012). *Okulda Değerler Eğitimi [Values Education in School]*. Ankara: Nobel Yayın Dağıtım.

Bayer, A. (2013). Family in Changing Social Structer. *Şırnak University Journal of Divinity Faculty 4*(8), 101-129.

Bayırlı, H. (2018). Values Education in the Context of Life Science Lesson: Giving Importance to Family Unity. Master Thesis. University of Sakarya.

Brown, B. V., Michelsen, E. A., Halle, T. G., and Moore, K. A. (2001). Fathers' Activities with Their Kids. *Research brief, Child Trends*, Washington, DC (ERIC Document Reproduction Service No: 454 954).

Cabrera, N., Tamis-LeMonda, C. S., Bradley, R. H., Hofferth, S., & Lamb, M. E. (2000). Fatherhood in the twenty-first century. *Child development*, *71*(1), 127-136.

Cooksey, E., and Fondell, M. (1996). Spending Time with His Kids: Effects of Family Structure on Fathers' and Children's Lives. *Journal of Marriage and Family 58*(3), 693-707. doi:10.2307/353729

Cüceloğlu, D. (2017). *Geliştiren anne-baba [Developing Parents]*. İstanbul: Remzi Kitabevi.

Demir, Ü. (2016). Using Social Media and Family Communication: A Study on the High School Students in Çanakkale. *Journal of Selcuk Communication 9*(2), 27-50.

Deveci, H. and Selanik, A. (2009). Values in Daily Life According to Diaries of Primary School Students. *Journal of International Social Research 2*(6), 167-181. doi.org/10.1080/13617670802465821

Dumazedier, J., (1991). "Family and Leisure." *Journal of Social Policy Studies*, *2*(2), 101-109.

Grundy S., (1994). Action Research at the School Level: Possibilities and Problems. *Educational Action Research 2*(1), 23-37. doi:10.1080/09650799400200007

Güneş, A. (2015). Kaliteli Vakit Geçirmek. Accessed December 26, 2018. https://www.facebook.com/Dr.AdemGunes/posts/952979488071200:0

Halstead, J. M. and Taylor, M. J. (2000). Learning and Teaching about Values: A Review of Recent Research. *Cambridge Journal of Education 30*(2), 169-202.

Johnson, A. P., (2005). *A Short Guide to Action Research*. Boston: Pearson/Allyn and Bacon.

Kaya, K. and Tuna, M. (2010). Effects of Popular Culture on Intra-family Relations of Students at the Age of Primary School. *SDU Faculty of Arts and Sciences Journal of Social Sciences 21*, 237-256.

Keskin, S. C. (2012). Değer Eğitiminde Geçmişten Günümüze Bir Işık: "Aile Bilgisi Dersi" Model Önerisi. J*ournal of Values Education 10*(23), 117-156.

Lovat, T. (2017). Values Education as Good Practice Pedagogy: Evidence from Australian Empirical Research. *Journal of Moral Education*, *46*(1), 88-96.

Lovat, T. J., and Clement, N. D. (2008). The Pedagogical Imperative of Values Education. *Journal of Beliefs and Values*, *29*(3), 273-285.

MoNE (Ministry of National Education) (2009). *İlköğretim 1. 2. ve 3. Sınıflar Hayat Bilgisi Dersi Öğretim Programı ve Kılavuzu. [Primary 1. 2nd and 3rd Classes Life Science Course Curriculum and Guidance]*. Ankara: Milli Eğitim Bakanlığı Yayınları.

Okumuş, E. 2010. Toplum ve Ahlak Eğitimi. *Eğitime Bakış Dergisi, 6*(18), 28-32.

Özyürek, A., and Gürleyik, S. (2016). The Place of the Game in Parents' Interactıon with Their Children in Preschool Stage. *Journal of International Social Research 9*(42), 1283-1289.

Patton, M. Q. (2002). *Qualitative Evaluation and Research Methods*. California: SAGE Publications, Inc.

Sandberg, J. F. and Hofferth, S. L. (2001). Changes in Children's Time with Parents: United States, 1981–1997. *Demography 38*(3), 423-436.

Saygılı, H. (2016). Kaliteli ve Verimli Zaman Geçirmek Aile İlişkilerini Güçlendiriyor. Accessed January 17, 2018 https://neu.edu.tr/kaliteli-ve-verimli-zaman-gecirmek-aile-iliskilerini-guclendiriyor/?lang=tr

Sönmez, V.and Alacapınar, F. G. (2011). *Örneklendirilmiş Bilimsel Araştırma Yöntemleri [Illustrated Scientific Research Methods]*. Ankara: Anı Yayıncılık.

Stringer, E. T. (2007). *Action Research*. Los Angeles: London: SAGE Publications, Inc.

Superka, D. P. and Johnson, P. L. (1975). *Values Education: Approaches and Materials* Boulder, CO: ERIC Clearinghouse for Social Studies/Social Science Education and the Social Science Education Consortium. (ERIC Document Reproduction Service No: ED103284).

Tezel Şahin, F., Akıncı Coşgun, A., & Aydın Kılıç, Z. N. (2017). An Investigation of Fathers' Opinions about Spending Time with Their Children *Gazi University Journal Of Gazi Educational Faculty (Gujgef), 37*(1); 319-343.

Tonga, D. (2016). Transforming values into behaviors: A study on the application of values education to families in Turkey. *Journal of Education and Learning, 5*(2), 24-37.

Türkoğlu, B., Çeliköz, N., and Uslu, M. (2013). Fathers' Views about Perceptions of Quality Time with Their Children between the Ages of 3-6. *Journal of Research in Education and Teaching 2*(2), 54-71.

Yavuzer, H. (2001). *Çocuk Eğitimi El Kitabı [Child Education Handbook]*. İstanbul: Remzi Kitabevi.

Yıldırım, A., and Şimşek, H. (2016). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri [Qualitative Research Methods in the Social Sciences]*. Ankara: Seçkin Yayıncılık.

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The Analysis of Primary and Secondary Education Curricula in Terms of Null Curriculum*

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Abstract

This study aims to examine primary and secondary education curricula in terms of controversial issues such as human rights, terrorism, sexuality, etc. determined by the participation of teachers, academicians and education union representatives beforehand. This study was designed as a document analysis which is one of the qualitative research methods. In this study, the curricula of the compulsory courses (N=16) of primary and secondary education were examined through content analysis. The curricula were analyzed in terms of controversial issues through a descriptive analysis form which was prepared by the researcher. The document analysis form was based on the controversial themes and sub-themes determined by the participation of teachers, academicians and education union representatives beforehand. The study revealed that controversial issues addressed by the education stakeholders were mostly not covered in the curricula of compulsory courses in primary and secondary education; in other words, it was the null curriculum. Furthermore, it was found that there was no relation between the general objectives and acquisitions of some curricula in terms of controversial issues.

Key words: Controversial issues, Formal curriculum, Null curriculum, Document analysis

Introduction

In many of the definitions related to education, preparing the individuals for the cultural life of the society and equipping them with the knowledge and skills to carry the society forward, is emphasized. These aims are achieved by the formal curriculum of national education (Sönmez, 2002). The curriculum is a comprehensive plan that includes the organization, implementation and evaluation of all educational activities for the training of qualified individuals with the desired behavior characteristics in educational institutions (Sağlam, 2008). The emphasis of formal curriculum on developing cognitive skills, social values and desired behaviors to meet the needs of society caused some disciplines such as science, art, philosophy, and some affective processes to be ignored. Ultimately, it led to the birth of a new concept which is called the *null curriculum* (Eisner, 1985).

The null curriculum is a collection of all information and processes that are necessary but ignored for the student to be prepared for a social life and even as an individual with the potential to transform it. It is a product of critical theory which deals with the result of the existence and absence of something (Wilkinson, 2014). Critical theory asserts that a better world can be created and thus makes historical, cultural, political and ethical guidance in the hope of improving and transforming the world (McLaren, 2011). Critical pedagogy, which is a reflection of critical theory, is one of the transformational education models. According to critical pedagogy, education is valuable to the extent that it helps students liberate themselves from the social conditions that suppress them (Smith, 2000). Curriculum has an ontological reality for those who design, implement, and participate in it, and indirectly for the society affected by it. This ontology is the sum of the reciprocal relationship of both existing and non-existent issues in the curriculum. Because, absence is not solely nothingness; but it is a phenomenon that causally affects real social outcomes. In other words, non-material deprivations in the learning environment can affect the presence or absence of events in a way that is not visible (Brown, 2009). For instance, insufficient environmental education in the curriculum, can affect climate change (Wilkinson, 2014).

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According to Eisner (1985), the null curriculum has two dimensions. The first dimension is related to cognitive processes and the second dimension is related to issues highlighted or ignored in the curriculum. The null curriculum at the national level is influenced by the general education policy that dominates the country's education system, the interests and capabilities of curriculum specialists, and the policies of the ruling party. In this dimension of the null curiculum, policy makers and curriculum experts deliberately exclude some issues. For example, the curricula of some countries do not include religious beliefs and some of them do not include sexuality (Assemi & Sheikzade, 2013). Issues such as race, gender and religion are often considered to be controversial, and it appears that these issues are generally neglected in the curriculum. Controversial issues are logical disputes with two legitimate opposite perspectives (Levinson, 2008). Hess (1998) argues for a number of reasons why controversial issues should be addressed in the curriculum. Firstly, controversial issues provide for the development of democratic values through cognitive dissonance and moral reasoning. Another benefit of the controversial issues is that these issues enable students to be interested in politics and political participation. Students who exchange ideas on controversial issues through group discussions have the opportunity to see the opposite views, to deepen their ideas and to filter them. Finally, it is believed that controversial issues improve students' critical thinking and interpersonal skills.

In social studies course curriculum in Turkey, which was updated in 2005, controversial issues were addressed under the headings of "Teachers in terms of teaching social studies" and "Explanations on the implementation of the social studies curriculum". In the curriculum updated in 2017, controversial issues in social studies course curriculum were covered under the heading "Points to be considered in practice of teaching social studies". In Turkey, developments related to teaching socioscientific issues in sicence course curriculum began after 1992. In the curriculum of science courses in 1992, 2000 and 2004; science, technology and community approach has been adopted. In the 8th grade science course curriculum in 2006; DNA, natural selection, adaptation, mutation, modification and evolution were included. Adaptation, mutation, modification and evolution issues were excluded from the course of the science curriculum updated in 2013 (Education Reform Initiative [ERG], 2017). In the curriculum update study in 2017; the issues of heredity, mutation, modification, adaptation were added to the 8th grade science curriculum again; genetic engineering and biotechnology applications were the new headings added to the curriculum.

Many studies have been carried out in the national and international literature on both social sciences and science aspects of controversial issues. However, the relationship between controversial issues and the null curriculum has been addressed in a very limited number of international studies and none of the national studies. Consequently, there is a need for a study that examines the different disciplines in terms of controversial issues and in the context of the null curriculum in Turkey. The aim of this study is to examine updated primary and secondary school curricula (2017) in terms of controversial issues determined by the participation of teachers, academicians and education union representatives beforehand. To this end, the research question in this study is as follows:

- In terms of null curriculum, do the curricula of the compulsory courses in primary and secondary education include controversial issues?

Methodology

This study was designed as a document analysis which is one of the qualitative research methods. Documents are important sources of information to be used effectively in qualitative research. In a study related to education, documents such as textbooks, curriculum, teachers' books, meeting reports, homework and exams can be used as a data source (Bogdan & Biklen, 1992). In the sample selection stage of this research criterion sampling, which is one of the purposive sampling methods, was used. In this sampling method, all situations that meet the predetermined criteria are included in the study (Yıldırım & Şimşek, 2013). The aim of this research is to analyze the compulsory courses in primary and secondary schools in terms of null curriculum. To this end, the curricula of all grade levels (1-8) of the sixteen compulsory courses taught in primary and secondary schools were included in the study. However, the curricula included in this study were examined only in terms of acquisitions related to controversial issues. The reason for choosing primary and secondary school curricula in this study is that the studies on the controversial issues are mostly addressed in these educational levels in the literature.

In this study, the curricula of the courses which are stated as compulsory courses in the weekly course schedule of primary education institutions (https://ttkb.meb.gov.tr/www/haftalik-ders-cizelgeleri/kategori/7) were examined through content analysis. The curricula of the compulsory courses examined are "Turkish (TR),

mathematics (MT), life science (LS), science (S), social studies (SS), the revolution history of Turkish Republic and Kemalism (RH), English (EN), religious education and ethics (RE), visual arts (VA), music (M), game and physical activities (GP), physical education and sport (PE), technology and design (TD), traffic safety (TS), information technologies and software (IT), human rights, citizenship and democracy (HR). The primary and secondary education curricula were analyzed through a descriptive analysis form which was prepared by the researcher in order to analyze the curricula in terms of controversial issues. In the category development of document analysis form, controversial issues related to human rights, science and technology, religion and politics, historical events, problems and figures; economy, media, art and philosophy and their sub-themes were used. These themes and their sub-themes were determined through semi structured interviews with primary and secondary education teachers, and open-ended questionnaires with education union representatives and academicians from different departments of faculty of education. After the descriptive analysis form was prepared, four experts from the field analyzed the form. Then, the form was finalized.

In the first phase of document analysis, within the framework of these themes and sub-themes, the acquisitions in all primary and secondary school curricula were examined in terms of controversial issues. Afterwards, acquisitions related to controversial issues were determined in the context of descriptive analysis form. Finally, it was revealed which general objective of the course was related to these acquisitions and in which unit they were covered (See Table 1).

Table 1. An example from the first phase of document analysis

The objectives of courses	Unit	Acquisition Number
3. To know that the rules of law are binding for all, that all persons and organizations are equal before the laws (social sciences-6)	1. Individual and society	SS6.1.5. Argues that the solutions to a problem must be based on rights, responsibilities and freedoms
4. To be aware of freedom of living and believing (religious culture and ethics-7)	6. Religion and culture	RE7.6.5. Explains the concept of secularism

Subsequently, sub-themes on controversial issues were analyzed in terms of general objectives of the course, grade/unit, and the number of acquisitions (See Table 2)

Table 2. An example from the second phase of document analysis

Human Rights (Theme/Sub-themes)	Course	General Objectives	Grade/Unit	Acquisitions
Terrorism and violence	Social sciences	SS7.15-16-17	SS-7.7	SS-7.7.4
Social values	Turkish	TR1. 2-5-9	TR-1.2	TR-1.2.4
Multiculturalism	English	EN2	EN-4.2	EN-4.2.L2

After all the acquisitions related to controversial issues were determined and they were deeply analyzed with regard to their compliance with the objectives of the courses, the units and the grades they were covered, two teachers of each compulsory course analyzed the findings.

In qualitative researches, instead of internal validity, external validity, internal reliability and external reliability; the concepts of credibility, transferability, consistency and justification are used (Yıldırım and Şimşek, 2013). In order to ensure credibility in this research, from the screening of the literature to the creation of the theoretical framework, from the development of data collection tools to the collection, regulation and analysis of the data, the researcher consulted the experts. Furthermore, a detailed description of the findings was made in order to realize the transferability criterion. Regarding the criterion of confirmability in the research, the researcher based on the principle of impartiality at each stage of the research process. All data and their coding procedure were presented to the experts for comparison with raw data.

Results

In this part of the study, it has been revealed to what extent the primary and secondary school curricula cover the controversial issues, which were previously determined by the participation of teachers, academicians and education union representatives.

Results Related to Human Rights Issues

In terms of the number of acquisitions in the primary and secondary education curricula, it is seen that the most frequent theme is human rights. Social values have been the most frequent sub-theme of human rights theme in primary and secondary education curricula. While participation and citizenship is the second in terms of number of acquisitions, multiculturalism is in the third place. There are only six acquisitions related to sexual assault and only five acquisitions on terrorism and violence in primary and secondary education curricula (See Table 3)

Table 3. The number of acquisitions related to human rights theme

Theme	Sub-themes	COURSES															
		RE	M	LS	S	PE	VA	GP	TR	EN	IT	HR	SS	TD	TS	RH	MT
Human Rights	Social values	65	34	26	25	22	22	21	20	18	15	14	13	10	4	2	-
	Participation and citizenship	8	20	22	-	4	-	4	1	5	5	29	29	4	6	10	-
	Multiculturalism	9	9	4	-	13	13	4	-	9	-	13	9	-	-	-	2
	Sexual assault	5	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	Terrorism and violence	-	-	-	-	-	-	-	-	-	-	4	1	-	-	-	-

Social values, which is one of the sub-themes of human rights, has been included in the curricula of religious education and ethics course the most and the revolution history of Turkish Republic and Kemalism course the least. When the acquisitions of religious education and ethics course about social values are examined, it is found out that except for the other religions and universal values issues in the 8th grade; the acquisitions are associated with beliefs and prayers specific to the religion of Islam, Hz. Muhammad and his exemplary behaviors and the orders of the Qur'an. Acquisitions related to social values in music course curriculum are respect for the national anthem, other anthems and patriotism. When the acquisitions of the social sciences curriculum related to social values are examined; it is seen that subjects such as national, spiritual and human basic values and the efficient use of resources are addressed at the basic level by associating them with the student's immediate environment. The subject of values in the physical education and sports course and game and physical activities course curriculum are related to national, spiritual and cultural values. Turkish course curriculum includes acquisitions related to the use of Turkish equivalents of words taken from foreign languages, in other words, national language awareness. The most common subject in the English course curriculum is the issue of environmental responsibility. It has been revealed that the social values are mostly related to national values rather than global values.

The participation and citizenship sub-theme mostly takes place in the curricula of human rights, citizenship and democracy, social studies and life sciences courses. The curriculum with the least acquisitions has been the Turkish course curriculum. The democracy issue, which is one of the sub-themes of participation and citizenship, is mentioned in one acquisition in life science curriculum, in six acquisitions in social sciences curriculum and in two acquisitions in the history of Turkish revolution and Kemalism course curriculum. As regards disability rigths; technology and design course curriculum has three acquisitions, Turkish course curriculum has one acquisition and human rights, citizenship and democracy course has two acquisitions. In the context of occupational health and safety related to workers' rights, only technology and design course curriculum has one acquisition. Regarding freedom of thought; social sciences curriculum has three, human rights, citizenship and democracy course has two acquisitions, religious education and ethics course curriculum has only one acquisition. In human rights, citizenship and democracy course curriculum and religious education and ethics course curriculum, freedom of religion and conscience is mentioned in one acquisition. The issue of freedom of press has been dealt with in the context of the relationship between the right to receive right information and the freedom of mass communication in an acquisition in social studies course curriculum. The secularism issue is included in one acquisition of religious education and ethics and the history of Turkish revolution and Kemalism course curricula. The right to health issue is mentioned only in one acquisition in the history of Turkish revolution and Kemalism and human rights, citizenship and democracy course curricula. Children's rights issue is included in two acquisitons of the social studies course curriculum and four acquisitions of the human rights citizenship and democracy course curriculum. The issue of law and justice is included in two acquisitions of the human rights citizenship and democracy course curriculum. Participation in the decision making process in the class is mentioned in life science course curriculum in two acquisitions. Freedom of participation as a fundamental right is mentioned in the social sciences course curriculum in one acquisition. Digital citizenship skills are only included in the acquisitions of the information technologies and software course curriculum.

Multiculturalism, which is one of the sub-themes of human rights, has been included in the curricula of visual arts, physical education and sport, human rights, citizenship and democracy courses the most and mathematics course the least. In the curriculum of visual arts course, acquisitions related to art works belonging to different cultures and civilizations are included. In the curricula of physical education and sport and game and physical activities, acquisitions related to folk dances and traditional children games of different regions and countries are included. In human rights, citizenship and democracy course curriculum, respect for differences and culture of coexistence issues are included in acquisitions. In music course curriculum, acquisitions such as recognizing different music styles from different regions in international and Turkish music culture, are issues related to multiculturalism. In social sciences course curriculum, global problems such as migration, respect for different cultures, questioning prejudices against different sexes and groups, tolerance and positive discrimination are the issues included in the acquisitions. However, what is meant by different cultures, gender and groups are not explicitly stated in the curriculum. The issues about the problem of negative attitudes and behaviors towards women and children, the differences in the understanding of religion are richness and there must be no compulsion in religion are the acquisitions related to multiculturalism in religious education and ethics course curriculum. In English course curriculum, different nations and nationalities, celebrated festivals and different tourist spots around the world are the issues addressed related to multiculturalism. In life science course curriculum, respect for different cultures is associated only with the concept of migration. The concept of respect for individual differences is provided without explanation as to which individual differences are meant. In mathematics course curriculum, it is aimed to teach the ornaments of different civilizations and the symbols used by different civilizations.

The sexual assault sub-theme only takes place in the curricula of religious education and ethics; human rights, citizenship and democracy courses. In religious education and ethics course curriculum it's mentioned that sexual abuse should be emphasized as one of non-moral attitudes and behaviors. In human rights, citizenship and democracy course curriculum, the acquisition about body immunity is related to the issue of sexual assault but it is not explicitly stated how much explanation should be made about this issue.

Terrorism and violence sub-theme only takes place in the curricula of human rights, citizenship and democracy and social sciences courses. In the curricula of human rights, citizenship and democracy course curriculum, issues such as the causes of disagreements among people, conditions that require and do not require reconciliation, ways of reconciliation and the results of reconciliation situations are mentioned, yet the issues of terrorism or violence are not directly addressed in the acquisitions. In social sciences course curriculum, global problems such as global warming, natural disasters, hunger, terrorism and migration are discussed together.

Results Related to Science and Technology Issues

In terms of the number of acquisitions in primary and secondary education curricula, it is seen that science and technology is the most frequent second theme. It is revealed that controversial issues such as abortion, euthanasia, theory of evolution and sexuality are not included in primary and secondary education curricula. While science/scientific knowledge and environmental awareness are the sub-themes with the most acquisitions, biotechnological studies and reproductive technologies and organ donation are the sub-themes with the least acquisitions (See Table 4)

Table 4. The number of acquisitions related to science and technology theme

		COURSES														
Theme	**Sub-Themes**	TD	S	MT	EN	SS	RE	IT	RH	PE	VA	LS	TR	GP	HR	M
Science and Technology	Science/Scientific knowledge	49	20	19	9	8	6	3	2	1	1	-	-	-	-	-
	Environmental awareness	1	28	-	17	4	2	-	-	-	3	13	1	2	1	-
	Internet and technology related problems	1	2	-	-	6	-	30	-	-	-	3	3	-	-	9
	Energy resources	3	12	-	1	4	-	-	-	-	-	6	-	-	-	-
	Healthy diet and food safety	-	5	1	1	-	-	-	-	2	-	7	-	3	-	-
	Disease/Drug/Vaccines	-	3	1	5	-	-	-	-	1		2	-	1	-	-
	Global warming and climate change	-	3	-	-	1	-	-	-	-	-	-	-	-	-	-

Biotechnological studies and reproductive technologies	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Organ donation	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Abortion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Euthanasia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Evolution theory	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sexuality	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Science/scientific knowledge, which is one of the sub-themes of science and technology, has been included in the curriculum of technology and design course the most and physical education and sport and visual arts courses the least. When the acquisitions of technology and design course are examined, it is found out that all the acquisitions are related to the scientific processes that need to be followed from start to finish in a product design. In the science course curriculum, there are five acquisitons that directly address science / scientific knowledge, except for practical science / science and engineering applications part in every unit. In mathematics course curriculum subjects such as data collection, classification, scoreboard and frequency table creation, reading and interpreting simple tables, editing and obtaining data, are covered in acquisitions. In English course curriculum, reading, writing and speaking activities related to key concepts of popular science, facts, and general scientific facts and scientific achievements are included in the acquisitions. In social sciences course curriculum, the issues such as scientists and scientific developments since the foundation of Turkish Republic, the contributions of the scholars who are educated in Turkish-Islamic civilization to the scientific development process, the impact of the developments in Europe on the development of scientific knowledge and free thought, are addressed in the acquisitions. In the curriculum of religious education and ethics course, the acquisitions about the services of the Turks to Islamic civilization and science; physical, biological and social laws in the universe, the importance of reasoning and accurate information in Qur'an are emphasized. In information technology and software course, the acquisitions about recognizing the changes in information and communication technologies from past to present and recognizing the scientists who contributed to the development of information technologies are addressed. Furthermore, in some of the acquisitions students are encouraged to use information from realiable scientific sources and warned about unethical scientific behaviors such as plagiarism. In the revolution of Turkish history and Kemalism course curriculum, Atatürk's rationality and scientific personality are addressed. In an acquisition in visual arts course curriculum, it's stated that current events such as scientific developments, can be utilized for visual art work.

The environmental awareness sub-theme mostly takes place in the curriculum of science course. Acquisitions related to environmental awareness are; interaction between human and environment, taking part in the cleaning and protection of the environment, damages to the environment of battery waste and what to do about it, negative effects of light and noise pollution on the natural life and solutions to reduce this, the importance of biodiversity for natural life and the factors that threaten biodiversity, adverse effects of environmental pollution on human health, recycling and waste control, causes and consequences of acid rain formation, and finally the use of resources in a cost-effective manner. The second curriculum with the highest acquisitions about environmental awareness has been the English course curriculum. The vocabulary and grammar activities related to protecting the environment, natural resources, natural disasters and wild animals are included in the curriculum. In the life science and social sciences courses curricula, the saving of natural resources, environmental sensitivity, recycling, the importance of plants and animal feeding, the effects of natural elements on life and the negative effects of human on natural life, natural disasters and measures to prevent them are discussed. In visual arts, technology and design and Turkish courses curricula, using waste materials and the importance of recycling are addressed. In religious education and ethics course curriculum, examples of Prophet Muhammad's behaviors in keeping nature clean and protecting the animals, are included.

The internet and technology related problems, which is one of the sub-themes of science and technology, have been included in information technologies and software course the most and in the curriculum of technology and design course the least. In information technologies and software course, acquisitions about positive and negative aspects of different information technologies, their effects on physical and mental health; the basic principles and sanctions related to ethics and information ethics, and respect for the rights of others in online environment are covered. In addition,the reliability of digital identities, the accuracy of information on the internet, and ethical principles of reference, copyright, information pollution, cyber bullying, the effects of information technologies on social and cultural life and cybercrime are addressed in the curriculum. In music course curriculum, the need to pay attention to cyber security and ethical rules while creating a music archive are addressed in the acquisitions. In social sciences course curriculum; the effects of technological products on

the individual and nature, the accuracy and reliability of the information reached on the internet, the effects of the use of technology on socialization and social relations, the role of media on social change and interaction and the effects of scientific and technological developments on future life are included. Protecting physical and mental health while using mass media; safe use of technological equipment, such as computers, televisions, mobile phones, tablets, game consoles and household appliances are the acquisitions in life science course curriculum. In Turkish course curriculum, the reliability of the information on the internet, blog and personal web pages has been addressed. It is seen that the effect of the internet and technology on language degeneration is not considered in the curriculum. In science course curriculum, since there is no general objective related to internet and technology, the acquisitions have not been associated with a general objective. The positive and negative effects of technological tools with high voice and the useful and harmful aspects of biotechnological applications for human beings are the issues addressed in the science course curriculum.

The energy resources sub-theme has been included in the curriculum of science course the most and in English course curriculum the least. The resources such as electricity and water required for life and the efficient use of these resources; the importance of renewable energy sources such as fossil fuels; the effects of different types of fuels on human and environment; innovative applications of solar energy in daily life and technology; advantages and disadvantages of hydroelectric, thermal, wind, geothermal and nuclear power plants; the importance of conscious and economical use of electricity in economy are the acquisitions included in science course curriculum. In life science, social sciences and English courses curricula, the importance of electricity and water saving issue is addressed. Designing clean and sustainable energy technologies by using natural resources such as water, wind and sun is included in technology and design course curriculum.

The most acquisitions in terms of healthy diet and food safety belong to life science course, while the minimum acquisitions belong to mathematics and English courses. Being careful about the color, shape, smell and expiry date of the food while buying; feeding with seasonal foods; consuming the nutrients needed by the body in sufficient quantities, at appropriate times and in a balanced manner; washing fruits and vegetables before consuming; are the acquisitions related to healthy diet and food safety in life science course curriculum. The importance of freshness, cleanliness and naturalness of foods; frozen foods, packed foods and their expiration date; health and balanced nutrition relationship are the issues addressed in science course curriculum. However, there is no general objective related to these acquisitions. In physical education and sport and game and physical activities courses curricula, it is focused on how and when the student should be fed before and after physical activities and the relationship between balanced diet and obesity. In English course curriculum, reading food and beverage labels is included in one acquisition. In mathematics course curriculum, it is adressed how to read simple tables about healthy diet and obesity.

Diseases, medicines/vaccines sub-theme is mostly included in English course curriculum. Common diseases such as flu, fever, teeth, head, abdominal pain are mentioned and reading, writing, listening and speaking activities related to these diseases are included in English course curriculum. In science course curriculum; eye defects, the most common diseases in Turkey such as dwarfism, gigantism, diabetes, goiter, sensory organ diseases, bone fractures, rheumatism, diarrhea, ulcers, cancer, jaundice, anemia, pneumonia, influenza and what to do for systemic diseases such as kidney stones, renal insufficiency and finally harms of unconscious drug use are included. In life science course curriculum, rational use of medicines and the relationship between nutrition and health; health problems such as obesity, diabetes, celiac and food allergy are addressed in the acquisitions. Physical education and sport, game and physical activities courses curricula include one acquisition about the relationship between balanced nutrition and obesity.

Global warming and climate change issue is addressed only in science and social sciences courses curricula. The reasons and results of ozone layer thinning, alternative heating solutions to prevent global warming, the measures taken by the countries of the world and the duties and responsibilities of individuals in this regard has been addressed in science course curriculum. In social sciences course, climate change issue is included among other global problems.

Biotechnological studies and reproductive technologies and organ donation issues are only addressed in science course curriculum. Acquisitions related to genetic engineering and biotechnology such as breeding, vaccination, gene transfer, cloning and gene therapy; ethical dilemmas related to these practices and importance of organ donation in terms of social solidarity are included in science course curriculum.

Results Related to Art, Economy, Media, and Philosophy Issues

In terms of the number of acquisitions in primary and secondary education curricula, it is seen that the most frequent third theme is art, economy, media and philosophy. Art has been the most and philosophy has been the least frequent theme in primary and secondary education curricula (See Table 5).

Table 5. The number of acquisitions related to art, economy, media and philosophy theme

		COURSES											
Theme	**Sub-themes**	VA	M	MT	RH	SS	RE	S	TD	LS	TS	TR	PE
Art, Economy, Media, Philosophy	Art	46	7	3	2	1	1	1	-	-	-	-	-
	Economy	7	-	1	2	24		6	3	2	2	-	-
	Media	2	-	-	-	4	-	-	-	-	-	13	1
	Philosophy	-	3	-	-	1	-	-	-	-	-	-	-

The curriculum that includes the most acquisitions about arts is the visual arts course curriculum. The concepts of art, art work and artist are solely focused on. Thus, the art issue has been associated with the acquisitions in cultural arts, art criticism and aesthetic parts of the visual arts curriculum. In music course curriculum, the acquisitions related to the concepts of art, artist and art work, relationship between music and other arts are included. In mathematics course curriculum examples of historical and cultural artifacts (architectural structures, carpet decorations, kilims, etc.) and traditional arts (china, ceramics, weaving, etc.) are addressed. In the revolution history of Turkish Republic and Kemalism course curriculum, reflections of political, social and cultural events of the National Struggle Period on art and literature are addressed. Examples from Ottoman culture, art and aesthetics are included in social sciences course curriculum. In religious education and ethics course curriculum one acquisition related to art is examples of religious motifs in music and architecture.

The curriculum in which the most acquisitions about economy takes place is social studies, and the curriculum with the least acquisitions is mathematics course. In social sciences course curriculum; major economic activities and their impact on the social life of people; analysis of production, distribution and consumption network of basic products and development of new ideas in this regard; occupations developing due to economic activities, the place and importance of provinces in economic relations between countries, the effects of communication and transportation technology in economic relations between countries are the acquisitions related to economy. In visual arts course curriculum, issues such as financial literacy and social financial entrepreneurship, the impact of economic factors on art works, the economic contributions of artists to society and the economic value of the art works are addressed. In science course curriculum, acquisitions related to economy are; recycling, conscious and efficient use of electrical energy, and the contribution of thermal insulation in buildings to family and country economy. Being economical in design development and product design are the acquisitions related to economy in technology and design course curriculum. In life science course curriculum, contribution to the family budget by saving resources at home is addressed in the acquisitions. In the revolution history of Turkish Republic and Kemalism course curriculum; the economic developments in Ataturk's period, the effects of 1929 World Economic Depression on Turkey's economy, the development of the Second World War and economic results of the war on Turkey are addressed in the acquisitions. In mathematics course curriculum, financial literacy is included in one of the acquisitions.

Most of the acquisitions related to media are included in Turkish course curriculum. The aim of the course is to provide the students with a general knowledge on media texts (advertisement, public spot, etc.), the purpose and consistency of their content; interpretation of comics, cartoons and news and how visual commentators convey information. In social science course curriculum, the acquisitions related to media are; media literacy, media as a factor influencing the decision-making process of management; dissemination of international popular culture by media tools and their impact on community life and communication between individuals. In visual arts course curriculum, the guiding effect of elements such as image, text and symbol in contemporary media, are addressed. In one of the acquisitions in physical education and sport course curriculum, media news about physical activities and sports are addressed.

There are a total of four acquisitions about philosophy in primary and secondary education curricula, namely, music and social studies courses curricula. In music course curriculum, people who have contributed to Turkish music with their philosophy and works are discussed. In the social studies course curriculum, philosophy is presented as one of the disciplines that constitute the social sciences.

Results Related to Historical Events, Problems and Figures Issues

In terms of the number of acquisitions in the primary and secondary education curricula, it is seen that the most frequent fourth theme is historical events, problems and figures. Atatürk and Kemalism has been the most and Deportation Law has been the least frequent sub-themes in primary and secondary education curricula. Furthermore, The Cyprus and Aegean Islands issues are not included in primary and secondary education curricula (See Table 6).

Table 6. The number of acquisitions related to historical events, problems and figures theme

Theme	Sub-themes	COURSES						
		RH	M	PE	LS	SS	RE	HR
Historical Events, Problems and Figures	Ataturk and Kemalism	28	13	4	4	4	2	1
	Historical figures	2	-	-	-	1	-	-
	Lausanne Treaty	2	-	-	-	-	-	-
	Deportation Law	1	-	-	-	-	-	-
	The Cyprus issue	-	-	-	-	-	-	-
	Aegean Islands issue	-	-	-	-	-	-	-

Ataturk and Kemalism, which is one of the sub-themes of historical events, problems and figures, has been included in the curriculum of revolution history of Turkish Republic and Kemalism course the most and in the curriculum of human rights, citizenship and democracy course the least. Issues such as Atatürk's principles and reforms, his life and personality, Turkish foreign policy during the period of Atatürk, steps towards democratization during the Atatürk Era, Atatürk's legacy to the Turkish Nation and the death of Atatürk are included in the curricula of revolution history of Turkish Republic and Kemalism and social sciences courses. In the curricula of physical education and sport and music courses, Ataturk's emphasis on science and art is emphasized. Atatürk's birthplace, his mother and father's name, place of death; Atatürk's childhood and his personality traits are included in life science course curriculum. Examples of Atatürk's words about patriotism are included in religious education and ethics course curriculum.

Historical figures sub-theme has only been included in the curricula of revolution history of Turkish Republic and Kemalism and social sciences courses. In both of the courses, the duties and achievements of the heroes of the national struggle on the front are mentioned without naming them.

The sub-themes of the Treaty of Lausanne and deportation law are only included in three acquisitions in the curriculum of revolution history of Turkish Republic and Kemalism course. The Cyprus and Aegean Islands issues are not included in the primary and secondary education curricula.

Results Related to Religion and Politics Issues

In terms of the number of acquisitions in the primary and secondary education curricula, it is seen that the least frequent theme is religion and politics. Religious beliefs and formations sub-theme has been the most, the coup attempts and agricultural policies sub-themes have been the least frequent sub-themes in primary and secondary education curricula. Furthermore, political trust sub-theme is not included in primary and secondary education curricula (See Table 7).

Table 7. The number of acquisitions related to religion and politics theme

Theme	Sub-themes	COURSES					
		RE	M	SS	LS	HR	RH
Religion and Politics	Religious beliefs and formations	11	1	-	-	-	-
	Management system	-	-	9	1	1	-
	Errors in religious interpretation and practice	7	-	-	-	-	-
	Current international political issues	-	-	4	-	-	2
	Differences in political views	-	-	-	-	-	2
	Coup attempts	-	-	1	-	-	-
	Agricultural policies	-	-	-	-	-	1
	Political trust	-	-	-	-	-	-

Religious beliefs and formations, which is one of the sub-themes of religion and politics, has been included in the curriculum of religious education and ethics course the most. Examples of prayer in the Shiism and Bektashism, basic concepts in the Alaouite-Bektashi tradition, the prophets and revelations in the Qur'an, the prophets of the Divine Books, Muharrem fast, the mystical interpretation of Islamic thought and the relevance of religion as a universal phenomenon are emphasized in religious education and ethics course curriculum. The Mevlevi (Dervish) ceremony and poem (nefes) sung by dervishes are addressed as different forms of Turkish music in music course curriculum.

The management system sub-theme is mostly addressed in social studies course curriculum. Different forms of government, the relationship between the legislative, executive and judicial powers in Turkey; factors influencing the decision-making process of management, such as political parties, non-governmental organizations, the media and the public; constitutional rights and responsibilities, basic qualifications of democracy in Turkey are addressed in social studies course curriculum. The management system sub-theme has been addressed in one acquisition at the 3rd grade in the life science course curriculum. In human rights, citizenship and democracy course curriculum, only one acquisition is related to the contribution of the Republican administration to guarantee rights and freedoms.

Errors in religious interpretation and practice sub-theme is only included in religious education and ethics course curriculum. False, incomplete and superficial religious beliefs; misunderstandings about fate, the importance of reason in religious understanding, the emphasis of Qur'an on the use of reason and damages of the abusive missionary activities are addressed in religious education and ethics course curriculum.

A total of six acquisitions is included about the current international political issues sub-theme in the curricula of social studies and revolution history of Turkish Republic and Kemalism courses. Turkey's relations with its neighbors and other Turkish nations, Turkey's roles in the international arena are addressed in four acquisitions of social sciences course curricula. However, it is seen that the issues of terrorism and immigration, which are most emphasized current political problems, are only included in one acquisition. In two acquisitions of the revolution history of Turkish Republic and Kemalism course curriculum, the basic principles and objectives of the Turkish foreign policy during the period of Atatürk are discussed in the context of international relations. In addition, Second World War and the impacts of this war on Turkey's political, social and economic life have been addressed.

In revolution history of Turkish Republic and Kemalism course curriculum; differences in political views sub-theme is related to intellectual movements (Ottomanism, Islamism, Turkism, Westernism) which affected the political and social life in the last period of the Ottoman Empire. Agricultural policies sub-theme has been associated with policies pursued during the period of Atatürk. The coup attempts sub-theme is included in the social studies course curriculum at 6th grade and it's related to 15th July Democracy and National Unity Day. However, the concept of coup is not directly addressed.

Discussion and Conclusion

This study has revealed that the social values, which is the sub-theme of human rights, is the subject which is most included in primary and secondary education curricula, and the values that will enable the students to become a good citizen rather than being a good/global person are highlighted. It is seen that only the right to elect is mentioned, and there is no mention of the right of being elected and participate in political activities. Although there is no hostility against other religions, sects, races and genders in the curricula; it is quite difficult to say that a perspective that precedes multiculturalism is dominant. Moreover, it can be said that the curricula are far from reflecting the current controversial issues such as terror and violence. Furthermore; harassment, rape and incest related issues that are frequently encountered in the society are not included in the curricula.

Science and technology related issues such as history of science, objectivity and scientific inadequacies in Turkey, brain drain with regard to Turkish scientists are not mentioned in the curricula. Deforestation while constructing dams, roads and buildings; damage to air, water and soil by factories; damage caused by pesticides used by farmers to grow crops, natural disasters caused by improper construction; unconscious hunting, animal smuggling and experimental animals are not addressed in the acquisitions related to environmental awareness. Internet and technology-related problems are mostly associated with information technologies, cyber crimes and internet ethics. However, the negative impacts of other technological products on all humanity has not received enough attention in primary and secondary education curricula. Although there is a public opinion against hydroelectric and nuclear power plants in some regions, it has been seen that energy resources issue is

associated with energy saving and national economy in the curricula. Among the many problems that threaten human health and food safety, except for the science course curriculum, only the balanced nutrition, obesity and reading product labels are addressed in the curricula. Furthermore, the conscious use of drugs and antibiotics is only addressed in the life science and science courses curricula, and the cancer illness is only addressed in the science course curriculum. The current environmental problems that concern the whole world such as global warming and climate change is only included in two of the curricula. Although sperm banks, stem cells, delivery methods, in vitro fertilization and experimental studies on embryos, abortion, euthanasia, theory of evolution and sexuality are controversial scientific issues, they are not included in the curricula.

The conflicts about Eastern-Western, contemporary and classical art; examples from contemporary Turkish art and artists are not addressed in the curricula. The issue of economics is mostly based on the relationship between resources, production and consumption. The real economical problems that Turkey faces are not mentioned at all. It has been seen that the controversial issues about media such as perception management and media literacy are not addressed in the curricula. Logic and philosophy, thinking culture and dialectical thinking issues about philosophy are not included in the curricula. It is seen that there is no detail about historical facts about Kemalism and other historical figures of Turkish history. The Lausanne Treaty is considered an international success in revolution history of Turkish Republic and Kemalism course curriculum. The issue of deportation law is addressed only in one achivement. In the religious education and ethics curriculum, only Shiism-Bektashism and four main religions are mentioned at the basic level. Issues such as other sects, communities, real Islam and history of religions are not addressed in the acquisitions. Changes in the constitution and the way in which the state is governed, issues such as political system and regime discussions are not included in the acquisitons related to the management system. Turkey's EU membership and the ongoing war in Turkey's borders are not addressed in the acquisitions related to contemporary international problems. Political disagreements, coup attempts and agricultural policies are not covered in the curricula.

In Turkey, no studies was carried out related to controversial issues in terms of null curriculum. Only in a few studies, social studies course curriculum was analyzed in terms of citizenship education. Thus, the results of this study could be compared only with studies in the field of social studies. Similar to this study's results, in his study Tarman (2006) concluded that 2004-2005 social studies course curriculum didn't include art and culture, gender and regional differences, lifestyles and beliefs. Çayır and Gürkaynak (2007) in their study came to conclusion that citizenship education in the social studies curriculum was a concept of self-interest, nationalist, passive and pro-authority. In her study Ersoy (2014) showed that citizenship education was inadequate to educate students with political literacy and social participation skills in terms of social studies course curriculum.
In international literature, there are limited studies related to null curriculum. In one of the studies Moy (2006) demonstrated European-based captivity as the reason why American racism was a null curriculum in religious education. As a result of the study, it was emphasized that if European-American religious educators wanted to get rid of the captivity of western ideology, they had to face the issue of racism and inform their students about the social and legal consequences of racism and assimilation. Sanjakdar (2011), in her study examined the reasons why sexuality was ignored in the curriculum in a Muslim school in Australia. In his study, Wilkinson (2014) examined the neglect of Muslim contributions to world history in the British national history curriculum. As a result of the study, it was found that the absence of Muslims' contributions in world history in the national curriculum constitutes the neglected dimension of the curriculum and that British Muslim children saw themselves as insignificant citizens of the society. In their study, Harestani, Mahram and Mohammad (2015) aimed at examining the sexual education in terms of null curriculum for male students attending secondary school in Iran. According to the findings, they concluded that the current education system could not meet the needs of students about sexuality and that most of the areas previously identified related to sexuality education were neglected in the curriculum. Misco (2012, 2016) in his studies related to curriculum in South Korea claimed that South Koreans were strictly linked to Confucian culture and tradition. This tradition showed itself in textbooks, national curriculum and teacher behaviors that encourage traditional and sovereign beliefs instead of supporting reflective thinking about controversial issues.

When the findings obtained from the researches in national and international literature are compared, it is seen that some of the issues ae contextually controversial and some of them are controversial all around the world. While the controversial issues in the curricula in advanced democracies is based on earlier histories, developing democracies still suffer from the fact that these issues remain within the null curriculum. On the one hand, the efforts of adapting to developing and changing world and raising the new generation in this direction, on the other hand, dominant ideology, social acceptance and value judgments cause chaos in national curriculum of nations. This research has revealed that primary and secondary education curricula in Turkey is one of the best examples of this chaos. According to critical pedagogy, the curriculum is a structure in which a particular form

of knowledge is preferred over others and a group's beliefs and values are superior to others (McLaren, 2011). The basic philosophy of the curriculum in Turkish national education system has been founded on educating individuals who are responsible, critical and innovative, who have problem-solving, decision-making, cooperation and communication skills; who have aesthetic and artistic sensitivity, and also have a common literary and cultural accumulation of humanity. However, when the curricula of the compulsory courses taught in primary and secondary schools are examined, it can be easily seen that the objectives in the basic philosophy of the national curriculum have not been covered in many of the curricula. In 2017, when the curricula were updated; controversial issues concerning human rights, science and technology, religion and politics; history, economy, media, art and philosophy remained within the scope of the null curriculum. Whereas, it has been seen that issues with high national and spiritual beliefs and values are highlighted. The lack of controversial issues in the curricula causes the scope of the null curriculum increase. Consequently, the updated curricula seem to be far from preparing students for the age they are in due to the lack of real controversial issues in most of the curricula.

Recommendations

This research has revealed that although there are many acquisitions related to controversial issues in primary and secondary education curricula, they are mostly related to social values, environmental sensitivity, respect for differences, and so on. Rather than avoiding real controversial issues, confronting them and confronting students with these issues is important to internalize these concepts. For this reason, it is considered that all curricula from pre-primary to higher education should be revised in terms of controversial issues and it would be appropriate to include the controversial issues left in the null curriculum within the scope of the formal curricula.

In this study, it is concluded that the controversial issues are specific to the subject area of each course. However, in the development of primary and secondary school curricula in terms of controversial issues, it is thought that these issues should be considered in an interdisciplinary perspective. In addition, it is seen that some explanations are covered in some acquisitions of courses (eg: Social studies) on how to discuss the controversial issues. In this respect, it's considered to be helpful to add explanations in all the acquisitions about how controversial issues can be addressed.

Finally, it is thought that the time and acquisitions allocated to the controversial issues should be increased in the curricula and if possible, questions related to controversial issues should be asked in the central examinations.

References

Assemi, A., & Sheikhzade, M. (2013). Intended, implemented and experiential null curriculum. *Life Science Journal*, 10 (1), 82-85.

Bogdan, R. C., & Biklen, S. K. (1992). *Qualitative research for education: An introduction to theory and methods.* Boston: Allyn and Bacon.

Brown, G. (2009) The ontological turn in education. *Journal of Critical Realism*, 8 (1), 5-34.

Çayır, K., & Gürkaynak, İ. (2007). The state of citizenship education in Turkey: Past and present. *Journal of Social Science Education*, 6 (2), 50-58.

Education Reform Initiative (Eğitim Reformu Girişimi) [ERG] (2017). Milli Eğitim Bakanlığı taslak öğretim programları inceleme ve değerlendirmesi [Review and assessment of draft curricula of ministry of national education].

Eisner, E. (1985). *The educational imagination: On the design and evaluation of school programs*. New York: Macmillan Publishing.

Ersoy, A. F. (2014). Active and democratic citizenship education and its challenges insocial studies classroom. *Eurasian Journal of Educational Research*, 55, 1-20.

Harestani, A. E., Mahram, B., & Mohammad, J. L. (2015). The analysis of null curriculum in sex education: Focusing on the male students at junior high school. *Research in Curriculum Planning*, 12 (17), 26-40.

Hess, D. (1998). *Discussing controversial public issues in secondary social studies classrooms: Learning from skilled teachers.* Unpublished Doctoral Dissertation. The USA: University of Washington, College of Education.

Levinson, R. (2008). Promoting the role of the personal narrative in reaching controversial socioscientific issues. *Science and Education*, 17, 855-871.

McLaren, P. (2011). *Okullarda yaşam eleştirel pedagojiye giriş [Life in schools: Introduction to critical pedagogy]*. (Translated: M.Y. Eryaman, H. Arslan). Ankara: Anı Press.

Misco, T. (2012). The importance of context for teaching controversial issues in international settings. *International Education*, Fall, 69-84.

Misco, T. (2016). We are only looking for the right answers: The challenges of controversial issue instruction in South Korea. *Asia Pacific Journal of Education*, 36 (3), 332-349.

Moy, R. G. (2006). American racism: The null curriculum in religious education. *Religious Education*, 95 (2), 119-133.

Sağlam, M. (2008). Eğitim ve öğretim programlarının kapsamı [The scope of curricula]. Kıymet, S. (Ed.), In *Öğretim ilke ve yöntemleri [Principles and methods of instruction]* (pp. 19-42). Eskişehir: Anadolu University Press.

Sanjakdar, F. (2011). Schooling sexuality and religion. *Counterpoints*, 364, 131-154.

Sönmez, V. (2002). *Eğitim felsefesi [Educational philosphy]*. (6th edition). Ankara: Anı Press.

Smith, S. J. (2000). *The role of controversial issues in moral education: Approaches and attitudes of Christian school educators*. Unpublished Doctoral Dissertation. Oklahoma: Graduate College of the Oklahoma State, The School of Education.

Tarman, B. (2006). *Analysis of the controversial issues in Turkish social studies/history education in regard to the European Union Standards*. Unpublished Doctoral Dissertation. Pennsylvania: The Pennsylvania State University, Department of Curriculum and Instruction.

Wilkinson, M. L. N. (2014). The concept of the absent curriculum: The case of the Muslim contribution and the English National Curriculum for history. *Journal of Curriculum Studies*, 46 (4), 419-440.

Yıldırım, A., & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri [Qualitative research methods in social sciences]* (9th edition). Ankara: Seçkin.

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The Effects of Authentic Video Materials on Foreign Language Listening Skill Development and Listening Anxiety at Different Levels of English Proficiency

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Abstract

The study aims to find out the effects of authentic video materials on foreign language listening skill and foreign language listening anxiety of students studying at different levels of English proficiency. The experimental practices of the research designed as pretest-posttest true experimental design with control group have been conducted on two experimental and two control groups. While the independent variables of the study are authentic videos and English proficiency levels, the dependent variables are English listening academic achievement levels and English listening anxiety levels of the students. The participants of the research consisted of 100 randomly selected students, who have A1 and B1 levels of English proficiency, studying English preparatory program at the school of foreign languages at a state university. Data collection tools utilized in the study are Key English Test (KET) and Foreign Language Listening Anxiety Scale (FOLLAS). The statistical analysis of the research data was carried out by using descriptive statistics, independent samples t-tests, effect size tests and correlation analysis. Findings show that authentic video materials reflecting the real language and communication samples, have highly effective results on the development of English listening skills and lowering the foreign language listening anxiety of students who have A1 and B1 levels of English proficiency. On the other hand, as students' language proficiency improves, the impact of authentic videos increases. Finally, when it is compared to control groups, values obtained by the analysis reveal that there is a much stronger correlation among the development of listening, reading, writing and speaking language skills of experimental group students whose English listening skills have improved by using authentic videos.

Keywords: Foreign language listening skill, Developing listening skills in foreign language, Foreign language listening anxiety, Authentic listening materials, University students.

Introduction

In the globalized world, the importance of English, which can be considered as a response to the common language requirement of humanity, is increasing day by day thanks to the disappearance of communication limits all over the world. English has become one of the most widely used languages on a global scale among about seven thousand living languages without regard to the variables such as origin, race, belief, and geographical location (Lewis, 2009). As a result of this fact, English is adopted today as the common language of many global institutions, organizations, commercial and economic cooperation, scientific and academic activities, international social and cultural organizations, written and visual media, the internet and communication (Broughton, Brumfit, Flavell, Hill, & Pincas , 2003).

Although the qualifications of individuals learning a foreign language differ periodically, there is a consensus that learning a foreign language is based on four basic language skills: reading, writing, listening and speaking. This fact is also independent of the characteristics of the foreign language intended to be taught or learned. While the skills of writing and speaking which are among the four basic language skills that can be considered as the building blocks of the foreign language education process are called productive skills; listening and reading skills are named receptive skills (Donald & Kneale, 2001; Harmer, 2015; Morrow, 2004). In the literature, it is stated that it is wrong to consider these skills as completely independent from each other because of the strong interaction among reading, writing, listening and speaking skills altogether (Astorga-Cabezas,

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2015; Brown, 2007; Doff, 2007; Donoghue, 2009; Harmer, 2015 Kang, 2002; Mendhelson, 2006; Nation & Newton, 2009; Pae, 2012; Pinem, 2014; Richards, 2008; Zhang, 2009).

Listening skill is defined as a multidimensional language skill that starts with an awareness of sounds and images, and a focus on sounds and images (Latifi, Mobalegh & Mohammedi, 2011); continues with the recognition and remembering of the audio-visual stimuli and ends with interpretation of the meaning (Ergin & Birol, 2014). It is frequently emphasized that listening skill, which has been neglected for long years in foreign language teaching, has an important function in the development of all other language skills, primarily on speaking skill. Through the development of listening skill in a foreign language, it is aimed to help students to distinguish the sounds in genuine contexts and real situations in the relevant language; to recognize the semantic changes caused by emphasizes, stresses and intonations in a context and to become skillful in order to understand the contents of speech completely and correctly (Kim, 2015).

Imhof and Janusik (2006), who suggested the factors that play roles in the development of foreign language listening skills as individual and contextual factors, think that individual factors have mental and affective components. They described the mental components by these sub-concepts: linguistic knowledge, discourse knowledge, pragmatic knowledge, metacognitive knowledge, prior knowledge, listening skill in the mother tongue, ability to distinguish sounds and working memory capacity. On the other hand, affective components are expressed as anxiety, attitude, interest, motivation, and self-efficacy. Finally, the contextual factors include the purpose and the types of the speech, the nature of the environment in which learning takes place, environmental variables, interaction status, and the qualities of the speakers.

In a considerable number of studies on the subject, it is expressed that anxiety that is an important variable among the affective factors has a holistic effect on foreign language learning process and plays a decisive role on development of listening skill (Brown, 2007; Gopang, Bugio & Pathan, 2015; Horwitz, 2017; Lian & Budin, 2014; Liu & Huang, 2011; Lucas, Miraflores & Go, 2011; Mesri, 2012; Na, 2007).

Lili (2015), Xu (2011) and Otair & Aziz (2017), who emphasized that a lot of different factors play roles on the development of listening skills in a foreign language, highlight that anxiety, which is an affective variable, is accepted as an increasingly important issue when it's compared to other factors. In the related literature, besides the language learning anxiety, the existence of different anxiety types related to the language skills are also mentioned. One of these anxiety types is foreign language listening anxiety, which is important for this research. Research findings which reveal that there is a strong negative relationship between listening anxiety and academic achievement level in respect of listening skill (Dalman, 2016; Elkhafaifi, 2005; Kim, 2000; Sadighi, Sahragard & Jafari, 2009; Zhang, 2013; Zhou, 2003) are an effective reason to consider the listening anxiety as an important variable in the development of foreign language listening skills (Horwitz, 2001). It has been proved by a great number of scientific studies that anxiety is an important affective variable that has effects both on the foreign language learning process and specifically on the development of foreign language listening skill.

Apart from foreign language learning anxiety, although the existence of anxieties which are specific to reading, writing, speaking and listening is known as a reality, there is not a clear definition for the foreign language listening anxiety. However, based on general explanations about the subject; foreign language listening anxiety can be defined as "*feelings of apprehension, restlessness, tension, uneasiness and fear, experienced by language learners, stemming from actions required before and during the listening activity as well as other various stimuli"* (Polat & Erişti, 2018).

In the context of the development of foreign language listening skill, it can be mentioned that there is a linear relationship between the quality of the listening source (teaching materials, teachers, etc.), listening anxiety, and listening performance. Vogely (1998) discussed the quality of the teaching materials used and the foreign language input presented through the teaching materials as important factors that play roles in the emergence of listening anxiety. Wilson (2006) stated that the speed of speech, diction, the distinction of accents, complexity, and difficulty of the material, the number of unknown words in the content, syntactic difficulties and grammatical structures in which the individuals are not familiar in the listening materials lead to listening anxiety. On the other hand, qualities such as the speed and length of the listening text, individuals' familiarity with the subject to the listening text also influences the listening anxiety (Lili, 2015).

Besides, teaching materials that are widely used in the foreign language teaching-learning process and have the power to influence the whole teaching process, learning outcomes, as well as the teaching methods and techniques to be employed, are considered as important variables in studies on the development of listening skills (Hassan & Hassan, 2018).

In order to achieve the objectives in respect of developing listening skills, materials used in the process are of great importance (Kim, 2015). It is considered as an important necessity in order to make students successful in the situations that they may encounter in real life in the context of language comprehension the teaching materials that are used in teaching-learning process should be based on real life and presented in a meaningful coherent way (Aküzel, 2006; Saeedi & Biri, 2016; Woottipong, 2014). McGrath (2013) highlighted that the materials playing a decisive role in the presentation of the content to the students should be carefully selected in order to provide the students with accurate information about the target language and reflect the natural usage examples of the target language.

Wilkins (1976), one of the early theorists of authentic material, defined the authentic materials as the ones that are not written or recorded specifically for foreign language students; and added that the target audience of them are the individuals who speak the language as their mother tongue. Similarly, Morrow (1977) defined authentic texts as the ones containing the language written by real authors or real speakers, in order to convey a genuine message to real readers or listeners. Moreover, Mishan (2005) pointed out that Morrow's persistent emphasis on the word "real" means that "something that does not include an artificial language" and "something that serves the purpose of communicating in a real and natural environment".

Based on the common emphasis on the mentioned explanations about the nature of authentic materials, the concept of authentic material can be defined as follows: materials whose creator, producer and target audience are individuals speaking a language as their mother tongue and the ones which are not developed specifically for the purpose of teaching or learning a particular language and containing written, verbal, audio-visual elements reflecting the communication examples related to real life are called authentic materials.

In the literature, it is expressed that authentic materials can be found in a lot of different forms such as magazines, newspapers, advertisements, news programs, songs, etc. (Richards & Schmidt, 2010). Woottipong (2014) pointed out that authentic materials may have been in many different forms and they can be classified as written, auditory or audiovisual materials based on the senses they address. Gebhard (2006), who discussed the subject with a broader perspective, categorizes the authentic materials under three headings as listening-watching materials, visual materials, and written materials. According to this approach, television advertisements, newsletters, quiz shows, cartoons, movies, TV series, radio broadcasts, audio records are examples for authentic listening-watching materials; photos, pictures in magazines and newspapers, drawings, postcards, postage stamps are samples for authentic visual materials; sources such as newspapers, magazines, brochures, guides, menus are the ones for authentic written materials. However, it is also possible to classify the authentic materials as written, visual, auditory and audio-visual materials.

It can be said that authentic audio-visual materials present a much broader and richer range of expressions in real contexts, motivate students and provide them with an opportunity to have rich learning experiences when they are compared to non-authentic materials that are specifically prepared for educational purposes (Gilmore, 2011). Authentic videos including audiovisual elements and simultaneously appeal to different sensory organs are a type of authentic materials commonly used in the development of listening skills. Authentic videos are considered as very effective tools for experiencing the use of the target language in real contexts (Saeedi & Biri, 2016). Authentic videos offer important opportunities for students to focus their attention on learning activities, to concentrate on learning and to create an effective learning climate (Günbay & Mede, 2017; Wang, 2015; Woottipong, 2014).

When authentic materials are compared with non-authentic materials prepared for instructional purposes, they provide students with rich learning experiences by presenting content in real contexts (Gilmore, 2011). The richness of the content in authentic materials contributes to a positive learning environment, and this affects the active participation of students in the lessons (Mishan, 2005). In countries where language learning is limited to the school or classroom context, authentic materials provide students with an opportunity to acquire rich and concrete experiences in using the target language in real life by allowing to move communication examples from real life to their learning environment (Beresova, 2015; Tabatabaei & Gahroei, 2011; Tomlinson, 2012). Authentic materials providing real-life examples guide students about how they can communicate when they encounter similar situations (Woottipong, 2014). Authentic materials, which are very supportive in order to get students to listen to real and natural verbal communication examples, provide them with experiences of different pronunciations, phonetic changes, emphases, speech speeds, intonations (Webb, 2010). Those materials are really effective tools because of containing audio-visual elements and addressing multiple senses at the same time (Saeedi & Biri, 2016). Authentic videos not only enable students to learn about the culture of the language they have learned (Li, 2013; Safranj, 2015), but also attract their interest and affect their learning motivation positively (Heffernan, 2005; Kusumarasdyati, 2004; Luo, 2004).

Although there is a big deal of research on the effects of different kinds of authentic materials on the development of language skills in the international literature, there is a rarity of studies on the relationship between the development of foreign language listening skill and using of authentic materials is very limited. Moreover, there is no research assessing the effects of using authentic materials on the development of listening skills by considering different levels of English proficiency and the effect of using authentic materials on foreign language listening anxiety in a holistic way.

While most of the studies conducted in the literature focus on the effects of authentic materials on foreign language teaching, especially on the development of different language skills; some of them concentrate on the affective variables such as attitude, motivation and foreign language anxiety as dependent variables and try to reveal the effects of authentic materials on these variables. On the other hand, the number and scope of the studies focusing on authentic videos are quite limited in the literature and these studies which are available to be analyzed generally focus on the effects of different types and qualities of subtitles, which are used with authentic videos, on language skills and affective variables. Although there are some studies investigating the effects of authentic videos on the development of language skills in terms of different language levels in the literature, there is no study examining their roles specifically on foreign language listening anxiety. In this context, this research is considered to fill in a significant gap in the literature. In addition, it is expected that the findings of this research will be important to guide and provide contributions for decision-makers, curriculum development experts, practitioners, teacher candidates and all the stakeholders in the field of foreign language education for improving the quality of teaching listening skill, which is one of the areas experiencing serious problems in foreign language teaching and learning process.

Purpose of the study

The aim of this study is to investigate the effects of using authentic video materials on developing English listening skills and foreign language listening anxiety levels of students from different levels of English proficiency. In accordance with this main purpose, the research questions of the study are as follows:

1. Do the English listening academic achievement scores of the 1st experimental group whose listening skill is developed by using authentic videos and the 1st control group whose listening skill is developed by using non-authentic videos differ at A1 level?
2. Do the English listening academic achievement scores of the 2nd experimental group whose listening skill is developed by using authentic videos and the 2nd control group whose listening skill is developed by using non-authentic videos differ at B1 level?
3. Do the English foreign language listening anxiety levels of the 1st experimental group whose listening skill is developed by using authentic videos and the 1st control group whose listening skill is developed by using non-authentic videos differ at A1 level?
4. Do the English foreign language listening anxiety levels of the 2nd experimental group whose listening skill is developed by using authentic videos and the 2nd control group whose listening skill is developed by using non-authentic videos differ at B1 level?
5. Are there any relationships between the means of listening and reading, writing, speaking scores of the experimental groups whose listening skill is developed by using authentic videos and the control groups whose listening skill is developed by using non-authentic videos?

Method

Research Design

This study aims to determine the effects of using authentic video materials on foreign language listening academic achievement and foreign language listening anxiety of students from different levels of English proficiency. It was designed as pretest-posttest control group design, which is one of the true experimental designs.

While the independent variables of the study are authentic videos and English proficiency levels, the dependent variables are English listening academic achievement levels and English listening anxiety levels of the students. Experimental designs are the ones that are commonly used in the studies which are carried out in order to reveal cause-effect relationships between the variables (Büyüköztürk, 2016) and to determine to which extent dependent variables are affected by independent variables (Fraenkel & Wallen, 2011). In experimental research designs, researchers aim to demonstrate the effects of independent variables on dependent variables by controlling the external variables which are likely to affect the research process (Gall, Gall & Borg, 2007).

Participants

This study aims to reveal the effects of authentic videos on the development of foreign language listening skill and foreign language listening anxiety of students from different levels of English proficiency levels. In this context, the representation of participants from different levels of English proficiency is an important issue for this research. Based on this reason, the participants of the study were selected randomly from the participant pools in accordance with the criterion sampling technique, which is one of the purposive sampling methods. The A1 and B1 pools were formed by taking into account the scores obtained from the Key English Test (KET) exam which was carried out in order to determine the English proficiency level of the students who were going to have English preparatory education. Then, according to the results of KET, 25 students were selected randomly among the students from A1 participant pool to the 1st experimental group and 25 students were assigned to the 1st control group. Similarly, 25 students were selected randomly among the students from B1 participant pool to the 2nd experimental group and 25 students were assigned to the 2nd control group. While in the experimental groups authentic videos were used; in control groups, non-authentic videos were used in the development of English listening skills of the students. The form of the experimental design used in the study is reflected in Table 1.

Table 1. The research design of the study

Group	**Pre-test**	**Experimental Process**	**Posttest**
Experimental Group I	KET FOLLAS	Developing listening skills by using authentic video materials	KET FOLLAS
Control Group I	KET FOLLAS	Developing listening skills by using non-authentic video materials	KET FOLLAS
Experimental Group II	KET FOLLAS	Developing listening skills by using authentic video materials	KET FOLLAS
Control Group II	KET FOLLAS	Developing listening skills by using non-authentic video materials	KET FOLLAS

Data Collection Instruments

Key English Test (KET)

KET is an international achievement test which has been developed by Cambridge University and is used to determine the English level of hundreds of thousands of people in more than 130 countries every year. It aims to measure four basic language skills and consists of three different sections: reading-writing, listening and speaking. The criteria for different levels of achievement were determined based on the results of the students from KET. Accordingly, the candidates whose scores are between 0-44 are at A0 level; the ones who score between 45-69 at A1 level; students whose scores are between 70-89 are at A2 level and the ones who score between 90 and 100 are assigned to B1 level (University of Cambridge, 2012).

KET is a reliable instrument both in respect of the whole test and its sub-sections. The calculated reliability value is .90 for the reading-writing section; .86 for the listening section .87 for the speaking section and .95 for the whole of the test (University of Cambridge, 2018). The reliability values obtained in this study follows; 0.85 for the reading section; 0.77 for writing section; 0.78 for the listening section; 0.72 for the speaking section and 0.90 for the whole test.

Foreign Language Listening Anxiety Scale (FOLLAS)

Within the scope of this study, Foreign Language Listening Anxiety Scale (FOLLAS) was developed by Polat & Erişti (2018) as a genuine, valid and reliable scale which can be used in order to identify the level of foreign language listening anxiety experienced by language learners in the process of teaching learning activities for listening skill. The development of FOLLAS was done through a two-stage process: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) on the research data accessed from two different study groups which consisted of participants who have similar qualifications. The EFA that was performed in order to reveal the factor structure of FOLLAS was administered on the data collected from 407 language learners studying at different English proficiency level classes at a school of foreign languages. According to the results of the EFA study, a three-factor structure was found that explains 53.20% of the total variance. The factors are named as "individual and environmental elements" consisted of 12 items, "the control of listening sources" comprised of 3

items and "ascribed meaning to listening activities" contained 3 items. The internal consistency coefficient of FOLLAS which includes 18 items was .90. The factor loads of the items changed between minimum .50 and maximum .84. Not only the factors but also all the items in the scale are very compatible with the expressed variables which may cause listening anxiety in the literature.

The CFA study was administered in order to test the factor structure emerged in the EFA study was performed on the data obtained from another sample group comprised of 215 language learners who study at different English proficiency level at the same school of foreign languages. They are the ones who didn't participate in the EFA study. In the CFA, fit indices such as $\chi 2$/df rate, RMSEA, SRMR, GFI, NNFI, CFI and IFI that are commonly utilized in the literature, were used. All the values reached in the CFA study demonstrated the presence of a good fit. The three-factor structure explained 53.87% of the total variance and the internal consistency coefficient of FOLLAS was .90. The good level of fit as reflected by the results of EFA and CFA studies; the good level of internal consistency coefficients calculated both in the whole of the scale and in the context of the factors and variables revealed that FOLLAS which was developed within the scope of this research which can be used in order to determine the foreign language listening anxiety levels of students is an authentic, reliable and valid instrument.

Data Analysis

Data were analyzed by utilizing descriptive statistics, independent group t-tests, eta square effect size calculations and correlation analysis in accordance with the research questions.

Studies Performed before the Experimental Practices

Before the experimental practices, the related learning outcomes, which are the main guiding principles in the development of the students' listening skills, were determined in accordance with the Common European Framework of Reference for Languages (CEFR), which is a widely accepted document across the world; reflects the basis of the English teaching programs, teaching materials and assessment and evaluation practices; describes in detail what kind of competencies students should acquire during the process (European Council, 2001). After that related literature (European Council, 2001; ALTE, 2002; European Council, 2017; British Council & Eaquals, 2015; University of Cambridge, 2014) was reviewed in detail.

In the second step, a highly detailed literature review (Stempleski & Arcario, 1992; Karpova, 1999; Paltridge, 2001; King, 2002; Haley & Austin, 2006; Beran, 2006; Khaniya, 2006; Botirca, 2007; Lan & Zhao, 2008; Oğuz & Bahar, 2008; Laamri, 2009; Lingzhu & Yuanyuan, 2010; Günbay, 2016; Jamshid, 2017; Maley & Tomlinson, 2017) was conducted before the selection of authentic and non-authentic videos and a set of video evaluation criteria that will guide the selection process of the videos were developed.

In the context of the learning outcomes for the 7-week experimental teaching process, and in the light of the limited theoretical knowledge on the nature and duration of the materials to be employed in the process of developing listening skills, it was decided to select 72 videos of which are 36 authentic videos and 36 non-authentic videos. The authentic and non-authentic videos prepared by institutions such as Oxford University, Cambridge University, Pearson and the British Council, which develop the course materials commonly used in the teaching of English as a foreign language across the world, were analyzed in terms of their availability in the research by taking into account the video evaluation criteria developed within the scope of the research. After the preliminary examination, required edition, montage, sound and image enhancement for the videos were carried out in considering the legal regulations about the national and international copyright of the videos.

Then, all the teaching-learning activities supporting the use of videos in the teaching process were prepared and all the videos, which were selected and edited in accordance with the weekly schedule plan, were revised and finalized to be submitted for expert evaluation. Next, 20 experts who were selected according to specific criteria were informed about the research process through face-to-face and online interviews. According to the expert opinions, there was a strong consensus ranging from 80% to 100% on all the videos to be used in the experimental and control groups. Thus, it was decided that all the videos could be used in experimental practices. Finally, the necessary arrangements were made in line with the suggestions given by the experts about the videos and activities.

Findings

1- The effects of using authentic videos on the development of students' English listening skills at A1 level

In the experimental process, authentic videos were used in the experimental groups in order to improve the listening skills of the students and non-authentic videos were used to improve the listening skills of the students in the control groups. There is no statistically significant difference between the pre-test mean scores of the experimental and control groups in terms of English listening skills at A1 English proficiency level. Findings related to the research question are reflected in Table 2.

Table 2. Independent samples t-test with respect to KET listening pre-test mean scores of the experimental and control group at A1 level

A1 English Proficiency Level		**N**	**X̄**	**ss**	**sd**	**t**	**p**
KET Listening Test	Experimental Group I	25	14.04	2.85	48	.296	.769
	Control Group I	25	13.80	2.88			

In order to answer the first research question, the posttest mean scores of the groups were compared by using independent samples t-test. If a statistically significant difference was observed between the means of the groups in favor of the experimental or control group, the size of the difference was interpreted by calculating the Cohen's effect size value. The findings are presented in Table 3.

Table 3. Independent samples t-test with respect to KET listening post-test mean scores of the experimental and control group at A1 level

A1 English Proficiency Level		**N**	**X̄**	**ss**	**sd**	**t**	**p**	**Cohen's d**
KET Listening Test	Experimental Group I	25	18.04	2.38	48	2.237	.030	.63
	Control Group I	25	16.08	3.67				

The results obtained from the independent samples t-test [$t_{(48)}$ = 2.237, p<.05] showed that the difference between the mean scores of experimental and control group students of English at A1 English proficiency level was statistically significant in favor of the experimental group where authentic videos were used in the development of their listening skills. The experimental group students obtained statistically higher means than the control group students whose English listening skills were developed through the use of non-authentic videos.

In order to interpret the significant difference in favor of the experimental group between the mean scores of the two groups, "Cohen's d" effect size value was calculated. According to the size of the calculated Cohen d value, .20 is accepted as a small effect size; .50 is accepted as a medium effect size and .80 and over is accepted as a large effect size (Cohen, 1988). The calculated effect size value (Cohen's d = .63) for this research question indicated the existence of a medium effect. In this case, in the process of developing English listening skills of students at A1 English proficiency level, authentic video usage can be interpreted as moderately strong and more desirable when it is compared to the use of non-authentic videos (Cohen, 1988; Rosnow & Rosenthal, 1996).

2. The effects of using authentic videos on the development of students' English listening skills at B1 level

There is no statistically significant difference between the pre-test mean scores of the experimental and control groups in terms of English listening skills at A1 English proficiency level. Findings related to the research question are reflected in Table 4.

Table 4. Independent samples t-test with respect to KET listening pre-test mean scores of the experimental and control group at B1 level

B1 English Proficiency Level		N	$\bar{X}$	ss	sd	t	P
KET Listening Test	Experimental Group II	25	17.44	1.52	48	-.268	.790
	Control Group II	25	17.56	1.63			

In order to answer the second research question, the posttest mean scores of the experimental and control group at B1 level were compared by using independent samples t-test and the findings are presented in Table 5.

Table 5. Independent samples t-test with respect to KET listening post-test mean scores of the experimental and control group at B1 level

B1 English Proficiency Level		N	$\bar{X}$	ss	sd	t	P	Cohen's d
KET Listening Test	Experimental Group II	25	21.56	1.29	48	4.930	.000	1.39
	Control Group II	25	19.48	1.66				

The results obtained from the independent samples t-test [$t_{(48)}$ = 4.930, p<.01] showed that the difference between the mean scores of experimental and control group students of English at B1 English proficiency level was statistically significant in favor of the experimental group where authentic videos were used in the development of their listening skills. The experimental group students obtained statistically higher means than the control group students whose English listening skills were developed through the use of non-authentic videos. The calculated effect size value (Cohen's d = 1.39) for the second research question indicated the existence of a large effect. In this case; in the process of developing English listening skills of students at B1 English proficiency level, authentic video usage can be interpreted as considerably strong and much more desirable when it is compared to the use of non-authentic videos (Cohen, 1988; Rosnow & Rosenthal, 1996).

3. The effects of using authentic videos in the development of listening skills on foreign language listening anxiety levels of students at A1 level

The third question of the study aims to reveal the effect of the practice of developing English listening skills through authentic videos on students' foreign language listening anxiety levels at A1 English proficiency level. Within this context, firstly FOLLAS pre-test mean scores of the experimental and control group at A1 English level were analyzed. According to the results, there is no statistically significant difference between the pre-test mean scores of the experimental and control groups in terms of foreign language listening anxiety levels at A1 English proficiency level. Findings related to the research question are reflected in Table 6.

Table 6. Independent samples t-test with respect to FOLLAS pre-test mean scores of the experimental and control group at A1 level.

A1 English Proficiency Level		N	$\bar{X}$	ss	sd	t	P
FOLLAS	Experimental Group I	25	3.82	.48	48	-.470	.641
	Control Group I	25	3.87	.30			

In order to answer the third research question, FOLLAS post-test mean scores of the groups at A1 level were compared by using independent samples t-test. If a statistically significant difference was observed between the means of the groups in favor of the experimental or control group, the size of the difference was interpreted by calculating the "Cohen's effect size value". The findings are presented in Table 7.

Table 7. Independent samples t-test with respect to FOLLAS post-test mean scores of the experimental and control group at A1 level

A1 English Proficiency Level		N	$\bar{X}$	ss	sd	t	p	Cohen's d
FOLLAS	Experimental Group I	25	2.84	.766	48	-2.646	.011	.74
	Control Group I	25	3.32	.500				

The results obtained from the independent samples t-test [$t_{(48)}$ = 2.646, p<.05] showed that the difference between FOLLAS mean scores of experimental and control group students of English at A1 English proficiency level was statistically significant in favor of the experimental group where authentic videos were used in the development of their listening skills. In other words, compared to the experimental group students whose English listening skills were developed with the use of authentic video materials, the mean scores of the control group whose listening skills were developed through non-authentic videos were significantly higher in terms of foreign language listening anxiety. The calculated effect size value (Cohen's d= .74) indicated the existence of a medium effect. In this case; in the process of developing English listening skills of students at A1 English proficiency level, authentic video usage can be interpreted as moderately and much more desirable in terms of lowering the foreign language listening anxiety levels when it is compared to the use of non-authentic videos (Cohen, 1988; Rosnow & Rosenthal, 1996).

4. The effects of using authentic videos in the development of listening skills on foreign language listening anxiety levels of students at B1 level

The fourth question of the study aims to reveal the effect of the practice of developing English listening skills through authentic videos on students' foreign language listening anxiety levels at B1 English proficiency level. Within this context, firstly FOLLAS pre-test mean scores of the experimental and control group at B1 English level were analyzed. According to the results, there is no statistically significant difference between the pre-test mean scores of the experimental and control groups in terms of foreign language listening anxiety levels at B1 English proficiency level. Findings related to the research question are reflected in Table 8.

Table 8. Independent samples t-test with respect to FOLLAS pre-test mean scores of the experimental and control group at B1 level

B1 English Proficiency Level		N	$\bar{X}$	ss	sd	t	p
FOLLAS	Experimental Group II	25	3.19	.39	48	-.305	.762
	Control Group II	25	3.23	.38			

In order to answer the fourth research question, FOLLAS post-test mean scores of the groups at B1 level were compared by using independent samples t-test. If a statistically significant difference was observed between the means of the groups in favor of the experimental or control group, the size of the difference was interpreted by calculating the "Cohen's effect size value". The findings are presented in Table 9.

Table 9. Independent samples t-test with respect to FOLLAS post-test mean scores of the experimental and control group at A1 level.

B1 English Proficiency Level		N	$\bar{X}$	ss	sd	t	p	Cohen's d
FOLLAS	Experimental Group II	25	2.25	.366	48	-3.011	.004	.86
	Control Group II	25	2.62	.490				

The results obtained from the independent samples t-test [$t_{(48)}$ = -3.011, p<.01] showed that the difference between FOLLAS mean scores of experimental and control group students of English at B1 English proficiency level was statistically significant in favor of the experimental group where authentic videos were used in the development of their listening skills. In other words, compared to the experimental group students whose English listening skills were developed with the use of authentic videos, the mean scores of the control group whose listening skills were developed through non-authentic videos were significantly higher in terms of foreign language listening anxiety. The calculated effect size value (Cohen's d= .86) indicated the existence of a large effect. In this case; in the process of developing English listening skills of students at B1 English proficiency level, authentic video usage can be interpreted as considerably strong and much more desirable in terms of lowering the foreign language listening anxiety levels when it is compared to the use of non-authentic videos (Cohen, 1988; Rosnow & Rosenthal, 1996).

5. The relationship between the development of listening skills and the development of other language skills such as reading, writing and speaking in experimental and control groups

In the fifth research question, it was aimed to reveal the relationships between the listening and reading, writing and speaking scores of the experimental groups where authentic videos were used in the development of their listening skills and control groups where non-authentic videos were used in the development of their listening skills. For this purpose, the relationship between the development of English listening skills and the development of other language skills of the experimental and control group students was tried to be explained through correlation analyses. The results obtained by the correlation analyses for the experimental and control groups at A1 and B1 English proficiency levels are presented in Table 10, 11, 12, 13.

Table 10. Pearson correlation coefficients between the mean scores of English listening skill and other language skills at A1 Experimental group (r)

A1 English Proficiency Level		**Listening Skill**	**Speaking Skill**	**Reading Skill**	**Writing Skill**
Pre-test	Listening Skill	1			
	Speaking Skill	.538**	1		
	Reading Skill	.460*		1	
	Writing Skill	.426*			1
	$\bar{X}$	14.04	12.28	16.56	15.88
	SS	2.85	1.24	1.96	1.42
Post-test	Listening Skill	1			
	Speaking Skill	.734**	1		
	Reading Skill	.524**		1	
	Writing Skill	.456*			1
	$\bar{X}$	18.04	17.32	20.44	19.64
	SS	2.38	2.25	2.58	2.03

*N=25; * p<.05, ** p<.01*

Cohen (1988) highlighted that if the values obtained for the interpretation of the correlation are between .10<r<.29 it means a low correlation, if they are between .30 <r<.49 it means a moderate correlation and if the values are between .50<r <1.0, then it points a high correlation.

According to the results of pre-test analysis; there was a positive and high-level relationship ($r_{pretest}$= .538; *p<.01*) between students' listening & speaking skills. There were also positive moderate correlations not only between listening & reading skills ($r_{pretest}$= .460; p<.05) but also between listening & writing skills ($r_{pretest}$= .426; *p<.05*). The results obtained by the post-test mean scores showed that there was a positive and high-level relationship between students' listening & speaking skills ($r_{posttest}$=.734; *p<.01*) and listening & reading skills

($r_{posttest}$= .524; *p<.01*). In addition, the relationship between students' listening & writing skills ($r_{posttest}$= .456; p<.05) was also positive but moderate.
When the results of pre-test and post-test correlation analysis of A1 experimental group students were compared; it was was observed that there were significant increases among listening & speaking, reading and writing skills in favor of the post-test but the most significant increase was between listening & speaking skills ($r_{pretest}$= .538; $r_{posttest}$= .734; *p<.01).*

The findings in respect of the correlations in terms of listening skill & other language skills between the pre-test and post-test score means of the students in the control groups at A1 level are presented in Table 11.

Table 11. Pearson correlation coefficients between the mean scores of English listening skill and other language skills at A1 Control group (r)

A1 English Proficiency Level		Listening Skill	Speaking Skill	Reading Skill	Writing Skill
Pre-test	Listening Skill	1			
	Speaking Skill	.582**	1		
	Reading Skill	.398*		1	
	Writing Skill	.414*			1
	$\bar{X}$	13.80	12.56	16.24	15.92
	SS	2.88	1.26	1.71	1.26
Post-test	Listening Skill	1			
	Speaking Skill	.721**	1		
	Reading Skill	.493*		1	
	Writing Skill	.436*			1
	$\bar{X}$	16.08	16.00	20.24	19.08
	SS	3.67	2.06	1.39	1.41

*N=25; * p<.05, ** p<.01*

According to the results of pre-test analysis; there was a positive and high-level relationship ($r_{pretest}$= .582; p<.01) between students' listening & speaking skills. There were also positive moderate correlations not only between listening & reading skills ($r_{pretest}$= .398; p<.05) but also between listening & writing skills ($r_{pretest}$= .414; *p<.05*). On the other hand, the results obtained by the post-test mean scores showed that there was a positive and high-level relationship between students' listening & speaking skills ($r_{posttest}$= .721; p<.01) and listening & reading skills ($r_{posttest}$= .493; p<.05). In addition, the relationship between students' listening & writing skills ($r_{posttest}$= .352; p<.05) was also positive but moderate.

When the results of pre-test and post-test correlation analysis of A1 control group students were compared; it was observed that there were significant increases among listening & speaking, reading and writing skills in favor of the post-test but the most significant increase was between listening & speaking skills ($r_{pretest}$= .582; $r_{posttest}$= .721; *p<.01).*

The findings in respect of the correlations in terms of listening skill & other language skills between the pre-test and post-test score means of the students in the experimental groups at B1 level are presented in Table 12.

Table 12. Pearson correlation coefficients between the mean scores of English listening skill and other language skills at B1 Experimental group (r)

B1 English Proficiency Level		**Listening Skill**	**Speaking Skill**	**Reading Skill**	**Writing Skill**
Pre-test	Listening Skill	1			
	Speaking Skill	.585**	1		
	Reading Skill	.510**		1	
	Writing Skill	.425*			1

	$\bar{X}$	17.44	22.08	22.96	22.60
	SS	1.52	1.03	1.20	1.64
Post-test	Listening Skill	1			
	Speaking Skill	.874**	1		
	Reading Skill	.758**		1	
	Writing Skill	.725**			1
	$\bar{X}$	21.56	24.20	24.64	24.24
	SS	1.29	1.35	1.64	1.77

*N=25; * p<.05, ** p<.01*

According to the results of pre-test analysis; there was a positive and high-level relationship between students' listening & speaking skills ($r_{pretest}$= .585; p<.01) and between listening & reading skills ($r_{pretest}$= .510; p<.01). There were also positive moderate correlations between listening & writing skills ($r_{pretest}$= .425; p<.05). The results obtained by the post-test mean scores showed that there were positive and considerably high-level relationships between students' listening & speaking skills ($r_{posttest}$=.874; p<.01); listening & reading skills ($r_{posttest}$ = .758; p<.01) and listening & writing skills ($r_{posttest}$= .725; p<.01).

When the results of pre-test and post-test correlation analysis of B1 experimental group students were compared; it was observed that there were significant increases among listening & speaking, reading and writing skills in favor of the post-test but the most significant increase was between listening & speaking skills ($r_{pretest}$= .585; $r_{posttest}$= .874; p<.01).

The findings in respect of the correlations in terms of listening skill & other language skills between the pre-test and post-test score means of the students in the control group at B1 level are presented in Table 13.

Table 13. Pearson correlation coefficients between the mean scores of English listening skill and other language skills at B1 Control group (r)

B1 English Proficiency Level		**Listening Skill**	**Speaking Skill**	**Reading Skill**	**Writing Skill**
Pre-test	Listening Skill	1			
	Speaking Skill	.551**	1		
	Reading Skill	.483*		1	
	Writing Skill	.424*			1
	$\bar{X}$	17.56	21.44	21.92	22.72
	SS	1.30	1.78	1.27	1.54
Post-test	Listening Skill	1			
	Speaking Skill	.621**	1		
	Reading Skill	.480*		1	
	Writing Skill	.438*			1
	$\bar{X}$	19.48	23.04	23.84	23.60
	SS	1.66	1.86	1.14	1.08

*N=25; * p<.05, ** p<.01*

According to the results of pre-test analysis; there was a positive and high-level relationship between students' listening & speaking skills ($r_{pretest}$= .551; p<.01). There were also positive moderate correlations not only between listening & reading skills ($r_{pretest}$= .483; p<.05) but also between listening & writing skills ($r_{pretest}$= .424; p<.05). The results obtained by the post-test mean scores showed that there was a positive and high-level relationship between students' listening & speaking skills ($r_{posttest}$= .621; p<.01). In addition, the relationship between students' listening & reading skills ($r_{posttest}$= .480; p<.05) and listening & writing skills ($r_{posttest}$= .438; p<.05) was also positive but moderate.

When the results of pre-test and post-test correlation analysis of B1 control group students were compared; it was observed that there were significant increases among listening & speaking, and writing skills in favor of the post-test but the most significant increase was between listening & speaking skills ($r_{pretest}$= .585; $r_{posttest}$= .874;

p<.01). On the other hand, although it does not affect the direction and the level of the relationship between listening and reading skills, it was seen a small decrease in the correlation value.

Discussion and Conclusion

This study was carried out on two experimental and two control groups. The first experimental and control groups consisted of A1 English proficiency level students; the second experimental and the control groups consisted of B1 English proficiency level students. In the experimental process of the research, authentic videos were used in the experimental groups and non-authentic videos were used in the control groups in the development of the students' English listening skills at A1 and B1 English proficiency levels. The main purpose of the research is to investigate the effects of using of authentic videos in developing English listening skills and foreign language listening anxiety levels of students from different levels of English proficiency.

The first and second research questions are related to the effectiveness of authentic videos in the development of English listening skills of students at A1 and B1 English proficiency level. The findings in terms of the first and second research questions show that using authentic videos in developing English listening skills gives effective results at both A1 and B1 English proficiency level; and as the language proficiency levels of the students increased, the effect of authentic materials on the development of listening skills also showed a significant increase. In other words, authentic materials provide much stronger and more effective results in the development of listening skills of students studying at higher English proficiency levels. The findings of the study show similarity with the scientific resources and researches (Aliyev & Colonel, 2016; Dehaki, 2017; Khan, 2015; King, 2012; Liando, Sahetapy and Maru, 2018; Rodgers, 2013; Chen, 2015) in the literature. In this study, the possible causes of the difference in the development of listening skills among the experimental groups at the A1 English proficiency level and the experimental group at the B1 English proficiency level can be expressed with variables such as the speed of speech in authentic videos, risks such as the complexity of the content and the difficulty level of the words used in authentic videos, language learning experiences of students at A1 English proficiency level which is the beginning of the language learning process, learning resources, learning tools, experiences of encountering authentic examples.

On the other hand, authentic videos which provide rich and multi-dimensional experience for language learners by presenting contextualized language richness, paralinguistic expressions, intercultural information in order to develop foreign language listening skills (Braddock, 1996; Stempleski, 2000; Wood, 1995), are recommended to be used at every stage including the beginning proficiency level (Bacon & Finneman, 1990; Gilman and Moody, 1984; Morrison, 1989; Oxford, Lavine, & Crookall, 1989; Porter & Roberts, 1981; Scarcella & Oxford, 1992; Thanjaro, 2000; Hansen & Jensen, 1994; Vandergrift, 1999). Field (2009) states that the use of authentic materials from the beginning proficiency level will make it easier for students to become familiar with the target language. Similarly Kaiser (2011) pointed out that the authentic videos contribute to the expansion of the vocabulary capacity of the students who learn English at the beginning and intermediate levels, because they also include real communication examples such as monologues and dialogues with advanced words and phrases, so he emphasized that authentic videos are effective tools for improving listening skills.

The third and fourth research questions are related to the effects of authentic video materials on foreign language listening anxiety levels of students at A1 and B1 English proficiency levels. The findings showed that the difference between the experimental groups where authentic videos were used in the development of their listening skills and control groups where non-authentic videos were used in the development of their listening skills were statistically significant in favor of the experimental groups in the context of the concerns of foreign language listening anxiety. In addition, it was found that as the language proficiency levels of students increased, the effects of authentic materials on foreign language listening anxiety also showed a significant increase. In other words, authentic materials have much stronger and more effective results in terms of decreasing foreign language listening anxiety levels of students studying at higher proficiency levels of language.

There is no research assessing the effects of using authentic materials on the development of listening skills by considering different levels of English proficiency and the effect of using of authentic materials on foreign language listening anxiety in a holistic way. Furthermore, the number of studies on foreign language listening anxiety is very limited. However, the findings obtained in this study have similarity with the limited scientific sources (Ebrahimi & Bazaee, 2016; Nadrag & Buzarna-Tihenea, 2017; Parisi & Andon, 2016; Sirmandi & Sardareh, 2016) and studies (Kim, 2002; Lynch, 1998; Melanlıoğlu, 2013; Nath, Mohamad & Yamat, 2017; Wang, 2015) in the literature

Based on the scientific data revealing the relationship between anxiety and using authentic materials, academic achievement, motivation, participation in activities, learning effort and self-confidence, the findings of using authentic videos in reducing the foreign language listening anxiety can be interpreted as follows: Authentic materials play an effective role in the development of students' listening skills, as a result of this, their academic achievement levels increase, and in parallel with the increase in academic achievement, the students' learning motivations, learning efforts and self-confidence levels increase, too. As a result, this increase leads to a decrease in foreign language listening anxiety.

The fifth and last question of the study aims to determine the relationships between the development of listening skill & reading, writing and speaking skills of students studying in experimental and control groups at A1 and B1 levels.

The findings obtained from the first experimental and the control group consisting of students at A1 English proficiency level shows that there is a strong relationship between the development of students' listening skills and their speaking, reading and writing language skills. Especially, the relationship between listening and speaking skills is much stronger. The analysis demonstrates that a similar situation is also valid for the experimental and control groups at B1 English proficiency level. There is a strong relationship between the development of students' listening skills and their speaking, reading, and writing skills in the second experimental group and the second control group. Moreover, the relationship between listening and speaking skills is much stronger.

However, the values obtained from the data both at A1 and B1 English proficiency level reveal that the relationships between students' language skills in experimental groups where authentic videos were used in the development of their listening skills are much stronger than that of control groups where non-authentic videos were used in the development of their listening skills. When A1 and B1 experimental groups were compared in themselves, it was concluded that the higher the English proficiency level, the stronger the relationship between language skills. These results show considerable similarities with the theoretical explanations in scientific sources (Brown, 2007; Doff, 2007; Kang, 2002; Long, 1996; Mendelshon, 2006; Nation & Newton, 2009; Richards, 2008; Rost, 1994; Snow, 2007) and researches (Asmani, 2014; Astorga-Cabezas, 2015; Azizah, 2014; Bae & Bachman, 1998; Bozorgian, 2012a; Bozorgian, 2012b; Budianto, 2011; Donoghue, 2009; ETS, 2010; Maesaroh, 2006; Pae, 2012; Pinem, 2014; Sawaki, Stricker & Oranje, 2008; Zhang, 2009).

The scientific research findings in the literature reveal the existence of a relationship between the developments of four basic language skills. Moreover, it is clearly stated that listening skill plays a decisive role in the development of all other language skills, especially speaking skills. Therefore, the development of students' listening skills directly affects the development of other language skills.

In this study, the relationship between listening skills and other language skills in the experimental groups where authentic videos were used emerged much more strongly. The findings of the previous research questions of this research showed that experimental groups showed a significantly higher level of development in terms of listening skills compared to the control groups. On the other hand, as the English proficiency levels of students increase, the differentiation becomes more powerful and meaningful. Aside from the control groups, the findings obtained from the experimental groups at A1 and B1 levels where authentic videos were used in the development of their listening skills showed this fact perceptibly. Therefore, taking into consideration the findings that showed authentic videos provide effective results in the development of listening skills, the experimental groups that had made more progress in the development of the listening skills had a stronger development in the development of other language skills as a result of this. It is considered that the difference between the experimental and control groups in terms of the relationship between the language skills may have resulted from this situation.

Recommendations

The results of the study at hand show that authentic materials that are not created or prepared for teaching purposes reflect the examples of natural language used in real life in a certain context and they are effective in developing students' listening skills in foreign languages. Based on this result, it is considered that disseminating of authentic materials is an important necessity in formal and non-formal language teaching activities in our country where students have limited options to experience English outside the school or classroom environment.

In-service training programs can be organized for teachers working in the field of foreign language teaching about the selection of authentic materials to be used in the teaching-learning process and the use of such materials in foreign language education.

This study focuses on the effects of authentic video, which is one of the authentic materials, on the development of foreign language listening skills. The effects of different kinds of authentic materials can be tested on basic language skills which are reading, writing, speaking and listening.

Research related to the effects of authentic videos or different kinds of authentic materials on academic performance in areas such as pronunciation, vocabulary, and grammar, which are considered sub-skills in language teaching can be conducted. This research was carried out with the students who were learning foreign languages at the level of A1 and B1 English proficiency at a state university's school of foreign languages. Comparisons can be made in the context of results of similar studies which can be conducted at different levels of education with students from different levels of English proficiency.

Another variable that is important for this research is foreign language listening anxiety which is an important affective variable that plays a role in the development of foreign language listening skill. In order to determine the level of anxiety experienced by individuals learning a foreign language in the process of listening activities in a foreign language, "Foreign Language Listening Anxiety Scale (FOLLAS)" which is a valid, reliable and original instrument was developed within the scope of this research. Multidimensional studies aiming at revealing the relationship between the variables that play important roles in a foreign language listening anxiety and in foreign language education can be conducted by using FOLLAS.

In further studies, reliable and valid instruments which can be used to determine the level of anxiety in reading, writing and speaking of individuals learning a foreign language can be developed by taking the cultural context into account.

Research can be done with a focus on the effects of authentic videos on another affective variable such as motivation, attitude, self-confidence, self-efficacy, academic self-concept etc. Multivariate studies linking the foreign language listening anxiety within the cultural context can be really contributing to the literature.

Researches can be carried out related to the effects of the television programs such as documentaries, films, weather forecast advertisements and other authentic videos such as video blogs that have a large audience today on students' attitudes, motivation, success and anxiety levels.

In the scope of this research, a set of video evaluation criteria that will guide the selection process of the authentic videos which can be used in the teaching-learning process were developed for the first time. The set of criteria can be used for the selection of authentic materials in teaching activities at different educational levels. Similar criteria can be developed in the context of the selection of different types of authentic materials.

It is also important and valuable to conduct researches on the effects of authentic materials on teaching Turkish as a foreign language in the context of the development of different language skills or on affective variables such as anxiety, motivation, and attitude.

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References

Aküzel, G. (2006). *İlköğretim 4-8. sınıflarda yabancı dil öğretimindeki başarısızlık nedenlerinin incelenmesi [Examination of reasons of failure in foreign language instruction in elementary 4-8th grades]*. Unpublished Master's Thesis. Adana: Çukurova University Graduate School of Social Sciences.

Aliyev, A., and Albay, M. (2016). Bridging the gap between theory and practice: The use of films in language learning. *International Journal of Social Sciences & Educational Studies, 2*(3), 13-18.

ALTE (2002). *The ALTE can do project English version.* Cambridge: ALTE.

Asmani, A. B. (2014). Correlative analysis of TOEFL iBT scores of listening skill versus scores of business English speaking skill among Binus universıty sophomores. *Jurnal Lingua Cultura, 8*(2), 85-94.

Astorga-Cabezas, D. E. (2015). The relationship between listening proficiency and speaking improvement in higher education: Considerations in assessing speaking and listening. *Higher Learning Research Communications, 5*(2), 34-56.

Azizah, H. (2014). *The correlation between listening comprehension and speaking ability.* Unpublished Master's Thesis. Jakarta: Syarif Hidayatullah State Islamic University.

Bacon, S. M., and Finnemann, M. D. (1990). A study of the attitudes, motives, and strategies of university foreign language students and their disposition to authentic oral and written input. *The Modern Language Journal, 74*(4), 459-473.

Bae, J., and Bachman, L. F. (1998). A latent variable approach to listening and reading: Testing factorial invariance across two groups of children in the Korean/English two-way immersion program. *Language Testing, 15,* 380-414.

Beresova, J. (2015). Authentic materials-enhancing language acquisition and cultural awareness. *Procedia-Social and Behavioral Sciences, 192,* 195-204.

Braddock, B. (1996). *Using films in the English class*. New Jersey: Prentice-Hall.

Botirca, O. M. (2007). Teaching English with video. *Diacronia, 1,* 1-6.

Bozorgian, H. (2012a). Listening skill requires a further look into second/foreign language learning. *International Scholarly Research Network, 12,* 1-10.

Bozorgian, H. (2012b). The relationship between listening and other language skills in international English language testing system. *Theory and Practice in Language Studies, 2*(4), 657-663.

British Council and Eaquals (2015). *British Council-EAQUALS core inventory for general English* (2nd edition). England: British Council.

Broughton, G., Brumfit, C., Flavell, R., Hill, P., and Pincas, A. (2003). *Teaching English as a foreign languages.* (2nd Edition). London and New York: Routledge.

Brown, H. D. (2007). *Teaching by principle: An interactive approach to language pedagogy*. San Francisco: Prentice-Hall.

Budianto, A. (2011). *The correlation between listening and speaking ability of the fifth semester students of English education department of Muria Kudus university in the academic year 2010/2011.* Unpublished Master Thesis. Endonezya: Muria Kudus University, Teacher Training and Education Faculty.

Büyüköztürk, Ş. (2016). *Deneysel desenler: Öntest-sontest, kontrol grubu, desen ve veri analizi [Experiemental designs: Pre-test-Post-test, control group, design and data analysis]* (5th edition). Ankara: PEGEM.

Chen, T. Y., and Chang, G. B. Y. (2004). The relationship between foreign language anxiety and learning difficulties. *Foreign Language Annals, 37*(2), 279 287.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd Edition). Hillsdale, NJ: Lawrence Earlbaum Associates.

Dalman, R. M. (2016). The Relationship between listening anxiety, listening comprehension strategies, and listening performance among Iranian EFL university students. *International Journal of Modern Language Teaching and Learning, 1*(6), 241-252.

Dehaki, M. (2017). The effect of watching videos on listening comprehension of Iranian intermediate EFL learners in public schools. *Journal of Applied Linguistics and Language Research, 4*(6), 214-222.

Doff, A. (2007). *Teach English: A training course for teachers* (20th Edition). New York: Cambridge University Press.

Donald, G. S., & Kneale, E. P. (2001). *Study skills for language students: A practical guide*. New York: Oxford University Press

Donoghue, R. M. (2009). *Language arts integrating skills for classroom teaching.* California: SAGE.

Ebrahimi, Y., and Bazaee, P. (2016). The effect of watching English movies with standard subtitles on EFL learners' content and vocabulary comprehension. *Journal of Applied Linguistics and Language Research, 3*(5), 284-295

Elkhafaifi, H. (2005). Listening comprehension and anxiety in the Arabic language classroom. *The Modern Language Journal, 89*, 206-220.

Ergin, A. and Birol, C. (2014). *Eğitimde iletişim [Communication in education]* (7th edition). Ankara: Anı.

ETS (2010). *The redesigned TOEIC® listening and reading test: Relations to test taker perceptions of profciency in English.* Princeton: Educational Testing Service.

European Council (2001). *Common European framework of reference for languages: Learning, teaching, assessment.* Cambridge: Cambridge University Press.

European Council (2017). *Common European framework of reference for languages: Learning, teaching, assessment. Companion volume with new descriptors* Cambridge: Cambridge University Press.

Field, J. (2009). *Listening in the language classroom*. Cambridge: Cambridge University Press.

Fraenkel, F. J., & Wallen, N.E. (2011). *How to design and evaluate research in education*. (8th Edition.). New York: McGraw-Hill Higher Education.

Gall, M. D., Gall, J. P., and Borg, W. R. (2007). *Educational research: An introduction* (8th Edition) Boston: Pearson/Allyn & Bacon.

Gebhard, J. G. (2006). *Teaching English as a foreign or second language. a self development and methodology guide* (2nd Edition). Michigan: The University of Michigan Press.

Gilman, R. A., and L. M. Moody (1984). What Practitioners say about Listening: Research implications for the classroom. *Foreign Language Annals, 17,* 331-334.

Gilmore, A. (2011). I prefer not text: Developing Japanese learners' communicative competence with authentic materials. *Language Learning, 61*(3), 786-819.

Gopang, L., Bughio, F., & Pathan, H. (2015). Investigating foreign language learning anxiety among students learning English in a public sector university, Pakistan. *The Malaysian Online Journal of Educational Science, 3*(4), 27-37.

Günbay, E. B. (2016). *Otantik (özgün) materyallerin öğretmenlerin profesyonel gelişiminin bir parçası olarak kritik arkadaş grubu (CFG) aracılığıyla kullanımı [The use of authentic materials through 'Critical friends group' as part of professional development for EFL instructors]*. Unpublished Master's Thesis. İstanbul: Bahçeşehir University, Graduate School of Educational Sciences.

Günbay, E. B., & Mede, E. (2011). Implementing authentic materials through critical friends group (CFG): A case from Turkey. *The Qualitative Report, 22*(11), 3055-3074.

Haley, M. H., and Austin, T. Y. (2004). *Content-based second language teaching and learning: an interactive approach.* Boston: Pearson.

Hansen, C., and Jensen, C. (1994). Evaluating lecture comprehension. J. Flowerdew (Ed.). in *Academic listening: Research perspectives* (pp. 241-268). Cambridge: Cambridge University Press.

Harmer, J. (2015). *The practice of English language teaching.* London: Pearson.

Hassan, S. E. H and Hassan, Z. H. (2018). Using TED talks as authentic videos to enhance students' listening comprehension and motivation. Oral presentation at *Teacher Investigations of ELT Practice: ACE Action Research 2018*. Oregon, ABD: University of Oregon.

Heffernan, N. (2005). Watching movie trailers in the ESL class. *The Internet TEFL Journal, 9*(3).

Holden, W. R. (2004). Facilitating listening comprehension: Acquiring successful strategies. *Bulletin of Hokuriku University, 28,* 257-266.

Horwitz, E. K. (2001). Language anxiety and achievement. *Annual Review of Applied Linguistics, 21,* 112 -126.

Horwitz, E. K. (2017). On the misreading of Horwitz, Horwitz and Cope (1986) and the need to balance anxiety research and the experiences of anxious language learners. C. Gkonou, M. Daubney and J. M. Dewaele (Eds.). In *New insights into language anxiety*. Bristol: Multilingual Matters.

Imhof, M., and Janusik, L. A. (2006). Development and validation of the Imhof-Janusik listening concepts inventory to measure listening conceptualization differences between cultures. *Journal of International Communication Research, 35,* 79-98.

Jamshid, Z. (2017). Criteria for selecting authentic materials enhancing learning process. *Education (Педагогика), 12*(146), 498-499.

Kaiser, M. (2011). New approaches to exploiting film in the foreign language classroom. *L2 Journal, 3*(2), 232-249.

Kang, S. (2002). Factor to consider: Developing adult EFL students' speaking abilities. Jack C. J. C. Richard and A. R. Willy (Eds.). In *Methodology in language teaching: An anthology of current practice* (pp. 204-211) Cambridge: The Press Syndicate of the University of Cambridge.

Karpova. L. V. (1999). Consider the following when selecting and using authentic materials. *TESOL Matters, 9*(2).

Khan, A. (2015). Using Films in the ESL classroom to improve communication skills of non-native learners. *ELT Voices-International Journal for Teachers of English, 5*(4), 46-52.

Khaniya, T. R. (2006). Use of authentic materials in esl classrooms. *Journal of NELTA, 11*(2), 17-23.

Kim, H. S. (2015). Using authentic videos to improve EFL students' listening comprehension. *International Journal of Contents, 11*(4), 15-24.

Kim, J. (2000). *Foreign language listening anxiety: A study of Korean students learning English*. Unpublished Doctoral Dissertation. USA: The University of Texas.

King, J. (2002). Using DVD feature films in the EFL classroom. Computer Assisted *Language Learning, 15*(5), 509-523.

Kusumarasdyati, K. (2004). Listening, viewing and imagination: Movies in EFL classes. *2nd International Conference on Imagination and Education'da* sunulan bildiri. Vancouver, Canada. http://docplayer.net/52594949-Listening-viewing-and-imagination-movies-in-efl-classes.html (Retrieved: 04.02.2019).

Laamri, S. (2009). *Authentic materials: Towards a rational selection and an effective implementation*. http://fll.univ-biskra.dz/images/pdf_revue/pdf_revue_04/segni%2 0laamri.pdf (Retrieved: 06.02.2019).

Lan R., and Zhao Y. (2008). On the selection of video materials in college English teaching. *Journal of Liaoning Public Administration College, 7*, 172-173.

Latifi, M., Mobalegh, A., and Mohammadi, E. (2011). Movie subtitles and the improvement of listening comprehension ability: Does it help? *The Journal of Language Teaching and Learning, 1*(2), 18-29.

Lewis, M. P. (2009). *Ethnologue: Languages of the world.* Dallas, Texas: SIL International.

Li, C. H. (2013). They made it! Enhancing university-level L2 learners' listening comprehension of authentic multimedia materials with advance organizers. *The Asia-Pacific Education Researcher, 22*(2), 193-200.

Lian, L. H., and Budin, M. B. (2014). Investigating the relationship between English language anxiety and the achievement of school based oral English test among Malaysian Form Four students. *International Journal of Learning, Teaching and Educational Research, 2*(1), 67-79.

Liando, N. V. F., Sahetapy, R. J. V., and Maru, M. G. (2018). English major students' perceptions towards watching English movies in listening and speaking skills development. *Advances in Social Sciences Research Journal, 5*(6) 1-16.

Lili, Z. (2015). Influence of anxiety on English listening comprehension: An investigation based on the freshmen of English majors. *Studies in Literature and Language, 11*(6), 40-47.

Lingzhu, J., and Yuanyuan, Z. (2010). The use of authentic material in teaching EFL listening. *Humanising Language Teaching,* 12(4). old.hltmag.co.uk/aug10/mart03.rtf (Retrieved: 04.02.2019).

Liu, M., and Huang, W. (2011). An exploration of foreign language anxiety and English motivation. *Education Research International,* 1-8.

Long, M. (1996). The role of the linguistic environment in second language acquisition. W. Ritchie and T. Bhatia (Ed.). In *Handbook of language acquisition (Vol. 11): Second language acquisition* (pp. 413-68). New York: Academic.

Lucas, I. R., Miraflores, E., and Go, D. (2011). English language learning anxiety among foreign language learners in the Philippines. *Philippine ESL Journal, 7*, 94-119.

Luo, Jia-Jen. (2004). *Using DVD films to enhance college freshmen's English listening comprehension and motivation.* Unpublished Master's Thesis. Taiwan: National Tsing Hua University.

Lynch, T. (1998). Theoretical perspectives on listening. *Annual Review of Applied Linguistics, 18,* 3-19.

Maesaroh, S. *The Correlation between Listening Score and Speaking Score (A Case Study with 1st Semester Students of English Education Department).* Unpublished Master's Thesis. Jakarta: Universitas Islam Negeri Syarif Hidayatullah.

Maley, A., and Tomlinson, B. (2017). *Authenticity in materials development for language learning.* Newcastle: Cambridge Scholars.

McGrath, I. (2013). *Teaching materials and the roles of EFL/ESL teachers: Practice and theory*. London: Bloomsbury.

Melanlıoğlu, D. (2013). Impacts of authentic listening tasks upon listening anxiety and listening comprehension. *Educational Research and Reviews, 8*(14), 1177-1185.

Mendelsohn, D. J. (2006). Learning how to listen using learning strategies. E. Uso-Juan and A. Martínez-Flor (Eds.). In *Current trends in the development and teaching of the four language skills* (pp. 75-90). Berlin: Mouton de Gruyter (formerly Mouton, The Hague).

Mesri, F. (2012). The relationship between gender and Iranian EFL learners' foreign language classroom anxiety (FLCA). *International Journal of Academic Research in Business and Social Sciences, 2*(6), 147-156.

Mishan, F. (2005). *Designing authenticity into language learning materials.* Bristol: Intellect.

Morrison, B. (1989). Using news broadcasts for authentic listening comprehension. *ELT Journal, 43*(1), 14-18.

Morrow, K. (1977). Authentic texts and ESP. S. Holden (Ed.). In *English for specific purposes* (pp. 13-17). London: Modern English.

Morrow, K. (2004). *Insights from the Common European Framework.* Oxford: Oxford University Press.

Na, Z. (2007). A study of high school students' English learning anxiety. *Asian EFL Journal, 9*(3), 22- 34.

Nadrag, L., and Buzarna-Tihenea, A. (2017). *The benefits of using authentic materials in ESP classroom. Case study. Diacronia, 28*(1), 137-150.

Nath, P. , Mohamad, M., and Yamat, H. (2017) The effects of movies on the affective filter and English acquisition of low-achieving English learners. *Creative Education, 8*, 1357-1378.

Nation, I. S. P., and Newton, J. (2009). *Teaching ESL/EFL listening and speaking*. New York: Routledge.

Oğuz, A., and Bahar, H. O. (2008). The importance of using authentic materials in prospective foreign language teacher training. *Pakistan Journal of social sciences, 5*(4), 328-336.

Otair, I., and Aziz, N. H. A. (2017). Exploring the causes of listening comprehension anxiety from EFL Saudi learners' perspectives: a pilot study. *Advances in Language and Literary Studies, 8*(4), 79-84.

Oxford, R. L., Roberta, Z. L., and Crookall, D. (1989). Language learning strategies, the communicative approach and their classroom implications. *Foreign Language Annals, 22*(1), 29-39.

Pae, K. H. (2012). *A model for receptive and expressive modalities in adult English learners' academic L2 skills.* USA: Pearson.

Paltridge, B. (2001). *Genre and the language learning classroom.* Michigan: University of Michigan.

Parisi, L. L., and Andon, N. (2016). The use of film-based material for an adult English language course in Brazil. *Trabalhos em Linguística Aplicada, 55*(1), 101-128.

Pinem, Y. (2014). The correlation between listening and speaking among high school students. *ELTICS Journal, 1*(1), 12-23.

Polat, M. and Erişti, B. (2018). Development of a foreign language listening anxiety scale. *Turkish Studies-International Periodical for the Languages, Literature and History of Turkish or Turkic, 13*(11), 1113-1138.

Porter, D., and Roberts, J. (1981). Authentic listening activities. *ELT Journal, 36*(1), 37-47.

Richards, C. J. (2008). *Teaching listening and speaking from theory to practice*. New York: Cambridge University Press.

Richards, J. C., and Schmidt, R. (2010). *Longman dictionary of language teaching and applied linguistics* (4th Edition). London: Longman.

Rodgers, M. P. H. (2013). *English language learning through viewing television: An investigation of comprehension, incidental vocabulary acquisition, lexical coverage, attitudes, and captions.* Unpublished Doctoral Dissertation. Wellington: Victoria University of Wellington.

Rosnow, R. L., and Rosenthal, R. (1996). Computing contrasts, effect sizes, and counternulls on other people's published data: General procedures for research consumers. *Pyschological Methods, 1*(4), 331-340.

Rost, M. (1994). *Introducing listening.* London: Penguin Books.

Sadighi, F. Sahragard, R., and Jafari, M. (2009). Listening comprehension and foreign language classroom anxiety among Iranian EFL learners. *The Iranian EFL Journal, 3*, 137-152.

Saeedi, Z., and Biri, A. (2016). The application of technology in teaching grammar to EFL learners: The role of animated sitcoms. *Teaching English with Technology, 16*(2), 18-39.

Safranj, J. (2015). Advancing listening comprehension through movies. *Procedia-Social and Behavioral Sciences, 191*, 169-173.

Sawaki, Y., Stricker, L., and Oranje, A. (2008). *Factor structure of the TOEFL Internetbased test (iBT): Exploration in a field trial sample.* Princeton, NJ: Educational Testing Service.

Scarcella, R. C., and Oxford, R. L. (1992). *The tapestry of language learning: The individual in the communicative classroom*. Boston, MA: Heinle & Heinle.

Sirmandi, E. H., and Sardareh, S. A. (2016). Improving Iranian intermediate EFL learners' vocabulary knowledge through watching video clips with English subtitles. *Journal of Applied linguistics and Language Research, 3*(6), 175-187.

Snow, D. (2007). *From language learner to language teacher: An introduction to teaching English as a foreign language.* TESOL.

Stempleski, S., and Arcario, P. (1992). *Video in second language teaching: Using, selecting, and producing video for the classroom*. New York: TESOL.

Tabatabaei, O., and Gahroei, F. R. (2011). The contribution of movie clips to idiom learning improvement of Iranian EFL learners. *Theory and Practice in Language Studies, 1*(8), 990-1000.

Tomlinson, B. (2012). Materials development for language learning and teaching. *Language Teaching, 45*(2), 143-179.

University of Cambridge (2012). *Key English Test (KET) handbook for teachers.* https://www.lang.com.pl/images/egzaminy-cambridge-english/egzaminy logo/Cambridge_English_Key__KET__ Handbook.pdf (Retrieved: 08.02.2019).

University of Cambridge (2014). *Cambridge English teaching framework full level descriptors.* Cambridge: University of Cambridge.

University of Cambridge (2018). *Reporting reliability figures.* https://www.cambridgeenglish.org/research-and-validation/quality-and-accountability/ (Retrieved: 08.02.2019).

Vandergrift, L. (1999). Facilitating second language listening comprehension: Acquiring successful strategies. *ELT Journal, 53,* 168-76.

Vogely, A. J. (1998). Listening comprehension anxiety: Students' reported sources and solutions. *Foreign Language Annals, 31*, 67-80.

Wang, Z. (2015). An analysis on the use of video materials in college English teaching in China. *International Journal of English Language Teaching, 2*(1), 23-28.

Webb, S. (2010). A corpus driven study of the potential for vocabulary learning through watching movies. *International Journal of Corpus Linguistics, 15*(4), 497-519.

Wilkins, D. (1976). *Notional syllabuses*. Oxford: Oxford University Press.

Wilson, J. T. S. (2006). *Anxiety in learning English as a foreign language: Its associations with students variables, with overall proficiency, and with performance in an oral test.* Unpublished Doctoral Dissertation. Spain: University of Granada.

Wood, D. J. (1995). Good video movies for teaching English as a foreign or second language. *Bulletin of the International Cultural Research Institute of Chikushi Jogakuen College, 6,* 105-125.

Woottipong, K. (2014). Effect of using video materials in the teaching of listening skills for university students. *International Journal of Linguistics, 6*(4), 200-212.

Xu, F. (2011). Anxiety in EFL listening comprehension. *Theory and Practice in Language Studies, 1*(12), 1709-1717.

Zhang, X. (2013). Foreign language listening anxiety and listening performance: Conceptualizations and causal relationships. *System, 41*(1), 164-177.

Zhang, Y. (2009). Reading to speak: Integrating oral communication skills. *English Teaching Forum, 1*(1), 32-34.

Zhou, D. (2003). Listening anxiety and affective strategies the in second language classroom. *Foreign Language Teaching Abroad, 3,* 56-58.

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Comparison of International TIMSS 2011 Proficiency Levels and Cut-off Scores Set by Using Cluster Analysis

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Abstract

The aim of the study is to compare TIMSS 2011 proficiency levels with the proficiency levels defined by the researchers using cluster analysis for Turkey, Korean, Norway, and Morocco in 4th and 8th grades in the fields of science and mathematics. Therefore, it is tried to be reached that these cut-off scores for each country can serve the evaluation of each country itself. For this research, the data gathered from related countries' students was taken from TIMSS 2011 database. Statistical analysis was performed with SPSS Version 21.0 statistic software package. The cut-off scores for these four countries selected in this study for each grade level and course type were defined using cluster analysis. Then, proficiency levels according to these cut-off scores were compared to the general TIMSS 2011 proficiency levels, and so the difference between these levels and percentage of agreement have been examined. According to the results, cut-off scores set by using cluster analysis for Korea were higher than TIMSS international benchmarks. Cut-off scores set for Morocco, Norway, and Turkey were lower than TIMSS international benchmarks. the percentage of agreement of the proficiency levels was found to be between 8.1% and 70.0%, and in general, it has been found that the percentage of agreement was low. Consequently, it is suggested that countries should make a standard-setting study for their own samples instead of using TIMSS international benchmarks for their own evaluations.
Keywords: Standard Setting, Cluster Analysis, Validity, TIMSS 2011

Introduction

Trends in International Mathematics and Science Study (TIMSS) is a survey study on the knowledge and skills of 4th and 8th-grade students in mathematics and science. The general aim of TIMSS is to measure student achievement in mathematics and science in the countries participating in the research, to determine how education and training take place in schools, the effectiveness and efficiency of the education system, and the differences between education systems of countries.

In order to assess student achievement in mathematics and science in TIMSS, in addition to the scores obtained by the students from the relevant test, the proficiencies related to these scores and the international benchmarks for these proficiencies were defined. In this way, countries can examine the proficiency level of their students and compare them with other countries. International benchmarks are defined by standard-setting study.

Standard-setting is essential for determining the differentiation in the success or performance levels of individuals. It is a standard setting study to determine whether the students are at a minimum level of proficiency or which point can be used as a cut-off point in order to be adequate in an area. (Berberoglu, 2009). Cizek (2001) describes the standard setting as the determination of performance levels for deciding or classifying individuals, while Crocker and Algina (1986) define it as specifying the cut-off point. The determined cut-off points are used to determine the qualifications of the students in specific areas, and they are also used to evaluate the performance of students in international exams such as TIMSS, PISA.

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In order to determine the proficiency levels in TIMSS scale anchoring method is used. Scale anchoring is a method that has a statistical component and uses item characteristics to discriminate points on the proficiency scale. Also, it has a consensus component, which means it involves educational experts. These experts and identified items are used to interpret which students at or close to the determined scale points. (Beaton and Allen, 1992). The procedures of this method applied for the first time in TIMSS 1999 were first included in the National Assessment of Educational Progress (NAEP) (Beaton and Allen, 1992; Gregory and Mullis,1999). Table 1 includes TIMSS international benchmarks used to explain the performance of the students in the test items and the level of proficiency corresponding to these criteria. Besides, the level of proficiency of students who are below 400 points not mentioned in the table is expressed as the below-low international benchmark (Mullis, Martin, Foy & Arora, 2012).

Table 1. TIMSS 2015 International Benchmark

Scale Score	International Benchmark
625	Advanced International Benchmark
550	High International Benchmark
475	Intermediate International Benchmark
400	Low International Benchmark

TIMSS international proficiency levels are used to compare countries with each other. However, there are no criteria for evaluating countries within themselves. For this reason, it is thought to be necessary to set the new cut-off points that will allow the countries to be evaluated within themselves. In this study, k-means method was used for clustering analysis methods to determine the cut-off points that will be used in the evaluation of the countries. Cluster analysis that can be used as an alternative standard setting method is the process of separating individuals or items into groups, called clusters, by using information from a set of data according to specific proximity criteria. In the clustering process, the similarity of the elements in the cluster should be high, whereas the similarity between the clusters should be low. In cluster analysis, the k-means algorithm is commonly used and is the best-known algorithm. The k-means algorithm is used to separate the given objects into k-classes according to their attributes or characteristics. The algorithm is called k-means because a fixed number of clusters is needed before the algorithm runs. The k represents the number of sets and also the number of groups to occur. Accordingly, k is a constant positive integer which is known in advance and does not change its value until the clustering process is finished. The classification in the k-means is carried out by placing the data around the cluster centers (centroid) to which they are the closest or similar (Dinçer, 2006).

Standard setting studies with cluster analysis are not common. Sireci, Robin, and Patelis (1999) compared the standards obtained by cluster analysis with the standards determined by the more traditional methods which are borderline surveys and contrasting groups. Violato, Marini, and Lee (2003) examined the validity of the expert judgment by comparing the minimum performance levels determined by the Nedelsky and Ebel methods based on the expert judgment of the certification examinations with the cut-off scores determined by the cluster analysis. Hess, Subhiyah, and Giordano (2007) investigated the effectiveness of cluster analysis to verify the minimum pass scores determined by the Angoff method.

A review of the relevant literature reveals that there is no study in which the TIMSS international benchmarks are compared with those of defined by different standard setting methods. Studies on TIMSS international benchmarks were generally based on the determination of international criteria for student achievement. (Gregory,1999; Gregory & Mullis, 1999; Kelly, Mullis & Martin, 2000; Kelly, 2002; Mullis, Erberber & Preuschoff, 2007). Ker (2013) compared the TIMSS 2011 mathematics achievement of the Chinese Taipei, Singapore, and the USA countries at International Benchmark levels. Olsen and Nilsen (2017) examined the standard setting methods used in TIMMS and PISA and discussed how these procedures could be used locally in tests and evaluations in the Norwegian context.

In addition, the cut-off scores for TIMSS international proficiency levels allow countries to compare each other while there are no cut-off points for the countries to be evaluated within themselves. For this reason, it is evident that there is a lack of focus of the validity of the standard-setting procedures and the cut-off points for the evaluation of each country independently and there is a need to work on this issue.

The aim of the study is to compare TIMSS 2011 proficiency levels with the proficiency levels defined by the researchers using cluster analysis for Turkey, Korean, Norway, and Morocco in 4^{th} and 8^{th} grades in the fields of science and mathematics. Therefore, it is tried to be reached that these cut-off scores for each country can serve the evaluation of each country independently. In this context, the research questions are as follows:

1. Do TIMSS international benchmark and cut-off point determined by cluster analysis differ according to grade level and course type?
2. Do TIMSS international benchmarks and cut-off points obtained from clustering analysis vary according to the percentage of agreement between proficiency levels according to the grade level and type of the course?
3. Do the percentage of the students in the proficiency levels obtained by the cluster analysis and the percentage of the students in the proficiency levels determined according to the TIMSS international proficiency levels differ according to the grade level and type of course?

Method

Research design

Since the aim of the study is to compare TIMSS 2011 international benchmarks with the proficiency levels defined by the researchers using cluster analysis for Turkey, Korean, Norway and Morocco in 4th and 8th grades in the fields of science and mathematics, type of the study can be defined as descriptive research.

Study Group

In TIMSS 2011, 42 countries at the 8th grade and 50 countries at the 4th grade participated. The study group was determined by taking into account the success ranking of the countries and the participation in the TIMSS 2011 at both grades. In this context, Korea having high achievement for both mathematics and science in each grade level, Norway having moderate achievement, Morocco having low achievement and Turkey just for the comparison have been selected for the study group. Table 2 shows the numbers and rates of the 8th grade and 4th-grade students of the four countries included in the research.

Table 2. TIMSS 2011 Descriptive statistics for 4th and 8th-grade students

Country	8th grade		4th grade	
	f	%	f	%
Morocco	8986	36.0	7841	34.4
Turkey	6928	27.8	7479	32.8
Korea	5166	20.7	4334	19.0
Norway	3862	15.5	3121	13.7
Total	24942	100.0	22775	100.0

As indicated in Table 2, the highest number of students in 4th-grade and 8th-grade is in Morocco with low performance, and the least participation is in Norway with moderate performance.

The mean scores of science and mathematics at the 8th-grade level of the four countries constituting the study group and the rankings of them among all countries are given in Table 3.

Table 3. TIMSS 2011 The rankings and mean scores for 8th grade

Country	8th-grade mathematics		8th-grade science	
	Ranking	Mean score	Ranking	Mean score
Korea	1	613	3	560
Norway	20	475	19	494
Turkey	24	452	21	483
Morocco	40	371	41	376

Korea's 8th grade mathematics achievement test mean score is 613 and its ranking is 1; Norway's mean score is 475, and its ranking is 20; Turkey's mean score is 452, and its ranking is 24, and the mean score of Morocco is 371 and its ranking is 40, which can be found in Table 3. Korea's 8th-grade science achievement test mean score is 560 and its ranking is 3; Norway's mean score is 494 and its ranking is 19; Turkey's mean score is 483 and its ranking is 21, and the mean score of Morocco is 376 and its ranking is 41.

The mean scores of science and mathematics at the 4th-grade level of the four countries of the study group and the achievement rankings among all countries are given in Table 4.

Table 4. TIMSS 2011 The rankings and mean scores for 4th grade

Country	4th-grade mathematics		4th-grade science	
	Ranking	Mean score	Ranking	Mean score
Korea	2	605	1	587
Norway	29	495	33	494
Turkey	35	469	36	463
Morocco	49	335	49	264

Korea's 4th grade mathematics achievement test mean score is 605 and its achievement ranking is 2; Norway's mean score is 495, and its ranking is 29; Turkey's mean score is 469, and its ranking is 35, and the mean score of Morocco is 335, and its ranking is 49, which can be found in Table 4. Korea's 4th-grade mathematics achievement test mean score is 587 and its achievement ranking is 1; Norway's mean score is 494, and its ranking is 33; Turkey's mean score is 463, and its ranking is 36, and the mean score of Morocco is 264, and its ranking is 49.

Data

TIMSS offers an international comparison of student achievements and provides countries with information on curricula. TIMSS conducted every four years by the International Association for the Evaluation of Educational Achievement (IEA) also constitute an international database to specify students' trends in mathematics and science achievement.

For this research, the data gathered from the selected countries' (Morocco, Korea, Norway, and Turkey) students were taken from TIMSS 2011 database. The data are available from the TIMSS 2011 international database (http://timss.bc.edu/timss2011/international-database.html).

Data Analysis

Before the primary data analysis is run, data screening was done. As a result of data screening, it was determined that there was no missing data in TIMSS datasets and there were no extreme values that would affect the analysis of the results. Statistical analyses were performed with SPSS software package. Cut-off scores for these four countries selected in this study for each grade level and course type were defined using k-means clustering. The reason for using the k-means method is that the number of groups, k = 5, is known in advance. According to TIMSS international benchmarks, there are four achievement benchmarks which are low, intermediate, high, and advanced.

In the cluster analysis, the average of the plausible values in TIMSS for each grade and course type (8th-grade mathematics BSMMAT01-05, science BSSSCI01-05; 4th-grade mathematics ASMMAT01-05; science ASSSCI01-05) was used as the achievement score of mathematics and science. Principle components analysis was performed to obtain a single variable from 5 plausible values in TIMSS. As a result of this analysis, factor scores of single factor structure were obtained by the regression method. Factor scores were found to be the same as z scores obtained from the mean of 5 plausible value. Therefore, this study was performed on the average of 5 plausible values. Also, the analysis was carried out on a single variable as it was aimed to determine the cut-off point as well as the cluster of the students. Since a single variable was used, no conversion was made for the clustering analysis.

The average of five plausible values is defined as student achievement score, and the students are divided into five groups by cluster analysis. Then, the minimum and maximum test scores within each cluster were computed. The average of the maximum score of the low group and the minimum score of the high group was used as the cut score. In this study, according to each grade level and course type, the cut-off points were determined by cluster analysis. The proficiency levels defined by the researchers were compared with TIMSS international benchmarks in terms of the percentages of students meeting the specified benchmarks.

Findings and Interpretation

Do TIMSS international benchmark and cut-off points determined by cluster analysis vary according to grade level and course type?

Table 5 shows the minimum and maximum scores of the proficiency levels determined by the cluster analysis for the 8th-grade mathematics achievement.

Table 5. TIMSS 2011 8th-grade mathematics achievement proficiency levels

8th-grade mathematics achievement proficiency levels										
COUNTRY	Below low (below 400)		Low (400 - 475)		Intermediate (475 - 550)		High (550 - 625)		Advanced (at or above 625)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
KOREA	281.29	489.03	489.19	570.62	570.88	638.69	638.74	703.89	704.10	850.59
NORWAY	203.19	360.78	361.47	414.65	414.70	468.07	468.18	526.07	526.17	647.05
TURKEY	142.85	334.65	334.77	421.54	421.60	506.97	507.09	600.73	600.74	844.40
MOROCCO	127.99	307.39	307.43	373.42	373.46	438.86	438.94	511.19	511.40	666.53

The average of the minimum and maximum values in Table 5 is determined as the cut-off point. Figure 1 shows the cut-off points for the 8th-grade mathematics achievement.

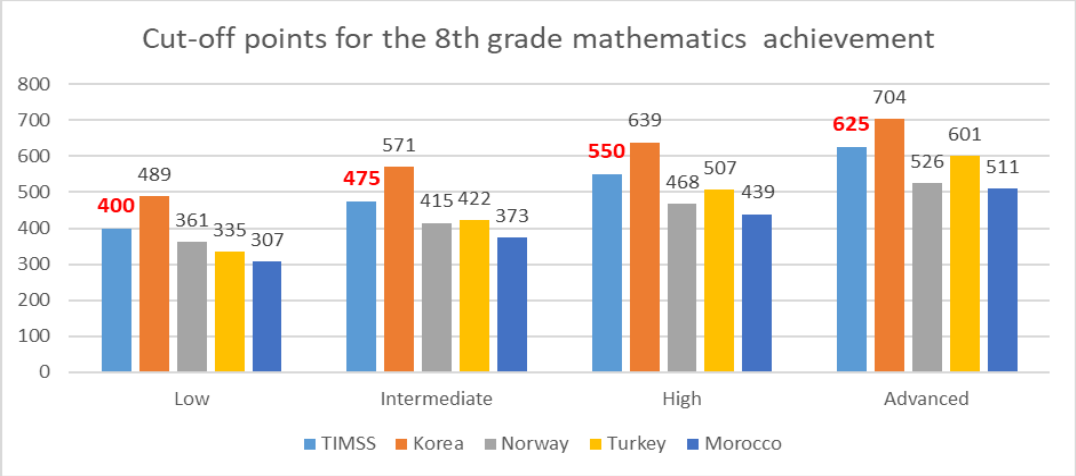


Figure 1. TIMSS 2011 cut-off points for the 8th-grade mathematics achievement

Only the cut-off scores determined by the cluster analysis for Korea are higher than the international benchmarks in TIMSS 2011 while those for Norway, Turkey, and Morocco are lower than the international benchmarks, which can be found in Figure 1.

The country with the highest deviation from the TIMSS international benchmarks is Morocco whose ranking is lower than the others. The cut-off scores calculated for Turkey with cluster analysis for 8th-grade mathematics achievement are the closest to the TIMSS international benchmarks except for low benchmark. The nearest cut-off point to the low benchmark belongs to Norway.

Table 6 shows the minimum and maximum scores of the proficiency levels determined by the cluster analysis for the 8th-grade science achievement.

Table 6. TIMSS 2011 8th-grade science achievement proficiency levels

8th-grade science achievement proficiency levels										
COUNTRY	Below low (below 400)		Low (400 - 475)		Intermediate (475 - 550)		High (550 - 625)		Advanced (at or above 625)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
KOREA	294.77	456.93	457.05	525.68	525.74	583.71	583.76	642.26	642.43	777.65
NORWAY	211.67	381.42	381.77	445.95	445.98	503.43	503.51	563.36	563.56	686.81
TURKEY	132.94	363.47	363.54	449.47	449.51	527.29	527.34	607.74	607.83	821.97
MOROCCO	107.56	307.26	307.40	375.73	375.77	439.66	439.71	505.94	506.15	681.27

Figure 6 shows the cut-off points determined by cluster analysis using minimum and maximum values for the 8th-grade science achievement in Table 6.

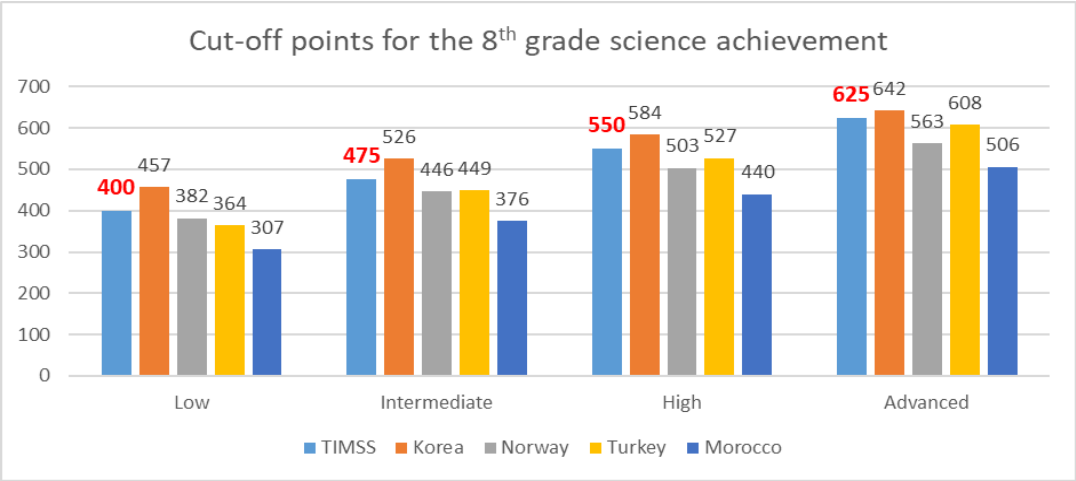


Figure 2. TIMSS 2011 cut-off points for the 8th-grade science achievement

Only the cut-off scores determined by the cluster analysis for Korea are higher than the international benchmarks in TIMSS 2011 while those for Norway, Turkey, and Morocco are lower than the international benchmarks, which can be found in Figure 2.

The country with the highest deviation from the TIMSS international benchmarks is Morocco whose ranking is lower than the others. In general, cut-off scores calculated for Turkey with cluster analysis for 8th-grade science achievement are the closest to the TIMSS international benchmarks except for low benchmark. The nearest cut-off point to the low benchmark belongs to Norway.

Table 7 shows the minimum and maximum scores of the proficiency levels determined by the cluster analysis for the 4th-grade mathematics achievement.

Table 7. TIMSS 2011 4th-grade mathematics achievement proficiency levels

4th-grade mathematics achievement proficiency levels										
COUNTRY	Below low (below 400)		Low (400 - 475)		Intermediate (475 - 550)		High (550 - 625)		Advanced (at or above 625)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
KOREA	308.51	481.78	482.70	546.37	546.60	601.68	601.74	658.56	658.66	784.09
NORWAY	259.62	399.24	399.27	455.43	455.47	507.81	508.13	565.06	565.17	698.82
TURKEY	119.79	342.46	342.57	431.47	431.50	503.74	503.82	574.97	575.04	756.64
MOROCCO	113.79	266.32	266.39	340.38	340.40	415.94	416.16	496.99	497.14	680.85

Figure 3 shows the cut-off points determined by cluster analysis using minimum and maximum values for the 4th-grade math achievement in Table 7.

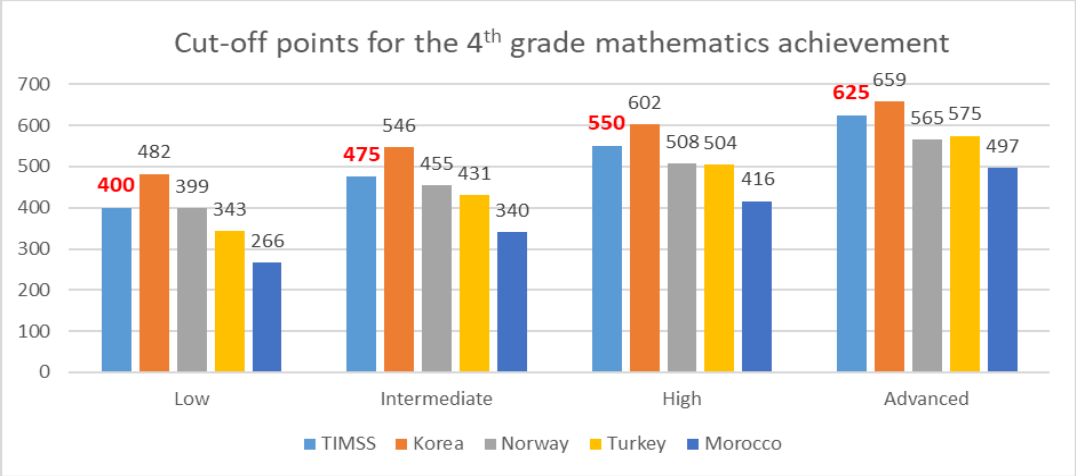


Figure 3. TIMSS 2011 cut-off points for the 4th-grade mathematics achievement

Only the cut-off scores determined by the cluster analysis for Korea are higher than the international benchmarks in TIMSS 2011 while those for Norway, Turkey, and Morocco are lower than the international benchmarks, which can be found in Figure 3.

The country with the highest deviation from the TIMSS international benchmarks is Morocco whose ranking is lower than the others. In general, cut-off scores calculated for Norway with cluster analysis for 4th-grade mathematics achievement are the closest to the TIMSS international benchmarks except for high benchmark. The nearest cut-off point to the low benchmark belongs to Turkey.

Table 8 shows the minimum and maximum scores of the proficiency levels determined by the cluster analysis for the 4th-grade science achievement.

Table 8. TIMSS 2011 4th-grade science achievement proficiency levels

4th-grade science achievement proficiency levels										
COUNTRY	Below low (below 400)		Low (400 - 475)		Intermediate (475 - 550)		High (550 - 625)		Advanced (at or above 625)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
KOREA	318.15	484.25	484.98	547.72	547.77	598.80	598.90	650.03	650.09	761.34
NORWAY	264.20	422.71	422.76	478.94	479.07	525.19	525.33	569.67	570.15	691.42
TURKEY	116.10	333.75	334.41	422.57	422.63	494.18	494.19	565.56	565.70	756.02
MOROCCO	24.87	164.30	164.40	246.62	246.71	333.29	333.45	433.31	433.59	677.01

Figure 4 shows the cut-off points determined by cluster analysis using minimum and maximum values for the 4th-grade science achievement in Table 8.

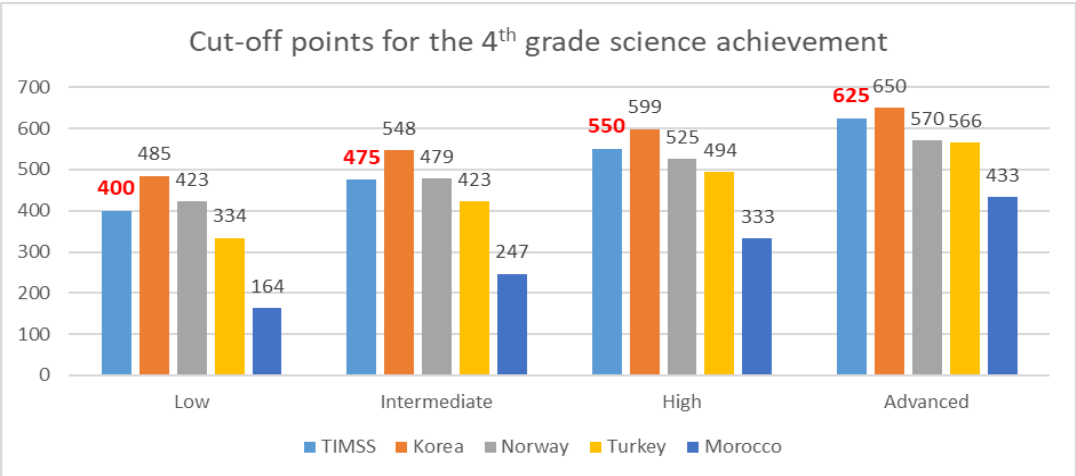


Figure 4. TIMSS 2011 cut-off points for the 4th-grade science achievement

Only the cut-off scores determined by the cluster analysis for Korea are higher than the international benchmarks in TIMSS 2011 while those for Norway, Turkey, and Morocco are lower than the international benchmarks, which can be found in Figure 4.

The country with the highest deviation from the TIMSS international benchmarks is Morocco whose ranking is lower than the others. In general, cut-off scores calculated for Norway with cluster analysis for 4th-grade science achievement are the closest to the TIMSS international benchmarks.

Do TIMSS international benchmarks and cut-off points obtained from cluster analysis differ according to the percentage of agreement between proficiency levels according to the grade level and type of the course?

Figure 5 shows the percentage of agreement for students having the same level of proficiency determined by cluster analysis with four international proficiency levels of TIMSS 2011. For example, according to the 4th-grade mathematics achievement 37.1% of students in Korea are in the same proficiency level in both proficiency levels determined by clustering analysis and TIMSS international benchmarks.

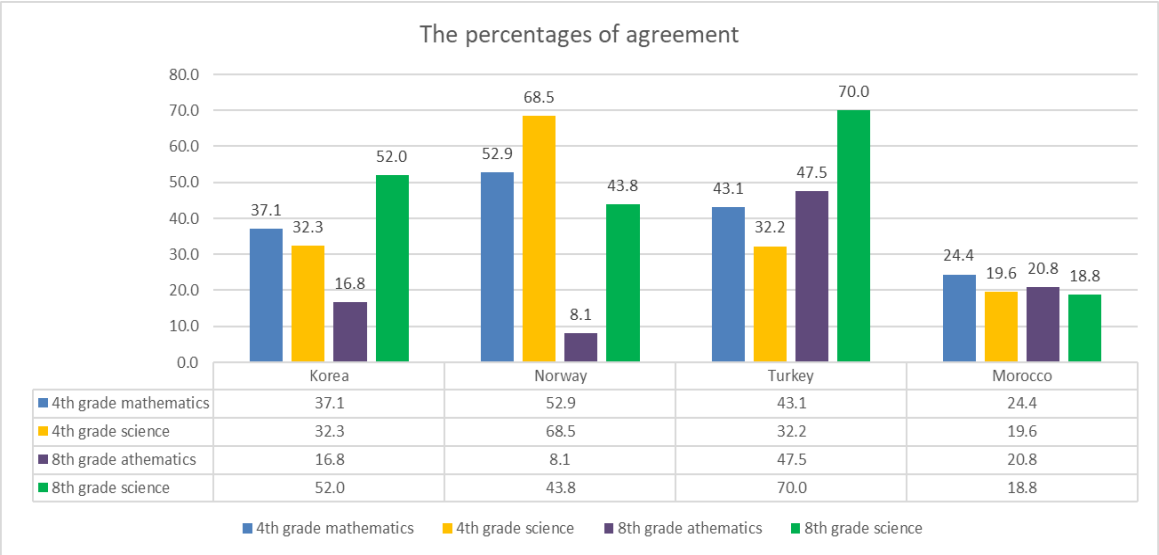


Figure 5. TIMSS 2011 the percentages of agreement

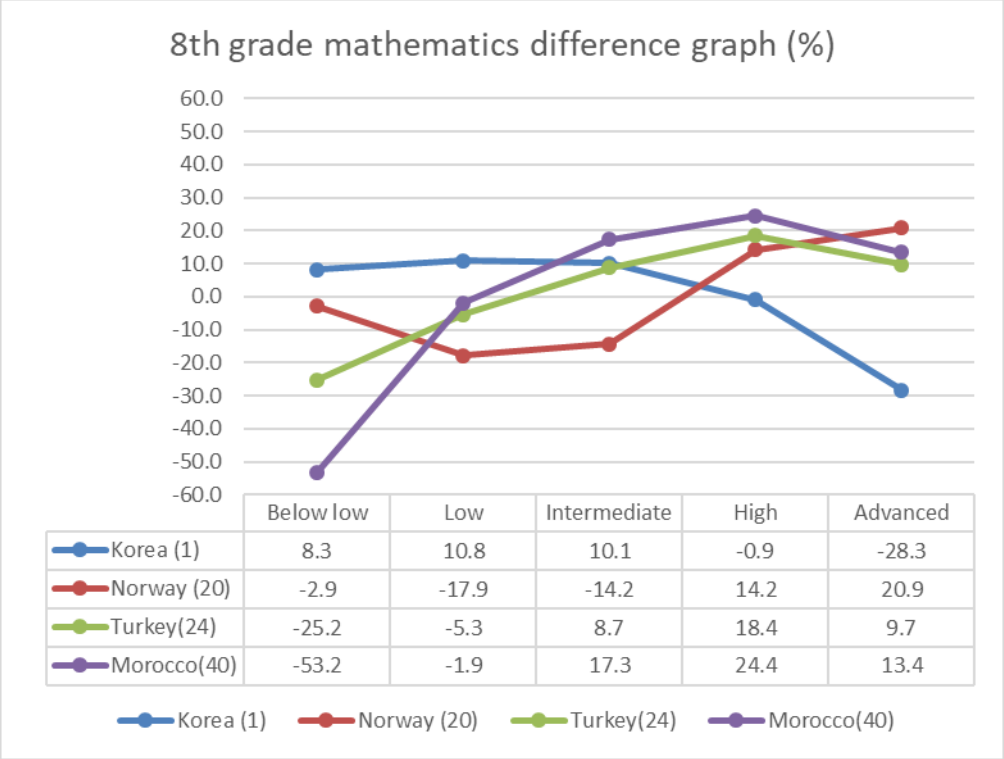
The percentage of agreement varies between 16.8 - 52.0% for Korea; 8.1 - 68.5 for Norway; 32.2 - 70.0% for Turkey, and 18.8 - 24.4% for Morocco, which can be found in Figure 5.

When the percentages of agreement of the proficiency levels are examined by grade and type of course, the highest percentage of agreement for TIMSS 2011 4th grade mathematics achievement is between TIMSS international benchmarks and proficiency levels determined by cluster analysis for Norway (52.9%) and the lowest is between TIMSS benchmarks and proficiency levels determined by cluster analysis for Morocco (24.4%). The highest percentage of agreement for TIMSS 2011 4th grade science achievement is between TIMSS international benchmarks and proficiency levels determined by cluster analysis for Norway (68.5%) and the lowest is between TIMSS benchmarks and proficiency levels determined by cluster analysis for Morocco (19.6%). On the other hand, for8th-grade mathematics achievement the highest percentage of agreement is between TIMSS international benchmarks and proficiency levels determined by cluster analysis for Turkey (47.5%) and the lowest is between TIMSS benchmarks and proficiency levels determined by cluster analysis for Norway (8.1%). For 8th grade science achievement, the percentage of agreement between TIMSS international benchmarks and cluster analysis is the highest for Turkey (70.0%) and the lowest for Norway (8.1%). The percentage of agreement is generally low.

Do the percentage of the students in the proficiency levels obtained by the cluster analysis and the percentage of the students in the proficiency levels determined according to the TIMSS international proficiency levels differ according to the grade level and type of course?

For the 8th grade mathematics achievement, the difference between the percentages of the students in the proficiency levels determined by the cluster analysis and the percentages of the students in the international

proficiency levels of TIMSS 2011 is shown in Figure 6. Increases and decreases in the graphs are made concerning TIMSS 2011 international proficiency levels.



	Below low	Low	Intermediate	High	Advanced
Korea (1)	8.3	10.8	10.1	-0.9	-28.3
Norway (20)	-2.9	-17.9	-14.2	14.2	20.9
Turkey(24)	-25.2	-5.3	8.7	18.4	9.7
Morocco(40)	-53.2	-1.9	17.3	24.4	13.4

Figure 6. TIMSS 2011 8th-grade mathematics difference graph

For Morocco, the percentage of students that are at below-low level determined by cluster analysis for TIMSS 2011 8th-grade math achievement is 53.2% less than the percentage of students at the same level determined by TIMSS international benchmarks. It is 25.2% less for Turkey and 2.9% less for Norway. On the other hand, the percentage of students that are at below-low level determined by cluster analysis is 8,3% more than the percentage of students at the same level determined by TIMSS international benchmarks for Korea.

The percentage of students at low level decreases by 1.9% for Morocco; 17.9% for Norway and 5.3% for Turkey while it shows a 10.8% increase for Korea. The percentage of students at intermediate level shows an increase of 17.3% for Morocco, 10.1% for Korea, and 8.7% for Turkey. It decreases by 14.2 for Norway. The maximum increase in the percentage of students at high level is for Morocco with a percentage of 24.4%, which is followed by Turkey (18.4%) and Norway (14.2%). It decreases just for Korea with a percentage of 0.9%. Likewise, the percentage of students at advanced level shows an increase of 20.9% for Norway, 13.4% for Morocco, and 9.7% for Korea while it shows a decrease of 28.3% for Korea.

In general, the percentage of below-low-level and low-level students determined by TIMSS international benchmarks decreased in all three countries except Korea, while the percentage of high and advanced-level students increased in all countries except Korea. While there is a decrease in the percentage of intermediate-level students only in Norway, there is an increase in other countries.

For the 8th-grade science achievement, the difference between the percentages of the students in the proficiency levels determined by the cluster analysis and the percentages of the students in the international proficiency levels of TIMSS 2011 is shown in Figure 7.

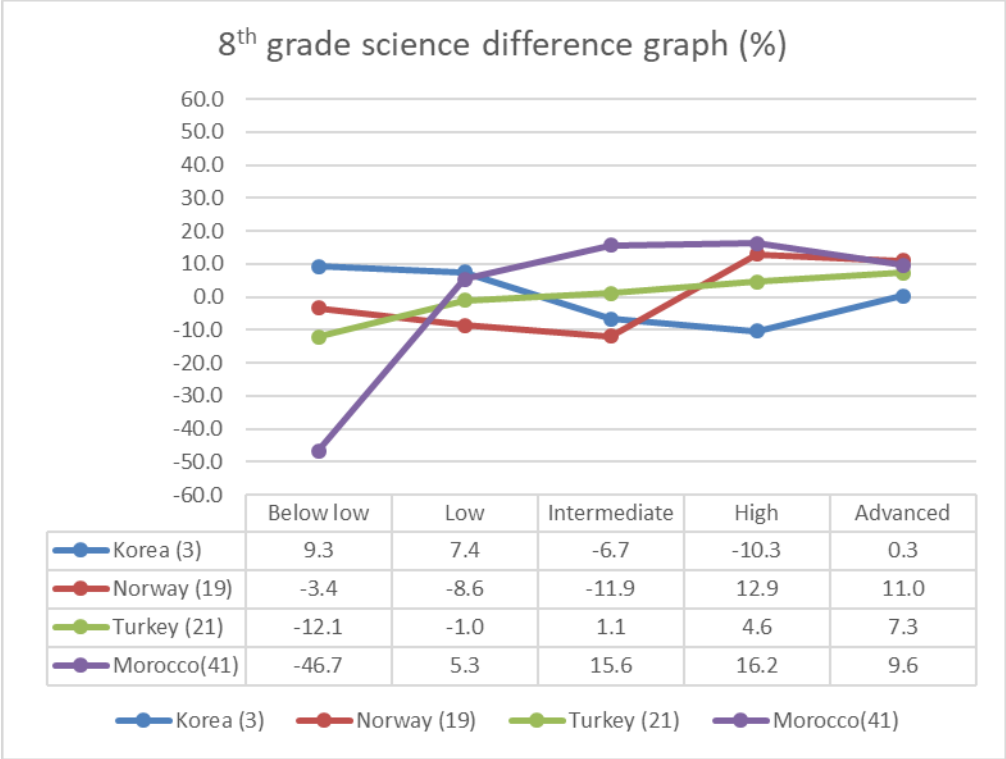


Figure 7. TIMSS 2011 8th-grade science difference graph

For Morocco, the percentage of students that are at below-low level determined by cluster analysis for TIMSS 2011 8th-grade science achievement is 46.7% less than the percentage of students at the same level determined by TIMSS international benchmarks. It is 12.1% less for Turkey and 3.4% less for Norway. On the other hand, the percentage of students that are at below-low level determined by cluster analysis is 9,3% more than the percentage of students at the same level determined by TIMSS international benchmarks for Korea.

The percentage of students at low level decreases by 8.6% for Norway and 1.0% for Turkey while it shows a 7.4% increase for Korea and 5.3% for Morocco. The percentage of students at intermediate level shows an increase of 15.6% for Morocco and 1.1% Turkey. However, it shows a decrease of 11.9% for Norway and 6.7% for Korea. The maximum increase in the percentage of students at high level is for Morocco with a percentage of 16.2%, which is followed by Norway (12.9%) and Turkey (4.6%). It decreases just for Korea with a percentage of 10.3%. Likewise, the percentage of students at advanced level shows an increase of 11.0% for Norway, 9.6% for Morocco, 7.3% for Turkey, and 0.3% for Korea.

In general, the percentage of below-low-level students determined by TIMSS international benchmarks decreased in all three countries except Korea while the percentage of high-level students increased in all countries except Korea. While there is not much difference in the percentage of advanced-level students in Norway, there is an increase in other countries.

For the 4th-grade mathematics achievement, the difference between the percentages of the students in the proficiency levels determined by the cluster analysis and the percentages of the students in the international proficiency levels of TIMSS 2011 is shown in Figure 8.

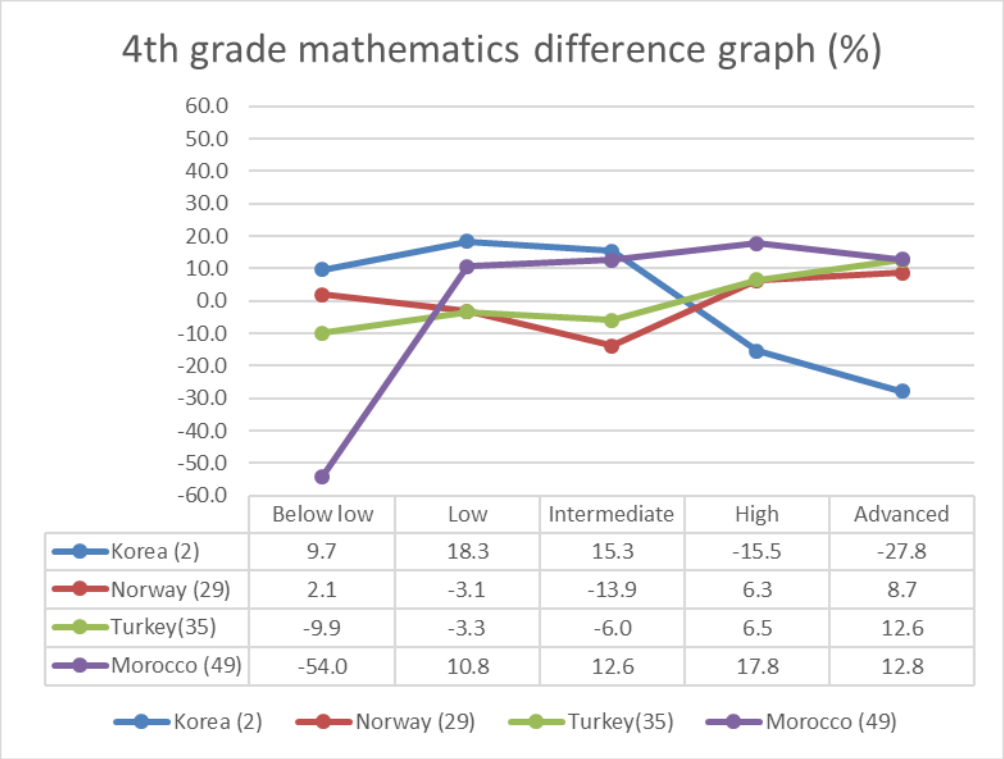


Figure 8. TIMSS 2011 4th-grade mathematics difference graph

For Morocco, the percentage of students that are at below-low level determined by cluster analysis for TIMSS 2011 4th-grade mathematics achievement is 54.0% less than the percentage of students at the same level determined by TIMSS international benchmarks. It is 9.4% less for Turkey. On the other hand, the percentage of students that are at below-low level determined by cluster analysis is 9,7% more than the percentage of students at the same level determined by TIMSS international benchmarks for Korea and 2.1% for Turkey.

The percentage of students at low level decreases by 3.3% for Turkey and 3.1% for Norway while it shows an 18.3% increase for Korea and 10.8% for Morocco. The percentage of students at intermediate level shows an increase of 15.3% for Korea and 16.2% for Morocco. However, it shows a decrease of 13.9% for Norway and 6.0% for Turkey. The maximum increase in the percentage of students at high level is for Morocco with a percentage of 17.8%, which is followed by Turkey (6.5%) and Norway (6.3%). It decreases just for Korea with a percentage of 15.5%. Likewise, the percentage of students at advanced level shows an increase of 12.8% for Morocco, 12.6% for Turkey, and 8.7% for Norway while it decreases by 27.8% for Korea.

In general, the percentage of below-low-level students determined by TIMSS international benchmarks decreased in Turkey and Morocco, while the percentage of high-level and advanced-level students increased in all countries except Korea.
For the 4th-grade science achievement, the difference between the percentages of the students in the proficiency levels determined by the cluster analysis and the percentages of the students in the international proficiency levels of TIMSS 2011 is shown in Figure 9.

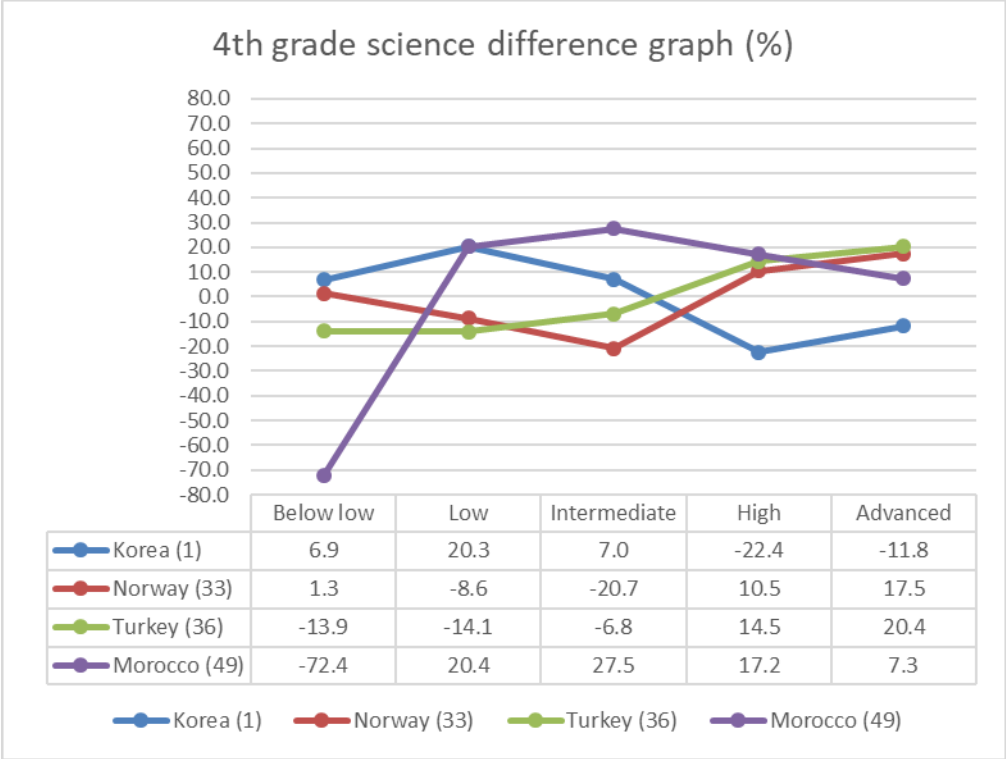


Figure 9. TIMSS 2011 4th-grade science difference graph

For Morocco and Turkey, the percentage of students that are at below-low level determined by cluster analysis for TIMSS 2011 4th-grade science achievement is less than the percentage of students at the same level determined by TIMSS international benchmarks, 72.4% and 13.9% respectively. On the other hand, the percentage of students that are at below-low level determined by cluster analysis is 6.9% more than the percentage of students at the same level determined by TIMSS international benchmarks for Korea and 1.3% for Norway.

The percentage of students at low-level decreases by 14.1% for Turkey and 8.6% for Norway while it shows an increase of 20.3% for Korea and 20.4% for Morocco. The percentage of students at intermediate-level shows an increase of 27.5% for Morocco and 7.0% for Korea. However, it shows a decrease of 20.7% for Norway and 6.8% for Turkey. The maximum increase in the percentage of students at high-level is for Morocco with a percentage of 17.2%, which is followed by Turkey (14.5%) and Norway (10.5%). It decreases just for Korea with a percentage of 22.4%. Likewise, the percentage of students at advanced level shows an increase of 20.4% for Turkey, 17.5% for Norway, and 7.3% for Morocco while it decreases by 11.8% for Korea.

In general, the percentage of below-low-level students determined by TIMSS international benchmarks decreased in Turkey and Morocco while the percentage of high-level and advanced-level students increased in all countries except Korea.

Conclusion

The aim of the study is to compare TIMSS 2011 proficiency levels with the proficiency levels defined by the researchers using cluster analysis for Turkey, Korea, Norway and Morocco in 4th and 8th grades in the fields of science and mathematics. Therefore, it is tried to be achieved that these cut-off scores for each country can serve the evaluation of each country itself. According to the results, cut-off scores set using cluster analysis for Korea were higher than TIMSS international cut-off scores in both grade levels and both of the fields, mathematics and science. Cut-off scores set for Morocco, Norway, and Turkey were lower than TIMSS international cut-off scores.

Morocco, which has a low success rate among all the countries, has the most significant difference in cut-off scores between its own cut-off scores set using cluster analysis and the international ones. Nonetheless, the lowest differences between cut-off scores are in Turkey for 8th grades and Norway for 4th grades. When the

agreement between international proficiency levels and the ones defined using cluster analysis was examined, the highest percentage of agreement was obtained for Turkey and Norway, and the lowest percentage of agreement was obtained for Korea and Morocco. It has been found that the percentage of agreement was low overall.

For TIMSS 2011 4th and 8th grade mathematics and science achievement, the percentage of below-low-level students determined by TIMSS international benchmarks decreases in Turkey, Norway, and Morocco while it increases in Korea. The situation is the opposite for high and advanced level determined by clustering analysis. The percentage of high and advanced-level students determined by TIMSS international benchmarks increases in Turkey, Norway, and Morocco, while it decreases in Korea. So, depending on their proficiency level determined by cluster analysis, the number of students at below-low-level in Morocco, Norway, and Turkey decreases while it increases in Korea; The number of students at high and advanced-level in Morocco, Norway and Turkey increases while it decreases in Korea. As a result, depending on their proficiency levels determined by cluster analysis, Morocco, Norway and Turkey's successes are higher than the ones defined by the TIMSS international benchmarks; The success of Korea determined by cluster analysis is lower than TIMSS proficiency levels.

In general, when TIMSS international proficiency levels are compared with the proficiency levels obtained by cluster analysis, it can be said that TIMSS international benchmarks provide an advantage to successful countries (Korea) while they have a reverse situation for the other countries having low success. This is an expected situation because the TIMSS determines the level of proficiencies of all countries and compares the rankings of countries.

Recommendations

The cut-off points obtained by the cluster analysis allow the countries to evaluate themselves in the local sense. Consequently, it is suggested that countries should make a standard-setting study for their own samples instead of using TIMSS international benchmarks for their own evaluations. In studies using the TIMSS plausible value, the cut-off scores obtained in this study can be used to evaluate students' achievements. Similar studies can be carried out using other standard setting methods besides cluster analysis. In this study, four countries were selected for the analysis. The cut-off scores for the data of other countries can be set in the future.

References

Beaton, A. E., & Allen, N. L. (1992). Chapter 6: Interpreting Scales Through Scale Anchoring. *Journal of Educational Statistics*, 17(2), 191-204.

Berberoğlu, G. (2009). Madde Haritalama Yöntemi ve Cito Türkiye Öğrenci İzleme Sistemi (ÖİS) Uygulamalarında Yeterlik Düzeylerinin Belirlenmesi [Item Mapping Method and the Determination of Proficiency Level in the application of Turkey Cito Student Monitoring System]. *Cito Eğitim: Kuram ve Uygulama Dergisi*, Mayıs-Haziran 2009, 13-24.

Cizek, G. (2001). Conjectures on the rise and call of standard-setting: An introduction to context and practice. In G. J. Cizek (Ed.), Setting performance standards: Concepts, methods, and perspectives (pp. 3–17). Mahwah, NJ: Erlbaum.

Crocker, L. ve Algina, J. (1986). Introduction to Classical and Modern Test Theory. New York: CBS.

Dinçer, Ş.E. (2006). *The K-Means Algorithm in Data Mining and an Application in Medicine.* Master's Thesis, Kocaeli University Insitute of Natural and Applied Sciences, Kocaeli.

Gregory, K. D. (1999). Describing TIMSS 1999 International Benchmarks of Student Achievement.

Gregory, K. D., & Mullis, I. V. S. (1999). Describing international benchmarks of student achievement. *TIMSS*, 267-278.

Gündeğer, C., Doğan, N. (June, 2014). *A Statistical Approach to Setting Standard: Cluster Analysis.* Paper presented at 4th International Conference on Measurement and Evaluation in Education and Psychology, Ankara, Turkey.

Hess, B., Subhiyah, R. G., & Giordano, C. (2007). "Convergence Between Cluster Analysis and the Angoff Method for Setting Minimum Passing Scores on Credentialing Examinations." Evaluation and the Health Professions, 30 (4), 362-375.

Kelly, D. L., Mullis, I. V., & Martin, M. O. (2000). *Profiles of student achievement in mathematics at the TIMSS international benchmarks: US performance and standards in an international context.* TIMSS International Study Center, Lynch School of Education, Boston College.

Kelly, D. L. (2002). The TIMSS 1995 international benchmarks of mathematics and science achievement: Profiles of world class performance at fourth and eighth grades. *Educational Research and Evaluation*, 8(1), 41-54.

Ker, H. W. (2013). Trend Analysis on Mathematics Achievements: A Comparative Study Using TIMSS Data. *Universal Journal of Educational Research*, 1(3), 200-203.

Mullis, I. V., Erberber, E., & Preuschoff, C. (2007). The TIMSS 2007 international benchmarks of student achievement in mathematics and science. *TIMSS*, 339-347.

Mullis, I. V., Martin, M. O., Foy, P., & Arora, A. (2012). *TIMSS 2011 international results in mathematics*. International Association for the Evaluation of Educational Achievement. Herengracht 487, Amsterdam, 1017 BT, The Netherlands.

Olsen, R. V., & Nilsen, T. (2017). Standard Setting in PISA and TIMSS and How These Procedures Can Be Used Nationally. *In Standard Setting in Education* (pp. 69-84). Springer, Cham.

Sireci, S. G., Robin, F., & Patelis, T. (1999). Using cluster analysis to facilitate standard setting. *Applied Measurement in Education*, *12*(3), 301-325.

Violato, C., Marini, A., & Lee, C. (2003). A validity study of expert judgment procedures for setting cutoff scores on high-stakes credentialing examinations using cluster analysis. *Evaluation & the health professions*, *26*(1), 59-72.

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Examining the Relationships between the Attitudes towards Reading and Reading Habits, Metacognitive Awarenesses of Reading Strategies, and Critical Thinking Tendencies of Pre-Service Teachers*

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Abstract

The purpose of this study was to explore the relationships between the attitudes towards reading and reading habits, metacognitive awarenesses of reading strategies and critical thinking tendencies of pre-service teachers. Two hundred and six pre-service teachers who continue their education in various departments of Faculty of Education at Afyon Kocatepe University were the participants of the study. In this study, which employed predictive correlational research design, structural equation modeling was used to test the hypotheses about direct or indirect relationships between the attitudes towards reading and reading habits, metacognitive awarenesses of reading strategies and critical thinking tendencies. According to the findings of the study, the attitude towards reading had a positive and significant impact on attitude towards the reading habit and metacognitive awareness of reading strategies, and metacognitive awareness of reading strategies had a positive and significant impact on critical thinking tendency. On the other hand, given the attitude towards reading's influence on critical thinking tendency, it was determined that the mediation role of the metacognitive awareness of reading strategies was meaningful. Given the attitude towards reading habit's influence on critical thinking tendency, it was determined that the mediation role of the metacognitive awareness of reading strategies was meaningful.

Key words: attitude towards reading and reading habit, metacognitive awareness of reading strategies, critical thinking

Introduction

Today, when knowledge is rapidly increasing and spreading, it has become important for individuals to access and evaluate right knowledge through critical thinking and to use it in their future learning. Facione (2000) defines critical thinking as "commenting and analysing; assessment and inferences, a decision mechanism based on the evidence that certain explanations are made in terms of concepts, criterion, methods, or content, with the ability to self-regulation for a purpose" (As cited in Koçak, Kurtlu, Ulaş & Epçeçan, 2015, p.213). Critical thinking is not a concept that can be duplicated, copied, internalized, or memorized, but it is created by an action. This behavior includes attitudes, knowledge, context, relationships, thought, freedom, observations, curiosity, creation, recreation and communication (Freire, 2009, as cited in, Waterkemper, do-Prado, Medina & Reibnitz, 2014). According to Aslan (2007:28), "critical thinking can be defined as a higher level of cognitive competence, such as an individual's believing that there is a problem in the first place, then revealing the causes of this problem and predicting the outcome". From the definitions made, it is understood that critical thinking is a skill that requires constant personal effort.

Critical thinking has many features such as supporting results, determining the specified and unadopted assumptions, taking different perspectives into consideration, developing hypotheses based on existing information and making non-biased decisions in favour of a specific outcome (Commeyras, Pearson, Ennis,

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Garcia & Anderson, 1992). The basis of critical thinking is the existence of healthy, disciplined, systematic and interrogating thinking, distinguishing, identifying contradictions, identifying wrongnesses, purpose, determining the non-relevant ideas, similarities and differences, and questioning (Duran, 2013; Karadüz, 2010). There are many factors to improve critical thinking skills. Some of these factors are support of social environments which are composed of people who think differently and open to criticism to the critical thinking and reading (Çifçi, 2006), families' raising their children with self-confidence, transfer their learning to their life, the fact that the educators particularly have critical thinking skills and reflect them on their students (Susar-Kırmızı, Fenli & Kasap, 2014), the ability of parents and teachers to improve the listening skills of students (Karadüz, 2010). It is not easy to acquire critical thinking skills. It has been found that pre-service teachers' levels of critical thinking tendencies are low, medium, or above medium level in the researches studies conducted (Beşoluk & Önder, 2010; Bulgurcuoğlu, 2016; Kartal, 2012; Koçak et al., 2015; Semerci & Elaldı, 2014).

Critical Thinking Tendencies and Attitude towards Reading

One of the variables that affect the critical thinking tendencies of pre-service teachers is the attitude towards reading. Reading skill which is one of the important factors of academic success today is one of the skills that should be acquired and developed during the primary school period. When the literature is reviewed, it is seen that different definitions regarding this skill have been made. "Reading is perceiving printed or written words through our sense organs, comprehending by making sense of these words and interpreting them" (Özdemir, 2017, p.11). In another definition, "reading is an individual's understanding and expressing himself in the simplest way. Correspondingly, it is the skill of having the ability to think systematically, and making logical connections between affective and cognitive skills" (Batur, Gülveren & Bek, 2010, p.34). Starting from the definitions made, it is observed that the scholars state the concept of "reading" as coding of the letters automatically and making sense of the information that is read from the cognitive point of view by handling it in two different dimensions. When we look at the concept of "reading" from an affective point of view, we face the concept of "reading attitude." The importance of attitude emerges both during the acquisition period of the reading process and in making it a habit.

An individual may have a negative attitude towards reading skill even though he acquired this skill in the period between primary school and higher education. For example, in a study conducted by Şahin-Taşkın and Esen-Aygün (2017), it was detected that the attitudes of primary school students towards recreational reading were somewhat upset. It was also detected in a study conducted by Dedeoğlu and Ulusoy (2013) that reading attitudes of the study group were less than 75 points which was the criterion score. On the other hand, there are studies which found out that students or pre-service teachers had positive attitudes towards reading skill (Koçak et al., 2015; Oğurlu, 2014; Şahin-Taşkın & Esen-Aygün, 2017). Reading can have many reasons and purposes. ''Whatever the cause and purpose is, reading is the most effective way to think critically, to develop versatile perspectives, to understand oneself and the world, and to interpret'' (Adalı, 2010, p.9). According to Aşılıoğlu (2008), someone who reads texts on the superficially will only memorize the information and suffer problems on comprehending what they have learned, using in new situations, analyzing, and synthesising. The reader must gain critical reading skills in order to create new meaning in the text by adding something from their own experience and beliefs. Therefore, it is very important that individuals have positive attitudes towards reading to gain critical thinking skills. Researches has shown that attitudes towards reading affect critical thinking (Koçak et al., 2015; Smith, 2015).

Critical Thinking Tendencies and Attitude towards Reading Habits

One of the variables affecting the critical thinking tendencies of pre-service teachers is the attitude towards reading habits. "Reading habit is an important skill that individuals should acquire in order to enable them to perform this activity with pleasure after they learn how to read. It is defined as an individual's performing reading activity which is occurred as a result of perceiving it as a necessity constantly and regularly throughout the life" (Tanju, 2010, p.31). There are many factors that are effective in gaining the habit of reading. Attention-grabbing productions on televisions destroy people's little habits of reading (Batur et al., 2010; Yılmaz-Aydın, 2006). Other factors are a child's family, society that child lives in, his school and teacher that are a model (Tanju, 2010; Yılmaz-Aydın, 2006), lack of directing and lack of reading awarenss (Gömleksiz & Telo, 2003), and a child's learning experiences and economic causes (Yılmaz-Aydın, 2006). That the individuals' attitudes towards reading habit are positive or negative has been detected by the research studies conducted. It has been found that while some of the pre-service teachers, have positive attitudes towards reading habit (Batur et al., 2010), reading habits of some of them have not been developed adequately (Bulgurcuoğlu, 2016; Görücü, 2014; Saracaloğlu, Bozkurt & Serin, 2003; Yılmaz-Aydın, 2006), and students do not use university libraries regularly (Gömleksiz & Telo, 2003).

Some research studies on the attitude towards reading habit investigated the relationship between the attitude towards reading habit and critical thinking (Bulgurcuoğlu, 2016; Gökkuş & Delican, 2016; Görücü, 2014; Gündüz, 2015; Ogurlu, 2014; Susar-Kırmızı et al., 2014). On the other hand, one of the results of the research was that the reading habits had no effect on critical thinking skills. In a study conducted by Şen (2009) with pre-service teachers, it was concluded that the frequency of reading books and newspapers did not affect pre-service teachers' critical thinking attitudes. On the other hand, positive attitudes were found between the attitudes towards reading habits and the attitude towards reading which are one of the variables that affect critical thinking. On the other hand, a positive correlation was found between attitudes towards reading habits and attitudes towards reading. There was a positive relationship between reading achievement and reading habit in the research performed by Baki (2017) and Demir's (2015) studies, and; Balcı, Uyar and Büyükikiz (2012) found that reading attitudes of pre-service teachers differed in favour of those who read more books.

Critical Thinking Tendencies and Metacognitive Awareness of Reading Strategies

One of the variables affect the critical thinking tendencies of pre-service teachers is the metacognitive awareness of reading strategies. Development of metacognitive awareness of reading strategies is quite important throughout the reading. An individual who uses reading strategies will apply to different strategies by analysing what he reads in depth and determining the parts of the text that he understands or does not understand. According to Demir and Kaya (2015:36), cognition "includes the processes of an individual's own knowledge, cognitive and effective situations, the ability to inspect consciously and deliberately, and an individual's regulating his knowledge." According to Özbay and Özdemir (2012), acting out of cognitive strategies is making connections between previous knowledge and what is newly read throughout the reading process. Individuals should use metacognitive reading strategies in order to make sense of texts and to see whether their critical thinking and reading levels are adequate or not. On this subject, Karadüz (2010) stated that critical reader should evade from identifying himself with the author and try to understand the text. According to Karabay (2012) critical reading is not only a reader's evaluation on what he has learned from the text, but it is also related with an individual's evaluating himself on existing reading strategies and on using gained knowledge as a reader. A critical reader should also evaluate the strategies to be used to reach to understanding level and intellectual styles to be performed. According to Dar, Rahimi and Shams (2010), teaching the ways of critical thinking to the individuals can make them independent students. Students learn to rely on their mental capacities by performing practical applications, and they become more assertive and more confident on their thoughts.

In other researches on this subject, researchers tried to determine the relationship between metacognitive awareness of reading strategies and critical thinking (Demir & Kaya, 2015; Hosseini, Bakhshipour-Khodaei, Sarfallah & Dolatabadi, 2012; Karabay, 2012; Karasakaloğlu, Saracaloğlu & Yılmaz-Özelçi, 2012; Mohammadi, Heidari & Niry, 2012; Parson, 1985; Smith, 2015). A study by Hosseini et al. (2012) found that there was a significant positive correlation between the use of critical thinking ability and reading strategy, and the use of metacognitive reading strategies of postgraduate students in the field of foreign language education. On the other hand, there have been some experimental researches that determine the relationships between 'metacognitive awareness of reading strategies' and 'critical thinking' concepts. A research conducted by Karabay (2015) found that the critical reading education program developed metacognitive reading strategies. Parson (1985) investigated the impact of metacognitive strategy education on critical reading skills. The author found that there was a difference between the test group that received the metacognitive strategy education, and the control group that did not receive the metacognitive strategy education. However, this difference was not statistically significant. In the researches conducted by Karasakaloğlu et al. (2012), and Mohammed, Heidari and Niry (2012) there was a significant and positive relationship between the metacognitive awareness of reading strategies and the critical thinking tendencies of pre-service teachers. As a result of the findings obtained from the research, it can be said that metacognitive awareness of reading strategies has a positive effect on critical thinking ability. In order to become active in a complex and rapidly changing world, students must have basic critical thinking skills and have intellectual skills to produce new solutions to the problems effectively (Marasigan & Espinosa, 2014). On the other hand, have also been found to be correlated between metacognitive awareness of reading strategies and attitudes towards reading (Aslan, 2007). Additionally, reading strategies were found to have positive correlations between metacognitive awareness and reading habits (Çetinkaya & Edizer, 2015; Kana, 2014; Kuş & Türkyılmaz, 2010). Aslan (2007) states that a good reader uses reading strategies more as compared to weak readers, a strategic reader can make a decision on which strategy he will use in a learning environment, and he can evaluate these strategies. Therefore, a positive attitude gained towards reading habit will enable the individuals to evaluate the information that they read critically by enabling them to be good readers and to use reading strategies.

In researches conducted, there was a positive correlation between between critical thinking and emotional intelligence (Dutoglu & Tuncel, 2008), critical thinking and research anxiety (Çokluk-Bökeoğlu & Yılmaz, 2005), critical thinking and media literacy (Kurt & Kürüm, 2010). In addition to these, there have been some studies that examined the students' critical thinking dispositions such as gender, class level, department, geographical region, size of settlement, and the amount of monthly expenditure (Beşoluk & Önder, 2010; Görücü, 2014; Koçak et al., 2015). On the other hand, studies that explore the relationships between attitude towards reading and critical thinking (Koçak et al., 2015; Ogurlu, 2014), attitude towards reading habit and critical thinking (Bulgurcuoğlu, 2016; Gökkuş & Delican, 2016; Gündüz, 2015; Susar-Kırmızı et al., 2014), metacognitive awareness of reading strategies and critical thinking (Beşoluk & Önder, 2010; Demir & Kaya, 2015; Hosseini et al., 2012), and attitude towards reading habit and metacognitive awareness of reading strategies (Çetinkaya & Edizer, 2015; Kana, 2014; Kuş & Türkyılmaz, 2010) have been limited. On the other hand, there are not any studies that investigate the relationship between the attitude towards reading and reading strategies. In this regard, this study has been expected to make a contribution to the studies that will be conducted to determine the relationships among the variables regarding the reading skill and critical thinking skill. In this respect, it has been expected that the research will contribute to research to determine the relationships between the variables related to reading skill and critical thinking disposition. In researches conducted that explore the relationships between reading habits and reading motivation, reading comprehension skills (Yıldız & Akyol, 2011), reading habits and problem solving skills (Saracaloğlu, Yenice & Karasakaloğlu, 2009), reading habits and computer and internet usage (Demirer, Çintaş-Yıldız & Sünbül, 2011). In addition to this, there have been some studies investigating the relationships between metacognitive awareness of reading strategies and academic self-efficacy perception (Koç & Arslan, 2017), metacognitive awareness of reading strategies and reading comprehension skills (Başaran, 2013), and metacognitive awareness of reading strategies and multiple intelligence areas (Dilci & Babacan, 2011). Teachers assume the most responsibility for individuals to gain critical thinking skills. Therefore, it is very important that pre-service teachers who gain critical thinking skills should use positive metacognitive awareness of reading strategies in order to be able to evaluate the information during reading. The effects of reading attitudes and metacognitive awareness of reading strategies on critical thinking skill needs should be investigated in order to evaluate the knowledge acquired in traditional materials and digital media. However, it was found that the students' reading skills improved during higher education but this development was not sufficient (Aydın-Yılmaz, 2006; Kuş & Türkyılmaz, 2010; Odabaş, Odabaş & Polat, 2008; Semerci, 2002). On the other hand, it was found that students' metacognitive awareness of reading strategies were low (Baydık, 2011). The development of attitude towards reading habits and metacognitive awareness of reading strategies for the acquisition of critical thinking skills has become a prerequisite for the development. In this respect, it is thought that the research will contribute significantly to the literature on the role of metacognitive awareness of reading strategies and reading attitudes towards reading habits which are considered as critical variables in the development of critical thinking skills. On the other hand, this research has been expected to fill the gap in the literature in terms of being the research that examines the relationships between attitude towards reading and reading habits, metacognitive awareness of reading strategies and critical thinking tendency

The Purpose of the Research

Although there are studies on the relationship between the attitude towards reading and reading habit, metacognitive awareness of reading strategies, and critical thinking, there is no study that examines the relationship between these variables together at the same time. Given the impact of each of these variables on critical thinking, the aim of this study was to examine the relationships between the attitude towards reading and reading habit, metacognitive awareness of reading strategies, and critical thinking. In this context, the structural model proposed for direct and indirect relations between variables has been tested as shown in Figure 1.

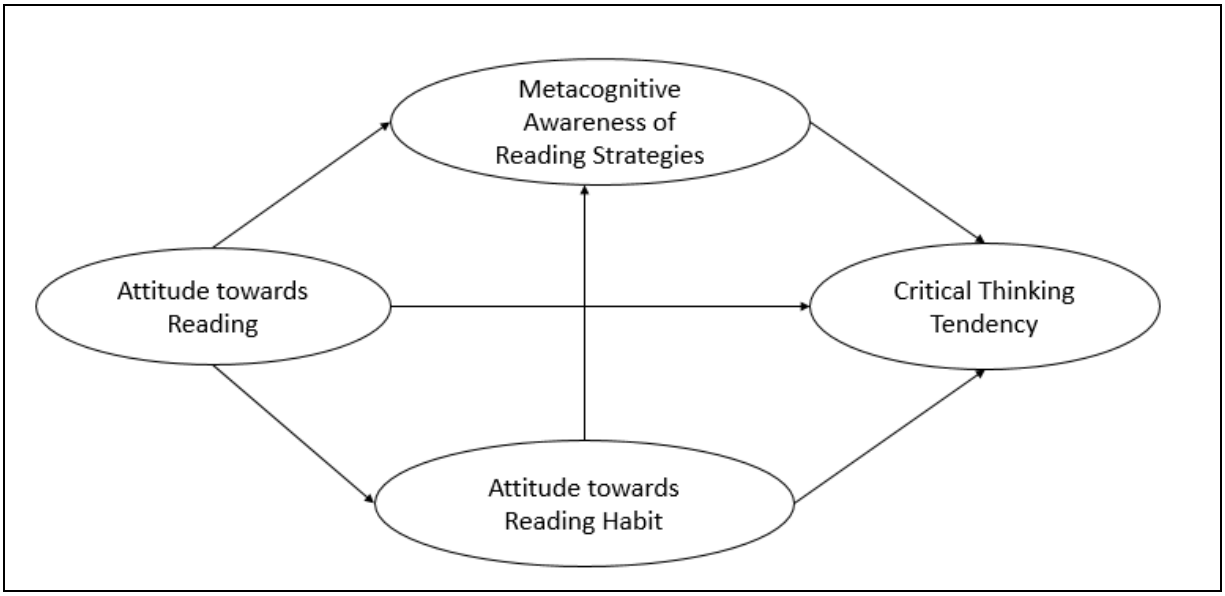

Figure 1. The proposed model for the relationship between the attitude towards reading and reading habit, metacognitive awareness of reading strategies, and critical thinking tendencies

Hypothesis 1: The attitude towards reading directly influences the attitude towards reading habit in a positive and significant way.
Hypothesis 2: The attitude towards reading directly influences the metacognitive awareness of reading strategies in a positive and significant way.
Hypothesis 3: The attitude towards reading directly influences the critical thinking tendency in a positive and significant way.
Hypothesis 4: The attitude towards reading habit directly influences the metacognitive awareness of reading strategies in a positive and significant way.
Hypothesis 5: The attitude towards reading habit directly influences the critical thinking tendency in a positive and significant way.
Hypothesis 6: The metacognitive awareness of reading strategies directly influences the critical thinking tendency in a positive and significant way.
Hypothesis 7: The attitude towards reading influences the critical thinking tendency in a positive and significant way over the attitude towards reading habit.
Hypothesis 8: The attitude towards reading influences the critical thinking tendency in a positive and significant way over the metacognitive awareness of reading strategies.
Hypothesis 9: The attitude towards reading habit influences the metacognitive awareness of reading strategies in a positive and significant way over the attitudes towards reading habit.
Hypothesis 10: The attitude towards reading habit influences the critical thinking tendency in a positive and significant way over the metacognitive awareness of reading strategies.

Research Question

What is the pattern of direct and indirect relationship between the attitudes towards reading and reading habit, the metacognitive awareness of reading strategies, and the critical thinking tendency?

Method

Research Model

This research was designed in the predictive correlational research design, which explored the relationship between the attitudes towards reading and reading habit, the metacognitive awareness of reading strategies, and the critical thinking tendency of pre-service teachers. Predictive correlational studies are conducted to explain the changes in dependent variable based on one or more independent variables (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz & Demirel, 2012).

The Study Group

The study group consists of 206 pre-service teachers, who studying in various departments of Faculty of Education at Afyon Kocatepe University [2nd grade elemantary school teacher (65), 3rd grade preschool teacher (90), 3rd grade social studies teacher (51)]. In the research, convenience sampling was used as the sampling method. Convenience sampling allows researchers to select a segment from the population. This type of sampling provides researcher both time and cost-effectiveness (Aypay et al., 2012). When evaluated in terms of gender, 165 of the pre-service teachers were females and 41 were males.

Data Collection Tools

Attitude Scale for Reading

'The Attitude towards Reading Scale' developed by Sarar-Kuzu and Doğan (2015) was used in order to determine the attitudes of pre-service teachers towards reading. The items on the scale subjected to factor analysis have taken their final form with 38 items collected in three sub-dimensions (contribution to personal and social development, interest and love, and importance/finding valuable). Cronbach's Alpha reliability coefficient of the scale was .94. As a result of the DFA on the data, it was understood that the model of the three-dimension structure of the scale was well adapted to the data (X^2 /sd=1.82, RMSEA=.07, IFI=.82, TLI=.87). For this research the reliability of the scale was found as .62.

Attitude Scale for Reading Habit

In this study, in order to determine the attitudes of pre-service teachers towards the habit of reading books, 'Attitude Scale for the Habit of Reading Books' developed by Gömleksiz (2004) was used. Cronbach's Alpha reliability coefficient of the scale that consists of 30 items 21 of which are positive and 9 of which are negative was .88. The scale consists of 6 sub-dimension: love, habit, necessity, desire, effect and benefit. As a result of confirmatory factor analysis on the data, it was found that the fit indices were good (IFI=.82, CFI=.81, SRMR=.08). The Cronbach Alpha internal consistency coefficient of the study was calculated as .78. For this research, the reliability of the scale was found as .80.

The Metacognitive Awareness of Reading Strategies Inventory

In order to measure metacognitive awareness of reading strategies of students, 'The Metacognitive Awareness of Reading Strategies Inventory (MARSI)' developed by Mokhtarari and Reichard (2002) and adapted to Turkish by Öztürk (2012) was used. The original form of MARSI consists of three sub-dimensions. The first dimension is 'General Reading Strategy (GRS)' which represents general reading strategies and consists of 13 items. The second dimension is the 'Problem-Solving Strategy (PSS)' consisting of 8 items that point to strategies to solve the problem when the text is difficult to read. The third dimension is 'Supporting Reading Strategies (SRS)' consisting of 9 items that point to supporting strategies, or other necessary strategies that can be defined as functional. Cronbach alpha value for the entire inventory was found as .93. Additionally, the confirmatory factor analysis for the validity of the scale confirms the three-dimensional structure ($\chi 2$ =582.57, sd=39, $p<.05$), N=.98, $\chi 2$ /SD=1.44, RMSEA=.04, RMR=.05, GFI=.86, AGFI=.85, CFI=.98 and NFI=.94. For this research the reliability of the scale was found as .87.

UF/EMI Critical Thinking Disposition Instrument

'UF/EMI Critical Thinking Disposition Scale' adapted by Ertaş-Kılıç and Şen (2014) was used to determine pre-service teachers' critical thinking disposition levels. The results show that the 25-point scale was consistent with the original three-dimension structure and was consistent with the data (RMSEA=.08, GFI=.84, AGFI=.81, NFI=.91, NNFI=.94, CFI=.94). The obtained Cronbach Alpha internal consistency coefficient is .91 for all scales, .88 for participation sub-size, .70 for cognitive maturation sub-size, and .73 for the sub-dimension of innovation. For this research, the reliability of the scale was found as. 90.

Data Collection Process

The data were collected during the spring semester of 2017-2018 academic year. Data collection process consisted of a 2-week period in April 2018. The pre-service teachers were informed about the content of the research. The participants of the study were selected on a voluntary basis. All data of the study were collected by the researcher. Before the data were collected, the data collection process was planned by the researchers and

the data were collected in this direction. In order to increase the reliability of the data collection process, each measurement tool was applied in different course hours.

Data Analysis

Statistical analysis was performed using SPSS, IBM Statistic, and Amos 22. Structural Equation Modeling (SEM) was used to examine the direct and indirect predictor relationships between attitudes towards reading and reading habit, the metacognitive awareness of reading strategies, and the critical thinking tendency. Before the analysis, it was determined that the data showed normal distribution by checking the uniform and multivariate normality of the distribution. Thirty-seven of the data collection tools were left out of the analysis because of some tools marking the same degree throughout the scale. Chi-Square/degrees of freedom ($\chi 2$/SD), Root Mean Square Error of Approximation (RMSEA), incremental fit Index (IFI), Tucker-Lewis Index (TLI), and Comparative fit index (CFI) were analysed for the compatibility of the model obtained from analysis results

Findings

Descriptive and Correlation Statistics

This article investigated the effects of the pre-service teachers' attitude towards reading and reading habit on the critical thinking tendencies, and the metacognitive awareness of reading strategies on the critical thinking tendencies. The mean and standard deviation values of the studied variables were calculated, and they are presented in Table 1.

Table 1. Reading and reading habits and the metacognitive awareness of reading strategies and critical thinking tendency descriptive statistics

Variables	M	SS	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Attitude towards Reading																
1. ContributionPSD	82.30	11.94														
2. Interest and L	47.85	12.56	.314**													
3. Importance/FV	18.65	4.07	.426**	.036												
Attitude towards Reading Habit																
4. Love	29.80	4.82	.305**	.058	.152*											
5. Habit	51.53	11.25	343**	.365**	.271**	.078										
6. Necessity	14.68	2.38	332**	.332**	.065	.259**	.204**									
7. Desire	12.60	2.30	.628**	.183**	.442**	.332**	.329**	.302**								
8. Effect	16.70	3.04	.679**	.149*	.320**	.347**	.226**	.306**	.732**							
9. Benefit	34.56	6.29	.686**	.199**	.251**	.430**	.198**	.340**	.720**	.867**						
Metacognitive Awaraness of Reading Strategies																
10. General RS	32.34	5.36	.415**	-.089	.354**	.121	167*	.010	.320**	.272**	.246**					
11. Problem SS	31.16	4.10	523**	-.038	.314**	.182**	.244**	.038	.436**	.385**	.378**	.686**				
12. Supporting RS	49.25	6.74	.446**	-.109	.380**	.182**	.251**	.034	.372**	.321**	.291**	.772**	.765**			
Critical Thinking Tendencies																
13. Participation	39.94	5.71	.447**	.094	.404**	.165*	.170*	.137*	.366**	.356**	.360**	.329**	.366**	.361**		
14. Cognitive M	27.58	4.40	.341**	.143*	.319**	.100	.082	.122	.208*	.229**	.241**	.285**	.266**	.247**	.751**	
15. Innovation	27.50	4.30	.354*	.163*	.336*	.135	.106	.114	.305**	.296**	.340*	.289**	.277**	.250**	.824**	.744**

*p<.05**p<.01

Büyüköztürk (2006) indicates that the level between 0-0.29 is low, 0.30-0.69 is moderate, and 0.70-1.00 is high regarding the relationship between the two variables. When Table 1 is examined, low-level and negative directional relationships; in the attitude towards reading with love and interest dimensions, and between the dimensions the metacognitive awareness of reading strategies and the attitude towards reading habit were revealed. Moreover, low, medium, and high level and positive directional relationships were detected among other variables. The average score obtained from the scale was found 82.30 for contribution to personal and social development, 47.85 for interest and love, 18.65 for important/finding valuable, 29.80 for love, 51.53 for habit, 14.68 for necessity, 12.60 for demand, 16.70 for impact, 34.56 for benefit, 32.34 for general reading strategy, 31.16 for problem-solving strategy, 49.25 for support of reading strategies, 39.94 for participation, 27.58 for cognitive maturity, and 27.50 for innovation.

Findings on the Hypothesis of the Study

Fit index types, good and, acceptable, fit values obtained from the model and resources are shown in Table 2.

Table 2. Fit index types, good, acceptable, modeling fit values and resources

Fit Index Types	Good Fit Values	Acceptable Fit Values	Modeling Fit Values
χ^2/sd	$0 \leq \chi^2/sd \leq 2$	$2 \leq \chi^2/sd \leq 3$	$0 \leq 2.441 \leq 3$
p	$.05 < p \leq 1.00$	$.01 \leq p \leq .05$	.000
RMSEA	$0 \leq RMSEA \leq .05$	$.05 < RMSEA \leq .08$	.08
CFI	$.97 \leq CFI < 1.00$	$.95 \leq CFI < .97$	.92
IFI	$.95 \leq IFI < 1.00$	$.90 \leq IFI < .95$	.92
TLI	$.95 \leq TLI < 1.00$	$.90 \leq TLI < 0.95$	.90
PGFI	$.95 \leq PGFI \leq 1.00$	$50 \leq PGFI \leq .95$	.61

Structural equality modeling was used to determine the relationships between their attitudes towards reading and reading habit, the metacognitive awareness of reading strategies, and the critical thinking tendency. When we examined the harmony indices for the model, Chi-square value ($\chi 2$= 205.026, SD=84, p= 0.00) was found to be meaningful. The Chi-square value and the degree of freedom were also found to be appropriate ($\chi 2$/SD=2.441). The $\chi 2$/SD ≤ 3 means acceptable fit values (Schermelleh-Engel et al, 2003). The CFI value is .92, the IFI value is .92, the TLI value is .90, the PGFI value is .61 and the RMSEA value is .08. These values indicate that the model's fit indexes are acceptable. CFI, IFI, TLI, RMSEA and PGFI (Baumgartner & Homburg, 1996; Meyers et al, 2006; Schermelleh-Engel et al, 2003) indicate that the model's fit indexes are acceptable. For structural equality modeling, Path Coefficients are shown in Figure 2.

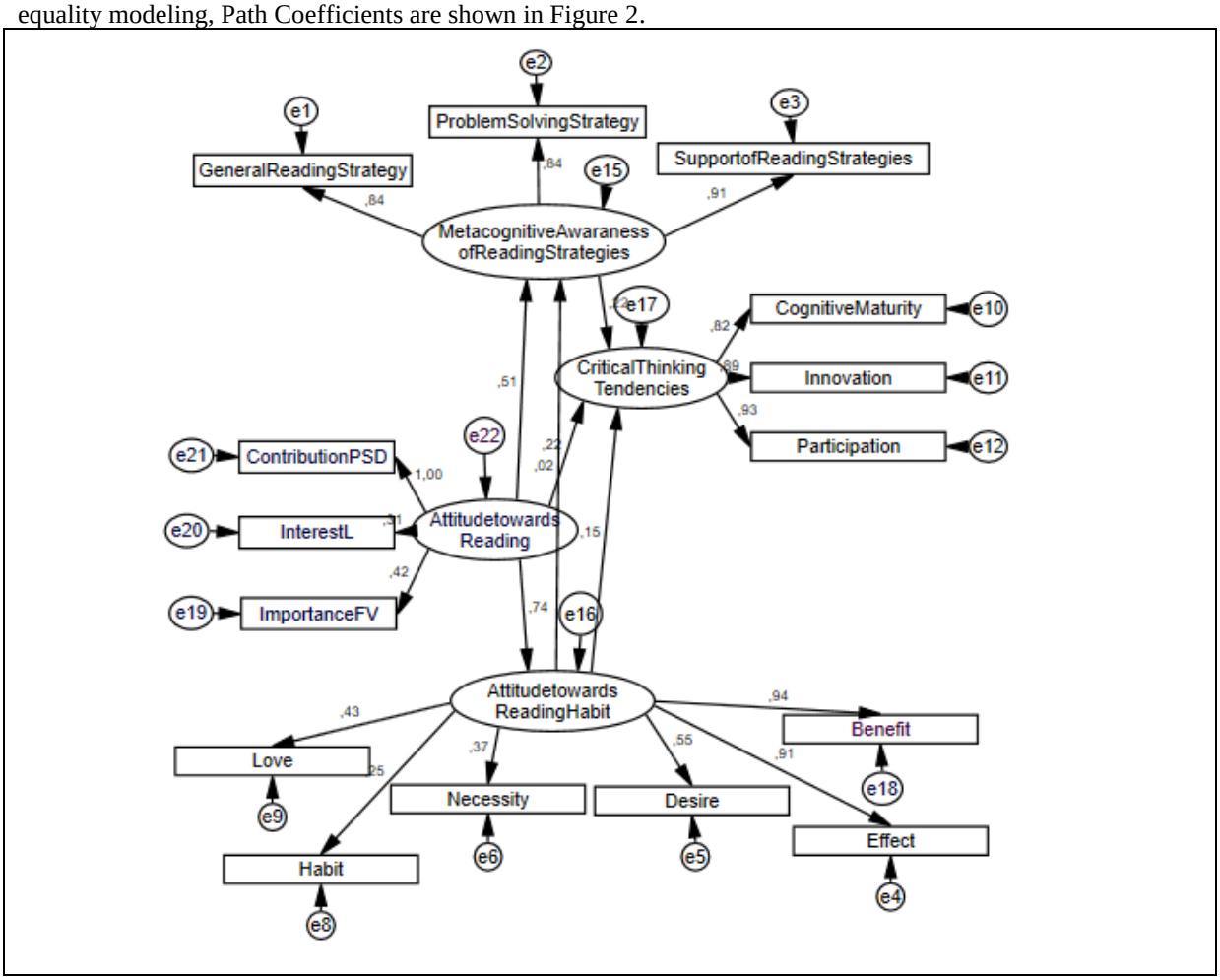

Figure 2. Path coefficients for structural equality modeling

Figure 2 shows that the attitude towards reading is a meaningful and positive directional predictor of the attitude towards reading habit (β=.74, t value=6.02, p<.01) and metacognitive awareness of reading strategies (β=.61, t=3.63, p<.01). The attitude towards reading is a positive predictor of critical thinking tendency (β=.22, t=1.83, p>.05). The attitude towards reading habit is a positive directional predictor of metacognitive awareness of reading strategies (β=.02, t=2.12, p>.05) and critical thinking tendency (β=.15, t=1.98, p>.05). It has been

determined that the metacognitive awareness of reading strategies is meaningful and positive predictors of the critical thinking tendency (β=.22, t=2.68, p<.05). Sobel Test was carried out to determine the mediation effects. Given the attitude towards reading's influence on critical thinking tendency, it was determined that the mediation role of the attitude towards reading habit was not meaningful (sobel z= 1.27, p>.05), and the mediation role of the metacognitive awareness of reading strategies was meaningful (sobel z= 3.35, p<.05). Given the attitude towards reading habit's influence on critical thinking tendency, it was determined that the mediation role of the metacognitive awareness of reading strategies was meaningful (sobel z= 3.06, p<.05).

The results of the structural equation model are presented in Table 3.

Table 3. Standardized regression weight results of the effects of independent variables on the dependent variable

Independent Variables	Intermediary Role	Dependent Variables	Road Coef-ficient β	Stan-dard Error (S.E.)	Critical Rate (C.R.)	Signifi-cance (p)	Result
Attitude towards reading		Attitude towards reading habit	.74	.19	6.02	***	Acceptance
Attitude towards reading		Metacognitive awareness of reading strategies	.51	.36	3.63	***	Acceptane
Attitude towards reading		Critical thinking tendency	.22	.24	1.83	.066	Rejection
Attitude towards reading habit		Metacognitive awareness of reading strategies	.02	.21	.12	.901	Rejection
Attitude towards reading habit		Critical thinking tendency	.15	.14	1.35	.175	Rejection
Metacognitive awareness of reading strategies		Critical thinking tendency	.22	.06	2.68	.007	Acceptance
Attitude towards reading	Metacognitive awareness of reading strategies	Critical thinking tendency	.22			.000	Acceptance
Attitude towards reading habit	Metacognitive awareness of reading strategies	Critical thinking tendency	.004			.000	Acceptance
Attitude towards reading	attitudes towards reading habit	Metacognitive awareness of reading strategies	.01			.000	Acceptance

Table 3 shows that the hypotheses are accepted the attitude towards reading is a positive and significance directional predictor of the attitude towards reading habit and metacognitive awareness of reading strategies. The hypothesis is accepted that the metacognitive awareness of reading strategies is positive, and significance predictors of the critical thinking tendency. The hypothesis is accepted that the attitude towards reading influences the critical thinking tendency in a positive and significance way over the metacognitive awareness of reading strategies. The hypothesis is accepted that the attitude towards reading habit influences the critical thinking tendency in a positive and significance way over the metacognitive awareness of reading strategies. The hypothesis is accepted the attitude towards reading influences the metacognitive awareness of reading strategies in a positive way over attitudes towards reading habit.

Discussion and Conclusion

According to these findings, the attitude towards reading was a positive and significant effect on the attitude towards reading habit. This finding is consistent with the outcomes of some studies in the literature. In the study conducted by Baki (2017), it was seen that reading habits were positively and significantly predicted by the attitude towards reading and these results were statistically significant. In the study conducted by Balcı et al. (2012), it was determined that the attitudes of the students towards reading differed significantly in favour of the students who said ''yes'' according to the variable of time to read the book. In the study conducted by Demir (2015), a positive-directional relationship was found between attitude towards reading and reading habits. The other hypothesis accepted in the study is that the attitude towards reading tends to have a positive and significant effect on metacognitive awareness of reading strategies. Research findings are consistent with the outcomes of some studies in the literature. In the study conducted by Aslan (2007), a significant relationship was found between attitude towards reading and strategies for monitoring comprehension at reading skills courses.

One of the other findings of the study was that attitudes towards reading positively predicted critical thinking but this effect was not significant. The research findings are consistent with the research conducted in order to positively predict the critical thinking. In a research conducted by Koçak et al. (2015), it was observed that there was a low-level, positive and significant correlation between pre-service teachers' critical thinking levels and their attitudes towards reading. As a result of the fact that digital media has reached to the ends of the earth, it has become necessary to develop critical reading skill in order to keep up with the conditions of contemporary

world (Arslan, Çelik & Çelik, 2009; Çifçi, 2006). ‘‘Positive reading habits to be gained at basic education levels will play an indispensable role in upskilling critical thinking skill, bringing up individuals who can augment and transform into production what he gets through reading’’ (Çifçi, 2006, p.78). Freire, Macedo and Donaldo (1987) stated on this subject that writing, speaking, and reading skills are the primary and indisputable focus of critical thinking. On the other hand, readers who use reading strategies are qualified as good readers, and they are the individuals who show a positive attitude towards reading, and whose reading comprehension levels are high. It was also found in the present study that the intermediary role/effect of metacognitive awareness on reading strategies was significant for the effects of attitude towards reading on critical thinking tendency.

Other established hypotheses in the research was that attitudes toward reading habits had a significant positive effect on metacognitive awareness of reading strategies and tendency to think critically. According to the findings, attitudes toward reading habits was meaningless but positive effected on metacognitive awareness of reading strategies and critical thinking tendency. It was found that the metacognitive awareness of reading strategies' intermediary role effect was meaningful to determine the effect of the attitude toward reading habit on the critical thinking tendency. In the study conducted by Gökkuş and Delican (2016), a moderate, positive, and meaningful relationship was found between pre-service teachers' attitudes towards critical thinking and attitudes towards reading habits. In the research conducted by Gündüz (2015), a meaningful and positive relationship was found between the number of books read and critical reading skills. In the study conducted by Susar-Kırmızı et al. (2014), there was a low scale, positive and significant relationship between scores of pre-service teachers' critical thinking tendencies and scores of a reading subscale defined as "The meaning and indispensability of the book reading habit". In the survey conducted by Görücü (2014), it was found that the scores of students' critical thinking tendency were originated from reading 15 or more books according to the number of books read in a year. In the study conducted by Ogurlu (2014), it can be said that there was a significant difference in the critical reading scores of the participants in favour of the readers between 51 and 101 and above. In the study conducted by Bulgurcuoglu (2016), a significant and positive correlation was found between pre-service teachers’ attitudes towards the reading habits and their critical thinking tendencies. Batur et al. (2010) point out that today reading is held equivalent to have a job, but, in particular, it is an intellectual activity and that the functions of understanding the problems of life, analysing, synthesizing, and evaluating are overlooked. As a matter of fact, in the survey conducted by Iscan, Arıkan and Küçükaydın (2013), most of the students said that their grandparents did not read books to them in the preschool period and 56% of the students said they did not discuss the books that they read with their friends and teachers. In this respect, it is expected that the attitude towards reading habits will be developed from the pre-school period and new information will be produced by discussing the information read for the development of critical thinking skills reflecting the skills of inquiry, analysis, synthesis, and evaluation which are related to the students' in-depth understanding skills.

One of the other hypotheses established in the study was that metacognitive awareness of reading strategies has a significant and positive effect on the critical thinking tendency. Research findings were consistent with researches. In the study conducted by Hosseini et al. (2012), there was a signnificant and positive correlation between metacognitive awareness of reading strategies and critical thinking tendencies of undergraduate students by 78%. In the study conducted by Karabay (2015), there was a significant difference in favour of the group to which the critical reading program was applied in the metacognitive reading levels of the participants. Karasakaloğlu et al. (2012) found that there was a significant and positive correlation between pre-service teachers' metacognitive awareness of reading strategies and their critical thinking tendency. A significant relationship between pre-service teachers' critical thinking tendencies and their cognition-sourced learning approaches and styles was found in the researches conducted by Beşoluk and Önder (2010) and Semerci and Elaldı (2014). In the study conducted by Mohammadi et al. (2012), there was a significant positive correlation between participants' levels of reading strategies and their critical thinking tendencies. Parson (1985) examined the effect of metacognitive strategy training on critical reading skills and found that there was a difference between the critical reading scores of the experimental group that received cognitive strategy training and the control group that did not receive it, but this difference was not statistically significant. In the research conducted by Demir and Kaya (2015), while pre-service teachers' critical thinking total scores showed a meaningful relationship with the evaluation, organization, and cognitive awareness total scores in a negative way, it showed a positive relationship with searching for truth, open mindedness, analyticalness, systematicity, self-confidence, and curiosity scores. Researchers found that individuals used reading strategies in the critical thinking process. For example, in the survey conducted by Karabay (2015), while the pre-service teachers were critically reading, they used the strategies of controlling understanding and evaluating. In this study, pre-service teachers stated that purpose and target groups were defined by the text, they used the strategy of controlling understanding by analysing the similar and different sides of their preliminary information and the information in the text. They also stated that they made assessments according to fact whether the author's ideas were based on credible data, the consistency within the text, and the different perspectives. Both making sense of reading

and effective use of metacognitive skills bring with critical thinking which is another high-level thinking skill. The individual examines the alternatives and generates ideas about possible outcomes before moving on. He advances by making step-by-step assessments in every kind of intellectual action (Karasakaloğlu et al., 2012).

Suggestions and Limitations

In the light of the findings obtained in the research, some suggestions were made:

- First, the sample of the study was limited to 206 pre-service students. In order to generalize the findings of the research, pre-service teachers who study at different universities and departments should be studied.
- 21% of the critical thinking tendency of pre-service teachers is explained by reading, attitude towards reading and metacognitive awareness of reading strategies. From this conclusion, the effects of other variables affecting the tendency of critical thinking can be researched by fixing this limitation with other affective variables to be included in the model. Therefore, it is seen that there is 79% of the unexplained part. From this conclusion, the effects of other variables affecting the tendency of critical thinking can be researched by fixing this limitation with other affective variables to be included in the model.
- The tendency of critical thinking can also be studied within the related literature, including affective variables such as reading anxiety, motivation, and self-efficacy in different samples.
- The current study was carried out using cross-sectional data. The findings do not allow for a causal conclusion. Therefore, replications with a longitudinal design are needed. Experimental studies can be made that explain the cause-and-effect relationship between variables by revealing the indirect effects of the attitude towards reading and reading habits on the critical thinking tendency.
- As a result of the research, it has been seen that the attitude towards reading and the metacognitive awareness of reading strategies have an important influence on the critical thinking tendency. Particularly from primary school where reading skills are gained individuals should be provided with this skill to develop positive attitudes. However, education on reading strategies should not be overlooked.
- Individuals who do not use reading strategies cannot question what they read and cannot produce deep meaning. Therefore it is important to direct the students to use reading strategies from primary school to the higher education.

References

Adalı, O. (2010). *Etkileşimli ve eleştirel okuma teknikleri [Interactive and critical reading techniques]*. İstanbul: Toroslu.

Arslan, Y., Çelik, Z., & Çelik, E. (2009). Üniversite öğrencilerinin okuma alışkanlığına yönelik tutumlarının belirlenmesi [Determination of university students' attitudes toward reading habit]. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 26,* 113-124.

Aslan, Y. (2007). *The effect of comprehension monitoring strategies on achievement, attitude and retention in developing reading skills.* Unpublished PhD dissertation, Selçuk University, Konya-Turkey.

Aşılıoğlu, B. (2008). Bilişsel öğrenmeler için eleştirel okumanın önemi ve onu geliştirme yolları [The importance of critical reading for cognitive learning and the ways to improve it]. *D.Ü.Ziya Gökalp Eğitim Fakültesi Dergisi, 10,* 1-11.

Baki, Y. (2017). Ortaokul Öğrencilerinin okumaya ilişkin kaygı ve tutumlarının okuma alışkanlığı üzerindeki etkisi: Bir yapısal eşitlik modellemesi [The effect of anxiety and attitudes of secondary school students towards reading on their reading habits: A structural equation modeling]. *Eğitim ve Bilim, 42(191),* 371-395.

Balcı, A. Uyar, Y., & Büyükikiz, K.K. (2012). İlköğretim 6. sınıf öğrencilerinin okuma alışkanlıkları, kütüphane kullanma sıklıkları ve okumaya yönelik tutumlarının incelenmesi [The examination of reading habits, frequency to use library and attitudes towards reading of 6th grade primary school students]. *Turkish Studies- International Periodical For The Languages, Literature and History of Turkish or Turkic, Volume 7*(4), 965-985.

Batur, Z., Gülveren, H., & Bek, H. (2010). Öğretmen adaylarının okuma alışkanlıkları üzerine bir araştırma: Uşak Eğitim Fakültesi örneği [A study about preservice teachers reading habits: Sampling of Usak Education Faculty]. *Uşak Üniversitesi Sosyal Bilimler Dergisi 3*(1), 32-49.

Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing, 13*(2), 139-161.

Beşoluk, Ş., & Önder, İ. (2010). Öğretmen adaylarının öğrenme yaklaşımları, öğrenme stilleri ve eleştirel düşünme eğilimlerinin incelenmesi [Investigation of teacher candidates' learning approaches, learning styles and critical thinking dispositions]. *İköğretim Online, 9*(2), 679-693.

Bozpolat, E. (2010). Öğretmen adaylarının okuma alışkanlığına ilişkin tutumlarının değerlendirilmesi (Cumhuriyet Üniversitesi Eğitim Fakültesi Örneği) [An assessment of prospective teachers' attitudes towards reading habit (Case of Cumhuriyet University Education Faculty)]. *Journal of World of Turks, 2*(1), 411-428.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research.* New York: The Guilford Press.

Bulgurcuoğlu, A.N. (2016). Relationship between critical thinking levels and attitudes towards reading habits among pre-service physical education teachers. *Educational Research and Reviews, 11*(8), 708-712.

Büyüköztürk, Ş. (2006). *Veri analizi el kitabı [Data analysis manual]*. Ankara: Pegem A Yayıncılık.

Büyüköztürk, Ş., Kılıç-Çakmak, E., Akgün, Ö.E., Karadeniz, Ş., & Demirel, F. (2012). *Bilimsel araştırma yöntemleri [Scientific research methods]* Ankara: Pegem Akademi Yayıncılık.

Commeyras, M., Pearson, P.D., Ennis, R.H., Garcia, G., & Anderson, R.C. (1992). Dialogical-thinking reading lessons: Promoting critical thinking amog ''learning-disabled'' students. *Technical Report No. 553,* 1-40.

Çifçi, M. (2006). Eleştirel okuma [Critical reading]. *Belleten, 1*, 55-80.

Çokluk-Bökeoğlu, Ö., & Yılmaz, K. (2005). Üniversite öğrencilerinin eleştirel düşünmeye yönelik tutumları ile araştırma kaygıları arasındaki ilişki [The relationship between attitudes of university students towards critical thinking and research anxieties]. *Kuram ve Uygulamada Eğitim Yönetimi, 41*, 47-67.

Dar, Z.K., Rahimi, A., & Shams, M.R. (2010). Teaching reading with a critical attitude: Using critical discourse analysis (CDA) to Raise EFL University students' critical language awareness (CLA). *International Journal of Criminology and Sociological Theory, 3*(2), 457-476.

Dedeoğlu, H., & Ulusoy, M. (2013). Sınıf öğretmeni adaylarının okuma tutumları [Classroom pre-service teachers' reading attitudes]. *Okuma Yazma Eğitimi Araştırmaları, 1*(2), 80-88.

Demir, Ö., & Kaya, H. İ. (2015). Öğretmen adaylarının bilişsel farkındalık beceri düzeylerinin eleştirel düşünme durumları ile ilişkilerinin incelenmesi [Examining the relationship between teacher candidates' cognitive awareness skill levels and critical thinking situations]. *Pegem Eğitim ve Öğretim Dergisi, 5*(1), 35-68, http://dx.doi.org/10.14527/pegegog.2015.003.

Demir, S. (2015). Üniversite öğrencilerinin okuma tutum ile alışkanlıkları üzerine bir değerlendirme [An evaluation in reading skills and habitudes of undergraduate students]. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi, 4*(4), 1657-1671.

Duran, E. (2013). Türkçe dersi öğretim programlarında eleştirel okuma [Critical reading in Turkish language curriculums]. *International Journal of Social Science, 6*(2), 351-365.

Dutoğlu, G., & Tuncel, M. (2008). Aday öğretmenlerin eleştirel düşünme eğilimleri ile duygusal zekâ düzeyleri arasındaki ilişki [The relationship between candidate teachers'critical thinking tendecies and their emotional intelligence levels]. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 8*(1), 11–32.

Ertaş-Kılıç, H., & Şen, A. İ. (2014). UF/EMI eleştirel düşünme eğilimi ölçeğinin Türkçeye uyarlama çalışması [Turkish adaptation study of UF/EMI critical thinking disposition instrument]. *Eğitim ve Bilim, 39*(176), 1-12. doi:10.15390/EB.2014.3632.

Freire, P. (2009). *Pedagogia da autonomia: Saberes necessarios a pratica educativa (Pedagogy of autonomy: Knowledge necessary for educational practice*. Paz e Terra, Sao Paulo.

Freire, P., Macedo, & Donalda. (1987). *Literacy reading the word & the world*. London: Routledge.

Gökkuş, İ., & Delican, B. (2016). Sınıf öğretmeni adaylarının eleştirel düşünme eğilimleri ve okuma alışkanlığına ilişkin tutumları [Critical thinking tendencies of primary school teachers and attitudes towards reading habits]. *Cumhuriyet International Journal of Education-CIJE, 5*(1), 10-28.

Gömleksiz, M.N. (2004). Kitap okuma alışkanlığına ilişkin bir tutum ölçeğinin geçerlilik ve güvenirliği [An attitude scale towards teacher candidates' reading habit: Reliability and validity analysis]. *Fırat Üniversitesi Sosyal Bilimler Dergisi, 14*(2), 185–195.

Gömleksiz, M.N., & Telo, A. (2003). "Eğitim Fakültesi öğrencilerinin kitap okuma alışkanlığı (Fırat Üniversitesi Eğitim Fakültesi örneği)" [''At the habit of reading books by the students of the Faculty of Education (Fırat University, Faculty of Education)'']. *I. Social Sciences Education Congress*, May, 15-17, 2003, Dokuz Eylül University, İzmir.

Görücü, E. (2014). *Altıncı, yedinci ve sekizinci sınıf öğrencilerinin okuma alışkanlıkları ile eleştirel düşünme becerileri arasındaki ilişkinin incelenmesi [Analysis of the relationship between reading habits and critical thinking skills of sixth, seventh and eighth grade students]*. Unpublished M.A. Thesis, Yeditepe University-İstanbul, Türkiye.

Gündüz, B. (2015). *Üniversite 1. sınıf öğrencilerinin kitap okuma alışkanlıkları ve eleştirel okuma becerileri üzerine bir durum çalışması [A case study on the reading habits and critical reading skills of university freshmen]*. Unpublished M.A. Thesis, İhsan Doğramacı Bilkent University-Ankara, Türkiye.

Hosseini, E., Bakhshipour-Khodaei, F., Sarfallah, S., & Dolatabadi, H.R. (2012). Exploring the relationship between critical thinking, reading comprehension and reading strategies of English University students. *World Applied Sciences Journal 17*(10), 1356-1364.

İlhan, M., & Çetin, B. (2014). LISREL ve AMOS programları kullanılarak gerçekleştirilen yapısal eşitlik modeli (yem) analizlerine ilişkin sonuçların karşılaştırılması [Comparing the analysis results of the structural equation models (SEM) conducted using LISREL and AMOS]. *Eğitimde ve Psikolojide Ölçme ve Değerlendirme Dergisi, 5*(2), 26-42.

İşcan, A., Arıkan, İ.B. & Küçükaydın, M.A. (2013). İlköğretim ikinci kademe öğrencilerin kitap okuma alışkanlıkları ve okumaya ilişkin tutumları [Reading habits and reading the secondary school students' attitudes on]. *Uluslararası Avrasya Sosyal Bilimler Dergisi, 4*(11), 1-16.

Karabay, A. (2015). Eleştirel okuma eğitiminin üst bilişsel okuma stratejileri ve medya okuryazarlığı üzerindeki etkisi [Effect of critical reading education on metacognitive reading strategies and media literacy]. *Eğitimde Kuram ve Uygulama, 11*(4), 1167-1184.

Karadüz, A. (2010). Dil becerileri ve eleştirel düşünme [Language skills and the critical thinking]. *Turkish Studies International Periodical For the Languages, Literature and History of Turkish or Turkic Volume 5*(3), 1566-1593.

Karasakaloğlu, N., Saracaloğlu, A.S., & Yılmaz-Özelçi, S. (2012). Türkçe öğretmeni adaylarının okuma stratejileri, eleştirel düşünme tutumları ve üst bilişsel yeterlilikleri [Turkish prospective teachers' reading strategies, critical thinking attitudes and metacognitive competencies]. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD), 13*(1), 207-221.

Karataş, A. (2008). *Öğretmen adaylarının medya okuryazarlık düzeyleri [Media literacy levels of teacher candidates]*. Unpublished M.A. Thesis, Afyon Kocatepe University-Afyonkarahisar, Türkiye.

Kartal, T. (2012). İlköğretim fen bilgisi öğretmen adaylarının eleştirel düşünme eğilimlerinin incelenmesi [Exploring of dispositions toward critical thinking in pre-service elementary science teachers]. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD), 13*(2), 279-297.

Kline, R.B. (2011). *Principles and practice of structural equation modeling*. New York: The Guilford Press.

Koçak, B., Kurtlu, Y., Ulaş, H. & Epçeçan, C. (2015). Sınıf öğretmeni adaylarının eleştirel düşünme düzeyleri ve okumaya yönelik tutumları arasındaki ilişki [Examining of the elementary class teachers' critical thinking levels and their attitudes towards reading]. *Ekev Akademi Dergisi, 19*(61), 211-228.

Marasigan, A.C., & Espinosa, A.A. (2014). Modified useful-learning approach: Effects on students' critical thinking skills and attitude towards chemistry. *International Journal of Learning, Teaching and Educational Research, 1*(1), 35-72.

Mohammadi, E.N., Heidari, F. & Niry, N.D. (2012). The relationship between critical thinking ability and reading strategies used by Iranian EFL learners. *English Language Teaching, 5*(10), 192-201.

Mokhtari, K., & Reichard, C. A. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology, 94*, 249–259.

Ogurlu, Ü. (2014). Üstün zekâlı ve yetenekli öğrencilerin okuma ilgisi, tutumu ve eleştirel okuma becerileri [Gifted and gifted students reading interest, attitude and critical reading skills]. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi, 15*(2), 29-41.

Özbay, M., & Özdemir, B. (2012). Okuduğunu anlama sürecinde çıkarım yapma becerisinin işlevi [Function of the inference skills during the process of reading comprehension]. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 9*(18), 17-28.

Özdemir, E. (2017). *Eleştirel okuma [Critical reading]*. Ankara: Bilgi Yayınevi.

Öztürk, E. (2012). Okuma stratejileri üstbilişsel farkındalık envanteri'nin Türkçe formunun geçerlik ve güvenirlik çalışması [The validity and reliability of the Turkish version of the metacognitive awareness of reading strategies inventory]. *İlköğretim Online, 11*(2), 292-305.

Parson, J.M. (1985). *The effect of metacognitive strategy training on critical reading ability*. Doctoral Dissertation, Louisiana State University, Louisiana.

Saracaloğlu, A.S., Bozkurt, N., & Serin, O. (2003). Üniversite öğrencilerinin okuma ilgileri ve okuma alışkanlıklarını etkileyen faktörler [Reading interest and factors affecting reading habits of university students]. *Eğitim Araştırmaları, 4*(12), 149-157.

Saracaloğlu, A.S., Yenice, N., & Karasakaloğlu, N. (2009). Öğretmen adaylarının iletişim ve problem çözme becerileri ile okuma ilgi ve alışkanlıkları arasındaki ilişki [The relationship between communication and problem solving skills and reading interest and habits of candidate teachers']. *Yüzüncü Yıl Üniversitesi, Eğitim Fakültesi Dergisi, 6*(2), 187-206.

Sarar-Kuzu, T., & Doğan, T. (2015). Öğretmen adaylarına yönelik okuma tutum ölçeği geliştirme [Developing a reading attitude scale aimed at teacher candidates]. *International Periodical for the Languages, Literature and History of Turkish or Turkic Volume 10*/15 Fall 2015, p. 771-786.

Semerci, Ç., & Elaldı, Ş. (2014). The roles of metacognitive beliefs in developing critical thinking skills. *Bartın Üniversitesi Eğitim Fakültesi Dergisi, 3*(2), 317-333.

Smith, A.Y. (2015). *Attitude, subjective norm, and perceived behavioral control as indicators for nurse educators' intention to use critical thinking teaching strategies: A structural equation model analysis*. Dissertations, Andrews University School of Education, Michigan.

Susar-Kırmızı, F., Fenli, A., & Kasap, D. (2014). Sınıf öğretmeni adaylarının eleştirel düşünme eğilimleri ile okuma alışkanlıklarına yönelik tutumları arasındaki ilişki [The relationship between classroom teacher candidates' critical thinking tendencies and attitudes towards reading habit]. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi, 3*(1), 354-367.

Şahin-Taşkın, Ç., & Esen-Aygün, H. (2017). İlkokul öğrencilerinin okuma tutumlarının çeşitli değişkenler açısından incelenmesi [Investigating primary students' reading attitudes with respect to different variables]. *İlköğretim Online, 16*(3), 1120-1136.

Şen, Ü. (2009). Türkçe öğretmeni adaylarının eleştirel düşünme tutumlarının çeşitli değişkenler açısından değerlendirilmesi [An analysis of the Turkish teacher candidates' critical thinking skills]. *Zeitschrift für die Welt der Türken/Journal of World of Turks, 1*(2), 69-89.

Tanju, E.H. (2010). Çocuklarda kitap okuma alışkanlığı'na genel bir bakış [A general overview of the habit of reading books in children]. *Aile ve Toplum, 6*(22), 30-39.

Vaske, J.M. (2001). *Critical thinking in adult education: An elusive quest for a definition of the field*. Doctoral Dissertation, The School of Education, Drake University.

Waterkemper, R., do-Prado, M.L., Medina, J.L.M., & Reibnitz, K.S. (2014). Development of critical attitude in fundamentals of Professional care discipline: A case study. *Nurse Education Today, 34*, 581-585.

Yılmaz-Aydın, Zeynep. (2006). Sınıf öğretmeni adaylarının okuma alışkanlığı [The reading habit of elementary school teacher candidates]. *İlköğretim Online, 5*(1), 1-6.

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Social Capital Wealth as a Predictor of Innovative Climate in Schools*

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Abstract

This study aimed to investigate the relationship between social capital and innovative climate in secondary schools. Relational model was used in the research. 700 teachers from upper secondary schools were recruited through stratified sampling method. Data were collected through "Social Capital in Schools Scale" and "Innovative Climate in Schools Scale". Mean, correlation and regression analyzes were used for data analysis. The results of the relationship between concepts revealed a positive high level of correlation between the social capital and the innovative climate in schools. Positive moderate and high significant relationships were found between the dimensions of social capital and the innovative climate of (except for openness to innovation). Finally, it was concluded that the social capital dimensions were a significant predictor of the innovative climate. Results were discussed within the scope of the development of social capital and innovative climate in schools.
Key words: Social capital, innovative climate, secondary schools.

Introduction

Classical organization theory has focused on the importance of physical and human capital in enhancing performance in organizations. However, that the relations between the employees in the organizations based on friendship, sincerity and trust increase the organizational performance has added a new dimension to the existing research. Reasons of the problems related to the relationships between the employees and research on their solution have raised the concept of social capital, which is expressed as the missing link of capital (Cohen & Prusak, 2001; Coleman, 1988b; Field, 2003; Fukuyama, 2005; Nahapiet & Ghoshal, 1998; Portes, 1998; Putnam, 1995). Social interaction networks and voluntary associations developed by individuals who come together without any means of pressure in organizations correspond to the social capital wealth (Cohen & Prusak, 2001; Field, 2003). Strong social capital in organizations plays an important role in organizational success. The importance given to human resources and human values in organizations facilitates the realization of organizational goals.

Cooperation and mutual interaction are common in education organizations, which play an important role in training human beings. Because schools are a whole with internal stakeholders consisting of administrators, teachers and other staff as well as the elements of pressure groups in the environment (Bursalıoğlu, 2011). The indicators of the social capital in schools can be listed as the relation of the family with the school and their attitudes towards the school, social activities of the employees related to school, participation of students and families in school decisions, communication between communities and school (Catts & Ozga, 2005). In a similar vein, student-teacher and student-parent-teacher relations in schools constitute the context of social capital. Also, the school leaders' relations with workers and the surrounding communities are indicators of the relationship between social capital and education (McGonigal et al., 2007). Parental communication in the family environment is effective in education of the child. On the other hand, social capital plays a critical role in achieving organizational goals in schools where human relations and social processes are decisive. Research on the relationship between social capital and school has usually focused on student achievement (Coleman, 1988a; Hanifan, 1916; Israel, Beaulieu & Hartless, 2001; Teachman, Paasch & Carver, 1996). In addition, research has shown that the strong social capital that individuals possess facilitates finding a job (S. Lee & Brinton, 1996) and their social participation (Sandefur, Meier & Campbell, 2006). According to exiting studies, communication

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and cooperation between the internal and external stakeholders of the school (administrator, teacher, student and parent) increase the school success.
Apart from school success (Coleman, 1988a), social capital affects many factors such as organizational development (Nahapiet & Ghoshal, 1998), motivation of employees (Turan, 2014) and innovation (Turgut & Beğenirbaş, 2013). Among these factors, it is noteworthy to examine the innovative climate, which forms a basis for innovation. Strong communication channels and networks in organizations, trust-based relations, active participation in organizational actions and support for the innovation process contribute to the realization of innovation (Tsai & Ghoshal, 1998). Moolenar, Daly and Sleegers (2010), who support this assumption, state that the supportive role of social bonds, trust and participation has an important function in the innovative climate. Mutual social networks in schools have a valuable potential for innovation. The intensity of social relations contributes to the innovative climate in creation, implementation and dissemination of new knowledge. In fact, administrators who take risks in school development are considered successful. Therefore, the intensity of social networks positively affects teachers' perceptions of the innovative climate (Daly, Moolenaar, Bolivar & Burke, 2010; Little, 2010).

In parallel with the current studies which defend the impact of social capital wealth on innovation, how the social capital wealth in schools contributes to the process of innovation can be presented. Likewise, innovation in organizations can take place with the participation of all employees. Cooperation and communication among individuals provide the sharing of different ideas. At the same time, the sense of trust among the employees sets the stage for the formation of new ideas and increases the adaptation among the employees. At this point, there is a dearth of studies conducted on the contribution of trust-based relations and connections in the innovative climate in the schools. Hence, with this study, the intensity of the links between the vocational learning communities within the school can be effective in the development of employee support in the process of innovation, taking initiative, team work and openness to innovation. Considering the formation and development of social capital in schools and its contribution to the innovative climate, it can be stated that this study will guide other related studies. In conclusion, in this study, it is aimed to create new theoretical and empirical research areas in the field of educational administration by revealing the “relationship between social capital and the innovative climate in schools”

Theoretical Framework

Social Capital

Theoreticians and researchers have attempted to clarify the concept since social capital attracted the attention of many fields of science such as economics, sociology and politics (Bhandari & Yasunobu, 2009; Durlauf, 2002; Farr, 2004). Hanifan (1916), who first proposed social capital, declares that relations such as neighborhood, sincerity and friendship between the families or individuals that make up the society have a concrete value. Coleman (Coleman, 1988b), who handles social capital within the framework of its functions, defines social capital as useful resources that contribute to the cognitive development of children or adults. According to Putnam, who handles social capital in the context of social life and democracy, it is the social organization characteristics that facilitate social trust and social networks and coordinated actions with coordinated actions (Putnam, Leonardi & Nanetti, 1994). As can be seen, the definitions of the pioneers, who were considered to be the classics of social capital, were focused on social relations networks based on cooperation and communication. Besides, according to the OECD, social capital consists of values, shared norms and relationship networks that facilitate cooperation among groups (Healy & Côté, 2001). Furthermore, the World Bank, which deals with social capital from a macro perspective, emphasizes the network ties and social relations that shape the social relations in society (Woolcock & Narayan, 2000).

It can be argued that the majority of attempts to define social capital have developed around the emphasis on the dimensions of the concept. Grooatert and Bastelaer (2002) state that membership in social networks, trust, commitment to norms, cooperation and participation are important in the development of society. Similarly, Kilpatrick, Johns and Mulford (2010) list the determinants of social capital as voluntary participation, shared vision, attitudes and norms, the scope and structure of networks, identifying with the community. In this respect, determining the components and functions of the concept is very important in understanding social capital. Elements such as social relation networks, commitment, trust, participation and cultural memory become prominent in the definition of social capital.

Social interaction networks, which are one of the important elements of social capital, are an important element that helps the realization of individual goals and provide social integration. According to Field (2003), social networks are related to the number of acquaintances and the intensity of their interaction with their environment.

Similarly, Paxton (1999) also points out that formal and informal connections between individuals depend on social networking. Especially, Fukuyama (2005) states that the trust placed in the center of social capital is the capacity arising from its domination in the whole or in a certain part of society. Putnam (1995) argues that individuals who participate in social organizations and have strong neighborly relations develop better relations. According to the author, there is a linear relationship between social trust and social participation. Coleman (1988b) states that there are two important elements of social capital: liabilities and trust. If there is no trust among the members of the organization, it is not possible to talk about the organization. Cohen and Prusak (2001) advocate that trust is a prerequisite for relations, connections, cooperation and commitment. Social capital cannot be talked about in organizations where confidence level is weak. In this context, it seems that pioneers such as Putnam, Coleman and Fukuyama consider trust as one of the key concepts of social capital.
It can be stated that elements such as commitment, participation and cultural memory contribute to the formation and development of social capital. Indeed, Lee and Croninger (2001) utter commitment and identification among the elements of social capital. Cohen and Prusak (2001) consider commitment as the individual's desire to do more, except for the business requirements of the organization. According to the author, cooperation can develop with the identification of trust and mutual understanding. Putnam (1995), on the other hand, explains the element of participation of social capital as an individual's membership in voluntary organizations and associations, and his/her use of political preferences. Print and Coleman (2003) emphasize that the sharing of cultural values and the active participation of these values in democratic processes is very important for participation and commitment. In addition, cultural memory represents the common language, vision and organizational traditions that contribute to the collective action of organizations (Nahapiet & Ghoshal, 1998).

Innovative Climate

Organizational innovation is defined as the adoption of a new thought or behavior in organizations (Daft, 1978; Damanpour, 1988). More specifically, organizational innovation is expressed as the production, acceptance and application of new ideas, processes, products, services (Rowe & Boise, 1974). Becker and Whisler (1967) describe the use of an idea by one of the organizations with the same objectives. Poole and Van de Ven (2004) argue that innovation, which they see as a part of change, is a product and facilitator of the free exchange of ideas in achieving social and economic progress. The working environment plays an important role in the innovation of individuals. Therefore, organizations need to find suitable working environments that facilitate innovation and enable employees to creativity (Ahmed, 1998). Amabile et al. (1996) state that with an appropriate working environment in the organization, employees tend to increase their creativity and innovation tendencies. The innovative climate consists of elements such as encouraging innovation, taking initiative, challenging to challenges, leadership, teamwork and adaptation, democracy culture, innovative vision and mission, organizational autonomy and freedom (Ahmed, 1998; Amabile et al., 1996).

The innovative climate in schools mostly emerges with the creative ideas of teachers and administrators. The realization of innovation in schools requires teachers to have a shared vision and diversity of knowledge (West & Sacramento, 2012). Sharma (2001) states that the innovative climate in schools is related to the interaction and productivity variables among the employees. The attitudes of the school principals towards innovation, the willingness of the teachers to change and the tendencies of innovation take an important place in the continuation of innovation. According to McGeown (1979), the innovative teacher has characteristics such as entrepreneurship, radicalism, authenticity and flexibility. Teachers' adoption of innovations and their innovative behaviors are related to their tolerance and support to schools, flexibility and openness to new knowledge. Mioduser, Nachmias, Tubin and Forkosh-Baruch (2003) explain that new learning environments beyond the traditional time and space configurations in the school can take place by developing new pedagogical solutions and expanding the school's sources of information. Van der Vegt and Huang (2005) describe climate change as the behaviors and sharing of practices that encourage employees to use new knowledge and methods. In this context, education administrator and employees need to be open to change for innovative climate and school stakeholders' perceptions of developing new knowledge and practices to meet organizational goals are of importance (Moolenaar, Sleegers, Karsten & Zijlstra, 2009). Therefore, while educating innovative individuals in schools, innovation and creativity need to be provided from an early age and continuously processed at every step of education. Teachers should know the innovative methods of teaching and put them into practice in their lessons, and they should provide children with innovative thinking and practice skill.

Method

In the present study, in which relational model was used, the relationships between social capital and the innovative climate in secondary schools were examined. The purpose of the relational survey model is to

determine the degree of the relationship between at least two variables. In this model, strong statistical techniques such as correlation and regression were used to measure the relationship between two or more variables (Balcı, 2013). In this context, while the dependent variables of this research were composed of the dimensions of innovative climate, social capital dimensions constituted independent variables of the study.

Sample

The sample of the study consisted of 16,468 upper secondary school teachers working in Ankara, in 2015-2016. Stratified sampling and simple random sampling were applied in this study. The central districts (Altındağ, Çankaya, Etimesgut, Gölbaşı, Keçiören, Mamak, Pursaklar, Sincan and Yenimahalle) were considered as layers and the number of schools and teachers was determined by random sampling method according to sample size. The sample size of the study can represent at least 377, maximum 644 people at 5% tolerable error level (Şener Büyüköztürk, Çakmak, Akgün, Karadeniz & Demirel, 2017). In this context, considering the possible problems that may occur during the application, 700 teachers were recruited and the whole sample was reached. However, during the analysis of the data, it was decided that 11 scale forms were not suitable and analyzes were performed on 689 data. The sample included females (%62,6) and males (%37,4). Considering their education levels, 75.6% of teachers are graduates of undergraduate and higher education schools while 24.4% of them had graduate education. Their occupational seniority and percentage were as follows: 17% was 0-5 years; 10.3% was 6-10 years; 13.1% was 11-15 years; 20.8% was 16-20 years; 38.9% was 21 years or more. According to the working experience variable in schools, 21% of teachers had 0-2 years; 30,9% had 3-5 years; 25,5% had 6-10 years; 22,5% had 11 years or more.

Instruments

Social Capital in Schools Scale. The scale was developed by Polatcan (2017) and had 31 Likert type items (Strongly Disagree = 1 and Strongly Agree = 5). The scale consists of commitment, social interaction ties, trust, participation, and cultural memory. High scores from the scale show that social capital is high in schools. Kaiser-Meyer-Olkin (KMO) value of .93 and Bartlett-Sphericity Test (X^2=4036.97; p = .00) were found to be suitable for exploratory factor analysis (EFA). As a result of the EFA, the factor load values of the "commitment" dimension were between .62 and .77 and the total variance explained was 15.24%; the factor load values of the "social interaction ties" dimension were between .45 and .75 and the total variance explained was 16.48%; the factor load values of the "trust" dimension were between .65 and .72 and the total variance explained was 12.70%; the factor load values of the "participation" dimension were between .41 and .79 and the total variance explained was 9.01%; and the factor load values of the "cultural memory" dimension were between .63 and .85 and the total variance explained was 11.40%. The results of the confirmatory factor analysis for the validation of the factors of social capital scale in schools were found to be acceptable in the five-dimensional structure (X2/sd = 1.53, RMSEA=.032, GFI=.90, AGFI =.87, CFI=.96). The reliability coefficients of the social capital scale were .90 for the commitment, .91 for the social interaction ties, .92 for the trust, .74 for the participation, and .89 for the cultural memory. The reliability coefficient of the whole scale was .94.

Innovative Climate in Schools Scale. The scale was developed by Polatcan (2017) and had 32 Likert type items (Strongly Disagree = 1 and Strongly Agree = 5). The scale consisted of five dimensions: support for innovation, resources and facilities, taking initiative, openness to innovation, teamwork and adaptation. Higher scores in the scale show that the level of innovation climate in schools was high. KMO value (.94) and Bartlett Sphericity Test (X^2 = 6243.07; p = .00) calculated for construct validity were found to be suitable for EFA. As a result of the EFA, the factor load values of the "support for innovation" dimension were between .63 and .78 and the total variance explained was 20.88%; the factor load values of the "resources and facilities" dimension were between .63 and .88 and the total variance explained was 15.56%; the factor load values of the "taking initiative" dimension were between .73 and .86 and the total variance explained was 14.86%; the factor load values of the "teamwork and adaptation" dimension were between .49 and .71 and the total variance explained was 12.87%; and the factor load values of the "openness to innovation" dimension were between .72 and .88 and the total variance explained was 9.05%. The results of the confirmatory factor analysis for the validation of the factors of the innovative climate in schools scale were found to be acceptable in the five-dimensional structure (X^2 /sd = 1.65, RMSEA = .051, GFI=.86, AGFI = .83, CFI = .97). The reliability coefficients calculated for the factors of innovative climate scale were .95 for support for innovation, 94 for resources and facilities, .93 for taking initiative, .91 for teamwork and adaptation, and .83 for openness to innovation. The reliability coefficient calculated for the whole scale was .95.

Data Analysis

SPSS 22 package program was used for data analysis. The average values were assigned to the missing data before the data analysis. On the other hand, the normality and homogeneity values of the items were examined

when deciding whether to use the parametric or non-parametric test methods. For normal distribution of data, mod, median and mean, skewness and kurtosis coefficients, Q-Q Plot graphs, Kolmogorov-Smirnov analysis were examined. Levene test was applied for homogeneity of the data (Büyüköztürk, 2011). In accordance with these criteria, it was observed that the mean, median and mode values of the data were close to each other in all dimensions and the skewness coefficients and the kurtosis coefficients were distributed between -1 and 1. When Levene test results were examined for homogeneity of data according to the independent variables, it was found that significant difference was greater than p> .05 in all dimensions; however, Kolmogorov-Simirnov normality analysis was found to be significant in some dimensions at the level of p> .05. In the light of these results, it was decided to use Pearson correlation and multiple regression analyzes for parametric test methods.

Results

Findings on Relationship between Social Capital and Innovative Climate in Schools

The results of the correlation analysis for the relationships between the dimensions of social capital and innovative climate in schools were given in Table 1.

Considering the dimensions of social capital, when Table 1 was examined, while teachers' perception of social interaction was at the highest level ($\bar{x}$= 3.45), their perception of participation was at the lowest level ($\bar{x}$ = 2.87). In addition, the highest mean score for the reform climate of the teachers was in the dimension of openness for innovation ($\bar{x}$ = 3.56), while the lowest mean score was at the initiative level ($\bar{x}$ = 2.86).

When the correlation coefficients between the variables were examined, it was observed that commitment in schools had a moderate positive relationship with social interaction ties (*r*= .60; *p<.01),* trust (*r* = .59; *p* < . 01), participation *(r*= .52; *p*<. 01), cultural memory (r= .59*; p*<. 01), support for innovation (r= .68; p<. 01), resources and facilities (*r*= .59; *p*<. 01), and taking initiative (*r*= .60; *p*<. 01). Social interaction ties had a moderate positive relationship with trust (*r*= .61; *p*<.01), participation (*r*= .54; *p*<. 01), cultural memory (*r*= .58; *p*<. 01), support for innovation (*r*=.67; *p*<. 01), resources and facilities (*r*= .58; *p*<. 01), taking initiative (r= .59; p<. 01), and teamwork and adaptation (*r*= .68; *p*<. 01); however, had a low positive relationship with openness to innovation (*r*=.36; *p*<. 01).

It was noted that commitment in schools had a moderate positive relationship with participation (*r*= .55; *p*<.01), cultural memory (*r*= .53; *p*<. 01), support for innovation *(r*= .70; *p*< .01), resources and facilities (*r*=.62 .51; *p*< .01), taking initiative (*r*= .63; *p*< .01), teamwork and adaptation (*r*= .71; *p*< .01); however, had a low positive relationship with openness to innovation (*r*= .32; *p*< .01). Participation dimensions had a moderate positive relationship with cultural memory (*r*= .54; *p*< .01), support for innovation (*r*= .60; *p*< .01), resources and facilities (*r*= .57; *p*< .01), taking initiative (*r*= .57; *p*< .01), and teamwork and adaptation (*r*= .50; *p*< .01); however, had a low positive relationship with openness to innovation (r= .33; *p*< .01). Cultural memory dimension had a moderate positive relationship with support for innovation (*r*= .66; *p*< .01), resources and facilities (*r*= .59; *p*< .01), taking initiative (*r*= .62; *p*< .01) and teamwork and adaptation (*r*= .65; *p*< .01); however, had a low positive relationship with openness to innovation (*r*= .28; *p*< .01).

It was found that support for innovation dimension had a low positive relationship with openness to innovation (*r*=.46; *p*< .01); had a moderate positive relationship with resources and facilities (*r*=.62; *p*<. 01), taking initiative (*r*=.60; *p*<.01), teamwork and adaptation (*r*= .55; *p*<.01); and had a high positive relationship with social capital (*r*=.80; *p*<.01) and innovative climate (*r*=.89; *p*<.01). Resources and facilities dimension had a moderate positive relationship with taking initiative (*r*= .66; *p*< .01), openness to innovation (*r*=.42; *p*< .01), teamwork and adaptation (*r*=.58; *p*<.01), and social capital (*r*=.71; *p*<.01); however, had a high positive relationship with innovative climate (*r*=.88; *p*<.01).

Taking initiative dimension had a moderate positive relationship with openness to innovation (*r*=.44; *p*<.01), teamwork and adaptation (*r*=.63; *p*<. 01), social capital (*r*=.72; *p*<.01); but had a high positive relationship with innovative climate (*r*=.87; *p*<. 01). Openness to innovation dimension had a moderate positive relationship with teamwork and adaptation (*r*=.40; *p*<.01), social capital (*r*=.33; *p*<.01) and innovative climate (*r*=.53; *p*<.01). Teamwork and adaptation dimension had a high positive relationship with social capital (*r*= .77; *p*<.01) and innovative climate (*r*= .84; *p*<.01). A high positive relationship was found between social capital and innovation climate (*r*=.82; *p*<.01).

Table 1. Results of correlation analysis between social capital and innovative climate

	Mean	Sd.	1	2	3	4	5	6	7	8	9	10	11	12
1)Commitment	3,42	,92	1											
2)Interaction ties	3,45	,91	,601**	1										
3)Trust	3,20	,99	,598**	,613**	1									
4) Participation	2,87	,98	,526**	,548**	,559**	1								
5)Cult. memory	3,43	,92	,593**	,580**	,536**	,540**	1							
6)Support	3,17	,90	,683**	,675**	,707**	,608**	,669**	1						
7) Resources	3,06	,98	,596**	,580**	,621**	,575**	,591**	,623**	1					
8) Initative	2,86	1,02	,601**	,598**	,638**	,573**	,623**	,600**	,668**	1				
9) Openness	3,56	,99	,302**	,359**	,319**	,334**	,286**	,465**	,426**	,447**	1			
10) Teamwork	3,24	,94	,666**	,687**	,736**	,505**	,653**	,551**	,588**	,634**	,409**	1		
11) S.Capital	3,27	,94	,841**	,860**	,869**	,777**	,820**	,802**	,713**	,728**	,337**	,776**	1	
12)Innovativeness	2,97	,57	,687**	,697**	,728**	,624**	,688**	,894**	,883**	,877**	,534**	,840**	,821**	1

**Significant at p<.01 level.

Findings on Prediction of Innovative Climate

Table 2 presents the results of the multiple regression analysis for prediction of support for innovation dimension.

Table 2. Regression analysis results on prediction of support for innovation

Variables	**B**	**St. Error**	**β**	**t**	**p**
Constant	-.224	.144	-	1.554	.121
Commitment	.257	.048	.251	6.222	.000
Interaction Ties	.269	.059	.195	4.601	.000
Trust	.114	.044	.109	2.629	.002
Participation	.143	.039	.134	3.677	.000
Cult. memory	.201	.048	.155	4.142	.000
R=0.699		R^2 =0.488			
$F_{(5\text{-}683)}$ =130.216		p=.000			

Considering Table 2, it was seen that social capital had a significant relationship with support for innovation, social interaction ties, trust, participation and cultural memory dimensions (R =.70, p <.05). These predictive variables explain 48% of the total variance of teachers' perception of support for innovation. Commitment (β=.25, p<.05), social interaction ties (β=.20, p<.05), trust (β=.11, p<.05), participation (β=.13, p<.05) and cultural memory (β=.16, p<.05).

Table 3 shows the results of the multiple regression analysis for prediction of resources and facilities dimension.

Table 3. Regression analysis results on prediction of resources and facilities

Variables	**B**	**St. Error**	**β**	**t**	**p**
Constant	.047	.153	-	0.308	.758
Commitment	.309	.051	.262	6.115	.000
Interaction Ties	.143	.062	.104	2.289	.002
Trust	.078	.046	.075	1.687	.002
Participation	.216	.041	.203	5.215	.000
Cult. memory	.181	.052	.140	3.502	.000
R=0.645		R^2 =0.416			
F(5-683) =97.300		p=.000			

According to Table 3, there was a significant positive correlation between dimensions of social capital in school (commitment, social interaction ties, trust, participation, cultural memory) and resources and facilities dimension (R=.64, p< .05). These variables explained 41% of the variance of the resources and facilities dimension. Dimensions of social capital in schools, such as commitment (β =.26, p<.05), social interaction ties (β =.10, p< .05), trust (β =.08, p< .05), participation (β=.20, p<.05) and cultural memory (β =.14, p<.05), predicted resources and facilities positively and significantly.

Table 4 shows the results of the multiple regression analysis for prediction of taking initiative dimension.

Table 4. Regression analysis results on prediction of taking initiative

Variables	**B**	**St. Error**	**β**	**t**	**p**
Constant	-.145	.158	-	0.919	.358
Commitment	-.252	.052	.211	4.832	.000
Interaction Ties	.165	.064	.119	2.574	.001
Trust	.095	.048	.090	1.987	.037
Participation	.223	.043	.206	5.209	.000
Cult. memory	.186	.053	.143	3.501	.000
R=0.629		R^2 =0.396			
$F_{(5\text{-}683)}$ =89.552		p=.000			

When Table 4 was examined, a significant relationship was found between commitment, social interaction ties, trust, participation, cultural memory dimensions and taking initiative dimension (R=.63, p<.05). These predictive variables explained 40% of the variance in teachers' perceptions of taking initiatives. Dimension of social capital, such as commitment (β=.21, p<.05), social interaction ties (β=.12, p<.05), trust (β=.09, p<.05),

participation (β=.21, p<.05) and cultural memory (β =.14, p<.05), predicted resources and facilities positively and significantly.

Table 5 displays the results of the multiple regression analysis for prediction of openness to innovation dimension.

Table 5. Regression analysis results on prediction of openness to innovation

Variables	B	St. Error	β	t	p
Constant	3.708	.161	-	12.309	.000
Commitment	-.168	.059	.133	2.789	.003
Interaction Ties	-.076	.074	.056	.937	.349
Trust	-.166	.056	.172	2.964	.003
Participation	-.033	.043	.035	.771	.441
Cult. memory	-.129	.058	.117	2.230	.002
R=0.325		R^2 =0.106			
$F_{(5-683)}$ =16.136		p=.000			

According to Table 5, a significant relationship was found between commitment, social interaction ties, trust, participation, cultural memory dimensions and openness to innovation dimension (R=.33, p<.05). These predictive variables accounted for 11% of the variance in teachers' perceptions of openness to innovation. Dimensions of social capital in schools, such as commitment (β =.13, p< .05), trust (β =.17, p< .05) and cultural memory (β =.12, p< .05) predicted openness to innovation positively and significantly. The dimensions of social interaction ties (β =.06, p>.05) and participation (β =.03, p>.05) did not significantly predict openness to innovation.

Table 6 presents the results of the multiple regression analysis for prediction of teamwork and adaptation dimension.

Table 6. Regression analysis results on prediction of teamwork and adaptation

Variables	B	St. Error	β	t	p
Constant	.330	.131	-	2.524	.012
Commitment	.201	.043	.191	4.673	.000
Interaction Ties	.303	.053	.247	5.711	.000
Trust	.240	.039	.258	6.086	.000
Participation	-.077	.035	.080	2.149	.003
Cult. memory	.192	.044	.167	4.363	.000
R=0.684		R^2 =0.468			
$F_{(5-683)}$ =120.239		p=.000			

When Table 6 was examined, a significant relationship was found between commitment, social interaction ties, trust, participation, cultural memory dimensions and teamwork and adaptation dimension (R=.46, p<.05). These predictive variables account for 11% of the variance in teachers' perceptions of openness to innovation. Dimensions of social capital in schools, such as commitment (β=.19, p<.05), trust (β=.24, p<.05) and cultural memory (β = .16, p< .05) predicted team work and adaptation are positive and significantly.

Table 7 displays the results of the multiple regression analysis for prediction of innovative climate dimension.

Table 7. Regression analysis results on prediction of innovative climate

Variables	B	St. Error	β	t	p
Constant	.456	.065	-	6.965	.000
Social capital	.797	.020	.838	40.191	.000
R=0.838		R^2 =0.662			
$F_{(1-687)}$ =1615.332		p=.000			

In Table 7, when the correlations between the predictive variable of social capital and the predictor of innovative climate in schools were examined, it was observed that social capital and the climate of innovation are highly predicted (β =.83, p<.05). The social capital explained about 66% of the total variance.

Results and Discussion

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There is a moderate and positive relationship between dimensions of social capital (commitment, social interaction ties, trust, participation, and cultural memory) and dimensions of innovative climate (support for innovation, resources and facilities, taking initiative, and teamwork and adaptation). There is a moderate positive relationship between the dimensions of social capital. Hence, Putnam (1995), Fukuyama (2005), Cohen and Prusak (2001) and Nahapiet and Ghosal (Nahapiet & Ghoshal, 1998) state that the high trust, commitment and participation in the organization increase the potential of social interaction ties. Likewise, the authors attributed the weakness of social interaction ties among employees to the fact that the commitment, trust and participation in the organization were low. In this context, it was observed that the findings were positive in a way appropriate to the literature, but the relationship was not strong enough. On the other hand, it was determined that there was a strong positive relationship between the total social capital and the total innovative climate. Based on this finding, the increase in the level of social capital will increase the level of innovative climate. In other words, the decrease in the level of social capital will decrease the level of innovative climate. As a matter of fact, the findings of the impact of social capital on innovative behavior that Turgut and Beğenirbaş (2013) found in their study on hospitals confirm the findings of the current research.

Dimensions of social capital in school (commitment, social interaction ties, trust, participation, and cultural memory) predicted the dimensions of innovative climate (support for innovation, resources and facilities, taking initiative, and teamwork and adaptation). In parallel with this study Dakhli and Clercq (2004) found that networks and trust dimensions of social capital are a strong predictor of innovativeness. Landry, Amara and Lamari (2002), found that social capital, social networks, trust and social participation have an impact on the innovation of enterprises. However, dimensions of social capital (commitment, social interaction ties, trust, participation, and cultural memory) were weak predictors of openness to innovation of innovative climate. According to Coleman (1988b), trust, cooperation and communication are easier in closed ties. This facilitates teamwork and adaptation among employees. Burt (1997) advocates that with the effect of individual's position and mediation in social structure, the individual can easily find opportunities to access information in a network, use the information in the way he wants to and can transmit information in the hands of others. As stated by Çekmecelioğlu (2005), there should be teamwork and adaptation, and autonomy in organizations to promote innovation through innovative climate. In the light of this information, education administrators play an important role in promoting innovation and in providing an appropriate innovative climate. Including teachers in decision-making processes, ensuring cooperation between teachers and providing a democratic working environment are among the indicators of the innovative climate in schools. In this context, the cooperation between the school stakeholders and the information sharing as a result of this interaction are effective in the realization of innovative practices in schools.

Social capital in schools is a strong predictor of the innovative climate. In parallel with this study, Landry, Amara and Lamari (2002) determined that social capital had an impact on the innovation processes of enterprises. Similarly, Frank, Zhao, and Borman (2004) found that social capital wealth was effective in reforming education and implementing reforms. Indeed, McElroy (2002) states that the collective competence of social capital empowered the learning capacity and innovation of organizations. Moolenar et al. (2010) found that school principals' transformational leadership characteristics intensify social networks in schools; thus, facilitate the appropriate innovative climate and its practices. In their research on the relationship between transformational leadership levels of school principals and innovative climate in schools, they found that transformational leadership was positively associated with the innovative climate of schools. In addition, the position of schools in social networks was associated with the innovative climate. In their research comparing the Netherlands and the United States education policies, Moolenar et al. (2009) found similarities in the policies of both countries in terms of the development of the school and supporting student achievement. According to them, the process of innovation has a cyclical nature developed through social interaction. In this context, for the development of innovations, a supportive organizational climate, discussion culture and cooperation opportunities are critical. In an innovation-focused environment, school members are willing to take risks and accept possible failures. In this way, the interaction between teachers with the encouragement of school principals in schools will enable the sharing of innovative and creative ideas through socio-cultural activities that strengthen cooperation. Therefore, trust-based co-operation networks established among the teachers will be able to form a basis for innovative ideas and practices in the teaching process.

Recommendations

Considering suggestions in terms of study results, school administrators should support the activities of school-family unions and organize activities that contribute to the development of parents. The innovation can take place when the employees perform their duties in the best way in schools, participate in the decision, and when the superiors and the superiors get support from each other. In this respect, school administrators should provide all incentives to contribute to the professional development of teachers and support the ideas of creative teachers. School administrators have an important role to help teachers take initiative in school. School administrators should respect the original ideas of the teachers, give importance to the expertise in the division of labor and see the mistakes made as an opportunity to learn. According to the literature, the increase in the adaptation and cooperation among the teachers contribute to the development of innovative thinking. In this context, school administrators should give teachers responsibility and encourage cooperation. Due to the education received, teachers are expected to be more innovative. Therefore, the school administrators should benefit from the expertise of the teachers for the development of the school.

Institutions such as the World Bank and the OECD are working to increase social capital in the society. In this respect, studies on increasing social capital can be conducted in schools by all institutions and organizations concerned with education in Turkey. This research is a descriptive study aiming to determine the opinions of teachers about social capital and innovative climate levels. Cross-sectional and longitudinal researches can be conducted to test the level of both concepts in school. This research was carried out in upper secondary schools. Social capital of higher education institutions which is center of innovation and the effects of these capitals on innovation can be investigated. Social capital and innovation are concepts related to intellectual capital, cultural capital, sharing knowledge, entrepreneurship, job satisfaction, creativity and organizational performance. The relationship between the social capital and the innovative climate can be research subject.

References

Ahmed, P. K. (1998). Culture and climate for innovation. *European Journal of Innovation Management, 1*(1), 30-43. doi:10.1108/14601069810199131

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal, 39*(5), 1154-1184. doi:10.5465/256995

Balcı, A. (2013). *Sosyal bilimlerde araştırma: Yöntem, teknik ve ilkeler[Research in social sciences: Methods, techniques and principles]*. Ankara: Pegem Akademi Publishing.

Becker, S. W., & Whisler, T. L. (1967). The innovative organization: A selective view of current theory and research. *The Journal of Business, 40*(4), 462-469.

Bhandari, H., & Yasunobu, K. (2009). What is social capital? A comprehensive review of the concept. *Asian Journal of Social Science, 37*(3), 480-510. doi:10.1163/156853109X436847

Bursalıoğlu, Z. (2011). *Okul yönetiminde yeni yapı ve davranış [School management:new structure and behavior]*. Ankara: Pegem Akademi Publishing.

Burt, R. S. (1997). The contingent value of social capital. *Administrative Science Quarterly, 42*(2), 339-365. doi:10.2307/2393923

Büyüköztürk, Ş. (2011). *Sosyal bilimler için veri analizi el kitabı[Manual of data analysis for social sciences]*. Ankara: Pegem Akademi Publishing.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2017). *Bilimsel araştırma yöntemleri[Scientific research methods]*. Ankara: Pegem Akademi Publishing.

Catts, R., & Ozga, J. (2005). *What is social capital and how might it be used in scotland's schools?* Edinburgh, UK: Centre for Educational Sociology.

Cohen, D., & Prusak, L. (2001). *Kavrayamadığımız zenginlik kuruluşların sosyal sermayesi [Social capital of unperceived prosperity institutions] (trans. A. Kardam)*. İstanbul: Mess Publishing.

Coleman, J. S. (1988a). Social capital and schools. *The Education Digest, 53*(8), 6-9.

Coleman, J. S. (1988b). Social capital in the creation of human capital. *American Journal of Sociology, 94*, 95-120.

Çekmecelioğlu, H. G. (2005). Örgüt ikliminin iş tatmini ve işten ayrılma niyeti üzerindeki etkisi: Bir araştırma [The effects of organizational climate on job satisfaction and intention to leave: a research]. *Dokuz Eylül University Journal of Economics, 6*(2), 23-39.

Daft, R. L. (1978). A dual-core model of organizational innovation. *Academy of Management Journal, 21*(2), 193-210. doi:10.5465/255754

Dakhli, M., & De Clercq, D. (2004). Human capital, social capital, and innovation: a multi-country study. *Entrepreneurship & Regional Development, 16*(2), 107-128.

Daly, A. J., Moolenaar, N. M., Bolivar, J. M., & Burke, P. (2010). Relationships in reform: The role of teachers' social networks. *Journal of Educational Administration, 48*(3), 359-391. doi:10.1108/09578231011041062

Damanpour, F. (1988). Innovation type, radicalness, and the adoption process. *Communication Research, 15*(5), 545-567. doi:10.1177/009365088015005003

Durlauf, S. N. (2002). On the empirics of social capital. *The Economic Journal, 112*(483), 459-479.

Farr, J. (2004). Social capital: A conceptual history. *Political Theory, 32*(1), 6-33. doi:10.1177/0090591703254978

Field, J. (2003). *Sosyal sermaye [Social capital], (trans. B. Bilgen & b. Şen)*. İstanbul: İstanbul Bilgi University Publishing.

Frank, K. A., Zhao, Y., & Borman, K. (2004). Social capital and the diffusion of innovations within organizations: The case of computer technology in schools. *Sociology of Education*, 77(2), 148-171.

Fukuyama, F. (2005). *Güven: Sosyal erdemler ve refahın yaratılması (trans. A. Buğdaycı)*. İstanbul: Turkey Business Bank Publishing.

Grootaert, C., & Bastelaer, T. (2002). Social capital: From definition to measurement in understanding and measuring social capital In C. Grootaert & T. V. Bastelaer (Eds.), *A multidisciplianary tool for practitioners* (pp. 1-16). Washington: The World Bank.

Hanifan, L. (1916). The rural school community center. *The ANNALS of the American Academy of Political and Social Science, 67*(1), 130-138. doi:10.1177/000271621606700118

Healy, T., & Côté, S. (2001). *The well-being of nations: The role of human and social capital. Education and skills.* Paris, France: OECD Publishing.

Israel, G. D., Beaulieu, L. J., & Hartless, G. J. R. s. (2001). The influence of family and community social capital on educational achievement. *Rural Sociology, 66*(1), 43-68.

Kilpatrick, S., Johns, S., & Mulford, W. (2010). Social capital, education institutions and leadership. In P. Penelope, B. Eva, & M. Barry (Eds.), *International encyclopedia of education* (pp. 113-119). Oxford Elsevier.

Landry, R., Amara, N., & Lamari, M. (2002). Does social capital determine innovation? To what extent?. *Technological Forecasting and Social Change*, 69(7), 681-701.

Lee, S., & Brinton, M. (1996). Elite education and social capital: The case of south korea. *Sociology of Education, 69*(3), 177-192. doi:10.2307/2112728

Lee, V., & Croninger, R. (2001). The elements of social capital in the context of six high schools. *The Journal of Socio-Economics, 30*(2), 165-167. doi:10.1016/S1053-5357(00)00092-5

Little, J. W. (2010). *Social network theory and educational change*: USA: Harvard Education Press.

McElroy, M., W. (2002). Social innovation capital. J*ournal of Intellectual Capital*, 3(1).30-39. doi: 10.1108/14691930210412827

McGeown, V. (1979). School innovativeness as process and product. *British Educational Research Journal, 5*(2), 221-235. doi:10.1080/0141192790050208

McGonigal, J., Doherty, R., Allan, J., Mills, S., Catts, R., Redford, M. & Buckley, C. (2007). Social capital, social inclusion and changing school contexts: A scottish perspective. *British Journal of Educational Studies, 55*(1), 77-94. doi:10.1111/j.1467-8527.2007.00362.x

Mioduser, D., Nachmias, R., Tubin, D., & Forkosh-Baruch, A. (2003). Analysis schema for the study of domains and levels of pedagogical innovation in schools using ict. *Education and Information Technologies, 8*(1), 23-36. doi:10.1023/A:1023922207476

Moolenaar, N. M., Daly, A. J., & Sleegers, P. J. C. (2010). Occupying the principal position: Examining relationships between transformational leadership, social network position, and schools' innovative climate. *Educational Administration Quarterly, 46*(5), 623-670. doi:10.1177/0013161X10378689

Moolenaar, N. M., Sleegers, P., Karsten, S., & Zijlstra, B. J. (2009). *A social capital perspective on professional learning communities: Linking social networks and trust.* Paper presented at the Annual Meeting of the American Educational Research Association (AERA), San Diego, CA, April.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review, 23*(2), 242-266. doi:10.5465/amr.1998.533225

Paxton, P. (1999). Is social capital declining in the united states? A multiple indicator assessment. *American Journal of Sociology, 105*(1), 88-127. doi:10.1086/210268

Polatcan, M. (2017). *Okullarda sosyal sermaye ile yenileşme iklimi arasındaki ilişki [the relationship between social capital and innovative climate in schools]*. (Unpublished Doctoral Thesis), Ankara University Graduate School of Educational Sciences, Ankara.

Poole, M. S., & Van de Ven, A. H. (2004). *Handbook of organizational change and innovation*. U.K.: Oxford University Press.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology, 24*(1), 1-24. doi:10.1146/annurev.soc.24.1.1

Print, M., & Coleman, D. (2003). Towards understanding of social capital and citizenship education. *Cambridge Journal of Education, 33*(1), 123-149. doi:10.1080/0305764032000047522

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy, 6*, 65-78.

Putnam, R. D., Leonardi, R., & Nanetti, R. Y. (1994). *Making democracy work: Civic traditions in modern italy*. Princeton, NJ: Princeton University Press.

Rowe, L. A., & Boise, W. B. (1974). Organizational innovation: Current research and evolving concepts. *Public Administration Review, 34*(3), 284-293. doi:10.2307/974923

Sandefur, G. D., Meier, A. M., & Campbell, M. E. (2006). Family resources, social capital, and college attendance. *Social Science Research, 35*(2), 525-553. doi:10.1016/j.ssresearch.2004.11.003

Sharma, R. (2001). *Innovation in schools: Identifying a framework for initiating, sustaining and managing them*. Paper presented at the Annual Meeting of the American Educational Research Association, Seattle, Washington.

Teachman, J. D., Paasch, K., & Carver, K. (1996). Social capital and dropping out of school early. *Journal of Marriage and Family, 58*(3), 773-783. doi:10.2307/353735

Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal, 41*(4), 464-476. doi:10.5465/257085

Turan, A. (2014). Sosyal sermayenin bilgi paylaşma tutumuna etkisinde motivasyonun rolü: Telekomünikasyon sektöründe bir araştırma [The effect of social capital on knowledge sharing attitude: a research on the role of motivation in this effect]. *Istanbul Management Journal, 25*(76), 1-36.

Turgut, E., & Beğenirbaş, M. (2013). Çalışanların yenilikçi davranışları üzerinde sosyal sermaye ve yenilikçi iklimin rolü: Sağlık sektöründe bir araştırma [The Role Of Social Capital And Innovatıve Climate On Innovative Behaviour Of Employees: A Research In Health Sector]. *Kara Harp Okulu Bilim Dergisi[KHO Science Journal], 23*(2), 101-124.

Vegt, G. S., Vliert, E. V., & Huang, X. (2005). Location-level links between diversity and innovative climate depend on national power distance. *Academy of Management Journal, 48*(6), 1171-1182. doi:10.5465/amj.2005.19573116

West, M. A., & Sacramento, C. A. (2012). Chapter 15 - creativity and innovation: The role of team and organizational climate. In M. D. Mumford (Ed.), *Handbook of organizational creativity* (pp. 359-385). San Diego: Academic Press.

Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The World Bank Research Observer, 15*(2), 225-249. doi:10.1093/wbro/15.2.225

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An Analysis of Prospective Teachers' Anxiety of not Being Appointed to Teachership*

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Abstract

This study aims to investigate faculty of education students' anxiety of not being appointed to teachership levels. This is a quantitative research designed as survey model. Study group of the study is consisted of 320 students studying at faculty of education from six departments and four grades in 2018-2019 academic year. Quantitative data analysis methods were used. Significant difference was determined as .05.The data were collected through "The Anxiety of Pre-service Teachers' Not to Be Appointed to Teachership Scale". The scale has two sub-dimensions which are 'fear of not being appointed to teachership" and "personal perception". According to the research results, mean score of anxiety level of participants is 3.55, which is high. Participants' anxiety level of not being appointed does not significantly differ in terms of gender, grade and belief of being a good teacher variables. Personal perception dimension of the scale significantly differs in terms of the department variable. These results confirm that faculty of education students have high level of not being appointed anxiety and gender, grade, belief of being a good teacher variables do not affect anxiety level but department variable affects students' anxiety levels of not being appointed to teachership at personal perception dimension.

Key words: Anxiety, Faculty of education, Students, Not being appointed

Introduction

Time is one of the most important issues today. People are all in rush of doing things on time. This situation ruins people's lives such as losing emotional health and starting to live with some illnesses. People need to pay attention to emotional health, and anxiety is one of the factors that affect emotions. Anxiety is the study topic of many different research areas such as health, education, politics and society (Gormsen, Rosenberg, Bach & Jensen, 2010; Hollway, & Jefferson, 1997; Neumann, 2017; Vitasari, Wahab, Othman, Herawan & Sinnadurai, 2010). It is obvious that anxiety is a life challenge of people. Anxiety has been studied and defined in different aspects. Anxiety is a person's feeling of uneasiness and worry in the presence of threatening situation (Işık,1996). Anxiety is a person's feeling of fear and tension under threat (Büyüköztürk, 1997). Anxiety is emotional and observable reactions of a person in sadness, detection and tension situations (Spielberger, 1972). Anxiety is a feeling of excitement with insecurity (Öncül, 2000). According to these definitions, it is obvious that anxiety is an important factor affecting people's life comfort and quality. People who are living without anxiety can make decisions easily, socialize better, work sufficiently, and live in better mood. There are different types of anxiety that affect people life.

Situational anxiety is a temporary anxiety type that mostly occurs by depending on environmental conditions (Öner & Le Compte, 1985; Kuru, 2000). Situational anxiety is a kind of feeling together with fear, stress and tension (Spielberger, 1979). Situational anxiety originated by a person perceives conditions as threatening. Situational anxiety eads touneasiness, fear, stress, tension and insecurity feelings. Situational anxiety is a person's feeling changings depending on permanent situations. Intensity of situational anxiety differentiates time to time.

Permanent anxiety is a personal trait which rises when the stress is perceived as threatening and the intensity of threat increases and becomes permanent (Öner & Le Compte, 1985). The severity and duration of this type of stress change depending on personality. Permanent anxiety level is affected tendency of personality. Permanent

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anxiety level can be explained as threatening, dangerous, rising situational anxiety level and affecting perceiving, analysing, commenting environment (Bozdam, 2008). Permanent anxiety cannot be observed directly from the behaviours of a person. It can be seen with the rising reactions and intensity of behaviours in duration (Başaran,2008). People in permanent anxiety feel anxiety more often and intense (William, 2002).

Cognitive anxiety is related to cognitive side of the brain and affects the analytic process of the person. It is defined as person's cognitive issues and negative prospects and expected results of these ideas (Morris et al., 1981). Cognitive anxiety occurs when a person cannot expect or combine experiences (Vineyand & Westbrook, 1976). Cognitive anxiety positively affects sharing resources that a person is responsible to complete and negatively effects task-irrelevant cognitive activity if the recourses reduce (Wine, 1980). Difficulty of concentration and making decision, forgetfulness, confusion, memory weakness, extreme imagination, a single idea or be engaged in thought, low productivity, work quality decline, error increase, are cognitive anxiety signs (Bakırcı, 2012).

Somatic anxiety depends on physiological variables which directly affects anxiety level of a person. Symptoms of somatic anxiety are commonly seen as pulsation, blood pressure, muscle strain, and sweating hands (Gümüş, 2002). Somatic anxiety comes through by tension feeling of body. Person who is feeling somatic anxiety demonstrates physical reactions and sometimes observed by people around. Somatic anxiety causes dermatological diseases, hearth diseases, circulatory system diseases, digestive system disease, respiratory disease and reproductive system diseases (Kırel, 1993).

Feeling anxiety is not easy always hidden by a person since reaction can be observed. There are some common signs of feeling anxiety. Person becomes lazy from being overexcitement and hyperactivity. Fear, anger, antipathy, tiredness, muscle pain and mental illnesses are most common symptoms of anxiety (Akandere 1997). Headache, sweating, weight loss, tiredness, dermatological diseases, uneasiness, hopelessness, unhappiness, despair, bad temper and forgetfulness are the symptoms of anxiety (Başoğlu, 2007). Shortness of breath, stomach ache, sweating, tension, tiredness, bad temper, headache, muscle pain are common anxiety symptoms (Cüceloğlu, 1996).

People with stress and feeling anxiety have to cope with this condition. There are some strategies and methods to cope with anxiety to control the symptoms of anxiety. A person coping with anxiety should change unreal and negative thoughts. According to cognitive-emotional approach, the aim is to change negative ideas to positive, realistic, flexible, reasonable, consistent thoughts which support person's psychological health and reaching meaningful goals (Aydın & İmamoğlu, 2001). Cognitive approach focuses on cognitive reactions and thoughts and aims to change cognitive reactions to positive thoughts (Atkinson et. all. 1999).

Young people mostly wish to study at university in Turkey. Studying at university has a process. Before and during studying at university, students face some issues such as preparation to university exam, finding accommodation, academic success, assignments, project works, internship and final thesis. Teacher education is a process covering selecting candidate teachers, pre-service education, internship, following and evaluation of internship process and in-service training (Kavcar, 2002). Students studying at faculty of education have one more issue which is the difficulty of being appointed to state schools as a teacher. This process creates anxiety in a while.

Faculty of education in Turkey has four year-eight term education process and each year students have cultural, content knowledge and pedagogical content knowledge courses related to their departments. After four years of education, students successfully complete bachelor's degree and become prospective teachers. Becoming a prospective teacher means having enough qualifications to be a teacher. Prospective teachers can work at private schools, education centres and state schools as teachers.

In Turkey, to appoint as a state teacher, faculty of education students need to complete some stages. At first stage, students need to graduate from an undergraduate department of faculty of education successfully. Candidates with bachelor's degree enter a national exam which is called Public Personnel Selection Examination (KPSS) to be appointed as a teacher to state schools. This examination consists of two parts which are general knowledge - general-ability and specialised knowledge. At second stage, candidates having enough exam score are called to interview and appointed to state schools as teachers according to exam scores depending on quota (Ministry of National education, 2019).

According to MoNE (2019), candidates at first appointment should have special qualifications in addition to the general necessity of qualifications in accordance with law 657 article 48. Bachelor's degree of the candidate

should be appropriate to Turkish Education Board appointment regulation. Health conditions of the candidates should be suitable to work in any part of the country. Candidates' ages shouldn't be over forty. Candidates should have certified or at least 3 credits computer education course. Candidates should have a minimum or over exam score determined by ministry of education. Candidates should have suitable judicial record. This complicated process and the low number of appointed teachers compared to graduated prospective teachers lead the prospective teachers feel anxiety.

The aim of this study is to investigate prospective teachers' anxiety of not being appointed to teachership levels and the factors affecting students' anxiety. In this context, the research questions are as follows.
1. What is prospective teachers' anxiety of not being appointed to teachership level?
2. Do prospective teachers' anxiety of not being appointed to teachership levels differ in terms of gender?
3. Do prospective teachers' anxiety of not being appointed to teachership levels differ in terms of grade?
4. Do prospective teachers' anxiety of not being appointed to teachership levels differ in terms of department?
5. Do prospective teachers' anxiety of not being appointed to teachership levels differ in terms of belief of being a good teacher?
6. How could prospective teachers' anxiety of not being appointed to teachership levels be reduced?

Methodology

At this part of the study, research model, study group, data collection tool and data analyse process are explained.

Research Model

This study is a quantitative research designed as survey model to investigate prospective teachers' anxiety factors of being not appointed. A survey model is an approach aiming to investigate a situation in the past or available in present (Karasar, 2005).

Study Group

The study group consists of 320 randomly selected students studying at a faculty of education four grades and six departments in 2018-2019 academic year at a state university in Turkey. Departments of the participants are Science education, English language education, Physical education, Social sciences education, Primary teacher education and Turkish language education. At Table 1, Statistical information of participants' gender, grade, department and belief of being good teacher variables were presented.

Table 1. Statistical information of faculty of education students' gender, grade, department and belief of being a good teacher variables

Variables	Category	n	f
Gender	Female	227	70.9
	Male	93	29.1
Grade	Freshman	108	33.8
	Sophomore	63	19.7
	Junior	68	21.3
	Senior	66	21.6
Department	Science education	31	11.2
	English language education	43	15.5
	Physical education	52	18.7
	Social sciences education	49	17.6
	Primary teacher education	49	17.6
	Turkish language education	54	19.4
Belief of being a good teacher	Yes	301	98.4
	No	5	1.6

According to Table 1, 227 (%70.9) participants are female and 93 (%29.1) participants are male. 108 (%33.8) freshman, 63 (%19.7) sophomore, 68 (%21.3) Junior and 66 (%21.6) senior students participated to research. Participants with regard to departments, 31 (%11.2) students study science education, 43 (%15.5) students study English language education, 52 (%18.7) students study physical education, 49 (%17.6) students study social sciences education, 49 (%17.6) students study primary teacher education and 54 (19.4) students study Turkish

language education. 301 (%98.4) of the participants believe to be a good teacher and 5 (%1.6) of the participants not.

Data Collection Tool

Data of the research were collected through a scale form. 320 forms were evaluated for this research. Data collection tool consists of two parts. The first part of the data collection tool contains gender, grade, department and belief of being good teacher information of the participants. The second part of the data collection tool contains "The Anxiety of Pre-service Teachers' Not to Be Appointed to Teachership Scale" (Eskici, 2016). Scale is 5 Likert type and includes 13 items. According to the research results, Kaiser, Mayer Olkin (KMO) value of the scale is .94 and Bartlett test result is 4343.052 ($p<.0001$). For this research, scale has two factors and explains 70% of total variance. Factor loads of the scale items range from .81 to .36. The internal consistency coefficient (Cronbach Alpha) of the scale is .96.

Data Analysis

SPSS 18 statistical program was used to analyse the research data. For distribution analysis, Kolmogorov-Smirnov test and for homogeneity of variances Levene statistics was used. 'The anxiety of pre-service teachers' not to be appointed to teachership scale' has two sub-dimensions. First sub-dimension is 'fear not to be appointed to teachership" and consisted of 10 items and second sub-dimension is "personal perception" and covers 3 items. Analysis results reveal that both scale and two sub-dimensions do not show normal distribution Within this context, from nonparametric tests; Mann-Whitney U test and Kruskal-Wallis H test were used for data analysis. Descriptive statistics were used and .05 was determined as significant difference.

Findings

The study investigated prospective teachers' anxiety of not being appointed to teachership in terms of gender, grade, department and belief of being a good teacher variables. At this part of the research finding results are provided were submitted below.

Table 2. Descriptive statistics of prospective teachers' anxiety of not being appointed to teachership levels and Kolmogorov-Smirnov scores

	N	Mean	K_y	B_s	Ss	K-S
Not to be appointed to teachership anxiety level	320	3.55	-.367	-.647	1.067	.000

At Table 2, first research question' analysis results are provided submitted. Prospective teachers' anxiety of not being appointed to teachership level mean score is 3.55. This means that faculty of education students have high level of not being appointed anxiety level. Kolmogorov-Smirnov score of the students is .000. Since these results are not enough to decide analysis type, each independent variable was tested with dependent variable and following tests were performed. At Table 3, prospective teachers' anxiety of not being appointed to teachership levels were examined in terms of gender variable.

Table 3. Mann-Whitney U analyse results of prospective teachers' anxiety of not being appointed to teachership levels according to gender variable

	Gender	N	$\bar{X}$	$\bar{X}_{rank}$	Σ_{rank}	Z	r	U	p
Not being appointed to Teachership anxiety level	Female	227	3.61	165.52	37573.00	-.517	-.08	9416.000	.129
	Male	93	3.40	148.25	13787.00				
Fear of not being appointed to teachership sub-dimension	Female	227	3.80	166.13	37712.00	-1.706	-.09	9277.000	.088
	Male	93	3.53	146.75	13648.00				
Personal perception sub-dimension	Female	227	3.00	161.51	36662.50	-.306	-.01	10326.500	.760
	Male	93	2.95	158.04	14697.50				

According to Table 3, prospective teachers' anxiety of not being appointed to teachership level does not significantly differ (p>.05) in terms of gender variable. Female students' not being appointed anxiety mean score is 3.61 and male students' not being appointed anxiety mean score is 3.40. In other words, female students' fear of not being appointed score is higher than male students. This difference could be that female students are more motivated to be appointed and this motivation could create anxiety. While fear of not being appointed to teachership sub-dimension and personal perception sub-dimension were examined, female participants' fear of not being appointed to teachership sub-dimension mean score is 3.80 and male participants' personal perception sub-dimension mean score is 3.53. According to analysis results, fear of not being appointed to teachership and personal perception sub-dimensions do not significantly differ (p>.05) in terms of gender variable. Prospective teachers' anxiety of not being appointed to teachership level was given below at Table 4 according to grade differences.

Table 4. Kruskal Wallis H test results of prospective teachers' anxiety of not being appointed to teachership levels according to grade differences

	Grades	N	$\bar{X}_{rank}$	Sd	X^2	p
Not beingappointed to teachership anxiety level	Freshman	108	154.12	3	4.123	.249
	Sophomore	63	153.01			
	Junior	68	136.92			
	Senior	66	167.73			
Fear of not beingappointed to teachership sub-dimension	Freshman	108	154.17	3	3.016	.389
	Sophomore	63	154.83			
	Junior	68	138.42			
	Senior	66	164.36			
Personal perception sub-dimension	Freshman	108	154.47	3	7.020	.071
	Sophomore	63	149.88			
	Junior	68	133.63			
	Senior	66	173.54			

According to Table 4, prospective teachers' anxiety of not being appointed to teachership level does not significantly differ (p>.05) in terms of grade variable. In other words, grade difference does not affect faculty of education students' not being appointed anxiety level. Students from all grades have anxiety of not being appointed. This could affect students' education process in a negative way. Students studying at any grade have high level of not being appointed anxiety level. According to analysis results, fear of not being appointed to teachership and personal perception sub-dimensions do not significantly differ (p>.05) in terms of grade variable. At Table 5 below, prospective teachers' anxiety of not being appointed to teachership level is given according to department differences.

Table 5. Kruskal Wallis H test results of prospective teachers' anxiety of not being appointed to teachership levels according to department variable

	Departments	N	$\bar{X}_{rank}$	Sd	X^2	p
Not being appointed to teachership anxiety level	Science education	31	154.29	5	8.828	.116
	English language education	43	137.10			
	Physical education	52	129.87			
	Social sciences education	49	157.43			
	Primary teacher education	49	116.30			
	Turkish language education	54	146.98			
Fear of not being appointed to teachership sub-dimension	Science education	31	151.79	5	7.388	.193
	English language education	43	138.13			
	Physical education	52	132.65			
	Social sciences education	49	159.62			
	Primary teacher education	49	119.07			
	Turkish language education	54	140.41			
Personal perception sub-dimension	Science education	31	162.31	5	13.178	.022
	English language education	43	132.28			
	Physical education	52	125.11			
	Social sciences education	49	147.60			
	Primary teacher education	49	115.43			
	Turkish language education	54	160.51			

According to Table 5, prospective teachers' anxiety of not being appointed to teachership level does not differ in terms of department variable. In other words, Students in all departments have not being appointed anxiety. Although quota of appointment and KPSS appointment scores differ depending on department difference Turkey, students have anxiety of not being appointed. According to mean rank scores examined ($\bar{X}_{rank}$), department of social education students' have the highest anxiety level of not being appointed. The reason of this could be that the quota of appointment is low and minimum passing exam score is high. Primary teacher education students have the lowest level of not being appointed mean rank scores ($\bar{X}_{rank}$). The reason of this result could be that the primary school education department has the highest quota of appointment and minimum passing exam score is not as high as most of the other departments. According to analysis results, prospective teachers' fear of not being appointed to teachership sub-dimension does not significantly differ (p>.05) in terms of department variable. According to analysis results, faculty of education students' personal perception sub-dimension significantly differ (p>.05) in terms of department variable. To determine of which pairwise departments this significant difference stem from, Mann-Whitney U test was used, given at Table 6.

Table 6. Mann-Whitney U analysis results of prospective teachers' anxiety of not being appointed to teachership levels in terms of personal perception sub-dimension

	Departments	N	$\bar{X}$	$\bar{X}_{rank}$	Σ_{rank}	Z	r	U	p
Personal perception sub-dimension	Science education	31	3.27	49.63	1538.50	-2.808	-.03	476.500	.005
	Primary teacher education	49	2.63	34.72	1701.50				
	Physical education	52	2.77	46.96	2442.00	-2.158	-.20	1064.000	.031
	Turkish language education	54	3.29	59.80	3229.00				
	Social sciences education	49	3.09	55.15	2702.50	-1.977	-.19	923.500	.048
	Primary teacher education	49	2.63	43.85	2148.50				
	Primary teacher education	49	2.63	43.14	2114.00	-2.877	-.28	889.000	.004
	Turkish language education	54	3.29	60.04	3243.00				

At Table 6. four pairwise departments are given. Significant difference of pairwise departments is in favour of having higher mean score. At Table 7 below, prospective teachers' anxiety of not being appointed to teachership levels are given in terms of belief of being a good teacher variable.

Table 7 Mann-Whitney U analysis results of prospective teachers' anxiety of not being appointed to teachership levels in terms of belief of being a good teacher variable

	Belief	N	$\bar{X}$	$\bar{X}_{rank}$	Σ_{rank}	Z	r	U	p
Not being appointed to teachership anxiety level	Yes	301	3.55	153.04	46046.00	-.711	-.04	613.000	.477
	No	5	3.86	181.40	907.00				
Fear of not being appointed to teachership sub-dimension	Yes	301	3.73	152.99	46049.50	-.787	-.04	598.500	.431
	No	5	4.06	184.30	921.50				
Personal perception sub-dimension	Yes	301	2.98	153.23	46122.00	-.417	-.02	671.000	.677
	No	5	3.20	169.80	849.00				

According to Table 7, prospective teachers' anxiety of not being appointed to teachership level does not differ in terms of belief of being a good teacher variable. In other words, students' not being appointed anxiety level is not affected by belief of being a good teacher variable. When Table 7 is examined, 301 of the students have belief of being a good teacher. This result explains that students studying at faculty of education are well motivated, having self-confidence. According to analysis results, fear of not being appointed to teachership sub-dimension and personal perception sub-dimension do not significantly differ ($p>.05$) in terms of belief of being a good teacher variable.

Discussion and Conclusion

Starting a career is one of the most important issues of young people and they study or train to start a career point according to their talents and abilities. This issue brings some problems together. Anxiety can be a common emotion illness of the population these days. Career starting brings anxiety as well. Especially young people spend time and money for their education and training to start a better career and live in a comfortable life. Young people especially see this situation as a competition of life. For university students studying at faculty of education, teaching career starts with appointment to a state school as a teacher. The process of appointment starts with taking KPSS, having score in quota and entering interview. Applicants having enough score, which is between quota scores, are appointed as a teacher. For the applicants who couldn't be appointed, the process starts from the beginning. This process takes months and emotions of the applicants suffer. At this process, anxiety comes to existence. Applicants start to feel anxiety feelings depending on their characteristics. This study aims to investigate the factors affecting prospective teachers' anxiety of not being appointed to teachership levels in terms of gender, grade, department and belief of being good teacher variables.

The first finding of the research explains that prospective teachers' anxiety of not being appointed to teachership mean score is 3.55. According to Likert 5 type of scale, 3.40-4.20 ranks means 'I agree'. In other words, the participants highly feel anxiety of not being appointed. Besides, KPSS negatively affects teacher candidates' social relations, cultural, artistic and sportive activities (Sezgin & Duran, 2011). As the negative opinions, social pressure and future anxiety increase, the negative effect on life quality increases. Family support reduces the perceived social pressure of KPSS on teacher candidates. KPSS is one of the most important exam of teacher candidates' life and the exam and exam preparation process is mentally, economically and socially wearing, KPSS is not a qualified exam to choose teachers, university courses should be related to KPSS exam and generally KPSS exam increases the anxiety level of teacher candidates (Gündoğdu, Çimen & Turan, 2008). Teacher candidates have negative attitude towards teacher selection exam, and they feel anxiety and inability (Uyulgan & Akkuzu, 2015). Intolerance towards hopelessness and uncertainty significantly predict teacher candidates' life satisfaction (Şar, Işıklar & Aydoğan, 2012). Teacher candidates feel KPSS test anxiety which is effective on achievement. Teacher candidates claim that KPSS is not a qualified exam to choose teachers. Teacher candidates stated that for KPSS exam they need preparation institution, it affects themselves, social life and bachelor education negatively and KPSS is not an exam choosing qualified teachers. In addition to exam, there should be interview, applied phases and this exam repeated in service process (Atav & Sönmez, 2013). Social science students claimed that KPSS preparation time is an important factor of having anxiety (Harun & Kaya, 2014). Besides, KPSS is not a contemporary exam, harming mental health of people, and force teacher to memorising (Taşan & Bektaş, 2016).

The second finding of the research explains that prospective teachers' anxiety of not being appointed to teachership level does not significantly differ according to gender. In other words, both male and female students have not being appointed anxiety and this anxiety was not affected by gender difference. Female students' not being appointed mean score is 3.61 and male students' not being appointed mean score is 3.40. Both female and male students have high level of not being appointed anxiety level. In other studies, it is highlighted that teacher candidates' hopeless level does not significantly differ according to gender but differs according to age and economic level (Arı & Yılmaz, 2015). Females have more positive attitudes towards teaching profession (Doğan & Çoban, 2009).

The third finding of the research explains that prospective teachers' anxiety of not being appointed to teachership level does not significantly differ according to grade difference. This means that grade difference is not a factor of affecting faculty of education students' not being appointed anxiety. The fourth finding of the research explains that faculty of education students' not being appointed anxiety does not significantly differ according to department differences. This result means that department difference is not a factor of affecting prospective teachers' anxiety of not being appointed to teachership levels. The fifth finding of the research explains that prospective teachers' anxiety of not being appointed to teachership level does not significantly

differ according their belief of being a good teacher. In other words, faculty of education students who believe to be a good teacher or not, have not being appointed anxiety. Students who believe to be a good teacher have a mean score of 3.55 and the mean score of the students' who don't believe to be a good teacher is 3.86.

Students', who are pessimistic to find a job, have anxiety (Doğan & Çoban, 2009). Teacher candidates criticize objectivity of KPSS test (Karataş & Güleş, 2013). Teacher candidates stated that teacher selection oral exam is mostly out of field, exam commissions are mostly subjective, exam duration is insufficient for evaluation, oral exam appointment regulation is not objectively prepared. Additionally, participants stated that oral exam trivialised teacher candidates, didn't make a contribution to qualifications of teachers, and feel anxiety regarding to the future of teaching profession (Koşar, Er, Koşar, & Kılınç, 2018).

References

Arı, E. & Yılmaz, V. (2015). KPSS hazırlık kursuna devam eden öğretmen adaylarının umutsuzluk düzeyleri [The hopelessness levels of prospective teachers attending KPSS prepartion courses]. *Gaziantep University Journal of Social Sciences, 14*(4), 905-931.

Atav, E. & Sönmez, S. (2013). Öğretmen adaylarının kamu personeli seçme sınavı (KPSS)'na ilişkin görüşleri [The views of teacher candidates about public personnel selection examination]. *Journal of Hacettepe University Faculty of Education Special Issue*, (1), 01-13.

Atkinson, Rita L., Richard C. Atkinson, Edward E. Smith, Daryl J. Bem, & Susan Nolen-Hoeksema. (1999). *Introduction to Psychology*. Y. Alogan, (Ed.). İstanbul: Arkadaş-Press.

Aydın, B. & İmamoğlu, S. (2001). Stresle başa çıkma becerisi geliştirmeye yönelik grup çalışması [Group guidance programme for stress and coping]. *Journal of Marmara University Faculty of Education, 14*, 41-52.

Bakırcı, B. (2012). *Ortaöğretim kurumlarında çalışan öğretmenleri etkileyen örgütsel stres kaynakları nelerdir (Edirne İli Örneği [What are the organizational stress sources which have an ınfluence on the teachers who work at high schools?]*. (UnpublishedMaster'sdissertation). Trakya University Social Science Institute, Edirne.

Başaran, M. H. (2008). *Sporcularda durumluk ve sürekli kaygı düzeylerinin bazı değişkenlere göre incelenmesi [Examination of the level of state - trial anxiety of sportsmen according to some variables]*. (Unpublished doctoral dissertation). Selçuk University Health Science Institute, Konya.

Başoğlu, T. S. (2007). *Sınav Kaygısı İle Özgüven Arasındaki İlişkinin Erinlik Döneminde İncelenmesi [The relationship between the pre-exam anxiety and the self-confidence and to search the effects of those oncepts on the neolagnium]*. (Unpublished Master's dissertation). Maltepe University Social Science Institute, Istanbul.

Bozdam, A. (2008). *Öğretmen adaylarının mesleki kaygı düzeylerinin bazı değişkenler açısından incelenmesi [Examination the occupational anxiety levels of master candidates according to some variables]*. (Unpublished Master's dissertation). Selçuk University Health Science Institute, Konya.

Büyüköztürk, Ş. (1997). Araştırmaya yönelik kaygı ölçeğinin geliştirilmesi [Development of research anxiety scale]. *Journal of Educational Administration: Practice and Theory, 3*(4), 453-464.

Cüceloğlu, D. (1996). *Human and behaviour*. Ankara: Remzi press.

Doğan, T. & Çoban, A. E. (2009). Eğitim fakültesi öğrencilerinin öğretmenlik mesleğine yönelik tutumları ile kaygı düzeyleri arasındaki ilişkinin incelenmesi [The investigation of the relations between students' attitude toward teachingnprofession and anxiety level in faculty of education]. *Education and Science, 34*(153), 155-168.

Eskici, M. (2016). Öğretmen adaylarının atanamama kaygılarının çeşitli değişkenlere göre incelenmesi [Determine the anxiety of pre-service teachers'not to be appointed to teachership in the light of some variables]. *Electronic Turkish Studies, 11*(19), 361-378.

Gormsen, L., Rosenberg, R., Bach, F. W., & Jensen, T. S. (2010). Depression, anxiety, health-related quality of life and pain in patients with chronic fibromyalgia and neuropathic pain. *European Journal of Pain, 14*(2), 127-135.

Gümüş M. (2002). Profesyonel futbol akımlarında Puan Sıralamasına Göre Durumluk Kaygı Düzeylerinin İncelenmesi [Evaluation of state-trait anxiety levels of professional football teams in terms of their point classification]. (Unpublished Master's dissertation). Sakarya University Social Science Institute , Sakarya.

Gündoğdu, K., Çimen, N., & Turan, S. (2008). Öğretmen adaylarının kamu personeli seçme sınavına (KPSS) ilişkin görüşleri [Perceptions of prospective teachers in relation to civil cervant selection exam (KPSS)]. *Journal of Kırşehir Faculty of Education, 9*(2), 35-43.

Harun, E. R. & Kaya, M. F. (2014). Sosyal bilgiler öğretmen adaylarının stres kaynaklarının belirlenmesi [Determination of Stress Sources of Social Studies Teacher Candidates]. *Journal of Cumhuriyet International Education, 3*(2), 1-15.

Hollway, W. & Jefferson, T. (1997). The risk society in an age of anxiety: situating fear of crime. *British journal of sociology, 48*(2), 255-266.

Işık, E. (1996). *Nevrozlar*. Ankara: Kent Press.

Karataş, S. &Güleş, H. (2013). Öğretmen atamalarında esas alınan merkezi sınavın (KPSS) öğretmen adaylarının görüşlerine göre değerlendirilmesi [Evaluation of the selection exam for civil cervants (KPSS) from pre-service teachers' perspectives]. *Journal of Theoretical Educational Sciences, 6*(1), 102-119.

Kavcar, C. (2002). Cumhuriyet döneminde dal öğretmeni yetiştirme [Subject teacher education at republic era]. *Ankara University Journal of Educational Sciences, 35*(1-2), 1-14.

Kırel, Ç. (1993). Örgütsel stres yönetimi [Organisational stres management]. *Journal of Eskişehir Anadolu University Faculty of Administration, 11*(1-2), 159-173.

Koşar, D., Er. E., Koşar, S., & Kılınç, A. Ç. (2018). Öğretmen atamalarında sözlü sınav uygulamasının değerlendirilmesi: atanan ve atanamayan öğretmen adaylarının görüşlerine dayalı nitel bir analiz [Examining the oral exams in teacher appointments: a qualitative analysis depending on the opinions of teacher candidates]. *Journal of National Ministery of Education, 47*(218), 135-162.

Kuru, E. (2000). *Psychology at sports*. Ankara: Gazi University Press.

Ministry of National Education (2019). Teachers appointment regulation. Retrieved from http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=7.5.20694&MevzuatIliski=0&sourceXml

Morris, L., Davis, D., & Hutchings, C. (1981). Cognitive and emotional components of anxiety: literature review and revised worry-emotionality scale. *Journal of Educational Psychology, 75*, 541–555.

Neumann, F. L. (2017). Anxiety and politics. *tripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society*, *15*(2), 612-636.

Öncül, R. (2000). Dictionary of education and educational science Ankara: Ministry of National Education Press.

Öner, N. & Le Compte, A. (1985). *The handbook for state trait anxiety inventory*. İstanbul: Bosphorus University press

Sezgin, F. & Duran, E. (2011). Kamu Personeli Seçme Sınavı'nın (KPSS) öğretmen adaylarının akademik ve sosyal yaşantılarına yansımaları [The reflections of the public personnel selection examinatio on teacher candidates' academic and social lives]. *The Journal of Turkish Social Research,15* (3) 9-22.

Spielberger, C. D. (1979). *Understanding stres andanxiety*. London: Harper&Row.

Spielberger, C.D. (1972). Anxiety : Current trend in theory and research. New York: AkademicPress.

Şar, A. H. Işıklar, A. & Aydoğan, İ. (2012). Atama bekleyen öğretmen adaylarının yaşam doyumunu yordayıcı değişkenlerin incelenmesi [The examination of variables that predict life satisfaction of teacher candidates waiting for assignment]. *Journal of Mehmet Akif Ersoy University Faculty of Education, 1*(23), 257-271.

Taşan, D. & Bektaş, O. (2016). Fen bilgisi öğretmen adaylarının kamu personeli seçme sınavına yönelik görüşleri [Views of pre-service science teachers regarding civil cervant selection exam]. *Journal of Kirsehir Education Faculty, 17*(3), 81-100.

Uyulgan, M. A. & Akkuzu, N. (2015). Öğretmen adaylarının gözünden nitelikli öğretmen seçimi: ortaöğretim fen ve matematik alanları öğretmenliklerinin durumu [*Qualified teacher selection from the perspectives of pre-service teachers: the situation of students majored ın the department of secondary science and mathematics education*]. *Journal of Kastamonu Faculty of Education*, *23*(3), 917-940.

Viney, L. L., & Westbrook, M. T. (1976). Cognitive anxiety: A method of content analysis for verbal samples. *Journal of Personality Assessment*, *40*(2), 140-150.

Vitasari, P., Wahab, M. N. A., Othman, A., Herawan, T. & Sinnadurai, S. K. (2010). The relationship between study anxiety and academic performance among engineering students. *Procedia-Social and Behavioral Sciences*, *8*, 490-497.

William, Z. M (2002). *The physche centered zone of peak performance; dept phychology applied to golf*. California: Pasifika Graduate Institute.

Wine, J.D. (1980). Cognitive-attentional theory of test anxiety. In I.G. Sarason (Ed.), *Test anxiety: theory, research and applications*. NJ: Lawrence Erlbaum Associates.