Publishing INASED

Educational Policy Analysis and Strategic Research

1949 - 4289

EPASR
INASED Published ©

Volume 16 Issue 3 September, 2021

epasr.inased.org

© 2021 INASED

EPASAD

Educational Policy Analysis and Strategic Research

Volume 16 Issue 3 September, 2021

INASED
International Organization

A Journal Sponsored by International Association of Educators (INASED)

© 2021 INASED

EDUCATIONAL POLICY ANALYSIS AND STRATEGIC RESEARCH

Indexing/Abstracting:

1- ERIC: http://www.eric.ed.gov/

2- ERIH PLUS: https://dbh.nsd.uib.no/publiseringskanaler/erihplus/

3- EBSCO Publication: http://www.ebsco.com

4- Directory of Open Access Journals: (DOAJ): http://www.doaj.org/home

5- Cabell's Directory of Publishing: http://www.cabells.com

6- OCLC-WorldCat: http://www.oclc.org/worldcat/default.htm

2021 Subscription Rates

• $35 Association Member USA (Canada: $40; Rest of World: $50)

• $45 Individual USA (Canada: $50; Rest of World: $55)

• $35 Student USA (Canada: $40; Rest of World: $50)

• $140 Library/Institution USA (Canada: $160; Rest of World: $160)

Single Issues and Back Issues: $25 USA (Canada: $35; Rest of World: $35)

If you wish to subscribe for the printed edition of EPASR, please contact the Customer Service department secretary@inased.org

EDUCATIONAL POLICY ANALYSIS AND STRATEGIC RESEARCH

Editor
Mustafa Yunus Eryaman *Canakkale Onsekiz Mart University, Turkey*

Issue Editor
Nihat Gürel Kahveci *Canakkale Onsekiz Mart University, Turkey*

Assistant Editor
Mustafa Koc *Suleyman Demirel University, Turkey*
Ulas Yabanova *Dumlupınar University, Turkey*

Editorial Review Board (Board of Referees)
Bertram Chip Bruce *University of Illinois at Urbana-Champaign*
Peggy Placier *University of Missouri-Columbia*
Yang Changyong *Southwest China Normal University*
Sharon Tettegah *University of Illinois at Urbana-Champaign*
Fernando Galindo *Universidad Mayor de San Simón*
Susan Matoba Adler *University of Hawaii West Oahu*
Carol Gilles *University of Missouri-Columbia*
Mustafa Yunus Eryaman *Canakkale Onsekiz Mart University*
Haluk Soran *Hacettepe University*
Hayati Akyol *Gazi University*
Fatma Alisinaoğlu *Gazi University*
Petek Askar *Hacettepe University*
Esin Atav *Hacettepe University*
Hakan Dedeoglu *Hacettepe University*
Ayşe Ottekin Demirbolat *Gazi University*
Ihsan Seyit Ertem *University of Florida*
Nezahat Güçlü *Gazi University*
Leman Tarhan *Dokuz Eylül University*
Ceren Tekkaya *Orta Doğu Teknik University*
Erdal Toprakçı *Cumhuriyet University*
Mustafa Ulusoy *University of Illinois at Urbana-Champaign*
Rauf Yıldız *Canakkale Onsekiz Mart University*
Melek Yaman *Hacettepe University*
Okan Yaşar *Canakkale Onsekiz Mart University*
Ayhan Yılmaz *Hacettepe University*
Funda Ergüleç *Eskişehir Osmangazi Üniversitesi*
Durmuş Özbaşı *Çanakkale Onsekiz Mart Üniversitesi*

The views expressed in this publication are not necessarily those of the Editor or the Editorial Review Board, nor the officers of the International Association of Educators (INASED). Copyright, 2021, International Association of Educators (INASED). ISSN 1554-5210

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

TABLE OF CONTENTS

Volume 16, Number 3

September 2021

Articles

7 Evaluation of the Child Book "Melody" by Turkish Preservice Teachers in Terms of Child Rights

Author(s): Arzu ÇEVİK

23 The Effect of Using Smart Boards in Science Lessons on Middle School Students' Attitudes Towards Smartboards and Reflective Thinking Skills

Author(s):Mirac Furkan BAYAR - Uluhan KURT

39 Preservice Classroom Teachers' Applications of Science Experiments with Cooperative Learning Model: A Mixed Design Research

Author(s): Ayten ARSLAN

56 Interactive Metadiscourse Markers in the Turkish Articles on Science and Social Sciences

Author(s): Mustafa Onur KAN

67 Developing Visual Literacy Skills in Teacher Education: Different ways of looking at the visual images

Author(s): Vedat ÖZSOY - Sevcan SARİBAŞ

89 A Qualitative Assessment on 'My School Rize Project'

Author(s): Arzu KÜÇÜK - Nagihan YILDIRIM

114 A Metaphorical Approach: How are the Concepts of Principal, Inspector and Curriculum Perceived?

Author(s):Neşe ERTOK - Azize UMMANEL

127 Examination of Faculty of Sports Sciences Students' Unethical Behaviours In-classroom: A Mixed Research Approach

Author(s): Emrah ASLAN - Aynur YILMAZ

150 The COVID-19 Pandemic: Teacher Candidates' Views regarding The Virus and Vaccination Process

Author(s):Muhammed SALMAN - Mustafa Öztürk AKCAOĞLU – Muammer ERGÜN

167 The Role of Parents in Children's School Readiness

Author(s): Sema ÖNGÖREN

191 Examining the Relationship Between Prospective Turkish Teachers` Public Speaking Anxiety and Digital Speech Tendencies

Author(s): Yusuf Mete ELKIRAN

209 A Cultural and Artistic Approach to Early Childhood Science Education: Shadow Play

Author(s): Erdinç ÖCAL - Abdulhamit KARADEMİR - Özkan SAATÇİOĞLU - Hatice Büşra YILMAZ TAM

245 Investigating Relationship Between Democratic Attitudes and Social Justice Beliefs of Pre-Service Teachers

Author(s): Gökhan KILIÇOĞLU - İlknur ŞENTÜRK

272 STEM-Based NOS Teaching on 7th Grade Students' NOS Views

Author(s): Günkut MESCİ - Eda ERDAŞ-KARTAL

299 Turkish Adaptation of Online Teaching Effectiveness Scale

Author(s): Metin AŞÇI - Remzi YILDIRIM

316 An Analysis of the Content Knowledge Elective Courses of the ELT Departments: A Suggested Syllabus

Author(s): Melis ŞENOL - Kürşat CESUR

336 Development of the Teacher Report Form of Anxiety in Pre-school Children

Author(s): Hakan ŞAHİN

350 Understanding De Certeau's Concepts of Strategy and Tactics in Relation to the Educational Policy Analysis

Author(s): Aznavur DEMİRPOLAT

363 Social Services in the Context of 2018 Social Studies Curriculum and Textbooks

Author(s): Kenan BAŞ

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Evaluation of the Child Book "Melody" by Turkish Preservice Teachers in Terms of Child Rights

Arzu ÇEVİK[1]

Bartın University

Abstract

The purpose of the present study was to analyse and evaluate a book considering suitability with children's rights. More specifically, it was aimed to answer the research problem of "To what extend is the book named Melody suitable for child rights according to Turkish pre-service teachers?" in detail. The present quantitative study was designed based on descriptive research model. The sample of the present study was composed 105 sophomore pre-service teachers enrolled in Turkish teacher education program. They were selected based on criterion sampling strategy. The data were collected through "Text Evaluation Scale for Child Rights" developed by Söylemez (2018). The quantitative data were analysed using descriptive statistical techniques such as arithmetic mean, mode, frequency, percentage, and standard deviation. Moreover, normality of the data was tested by skewness-kurtosis coefficient and Komogorov-Simirnov test. The findings were reported based on pre-service teachers' evaluations of the book related to a child excluded from school activities because of her disability. Based on findings, it was observed that pre-service teachers could evaluate the book with respect to children's rights through a literary book effectively.

Keywords*:* Child Rights, Descriptive Research, Pre-Service Teachers, Turkish Education.

DOI: 10.29329/epasr.2021.373.1

[1]Asisst. Prof. Dr., Education Faculty, Bartın University, Bartın, Turkey, ORCID: 0000-0001-9673-847X

Correspondence: arzucevik@outlook.com

Introduction

Right is a concept that includes the interests of the individual to be protected and the protection of the individual by law. Basically, every person has rights (freedom, citizenship, residence, travel, etc.) determined by the laws and conventions. Moreover, values and morals referring to ethics have importance and significance for organizations and society (Grigoropoulos, 2019). Child rights, which should be considered within the concept of human rights, are also determined by the international conventions. United Nations composed a convention consisting of 54 items which "indicates that the necessity to behave the child exclusively was determined by Child Rights Declaration revealed by the United Nations General Assembly in November 20th, 1959 and Geneva Declaration of the Rights of the Child, 1924" depending on the related documents of The Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights (especially Articles 23 and 24) and the International Covenant on Economic, Social and Cultural Rights (especially Article 10), and the foundations of specialized organizations and international organizations dealing with the well-being of the children (UNICEF 1989). This convention was confirmed by the United Nations General Assembly on November 20th, 1989 and came into force on September 2nd, 1990 in order to protect the rights of the child. 142 countries including Turkey signed this convention. Human rights as a critical issue must be taught to the students and take its place in education. Based on this issue, there have been research examining human rights education in the literature (Bajaj, 2004; Balton, 1992; Charles, 1991; Flowers and Shiman, 1997; Hornberg, 2002; Lohrenscheit, 2002; Magendzo, 1994; Meintjes, 1997).

When we examine human life by dividing it into stages in terms of its characteristics, the time from birth to the age of two is considered as infancy, and the time from two to adolescence (up to the age of 15) is considered as childhood (Gürel, Temizyürek and Şahbaz, 2007; Oğuzkan, 2010; Şahin, 2014). The United Nations' Child Rights Convention considers every person up to the age of eighteen as a child (MEB (MoNE)1991). A person who has not completed the age of 18 is a child according to the Article 6/1-c of the Turkish Penal Code No.5237 (TCK (Turkish Penal Code), 2004). According to Article 3/1-a of Child Protection Law (ÇKK (Child Protection Law)) No 5395, a person under 18 is a child, even if s/he reaches maturity at an earlier age (ÇKK (Child Protection Law) 2005). As stated by the law, every human being is a child and in need of protection until s/he turns 18.

Approaching the childhood as an independent period and accepting the need for a special care for children are almost recent in the world (Gander and Gandier, 2007; Yurtsever, 2009). The periods are divided into three parts: the traditional childhood period, when the child was not behaved different from the adulthood, the ancient childhood period when information about childhood was not available, and today, the modern understanding of the childhood (Şirin, 2007b). The modern childhood period, with the transition from the extended family structure to the nuclear family

structure, enabled the families to pay more attention to the development of the children and this has been a factor in shaping the period. This process, which started with the caring of the child in the family, provided to focus on the education of the child. Education plays a fundamental role in the social, psychological and linguistic development of the child. Reading has an active role in language development and mental development, thus reading materials were needed for reading. In the past, among the works written for adults, the ones suitable for children were chosen, but these works did not meet the needs of the children in many ways. This paved the way for the creation of a literature specific to children.

Children's literature is the general name of the works that enrich the emotions and thoughts with artistic linguistic and visual messages and increase the level of appreciation in accordance with the language development and comprehension levels of children in a life stage starting from early childhood to adolescence (Sever, 2010: 17). Children's literature is a sub-branch of literature that includes literary works that meet the interests and needs in childhood of human life. Literature presented to the children is a specific field, basic principle of which is "suitability for the children" (Arıcı, 2016; Dursunoğlu, 2015; Gürel et al., 2007; Oğuzkan, 2010; Sever, 2010; Şirin, 2007a; Turan, Gerez and Taşkın, 2018). Suitability for the child is a principle based on the creation of oral and written texts that appeal to the children's own world, can understand the children, and their needs without being superior to them, is suitable for their developmental level, and respond to their interests and needs.

Children's literature has two subjects, one is child and the other is literature (Arıcı, 2016). A child is a person aged between 2 and18. From the moment babies are born, they tend to understand, recognize and learn everything around them through their mother tongue. This curiosity also constitutes the basis of children’s development in childhood. Literature is the written and verbal expression of feelings, thoughts and dreams (Kıbrıs, 2002: 1). The basis of both literature and language teaching is text. The text is a set of strings produced verbally or in written form by one or more people in a certain communication context (Günay, 2007: 44). The text is also the basic material needed in language teaching. The main factor in the development of reading skill is again the texts. The development of reading skill depends on the inclusion of qualified children's literature products in the selection of texts in Turkish course books (Dilidüzgün, 2004). For this reason, the reference source for language teaching and the development of reading skills should be the texts that address the child's world, understand the child and protect his/her rights. The child who encounters with reading and writing makes sense of the world through written texts and forms his/her mental concepts (Eryaman, 2008). The child who learns in this way is curious about everything (Sever, 2013). The child who gets acquainted with reading and writing makes sense of the world through written texts and forms his mental concepts. It is adults’ task to bring the children together with works that will make them wonder, respond to their needs, contribute to their development, and raise their curiosity.

Because the child is a vulnerable individual whose reasoning ability has not yet developed and who cannot distinguish between right and wrong. They are open to any data presented to them and are exposed to them. For this reason, it is not possible for children to know their rights, to protect themselves and to make decisions about their own lives. Therefore, the texts to be used in education should be precise and proper for the children in terms of children's rights. When the United Nations Convention of the Rights of the Child is examined in terms of content, it can be said that it is structured on the themes of "Education, Leisure and Cultural Activities", "Family Environment and Care", "Basic Health and Welfare" and "Citizenship Rights and Freedoms" (Yurtsever, 2009: 67). According to the text, every child who was born has the right to be cared for by their parents by taking the name given by them. In such cases that the parents cannot manage to take care for the children, the state is obliged to provide the necessary conditions. It is stated in the text that the children have freedom of religion and conscience, can freely express their opinions, and participate in any artistic activities. The signatory states of the convention have guaranteed to maintain it. The contract, which guarantees many rights that will ensure the development of children starting from living, which is the most fundamental right of the children, accepts children as separate individuals with their own rights, freedoms and boundaries and takes them under protection (Söylemez, 2018).

The book titled "Melody" is about the story of a special child who has found herself on today's bestseller list. She is an eleven-year-old girl named Melody. Melody cannot speak or use her arms and feet because of her illness. However, she goes to school with the effort of her family since she does not have a mental disability. She shows a performance that surpasses her peers in a quiz held at school, and this increases her commitment to life. The team, who have to leave the region for the last quiz program, get on the plane without telling Melody. They have in mind from the very beginning that a disabled individual does not participate in such a competition. The author makes the reader feel this throughout the plot. But the last incident clearly reveals this idea. They fail the quiz held in the region that Melody did not participate in. This book, which especially appeals to secondary school students in terms of its subject and style, was carefully read by Turkish preservice teachers and attracted considerable attention in terms of focusing on a disabled child who is subjected to injustice. It is thought that it is important to examine such a book in terms of children's rights for teachers who are expected to be sensitive about the injustices suffered by children. It is considered that it is crucial to examine such a book in terms of children's rights with preservice teachers who are expected to be sensitive about the injustices that children suffer. Within this framework, the aim of the study is to evaluate the book named "Melody" in terms of suitability with children's rights. For this purpose, the problem statement of the study was determined as follows:

"To what extend is the book named Melody suitable for child rights according to Turkish pre-service teachers?"

© 2021 INASED

Method

Design of the Research

The study was designed using descriptive research model, one of the quantitative research designs. “Scanning models aim to depict and describe a past or ongoing event as it is. What is vital here is to observe the event properly and to reveal the results” (Karasar, 1991: 77). Descriptive research is useful to represent the properties, views and characteristics of the participants (Rubin and Babbie, 2008; Thomlison, 2001). In this study, using this model, it is aimed to reveal the examinations and evaluations of Turkish teacher candidates to what extent a work is about children's rights and how it reflects children's rights. In other words, it has been revealed that how Turkish pre-service teachers deal with children's rights in the book titled “Melody” in a quantitative method.

Data Collection

The “Text Evaluation Scale for Child Rights” developed by Söylemez (2018) was used as a data collection tool in the study conducted through descriptive research. While the lowest score that can be obtained from this five-point Likert type assessment instrument consisting of 40 items was 40, the highest score was determined as 200. The internal consistency value of the assessment instrument was determined by Söylemez (2018) as $\alpha = .901$, $\alpha = .822$ for the author sub-dimension and $\alpha = .834$ for the content sub-dimension.

In order to provide reliability of the instrument using in the current study, Cronbach Alpha coefficients were calculated. Based on these calculations, it was observed that similar results were observed in the findings of the researcher. These values can provide evidence that the instrument was valid and reliable for using in the present study.

Table 1. Text Assessment Scale for Children's Rights Cronbach Alpha Coefficients

Factor	Alpha	Item Number
Author	0.623	7
Content	0.861	33
Instrument score	0.847	40

For the Cronbach Alpha reliability coefficient, $0.00 < \alpha < 0.40$ is considered to be unreliable, $0.40 < \alpha < 0.60$ as lowly reliable, $0.60 < \alpha < 0.90$ quite reliable and $0.90 < \alpha < 1.00$ highly reliable. (Özdamar, 1999; cited in Tavşancıl, 2006: 29).

When Table 1 is examined, it is seen that both the whole scale and *the author* and *content* sub-dimensions are quite reliable according to the Cronbach Alpha coefficient.

Data Analysis

The obtained data were analysed according to descriptive statistical methods such as frequency, mean and standard deviation values with the help of SPSS program. First of all, whether

the scores obtained by the pre-service teachers from the scale show normal distribution was examined using tests such as Kolmogorov-Smirnov. In addition, whether the pre-service teachers' scores show normality according to the dimensions of the scale was tested by calculating the skewness-kurtosis coefficient. Moreover, pre-service teachers' responses to the scale and their book reviews were analysed using descriptive statistical techniques such as arithmetic mean, mode, frequency, percentage, and standard deviation.

Population and Sample

While the population of the study was composed of Turkish preservice teachers, the sample was determined as 2nd grade students of Bartın University and Süleyman Demirel University. The sampling method was determined by criterion sampling technique, which is one of the purposeful sampling methods, and the study was based on voluntariness. The criteria used in the selection of samples were determined as taking the "Children's Literature" class and having read the book "Melody". The study was carried out with volunteer participants having these criteria. In other words, it was conducted with 105 pre-service teachers who voluntarily participated in the study. The gender status of the participants in the sample is given in the table below:

Table 2. Frequency and Percentage (%) Distribution Regarding the Gender of the Pre-service Teachers Participating in the Study

Gender	The Number of the People	Percentage
Male	38	36.2%
Female	67	63.8%
Total	105	100.0%

When Table 2 was examined, it was determined that 63.8% of the teachers participating in the study were female and 36.2% were male. As can be seen here, most of the participants are female pre-service teachers. It can be said that the participant students' gender distribution as male and female is proportional to the gender distribution of all students studying at Bartın University and Süleyman Demirel University Turkish Language Teaching Department, where the participants are selected.

Findings

In order to determine the necessary statistical processes, it is necessary to evaluate the normal distribution of the sample. In cases where the sample size is more than 50 people, the Kolmogorov-Smirnov test is the best test for normality test (Sarstedt and Mooi, 2014). For this reason, Kolmogorov-Smirnov test was applied and the results obtained are given below.

Table 3. Kolmogorov-Smirnov Normality Test Results

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistics	S.D.	p	Statistics	S.D.	p
Scale Score	.064	105	.200*	.980	105	.106

According to the Kolmogorov-Smirnov test result, which was examined because the sample size was over 50, (since p> 0.05) the available data show a normal distribution. When Table 3 is examined, it can be said that the scores of the book titled Melody for children's rights reveals a normal distribution.

Table 4. Descriptive Data Regarding the Book titled Melody on Children's Rights

	N	M	Sd.	Mode	Median	Kurtosis	Skewness
Scale Score	105	154.33	10.049	164	155	1.044	.420

According to the results in the descriptive statistics table, the average score obtained from the scale was 154.33, the median was 155, the peak value was 164 and the standard deviation was 10.049. When Table 3 is examined, it is seen that mean scores, mode, and median values are close to each other. When we look at the kurtosis and skewness values in the table, we can say that the scores show a normal distribution. Kurtosis and skewness values between -2 and +2 indicate that the data are distributed normally (George and Mallery, 2003).

Table 5. Descriptive Data Regarding the Author Sub-Dimension of the Book titled Melody on Children's Rights

	N	M	Sd.	Mode	Median	Kurtosis	Skewness
Author	105	3.90	.395	4	4	.188	.364

According to the results in Table 5, the mean score obtained from the "Author" sub-dimension of the scale was 3.90, the median was 4, the peak value was 4, and the standard deviation was 0.395. When the table is examined, it is seen that the scale point averages, mode and median values of the teachers are close to each other. Upon examining the kurtosis and skewness values in the table, it can be said that the scores of the scale sub-dimension show a normal distribution.

Table 6. Descriptive Data on the Content Sub-Dimension of the Book titled Melody on Children's Rights

	N	M	Sd.	Mode	Median	Kurtosis	Skewness
Content	105	3.84	.256	4	4	.791	.255

According to the results in Table 6, the mean score obtained from the "Content" sub-dimension of the scale was 3.84, the median was 3.42, the peak value was 3, and the standard deviation was 0.256. When the table is examined, it is seen that the scale point averages, mode and median values of the teachers are close to each other. When looking at the kurtosis and skewness values in the table, it can be said that the scores of the scale sub-dimension show a normal distribution.

Table 7. Rates and Limits of Scale Options

Option	Rates	Limits
Strongly Disagree	1	1.00 – 1.80
Disagree	2	1.81 – 2.60
Neither Agree nor Disagree	3	2.61 – 3.40
Agree	4	3.41 – 4.20
Strongly Agree	5	4.21 – 5.00

The arithmetic mean ranges based on the evaluation of the research findings, considering the calculation of the interval width of the scale with the formula "range / number of groups to be applied" (Tekin, 2002) are in the form of; 1.00-1.80; "Strongly disagree", 1.81-2.60; "Disagree", 2.61-3.40; “Neither Agree nor Disagree”, 3.41-4.20; " Agree" and 4.21-5.00; "Strongly agree".

Since the research is about the evaluation of the children's literature work named Melody, when it comes to evaluating the text, it was deemed appropriate to revise the options as follows within the scope of expert opinions.

Table 8. Rates and Limits of Scale Options Revised for Evaluation

Option	Revised Option	Rate	Limits
Strongly Disagree	The Lowest	1	1.00 – 1.80
Disagree	Low	2	1.81 – 2.60
Neither Agree nor Disagree	Middle	3	2.61 – 3.40
Agree	High	4	3.41 – 4.20
Strongly Agree	Higher	5	4.21 – 5.00

When Table 8 is analysed, while collecting data, the options suitable for the five-point Likert type from "strongly disagree" to "strongly agree" are revised in the same direction from "very weak" to "very strong" and is suitable for the five-point Likert type in the analysis section where it is evaluated whether the text aims at children's rights. Thus, the data will be reflected on the text and interpreted more easily and clearly.

Table 9. Item Score Averages of the Book titled Melody on Children's Rights

	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
V1	105	1.00	5.00	4.0095	.81448
V2	105	1.00	5.00	3.8286	.77778
V3	105	1.00	5.00	4.1333	.94122
V4	105	1.00	5.00	3.5333	1.13567
V5	105	1.00	5.00	3.6667	.90582
V6	105	2.00	5.00	4.4000	.71522
V7	105	1.00	5.00	3.7524	1.04496
V8	105	2.00	5.00	4.3048	.70879
V9	105	1.00	5.00	3.9143	.86729
V10	105	2.00	5.00	4.3810	.69864
V11	105	2.00	5.00	4.1429	.73939
V12	105	1.00	5.00	3.9810	.89851
V13	105	1.00	5.00	3.1714	1.18854
V14	105	1.00	5.00	4.4381	1.24020
V15	105	1.00	5.00	3.9810	.98039
V16	105	1.00	5.00	4.0381	1.12033
V17	105	1.00	5.00	4.0667	1.29546

V18	105	1.00	4.00	4.5714	.71765
V19	105	2.00	5.00	4.1333	.73467
V20	105	2.00	5.00	3.9143	.79801
V21	105	1.00	5.00	3.8952	1.08241
V22	105	1.00	5.00	3.3143	.99338
V23	105	1.00	5.00	3.5714	1.20780
V24	105	1.00	5.00	4.3333	.93713
V25	105	1.00	5.00	3.2000	1.29644
V26	105	1.00	5.00	3.9905	.87151
V27	105	1.00	5.00	3.5524	1.03757
V28	105	1.00	5.00	2.8190	1.10750
V29	105	2.00	5.00	4.1333	.79743
V30	105	1.00	5.00	2.9714	1.27443
V31	105	1.00	5.00	3.0000	1.14290
V32	105	1.00	5.00	4.0190	.96058
V33	105	1.00	5.00	3.8571	.87077
V34	105	2.00	5.00	3.9619	.71956
V35	105	1.00	5.00	4.0857	.74826
V36	105	2.00	5.00	4.2381	.81481
V37	105	2.00	5.00	4.1905	.68071
V38	105	1.00	5.00	3.8762	.91667
V39	105	1.00	5.00	3.2381	1.05177
V40	105	1.00	5.00	3.7238	1.06062
Allmean	105	2.78	4.23	3.8583	.25122
Valid N (listwise)	105				

When Table 9 is examined, it has been determined that the scores for the book named Melody on children's rights (out of 5) are at the arithmetic average of 3.85 and at the level of "Disagree". In other words, it can be stated that the statue of the book for children's rights is at a "strong" level.

When the work is evaluated, it is seen that the highest score in terms of arithmetic mean is item 18 ($\bar{x}$ = 4.57) and the 10% with the highest score are the 14th ($\bar{x}$ = 4.43), 6th ($\bar{x}$ = 4.40) and 10th ($\bar{x}$ = 4.38) items, respectively. In this case, it can be said that the book does not demonstrate child *as a sexual object and does not include images that will cause children to abuse, on the contrary,* it can be said that the book features a content in which *parents guide children and allow them to express their opinions freely*.

While evaluating the text, it is seen that the lowest score was given to the 28th item ($\bar{x}$ = 2.81). It is seen that this item is in the form of "*there is a positive discrimination towards handicapped children."* and no strong content has been created for this. It is observed that the 30th ($\bar{x}$ = 2.97), 31st ($\bar{x}$ = 3.00), and 13th ($\bar{x}$ = 3.17) items are respectively in the 10% with the lowest score. The item average scores correspond to the "medium" level can be evaluated as positive and also it is important in terms of revealing the weaknesses of the work in terms of children's rights. Although it is at a "medium" level in terms of *expressions that may violate children's rights, the visuals contribute positively to child development, and expressions that attack the child's honour and dignity,* it can be said that the book falls behind in terms of other features.

Table 10. The Ratio of Item Average Scores to Overall Average

	Item Numbers	**$\bar{X}$**
Items below the general average	2, 4, 5, 7, 13, 22, 23, 25, 27, 28, 30, 31, 33, 39, 40	3.4133
Items above the general average	1, 3, 6, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 24, 26, 29, 32, 34, 35, 36, 37, 38	4.1253

When Table 10 is examined, it is seen that the number of the items above the general average is higher and the average of these items is $\bar{x}$ = 4.12. Since the average of the items below the general average is $\bar{x}$ = 3.41 and it can be considered as "strong" in both groups, the book titled Melody can be considered as a suitable book for children's rights.

Table 11. Data Related to Pre-Service Teachers' Average Scale Scores According to Gender and T-Test Results Applied to These Scores

Gender	N	$\bar{X}$	ss	sd	t	p
Male	38	3.76	.257			
Female	67	3.94	.248	103	-1.018	.311

When Table 11 is examined, pre-service teachers' perceptions of the book named Melody on children's rights do not show a significant difference according to gender (t (103) = - 1.018, p> 0.05). Perceptions of the female pre-service teachers (for X = 3.94) regarding the work's being about children's rights are more positive than the perceptions of male teacher candidates ($\bar{X}$ = 3.76).

Table 12. The Item Score Average of the Sub-Dimensions Regarding the Book titled Melody on Children's

Sub-Dimension	The Number of The Items	$\bar{X}$
Content	33	3.84
Author	7	3.90

When Table 12 is examined, it is seen that the average score ($\bar{x}$ = 3.84) obtained from the content sub-dimension is at the "strong" level. This reveals that the content of the book titled Melody is written in a strong compliance with children's rights, in other words it does not violate children's rights. Looking at the highest and lowest average item scores shown in Table 9 before in the findings, it is seen that both groups belong to the content sub-dimension. It is a quite positive circumstance that the items with low scores are at the "medium" level in terms of the content of the work. Nevertheless, focus group interviews were conducted to reveal weak points of the content. Compared to the others, the participants, who stated that they gave a lower score to item 28, but a high score to item 29 due to the realistic view of the author against the negative attitudes of society towards disabled children, stated that the book does not privilege disabled individuals, but it supports them to be active in life. This shows that there is a consistent view in the text and that there is no negative situation.

It is seen that the average score ($\bar{x}$ = 3.90) obtained from the author sub-dimension is at the “strong” level and higher than the content sub-dimension. It can be claimed that the author of the

book (Sharon M. Draper) is sensitive enough to children's rights and has a writer's attitude in this direction. In the evaluations of the author, it was observed that the 39th item (raising awareness of children against harmful habits) and 40th item (the author's criminal history regarding children's rights) were below the general average of the scale. As a result of the focus group interviews, the middle level determination regarding the 39th item is due to the content of the book, and the "medium" determination regarding the 40th item is due to the fact that the participants are indecisive and mark a medium value since it requires a research about the author.

Conclusion and Discussion

The book titled Melody is about a disabled child who is subjected to injustice. It is taken into consideration that the rights and freedoms recognized by the Universal Declaration of Human Rights and the International Conventions of Human Rights are accepted and declared for everyone without any discrimination. In this respect, the fact that an individual is disabled does not constitute an obstacle to participation in competitions and events. The article of the International Convention, published in the Official Gazette No. 27288, is expressed as "Establishing organizations for disabled people that represent them at international, national, regional and local levels and ensuring their involvement in these organizations". The book is about a child who is tried to be excluded from school activities because of her disability. In this study, it is aimed that pre-service teachers can evaluate on children's rights through a literary book.

In the evaluation of the book titled Melody, the item "*In the text, the idea of free medical support for children is supported"* received a high score. Because the participation of disabled people in social life is a content that has a positive message in terms of trying to find the necessary equipment.

However, the item "*child/ children have been cared by their parents in the text*" is criticized for being left to the family to meet the needs of the child to a large extent. This situation puts the family in a difficult situation occasionally. In this respect, it is important in terms of leaving the responsibility to the family in the text, and even the family trying to acquire the communication tool that the child needs.

The item " In the text, child is given a chance to express his/her opinion freely via an instrument he/she will choose " was realized in line with the efforts of the family to provide the appropriate means. The protagonist got the chance to express herself by being included in the school environment with the encouragement of his family and the ones around. Ulutaşdemir (2007) pointed out that it may be difficult for a child who lives in separate educational institutions away from normal living environments and who spends most of the time at school among disabled children like herself, may be difficult to adopt such behaviours. In this sense, the message of the book is important that the children should be educated at the same level as their peers and be successful like their peers.

In the outcomes of the text evaluation process, it is understood that there is no equal opportunity in education in terms of the features of the text. The disability of the protagonist prevents his participation in the quiz program. The text includes some points that violate children's rights. At this point, the author gives messages in the text about the protection of child rights. Additionally, it was determined that the item " In the text, there is a positive discrimination towards handicapped children" was not present. On the other hand, the item " In the text, there is an approach about the active participation of the disabled children to the society " is supported in the book. In this respect, the given message is that the society will not provide convenience to disabled people, but they can achieve success more actively in the society. When evaluated in terms of positive discrimination based on this realistic assessment that can be seen throughout life, it may cause despair for the disabled person to stay in the back due to their disability.

It is observed that the child is regarded as a child, the reactions are conveyed through child's point of view, s/he is not shown as a sexual object, there are no visuals that will cause child abuse, and an environment is created where parents are guiding and can express their opinions freely. The point that the author wants to draw attention to is that the protagonist is exposed to an atmosphere of exclusion by her friends and the school administration because of her disability. It is seen that there is no different abuse here.

The lowest scoring items are " In the text, the child is imaged as a sex object " and " Some visuals which could cause child abuse were used in the text". These items are interpreted as the book does not include sexual content. Güzelyurt (2020) found out that in the illustrated children's books he examined, such contents as, respectively, protection from sexual abuse, sexual questions and body recognition were given the most attention. This sensitive issue needs to be positioned correctly in order to perform sexual education correctly and appropriately. Previous studies have emphasized that sexual education should be told students and they should be taught how to protect themselves (Balter, Van Rhijn and Davies, 2016). Deniz and Gözütok (2017) identified the examples of gender discrimination in the books they examined. Touriane (2015) draws attention to the fact that the characteristics of a person, including such concepts as sexuality and historical memory, emerge when s/he becomes conscious of them. In this respect, it is positive that sexuality is not reflected in a child book.

The items "Some statements/expressions which violate child rights were located in the text." and " In the text, there is an offense to child's honour and dignity" of the text discussed in the evaluation received the lowest scores. In his study, Sever (2002) criticizes the possibility of encouraging children who experience significant deprivation as a result of the subject in the novel to identify with wrong examples. Dağlıoğlu and Çamlıbel-Çakmak (2009) criticize the story books they examined for being constructed with characteristics far from children's thought systems and including characters that they could identify with, and to diversify and develop from the fears of violent

phenomena they see in their environment, instead of protecting children from them. Today, underlying reason of the perception of violence is that there are elements of violence in child books. Kara (2007) states that the fantasy children's books that hold reading records hide the violence element by showing them as images and it is an intended situation. In this sense, it is notable that the book does not reflect violence.

References

Akbuğa, B. and Gürsel, F. (2007). Bilgilendirme yoluyla beden eğitimi spor yüksekokulu öğrencilerinin engelli bireye yönelik değişen tutumları. *Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi , 5(1),* 5-8 . https://doi.org/10.1501/Sporm_0000000119

Arıcı, A. F. (2016). *Çocuk edebiyatı ve kültürü*. Pegem Akademi Yayınları.

Bajaj, M. (2004). Human rights education student self-conception in the Dominican Republic, *Journal of Peace Education, 1,* 1–16. https://doi.org/10.1080/1740020032000178285

Balter, A. S., Van Rhijn, T., and Davies, A. (2016). The development of sexuality in childhood in early learning settings: An exploration of Ontario Early Childhood Educators' perceptions. *Canadian Journal of Human Sexuality,* 25(1), 30-40. http://dx.doi.org/10.3138/cjhs.251-A3

Balton, D. A. (1992). Human rights in the classroom: teaching the convention on the rights of the child. *Social Education, April/May*, 210–212.

Charles, P. H. (1991). Educating for human rights. *Human Rights Quarterly, 13,* 420–423.

Çocuk Haklarına Dair Sözleşme (1989). https://www.unicef.org/turkey/çocuk-haklarına-dair-sözleşme accessed on 22/01/2021.

Çocuk Koruma Kanunu (2005). https://www.mevzuat.gov.tr/MevzuatMetin/1.5.5395.pdf accessed on 22/01/2021.

Dağlıoğlu, H. E. and Çakmak-Çamlıbel, Ö. (2009). Okul öncesi çocuklarına yönelik yayınlanan hikâye kitaplarının şiddet ve korku ögeleri açısından incelenmesi *Türk Kütüphaneciliği, 23 (3),* 510-534.

Deniz, Ü., and Gözütok, A. (2017). Okul öncesi dönem çocuk kitaplarının cinsel gelişim ve cinsel eğitim açısından incelenmesi. *Journal of International Social Research, 10(49*).422-431.

Diamond, K. E., and Huang, H. (2005). Prescholers' ideas about disabilities. *Infants* and *Young Children, 18,* 37-46. https://doi.org/10.1097/00001163-200501000-00005

Dilidüzgün S. (2004). Okuma öğretimi hedefleri bağlamında Türkçe ders kitaplarındaki çocuk edebiyatı ürünleri. *Hasan Ali Yücel Eğitim Fakültesi Dergisi, 2,* 43-55.

Dursunoğlu, H. (2015). *Çocuk edebiyatı.* Ömer Yılar and Lokman Turan (Eds). Eğitim fakülteleri için çocuk edebiyatı içinde. (3. ed, p. 27-36). Pegem Akademi.

Eryaman, M. Y. (2008). Writing, method and hermeneutics: Towards an existential pedagogy. *Elementary Education Online,* 7(1), 2-14.

Flowers, N. and Shiman, D. (1997) Teacher education and the human rights vision, in: G. Andreopoulos and R. P. Claude (Eds) *Human rights education for the twenty-first century*. University of Pennsylvania Press. (pp. 161–175).

Gander, M. J. and Gandier, H. W. (2007). *Çocuk ve ergen gelişimi*. İmge Kitabevi.

Grigoropoulos, J. E. (2019). The role of ethics in 21st century organizations. International Journal of Progressive Education, 15 (2), 167-175. DOI:10.29329/ijpe.2019.189.12

Günay, D. (2007). *Metin bilgisi*. Multilingual Yayıncılık.

Gürel, Z., Temizyürek, F. and Şahbaz, N. K. (2007). *Çocuk edebiyatı*. Öncü Kitap.

Güzelyurt, T. (2020). Okul öncesi dönemde cinsel eğitim ve cinsel istismardan korunma: resimli çocuk kitaplarına yönelik bir inceleme. *Uluslararası Çocuk Edebiyatı ve Eğitim Araştırmaları Dergisi 4(1),* 54-69.

Harper D. (1997) Children's attitudes toward physical disability in Nepal. *Journal of Cross Cultural Psychology 28,* 712-29. https://doi.org/10.1177/0022022197286004

Hornberg, S. (2002) Human rights education as an integral part of general education. *International Review of Education, 48*(3/4), 187–198.

Kara, Ş. (2007). Fantastik çocuk kitaplarında uzamın imgesel işlevi ve şiddet. *Çankaya Üniversitesi Fen-Edebiyat Fakültesi, 7,* 61-72.

Kıbrıs, İ. (2002). *Uygulamalı çocuk edebiyatı*. Eylül.

Lohrenscheit, C. (2002) International approaches in human rights education. *International Review of Education, 48*(3/4), 173–185.

Magendzo, A. (1994) Tensions and dilemmas about education in human rights in democracy. *Journal of Moral Education, 23(3),* 251–260. https://doi.org/10.1080/0305724940230303

Milletler Arası Sözleşme (2009) Resmî Gazete, sayı: 27288, accessed on

https://www.ttb.org.tr/mevzuat/index.php?option=com_content&view=article&id=686:engeller-haklarina-k-slee&catid=6:uluslararasylge&Itemid=36.

MEB. (1991). *Birleşmiş milletler çocuk hakları sözleşmesi*. Milli Eğitim.

Meintjes, G. (1997) Human rights education as empowerment: reflections on pedagogy, in G. Andreopoulos and R. P. Claude (Eds) *Human rights education for the twenty-first century*. University of Pennsylvania Press (pp. 64–79).

Murray, C., and Greenberg, M. T. (2006). Examining the importance of social relationships and social contexts in the lives of children with high-incidence disabilities. *The journal of special education, 39(4),* 220-233. https://doi.org/10.1177/00224669060390040301

Nabors L. and Keyes L. (1995) Preschoolers' reasons for accepting peers with and without disabilities. *Journal of Developmental and Physical Disabilities 7,* 335-55.

Nabuzoka D. and Ronning J. (1997) Social acceptance of children with intellectual disabilities in an integrated school setting in Zambia: A pilot study. *International Journal of Disability, Development and Education, 44(2),* 105-115. DOI:10.1080/0156655970440203

Norwich B. and Kelly N. (2004) Pupils' views on inclusion: moderate learning difficulties and bullying in mainstream and special schools. *British Educational Research, 30(1),* 43-65. DOI:10.1080/01411920310001629965

Nowicki, E.A., and Sandieson, R. (2002). A meta-analysis of school-age children's attitudes towards persons with physical or intellectual disability. *International Journal of Disability, Development and Education, 49*(3), 243-265. https://doi.org/10.1080/1034912022000007270

Nowicki E. A. (2003) A meta-analysis of the social competence of children with learning disabilities in inclusive classrooms: comparisons with average to high and low achieving classmates. *Learning Disability Quarterly 26,* 171-188. https://doi.org/10.2307/1593650

Nowicki, E.A. (2006). A cross-sectional multivariate analysis of children's attitudes towards disabilities. *Journal of Intellectual Disability Research, 50(5),* 335-348. https://doi.org/10.1111/j.1365-2788.2005.00781.x

Oğuzkan, A. F. (2010). *Çocuk edebiyatı.* Anı.

Şahin, A. (2015*). Çocuk-edebiyat ve çocuk edebiyatı.* Ömer Yılar and Lokman Turan (Eds). Eğitim fakülteleri için çocuk edebiyatı içinde (ss. 1-36). Pegem Akademi.

Rubin, A., and Babbie, E. (2008). *Research methods for social work* (6th ed.).Wadsworth/Thompson Learning.

Sever, S. (2002). Çocuk Kitaplarına Yansıtılan Şiddet (Milli Eğitim Temel Yasası ve Çocuk Haklarına Dair Sözleşme Bağlamında Bir Değerlendirme) *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi 35 (1-2),* 25 – 37.

Sever, S. (2010). *Çocuk ve edebiyat*. Tudem.

Sever, S. (2013). *Çocuk edebiyatı ve okuma kültürü*. Tudem.

Söylemez, Y. (2018). The development of the text evaluation scale for child rights: a study of validity and reliability. *World Journal of Education 8 (5).* 139-159. https://doi.org/10.5430/wje.v8n5p139

Şirin, M. R. (2007a). *Çocuk edebiyatına eleştirel bir bakış.* Kök.

Şirin, M. R. (2007b). *Çocuk edebiyatı kültürü*. Kök.

Thomlison, B. (2001). Descriptive studies. In B. Thyer (Ed.), *The handbook of social work research methods* (pp. 131-141). Sage. https://dx.doi.org/10.4135/9781412986182.n7

Touraine, A. (2015) *Demokrasi Nedir?* Yapı Kredi Yayınları.

Tuncer, A. T., Karasu, N., Altunay, B., and Güler, Ö. (2011). Türkçe ilköğretim kitaplarında engel ve engellilik: Bir doküman analizi örneği. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 31*(*2).*

Turan, L. and Gerez Taşgın, F. (2018). Çocuk Edebiyatında "Şiddet Dili" Farkındalık Ölçeği: Geçerlik ve Güvenirlik Çalışması. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi, (12),* 232-248. https://doi.org/10.29000/rumelide.472767

Türk Ceza Kanunu (2004). https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=5237&MevzuatTur=1&MevzuatTertip=5 accessed on 22/01/2021.

Ulutaşdemir, N. (2007). Engelli çocukların eğitimi. *Fırat Sağlık Hizmetleri Dergisi, 2(5),* 119-130.

© 2021 INASED

Tavşancıl, E.(2006). *Tutumların Ölçülmesi ve SPSS ile Veri Analizi*. Nobel.

Sarstedt, M., and Mooi, E. (2014). A concise guide to market research. *The Process, Data, 12*.

George, D., and Mallery, P. (2003). *Reliability analysis. SPSS for Windows, step by step: a simple guide and reference, 14th edn., Allyn & Bacon*, (pp. 222-232).

Tekin, H. (1993). *Eğitimde ölçme ve değerlendirme*. Yargı.

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

The Effect of Using Smart Boards in Science Lessons on Middle School Students' Attitudes Towards Smartboards and Reflective Thinking Skills

Mirac Furkan BAYAR[1]

Erzurum Provincial Directorate of National Education

Uluhan KURT[2]

Erzurum Provincial Directorate of National Education

Abstract

The aim of this study is to determine the demographic variables that affect middle school students' attitudes towards smart board and their reflective thinking skills and the relationship between these two variables. For this purpose, relational survey model, one of the quantitative research approaches, was used. The sample of the study, in which the appropriate sampling method was used, consists of 348 students studying in three different middle schools in Yakutiye district of Erzurum. Demographic information questionnaire, "Smart Board Attitude Scale" and "Reflective Thinking Scale" were used as data collection tools in the study. According to the findings of the research, it was determined that the students' smart board attitudes and reflective thinking skills did not change in terms of gender.. On the other hand, students 'smart board attitude levels and reflective thinking skills do not differ significantly in terms of parents' educational status. Finally, a medium positive correlation was found between students' smart board attitude levels and reflective thinking skills.

Keywords: Smart Board, Attitudes, Reflective Thinking Skills, Middle School, Survey Method

DOI: 10.29329/epasr.2021.373.2

[1] Erzurum Provincial Directorate of National Education, Erzurum, Turkey, ORCID: 0000-0002-0693-4280

Correspondence: miracfurkanbayar@hotmail.com

[2] Erzurum Provincial Directorate of National Education, Erzurum, Turkey, ORCID: 0000-0002-0683-6875

Email: uluhaaan@hotmail.com

© 2021 INASED

Introduction

Technological developments in our age have supported the development of methods used in educational activities (Koşar & Çiğdem, 2003). In this respect, developments in technology have led to some changes in the learning environment of individuals (Doğan, 2000). Today, many technological devices have been used in educational environments and internet infrastructures have started to become widespread. As a matter of fact, this change in technology has increased international competition and reform movements have started in education programs. For this reason, countries are not satisfied with only local exams, but also update their programs by measuring the success of their own individuals with exams such as Program for International Student Assesment (PISA) and Trends in International Mathematics and Science Study (TIMSS) (Atar & Atar, 2012).

When technological tools are used as a tool rather than as a purpose in teaching environments, it can provide constructive learning environments (Rakes, Flowers, Casey & Santana, 1999). In this respect, students can use many methods with the help of technology while making sense of information. Especially the achievements in science subjects can cause misconceptions because they are abstract (Aydoğan, 2003; Kikas, 2004; Yıldız & Büyükkasap, 2006). For this reason, it is important to examine the effect of smart boards that enrich education environments in teaching science concepts. Turkey in particular has been especially smart boards began to be used widely in almost all schools with the support of the state. As a matter of fact, infrastructure services of all schools are provided and educational environments are equipped with smart boards in the Movement to Increase Opportunities and Improve Technology (FATİH) project (Türel, 2012). For this reason, studies have started to examine the effects of smart boards on teaching activities (Hebebci, Çelik & Şahin, 2016; Warnock, Boykin, & Tung, 2011). Most of the studies show that the use of smart boards positively affects students' achievements (Gençoğlu, 2013; Sarıkaya, 2015; Tunaboylu & Demir, 2017). When the literature is examined, studies have been conducted on the effects of using smart boards in many courses such as science (Özenç & Özmen, 2014), mathematics (Gündüz & Çelik, 2015; Wood & Ashfield, 2008), and foreign language (Sergievskaya, & Zharenkov, 2019). These studies focus on variables such as attitude, academic achievement and motivation of smart board use (Gündüz & Kutluca, 2019). Demir (2019) explained that more studies are needed to determine students' attitudes towards the use of smart boards, to increase the reliability of the research results and to generalize the results. The original value of this research and the point that has not been investigated before is the investigation of the effect of smart board use on students' reflective thinking skills.

In the science curriculum, it is aimed to raise individuals who can question the problem situation by asking the right questions, make plans for the solution of the problem situation, create and test hypotheses, and propose new ideas (Ministry of National Education [MoNE], 2018). In order for

these goals to be realized, students must be able to use the scientific process steps effectively. In addition to the skills such as questioning, researching and reaching accurate and reliable information, creating new knowledge, the students should also be able to reflect the experiences gained through life (Taşkoyan, 2008). When the relevant literature was examined, definitions regarding reflective thinking were made, and the relationships of this skill with other skill types were explained (Birney, Barry & OhÉigeartaigh, 2006; Eryaman, 2007; Lai & Land, 2009; Xie, Ke, & Sharma, 2008). Although reflective thinking skills are a skill that can be developed, the development of this skill type does not happen by itself and needs to be supported (Lai & Land, 2009). In this respect, it is important to determine the effects of using technological facilities to solve problem situations on reflective thinking skills.

On the other hand, it has been found that the materials used for the first time in education generally affect students' attitudes positively (Asmar, Khaled & Nabeel, 2012). Smart boards enable students to be enthusiastic and excited and affect their motivation positively (Oleksiw, 2007). As a matter of fact, Wall, Higgins, and Smith (2005) stated in their study on the use of smart boards that the process affects students' attitudes positively. Robinson (2004) found that the use of smart boards increases the voluntary participation of students in the lessons. Smart boards make students more active in the lesson, therefore, they facilitate their learning by positively affecting their attitudes towards the lesson (Clemens, Moore & Nelson, 2001). For this, they need to develop positive attitudes regarding the use of smart boards. In this context, the aim of this study is to determine the demographic variables that affect middle school students' attitudes towards smart board and their reflective thinking skills and the relationship between these two variables.

Answers to the following questions are sought in the research;

1. What are the students' attitudes towards the use of smart boards in science lessons?

2. Do middle school students' gender and education levels of their parents make a significant difference in terms of their smart board attitudes in science lessons?

3. What are the students' reflective thinking skills towards using smart boards in science lessons?

4. Do middle school students' gender and education levels of their parents make a significant difference in terms of their reflective thinking skills towards science lessons?

5. Is there a relationship between the smart board attitudes and reflective thinking skills of middle school students' in science lessons?

© 2021 INASED

Method

This research was designed according to the relational scanning model, one of the experimental models. Relational survey model is a model used to discover events and facts and to reveal the relationship between them (Karasar, 2009).

Sample

The study group of the research consists of 348 students studying in the 6th, 7th and 8th grades of three middle schools in Yakutiye district of Erzurum in the 2019-2020 academic year. The sample of the study was created with the appropriate sampling method from non-random sampling methods (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2012). Appropriate sampling is a method that provides convenience to the researcher in cases where there are constraints in terms of money, time and labor (Yıldırım & Şimşek, 2011). In line with the investigations made by the researchers, it was observed that the students studying at the 5th grade could not adequately respond to the studies conducted with the scales and it was decided that these students were not included in the study. The characteristics of the study group of the study are presented in Table 1:

Table 1. Demographic Characteristics of the Study Group

Gender	**Frequency**	**Percent**
Female	189	54.4
Male	159	45.7
Grade Level		
6th grade	115	33.0
7th grade	118	33.9
8th grade	115	33.0
Mother's Education Level		
Never went to school	52	14.9
Primary school	74	21.3
Middle School	58	16.7
High school	62	17.8
University	54	15.5
Postgraduate education	48	13.8
Father's Education Level		
Never went to school	58	16.7
Primary school	48	13.8
Middle School	67	19.3
High school	58	16.7
University	62	17.8
Postgraduate education	55	15.8
Total	348	100

Data Collection Tools

In this study, "Smart Board Attitude Scale" and "Reflective Thinking Scale" were used as data collection tools. Also, "Demographic Information Questionnaire" developed by the researcher was

used. This form contains information about students' school numbers, gender, grade level, mother's education level and father's education level.

Smart Board Attitude Scale

5-point Likert type scale developed by Şad (2012) was used to determine the attitudes of middle school students towards smart board. Smart Board Attitude Scale (SBAS) 4.-8. It is a scale prepared for class students and consists of 10 items. The scale consists of two factors: negative attitude expressions and positive attitude statements. The 5-point Likert scale is answered in the format 1 = Strongly disagree, 5 = Strongly agree. The scale generally explains 60.46% of the total variance. The Cronbach Alpha coefficient of consistency of the scale was determined as α = .816 for the 1st factor and α = .821 for the 2nd factor. In this study, the cronbach alpha value for the whole scale was calculated as .80. The lowest score that can be obtained from each sub-dimension of the scale is 5, and the highest score is 25.

Reflective Thinking Scale

5-point Likert type scale developed by Yıldırım (2012) was used to determine the reflective thinking skills of the students. Reflective Thinking Scale (RTS) is a scale prepared for secondary school students and consists of 17 items. The scale has a single factor structure and is answered in a 5-point Likert format (1 = Strongly disagree, 5 = Strongly agree). The Cronbach Alpha coefficient of consistency of the scale was determined as α = .86. In this study, the cronbach alpha value for the whole scale was calculated as .83. The total and highest possible score from the scale is 85, while the lowest score is 17.

Collection of Data

After obtaining the necessary permissions for the research, data were collected based on the voluntary participation of the students. Orientation studies for the scales were carried out with the students. Students were informed about attitude and reflective thinking skills. It was evaluated whether the students had information about the scale studies. Fifth grade students were excluded from the study, as they were not familiar with this type of study. During the data collection, the researchers were present in the environment and students were prevented from encountering a problem. The application time of each scale took approximately 25 minutes.

Data Analysis

The data obtained from the test were analyzed with the SPSS 26 package program. Whether the data is normally distributed, skewness and kurtosis values and graphs were examined. After the descriptive analysis, it was observed that the data were distributed normally. In addition, since the sample size in the study was over 50, Kolmogrov-Simirnov test results were examined (Büyüköztürk,

2014) and it was determined that the data were normally distributed (p> .05). The data were analyzed by t-test and two-way analysis of variance (ANOVA). In addition, the relationship between SBAS and RTS was analyzed using the Pearson moments product correlation coefficient.

Findings

Findings Regarding the First Sub-Problem

The first sub-problem of the study, "What are the students' attitudes towards the use of smart boards in science lesson?" "Smart Board Attitude Scale (SBAS)" was applied to find an answer to the question. Inclusion ranges were found using the formula n -1 / n. As a result of the calculation, the gap width between 1 and 5 was determined as 0.8 (Ateş, 2010). The score ranges used for the positive statements in the questionnaire are given in Table 2.

Table 2. Score Ranges Used for the Expressions in the Scale

Participation Degree	Score Range
Strongly agree	4,20- 5,00
Agree	3,40- 4,19
Neutral	2,60- 3,39
Disagree	1.80- 2,59
Strongly disagree	1,00- 1,79

The general distribution of the scores of the students from SBAS within the scope of the research is given in Table 3.

Table 3. General Distribution of the Scores Obtained from SBAS

	N	Mean	sd	Min-Max
SBAS scores	348	4.07	.59	3.95-4.20

When Table 3 is examined, it is seen that the general ATTÖ mean score is 4.07 and the standard deviation is .49. This value corresponds to the "Agree" option in the scale. Findings show that students' attitudes towards the use of smart boards are positive. The reason for this situation may be the teacher factor, the level of student participation in the lesson or the demographic characteristics of the students.

Findings Regarding the Second Sub-Problem

The second sub-problem of the study, "Does the gender of middle school students and their parents' education level make a significant difference in terms of their smart board attitudes in science lesson?", "Smart Board Attitude Scale (SBAS)" was applied to find an answer to the question. Independent groups t test was conducted to test whether the total scores of smart board attitude in the science course of the students changed in terms of gender. It has been determined that the data set meets the analysis assumptions. In the analysis, it was determined that SBAS scores of the students

did not change in terms of gender. In Table 4, Independent t-test findings related to SBAS Scores are given in terms of students' gender.

Table 4. Independent T-test Results Related to SBAS Scores In Terms of Students' Gender

	Gender	$\overline{X}$	sd	p
SBAS scores	Female	40.91	6.07	.53
	Male	40.51	5.79	

When Table 4. is examined, SBAS scores do not show a statistically significant difference in terms of students' gender according to the results of the independent sample t test [t (346) = .62, p> .05]. This situation shows that the attitudes of male and female students towards using smart boards are similar.

Two-way analysis of variance (Two-way ANOVA) was conducted to examine whether SBAS scores of middle school students differ significantly depending on the common effect of parents' education level and grade level. In order to perform this analysis, the assumptions of normality and homogeneity of variances must be met (Tabachnick & Fidell, 2001). The control of univariate normality was done by examining the kurtosis and skewness coefficients of the values obtained from the class level and parents' education level scale and using the Kolmogorov-Smirnov hypothesis test. As a result, it was determined that the data were distributed normally. In addition, when the multivariate normality assumption was examined, it was found that the dependent variable of the study met the normality assumption in each combination of independent variables. It was determined that the data set also met the homogeneity of variances assumption, which is another assumption. (Levene's test, p> .05). Table 5 shows a Two-Way Analysis of Variance on SBAS Scores according to the mother's education level and grade level.

Table 5. Two-Way Anova Results for SBAS Scores According to Mother's Education Level and Grade Level

Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Mother Education	297.62	5	59.52	1.68	.13
Grade level	38.00	2	19.00	.53	.58
Mother Education*Class level	230.28	10	23.02	.65	.77
Error	11695.13	330	35.44		
Total	589659.00	348			

When Table 5. is examined, Two-Way Analysis of Variance was conducted to examine the effect of middle school students' mother's education level and grade level on their smart board attitude levels. The interaction effect between mother education level and grade level is not statistically significant, F (10,330) = .65, p> .05. Main effect for mother's education level, F (5.330) = 1.68, p> .05, is not statistically significant. Also, the main effect for grade level, F (2,330) = .53, p> .05, is not statistically significant.

Table 6. *Two-Way Anova Results Related to SBAS Scores According to Father's Education Level and Grade Level*

Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Father Education	283.11	5	56.62	1.60	.15
Grade level	30.22	2	15.11	.42	.65
Father Education*Class level	368.20	10	36.83	1.04	.40
Error	11634.80	330	35.25		
Total	589659.00	348			

When Table 6 is examined, Two-Way Analysis of Variance was conducted to examine the effect of middle school students' father's education level and grade level on their smart board attitude levels. The interaction effect between father education level and grade level is not statistically significant, F (10,330) = 1.04, p> .05. Main effect for father education level, F (5,330) = 1.60, p> .05, is not statistically significant. Also, the main effect for grade level, F (2,330) = .42, p> .05, is not statistically significant.

Findings Regarding the Third Sub-Problem

The third sub-problem of the study, "What are the students' reflective thinking skills for using smart boards in science lessons?", "Reflective Thinking Scale (RTS)" was applied to find an answer to the question. Inclusion ranges were found using the formula n -1 / n. As a result of the calculation, the gap width between 1 and 5 was determined as 0.8 (Ateş, 2010). Score ranges used for positive statements in the questionnaire are given in Table 2. The general distribution of the scores of the students in the scope of the study from RTS is given in Table 7.

Table 7. *General Distribution of the Scores Obtained from the RTS*

	N	Mean	Sd	Min.-Max.
RTS scores	348	4.10	.55	3.90-4.39

When Table 7 is examined, it is seen that the overall RTS score mean is 4.10 and the standard deviation is .55. This value corresponds to the "Agree" option in the scale. The findings show that the use of smart boards positively affects students' reflective thinking skills.

Findings Regarding the Fourth Sub-Problem

The fourth sub-problem of the study, "Do the gender of middle school students and their parents' education level make a significant difference in terms of their reflective thinking skills levels towards science lesson?", "Reflective Thinking Scale (RTS)" was applied to find an answer to the question. Independent groups t test was conducted to test whether the reflective thinking total scores of the students in the science course differ in terms of gender. It has been determined that the data set meets the analysis assumptions. In the analysis, it was determined that the RTS scores of the students

did not change in terms of gender. In Table 8, Independent t-test findings regarding RTS Scores of the students are given.

Table 8. Independent T-Test Results of Students' RTS Scores In Terms of Gender

	Gender	$\overline{X}$	ss	p
RTS scores	Female	70.34	9.32	.23
	Male	69.13	9.62	

When Table 8. is examined, SBAS scores do not show a statistically significant difference in terms of students' gender according to the results of the independent sample t test [t (346) = .23, p> .05]. This situation shows that the reflective thinking skills of male and female students are similar.Two-way analysis of variance (Two-way ANOVA) was conducted to examine whether the RTS scores of middle school students differ significantly depending on the common effect of parents' education level and grade level. In order to perform this analysis, the assumptions of normality and homogeneity of variances must be met (Tabachnick & Fidell, 2001). The control of univariate normality was done by examining the kurtosis and skewness coefficients of the values obtained from the class level and parents' education level scale and using the Kolmogorov-Smirnov hypothesis test. As a result, it was determined that the data were distributed normally. In addition, when the multivariate normality assumption was examined, it was found that the dependent variable of the study met the normality assumption in each combination of independent variables. It was determined that the data set also met the homogeneity of variances assumption, which is another assumption. (Levene's test, p> .05). In Table 9, a two-way analysis of variance is given regarding the RTS scores according to the mother's education level and grade level.

Table 9. Two-Way Anova Results for RTS Scores According to Mother's Education Level and Grade Level

Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Mother Education	892.81	5	178.56	2.02	.07
Grade level	3.27	2	1.63	.01	.98
Mother Education*Class level	1045.07	10	104.50	1.18	.30
Error	19163.95	330	88.37		
Total	1726115.00	348			

When Table 9 is examined, Two-Way Analysis of Variance was conducted to examine the effect of middle school students' mother's education level and grade level on their smart board attitude levels. The interaction effect between mother education level and grade level is not statistically significant, F (10,330) = 1.18, p> .05. Main effect for mother education level, F (5,330) = 2.02, p> .05, is not statistically significant. Also, the main effect for grade level, F (2,330) = .01, p> .05, is not statistically significant. Two-way analysis of variance is given in Table 10 for RTS scores according to father's education level and grade level.

Table 10. Two-Way Anova Results for RTS Scores According to Father's Education Level and Grade Level

Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Father Education	319.83	5	63.96	.70	.61
Grade level	7.58	2	3.79	.04	.95
Father Education*Class level	995.37	10	99.52	1.10	.36
Error	29847,61	330	90,45		
Total	485682.0	347			

When Table 10 is examined, Two-Way Analysis of Variance was conducted to examine the effect of middle school students' father's education level and grade level on reflective thinking skills. The interaction effect between father education level and grade level is not statistically significant, F (10,330) = 1.10, p> .05. Main effect for father education level, F (5,330) = .70, p> .05, is not statistically significant. Also, the main effect for grade level, F (2,330) = .04, p> .05, is not statistically significant.

Findings Regarding the Fifth Sub-Problem

The fifth sub-problem of the study, "Is there a relationship between the smart board attitudes of middle school students in science course and their reflective thinking skills?" for an answer to the question, the correlation results between SBAS and RTS scores were analyzed. In Table 11 analysis results is given:

Table 11. Pearson Correlation Results Between SBAS And RTS Scores of Experimental Group Students

Scale		SBAS	RTS
SBAS	Pearson Korelasyon Değeri p	1	.47 00**
RTS	Pearson Korelasyon Değeri p	.47 00**	1

** Significant at p <.001 level.

The relationship between the smart board attitudes of middle school students in the science course and their reflective thinking skills towards the science course was analyzed using the Pearson moments product correlation coefficient. Normality tests, linearity and co-variance assumptions were examined and checked. As a result of the analysis, it was seen that there was a medium and positive correlation between the two variables r = .47, n = 348, p <.001. According to Cohen (1988), these values indicate a medium correlation. According to these results, it is seen that the students whose attitudes towards the smart board increase, will also increase their reflective thinking skills.

Discussion, Conclusion and Recommendations

In this study, the attitudes of middle school students towards the smart board and demographic variables that affect their reflective thinking skills and the relationship between these two variables were determined. According to the findings of the research, it was determined that the

students' smart board attitudes and reflective thinking skills did not change in terms of gender.. In addition, SBAS and RTS do not differ significantly in terms of parents' educational status. Finally, a medium positive correlation was determined between the SBAS score and the RTS score of the students.

Birgin and Zengin (2016), Dhindsa and Emran (2006), Gündüz and Çelik (2015), Tataroğlu (2009) and Türkoğlu (2014) concluded that students' attitudes towards the smart board are not related to the gender variable, which is parallel to the results of this study. A similar situation is observed in the literature (Muhanna & Nejem, 2013; Zengin, Kırılmazkaya & Keçeci, 2011). In addition, Tüfekçi (2019) investigated the effect of smart board use on middle school students' attitudes and explained that the smart board attitude scores of the experimental and control group students did not change in terms of gender variable. Although it is seen in the literature that there is a relationship between student attitudes towards the smart board and grade level (Birgin & Zengin, 2016; Demircioğlu & Demircioğlu, 2015; Korucu, Usta & Toraman, 2016), in this study was not found significant difference between these variables. This may be due to reasons such as the characteristics of the sample group, subject area and applied scale. There are no studies explaining the attitude and reflective thinking skills of students in terms of the education level of parents in using smart boards. In addition, there is no study examining the effect of smart board use on students' reflective thinking skills in terms of gender variable.

In the literature, it is seen that the use of smart boards in science lessons increases the academic success of students (Akçayır, 2011; Dhindsa & Emran, 2006; Ekici, 2008; Nordness & Clarck, 2007; Önder, 2015; Solvie, 2004; Tekin, 2013; Tezer & Deniz, 2009). Beauchamp and Parkinson (2005) explained that the reason for this situation is that the smart board provides students with the opportunity to practice. Tercan (2012), on the other hand, stated that the smart board offers the opportunity to use time effectively and learn permanently. In addition, it has been reached as a result of various studies that students have a positive attitude towards the smart board. (Arıcı, 2015; Birgin & Zengin, 2016, Gürbüztürk, 2018; Özgen & Tum, 2018). It has been explained that the use of smart boards enables the concretization of abstract concepts encountered in daily life and improves students' problem solving skills (Loughlin & Krakowski, 2001). This situation is thought to explain the change in students' reflective thinking skills. In addition, it was explained that the smart boards that incorporate the computer infrastructure concretize abstract subjects (Painter, Whiting, Wolters & Park, 2005), offer students the opportunity to do it again (Levy, 2002), and make the lesson more enjoyable (Türel, 2010). Therefore, students' attitude towards the lesson (Tekin, 2013) and motivation (Robinson, 2004) have increased. In addition, this situation affected students' reflective thinking skills. As a matter of fact, within the scope of the research, an increase was observed in the reflective thinking skills of the students who developed a positive attitude towards the smart board.

Suggestions

Conducting this research with 101 students and grades 6, 7 and 8 is a limitation. Another limitation of the study is that the smart boards in the schools where the research was conducted are the first boards distributed throughout the country (Phase 1 model). In line with the results obtained from the research; It is recommended to conduct the research with a larger sample population, to include activities that support students' reflective thinking skills, and to plan the process student-centered so that students gain positive attitudes towards the smart board. In addition, it is recommended to give in-service seminars for teachers on using the smart board and to make plans in line with students' opinions.

References

Akçayır, M. (2011). Etkileşimli tahta kullanarak işlenen matematik dersinde sınıf öğretmenliği birinci sınıf öğrencilerinin başarı, tutum ve motivasyonları üzerine bir araştırma. Yayınlanmamış Yüksek Lisans Tezi. Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Arıcı (2015). Eğitimde etkileşimli tahta kullanımına yönelik ortaöğretim öğrencilerinin tutumları. Yüksek Lisans Tezi. Afyon Kocatepe Üniversitesi Fen Bilimleri Enstitüsü, Afyon.

Asmar M., Khaled, H., & Nabeel, A., (2012). The effect of smart board on students behavior and motivation. UGRU University Al Ain, UAE.

Atar, H.Y., & Atar, B. (2012). Examining the effects of Turkish education reform on students' TIMSS 2007 science achievements. Educational Sciences: Theory & Practice, 12(4), 2632-2636.

Ateş, M. (2010). Ortaöğretim coğrafya dersinde akıllı tahta kullanımı. Marmara Coğrafya Dergisi, 22, 409-427.

Aydoğan, S. (2003). Isı ve sıcaklık konusunda kavram yanılgıları, Gazi Eğitim Fakültesi Dergisi, 23, 111-124.

Beauchamp, G., & Parkinson, J. (2005). Beyond the 'WOW' factor: Developing interactivity with the interactive whiteboard. School Science Review, 86(316), 97-103.

Birgin, O., & Zengin, A. (2016). Ortaokul öğrencilerinin matematik dersinde akıllı tahta kullanımına yönelik tutumlarının incelenmesi. International Contemporary Educational Research Congress, 29 Eylül-02 Ekim 2016, Muğla Sıtkı Koçman Üniversitesi, Muğla. Uluslararası Çağdaş Eğitim Araştırmaları Kongresi Tam Metin Bildiri Kitabı, ss.388-396.

Birney, R., Barry, M., & OhÉigeartaigh, M. (2006) The use of weblogs as a tool to support collaborative learning and reflective practice in third-level institutions. In: E. Pearson and P. Bohman, Editors, Proceedings of world conference on educational multimedia, hypermedia and telecommunications, AACE, Chesapeake, VA (2006), s. 1047–1052.

Büyüköztürk, Ş. (2014). Bilimsel araştırma yöntemleri (18. Baskı). Pegem Akademi Yayıncılık

Büyüköztürk, Ş. Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş. & Demirel, F. (2012). Bilimsel araştırma yöntemleri. Ankara: Pegem.

Clemens, A. , Moore, T., & Nelson B. (2001). Math Intervention "Smart" Project Student Mathematical Analysis and Reasoning with Technology, Erişim tarihi: 21 Aralık 2019, http://downloads01.smarttech.com/media/sitecore/en/pdf/research_library/k12/math_intervention_smart_project%20_student_mathematical_analysis_and_reaso ning_with_technology.pdf

Demir, M. (2019). Fen bilimleri dersinde akıllı tahta kullanımının köy okullarında öğrencilerin akademik başarılarına, öğrendikleri bilgilerin kalıcılığına ve derse yönelik tutumlarına etkisi. Yayımlanmamış yüksek lisans tezi. Niğde Ömer Halis Demir Üniversitesi Eğitim Bilimleri Enstitüsü, Niğde.

Demircioğlu, G., & Demircioğlu, H. (2015). Öğrencilerin kimya derslerinde akıllı tahta kullanımına yönelik tutumlarının farklı değişkenler açısından incelenmesi. Eğitim ve Öğretim Araştırmaları Dergisi, 4(2), 387-395.

Dhindsa, H.S., & Emran, S.H. (2006). Use of the interactive whiteboard in constructivist teaching for higher student achievement. Proceedings of the Second Annual Conference for the Middle East Teachers of Science, Mathematics, and Computing, (pp. 175-188). Abu Dhabi.

Doğan, H. (2000). Bilgi teknolojileri ve eğitimi. Adım bilimsel düşüncenin ürünü. KKTC: Ateş Matbaası.

Ekici, F. (2008). Akıllı tahta kullanımının ilköğretim öğrencilerinin başarılarına etkisi. Yüksek Lisans Tezi. Marmara Üniversitesi, Eğitim Bilimleri Enstitüsü, İstanbul.

Eryaman, M. Y. (2007). From reflective practice to practical wisdom: Toward a post-foundational teacher education. *International Journal of Progressive Education, 3*(1), 87-107

Gençoğlu, T. (2013). Geometrik cisimlerin yüzey alanları ve hacmi konularının öğretimde bilgisayar destekli öğretim ile akıllı tahta destekli öğretimin öğrenci akademik başarısına ve matematiğe ilişkin tutumuna etkisi. Yayımlanmamış Yüksek Lisans Tezi, Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Gündüz, S., & Kutluca, T. (2019). Matematik ve fen bilimleri öğretiminde akıllı tahta kullanımının öğrencilerin akademik başarılarına etkisi üzerine bir meta-analiz çalışması. Journal of Computer and Education Research, 7(13), 183-204.

Gündüz, S., & Çelik, C.H (2015). Öğrencilerin matematik dersinde akıllı tahta kullanımına yönelik tutumlarının çeşitli değişkenler açısından incelenmesi. Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi, 25,157-174.

Gürbüztürk, O. (2018). Investigation of elementary education students' attitudes towards the use of smart boards. International Electronic Journal of Elementary Education, 11(1), 55-61.

Hebebci, M. T., Çelik, İ., & Şahin, İ. (2016). Eğitim ortamlarında etkileşimli tahta kullanımı: Araştırmalar ve eğilimler. Eğitim, Bilim ve Teknoloji Araştırmaları Dergisi, 1(1), 55-76.

Karasar, N. (2009). Bilimsel araştırma yöntemi: kavramlar-ilkeler-teknikler. Ankara: Nobel Yayın Dağıtım.

Kikas, E. (2004). Teachers Conceptions and Misconceptions Concerning Three Natural Phenomena. Journal of Research in Science Teaching, 41, 432-448.

Korucu, A.T., Usta, E., & Toraman, L. (2016). Ortaokul öğrencilerinin etkileşimli tahta kullanımına yönelik tutumlarının farklı değişkenler açısından incelenmesi. Bartın Üniversitesi Eğitim Fakültesi Dergisi, 5(3), 690-717.

Koşar, E. & Çiğdem, H. (2003). Öğretim teknolojileri ve materyal geliştirme. Ankara: Pegem A.

Lai, T., & Land, S.M. (2009). Supporting reflection in online learning environments. Educational Media and Technology Yearbook, (page 141-154). Springer US.

Levy, P. (2002). Interactive whiteboards nn learning and teaching in two Sheffield schools: A developmental study. http://dis.shef.ac.uk/eirg/projects/wboards.htm sayfasından erişilmiştir.

Loughlin, C., & Krakowski, K. (2001). Technological tools for visual thinking: What does the research tell us? N. Smythe. In Apple University Consorfium Academic and Developers Conference Proceedings of the Apple University Consorfium Conference (pp. 127-138).

Milli Eğitim Bakanlığı [MEB], (2018). İlköğretim fen bilimleri dersi (6,7 ve 8. sınıflar) öğretim programı. Ankara: MEB.

Muhanna, W., & Nejem, K. M. (2013). Attitudes Of Mathematics Teachers Toward Using Smart Board In Teaching Mathematics. Contemporary Issues In Education Research – Fourth Quarter 6(4).

Nordness, P., & Clark, J. (2007). Enhacing Emergent Literacy Skills with Smart Board Interactive Whiteboard Technology. Erişim adresi: http://downloads01.smarttech.com/media/sitecore/en/pdf/research_library/k12/enhn cing%20emergent_literacy

Oleksiw, T. (2007). Increasing math test scores with the smart board ınteractive whiteboard. Erişim tarihi: 23 Ekim 2019, http://downloads01.smarttech.com/media/sitecore/en/pdf/research_library/k-12/the_effect_of_the_smart_board_interactive_whiteboard_on_raising_state_test_scores.pdf

Önder, R. (2015) Biyoloji dersinde akıllı tahta kullanımının öğrencilerin akademik başarılarına, akıllı tahta kullanımına ve derse yönelik tutumlarına etkisi. Yayınlanmamış Yüksek Lisans Tezi. Dokuz Eylül Üniversitesi Eğitim Bilimleri Enstitüsü, İzmir.

Özenç, E. G., & Özmen, Z. K. (2014). Akıllı tahtayla işlenen fen ve teknoloji dersinin öğrencilerin başarısına ve derse karşı tutumlarına Etkisi. Türkiye Sosyal Araştırmalar Dergisi, 182(182), 137-152.

Özgen, K., & Tum, A. (2018). Ortaokul öğrencilerinin matematik derslerinde akıllı tahta kullanmaya yönelik tutumlarının bazı değişkenlere göre incelenmesi. Cumhuriyet International Journal Of Education, 7(1),16-39. DOI: 10.30703/Cije.380702

Painter, D. D., Whiting, E., & Wolters, B. (2005). The use of an interactive whiteboard in promoting interactive teaching and learning. VSte Journal, 19(2), 31-40.

Rakes, G. C., Flowers, B. F., Casey, H. B., & Santana, R. (1999). An analysis of đnstructional technology use and constructivist behaviors đn k-12 teachers. International Journal of Educational Technology. 1(2).

Robinson, M.C. (2004). The impact of the interactive electronic white board on student achievement in middle school mathematics. Master's Thesis. The Florida State University College Of Education.

Sarıkaya, S. (2015). Akıllı tahta kullanımının ortaöğretimde işlenilen canlıların sınıflandırılması konusunun öğrenimi üzerine etkisi. Yüksek Lisans Tezi. Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Sergievskaya, I. L., & Zharenkov, A. D. (2019). SMART-board for creating communicative situation while listening to a foreign language text. Международный журнал гуманитарных и естественных наук, (4-1).

Solvie, P. A. (2004). The digital whiteboard: A tool in early literacy instruction. Erişim adresi: http://downloads01.smarttech.com/media/sitecore/en/pdf/research_library/k12/the_digital_whiteboard_as_a_tool_in_increasing_student_attention_during_early_literacy_instruction.pdf

Şad, S. N. (2012). An attitude scale for smart board use in education: Validity and reliability studies. Computers & Education, 58(3), 900-907.

Taşkoyan, S. N. (2008). Fen ve teknoloji öğretiminde sorgulayıcı öğrenme stratejilerinin öğrencilerin sorgulayıcı öğrenme becerileri, akademik başarıları ve tutumları üzerindeki etkisi. Doctoral dissertation, DEÜ Eğitim Bilimleri Enstitüsü, İzmir.

Tataroğlu, B. (2009). Matematik öğretiminde etkileşimli tahta kullanımının 10. sınıf öğrencilerinin akademik başarıları, matematik dersine karşı tutumları ve öz-yeterlik düzeylerine etkileri. Yayınlanmamış Yüksek Lisans Tezi. Dokuz Eylül Eğitim Bilimleri Enstitüsü, İzmir.

Tekin, Y. (2013). Fizik eğitiminde akıllı tahta kullanımının öğrencilerin fizik başarılarına ve fiziğe karşı tutumlarına etkisinin incelenmesi. Yüksek Lisans Tezi, Yüzüncü Yıl Üniversitesi, Eğitim Bilimleri Enstitüsü, Van.

Tercan, İ. (2012). Etkileşimli tahta kullanımının öğrencilerin fen ve teknoloji dersi başarı, tutum ve motivasyonuna etkisi. Yayınlanmamış Yüksek Lisans Tezi. Necmettin Erbakan Üniversitesi Eğitim Bilimleri Enstitüsü, Konya.

Tezer, M., & Deniz, A.K. (2009). Matematik dersinde interaktif tahta kullanarak yapılan denklem çözümünün öğrenme üzerindeki etkisi. 9th International Educational Technology Conference, Ankara.

Tunaboylu, C., & Demir, E. (2017). The effect of teaching supported by interactive whiteboard on students' mathematical achievements in lower secondary education. Journal of Education and Learning, 6(1), 81- 94.

Tüfekçi, N. (2019). Akıllı tahta kullanımının öğrencilerin fen başarısı-tutumu üzerine etkileri ve akıllı tahtaya yönelik tutumlarının belirlenmesi: 7. sınıf insan ve çevre ünitesi örneği. Yayınlanmamış Yüksek Lisans Tezi. Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Türel, Y. K. (2010). Developing Teachers' Utilization of Interactive Whiteboards. In D. Gibson & B. Dodge (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2010,Chesapeake, VA: AACE. (pp.3049-3054)

Türel, Y. K. (2012). Öğretmenlerin akıllı tahta kullanımına yönelik olumsuz tutumları: Problemler ve ihtiyaçlar. Elementary Education Online, 11(2), 423-439, 2012.

Türkoğlu, T. (2014). Fen ve teknoloji öğretiminde akıllı tahta kullanımının 6. sınıf öğrencilerinin akademik başarı, tutum ve görüşleri üzerine etkileri. Yayımlanmamış Yüksek Lisans Tezi. Celal Bayar Üniversitesi Fen Bilimleri Enstitüsü, Manisa.

Wall, K., Higgins, S., & Smith, H. (2005). The visual helps me understand the complicated things': pupil views of teaching and learning with interactive whiteboards. British Journal of Eductional Technology, 36(5), 851-867.

Warnock, S. H., Boykin, N. J., & Tung, W. C. (2011). Assessment of the Impact of Smart Board Technology System Use on Student Learning, Satisfaction, and Performance. Journal of Research in Education, 21(1), 1-20.

Wood, R., & Ashfield, J. (2008). The use of the interactive whiteboard for creative teaching and learning in literacy and mathematics: a case study. British Journal of Educational Technology, 39(1), 84-96.

Xie, Y., Ke, F., & Sharma, P. (2008). The effect of peer feedback for blogging on college students' reflective learning processes. The Internet and Higher Education, 11, 18-25.

Yıldırım, A., & Şimşek, H. (2011). Sosyal bilimlerde araştırma yöntemleri. Ankara: Seçkin Yayınları.

Yıldırım, C. (2012). Bilimsel süreç becerileri etkinliklerinin ilköğretim 7. sınıf öğrencilerinin yansıtıcı düşünmelerine etkisi. Master's thesis. Pamukkale Üniversitesi Fen Bilimleri Enstitüsü, Denizli.

Yıldız, A., & Büyükkasap, E. (2006). Fizik Öğrencilerinin Kuvvet ve Hareket Konusundaki Kavram Yanılgıları ve Öğretim Elemanlarının Bu Konudaki Tahminleri, Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 30, 268 – 277.

Zengin, F., Kırılmazkaya, G., & Keçeci, G. (2011). Etkileşimli tahta kullanımının ilköğretim öğrencilerinin fen ve teknoloji dersindeki başarı ve tutuma etkisi. 109 5th International Computer & Instructional Technologies Symposium, 22- 24 September 2011, Fırat University, Elazığ- Turkey.

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Preservice Classroom Teachers' Applications of Science Experiments with Cooperative Learning Model: A Mixed Design Research[1]

Ayten ARSLAN[2]

Muş Alparslan University

Abstract

This study aimed to determine the effect of a cooperative learning model (CLM) on preservice classroom teachers' attitudes towards science experiments. The sample consisted of 45 students in the department of primary education of the faculty of education of a public university in the 2017-2018 academic year. The sample was divided into two groups: experimental (n=24) and control (n=21). The experimental group received an education based on a CLM, while the control group received an education based on the conventional method specified by the curriculum. The study employed a mixed research design and consisted of two parts: quantitative and qualitative. In the quantitative part, an semi-experimental pretest-posttest control group design was used. In the qualitative part, phenomenology was used. The quantitative data were collected using the Scale of Attitudes Towards Science Experiments (SATSE) and analyzed using a t-test. The qualitative data were collected using an interview questionnaire and analyzed using content analysis. The experimental group had a significantly higher mean SATSE score than the controls. The experimental group also had a higher mean posttest than pretest SATSE score, which was statistically insignificant. The control group had a significantly lower mean posttest than pretest SATSE score. Content analysis showed that the CLM improved some participants' attitudes towards science experiments. They were more interested in science experiments and enjoyed participating in them more, and believed that the CLM made science experiments fun and easier to understand. However, some other participants stated that the CLM did not affect their attitudes towards science experiments.

Keywords: Cooperative Learning Model, Science Experiments, Science Laboratory, Preservice Classroom Teachers.

DOI: 10.29329/epasr.2021.373.3

---

[1] This article is derived from the oral presentation presented at the 27th International Conference on Educational Sciences held at Antalya on April 18-22, 2018.

[2]Assist. Prof. Dr., Faculty of Education, Muş Alparslan University, Muş, Turkey, ORCID: 0000-0001-8832-0276 **Correspondence**: aytenarslan23@gmail.com

© 2021 INASED

Introduction

The primary goal of education is to turn students into people equipped with 21st-century skills. Today, making sense of knowledge and putting it into practice is more important than just having it (MoNE, 2017). Given the implications of applied science on social life, we can see how important science learning and teaching today is. Students who receive high-quality science education are more likely to understand science concepts, catch up with scientific advances, and use scientific methods to solve everyday problems (Hançer, Şensoy & Yıldırım, 2003). In and out-of-school educational settings should promote cognitive and mental development to get students to develop scientific skills and put them to use. National and international studies highlight the significance of science learning environments (Çetin & Cengiz, 2021; Hofstein & Lunetta, 2004; Özdemir & Kaptan, 2013). Most studies address the effect of lab use and lab-learning approaches on the quality of science teaching (Karaer, Karademir & Tezel, 2020; Lunetta, 1998; Townsend, 2012; Ulu, 2019). Labs allow students to gain hands-on experience, develop hypotheses, and discuss and test them to solve problems and understand the nature of science (Tobin, 1990). Laboratories are settings where students define problems and develop manual and processing skills. In laboratories, students make observations or acquire abstract perception experiences, turning abstract concepts into concrete questions and grasping the significance of knowledge. Laboratories promote psychomotor skills, make learning fun, facilitate group work, and most importantly, provide learning retention as they allow students to learn by living and doing (Partalcı, Topsakal & Özkan, 2019). Lab classes turn abstract concepts into concrete forms and encourage students to relate science concepts to daily life, construct science knowledge, solve problems scientifically, and collaborate (Baran & Doğan, 2004; Önen ve Çömek, 2011). Lab classes help students develop a wide range of skills at different stages of education. However, the role of lab classes in science teaching has changed throughout history. In the past, science class was based on theoretical knowledge presentation and then demonstration experiments, but today students conduct lab experiments individually or in groups during science class (Baran & Doğan, 2004). Experiment-based science learning refers to the translation of scientific knowledge into everyday experiences. Students question the causes of natural phenomena and propose solutions and experimentally test their accuracy (Annagün & Duban, 2014). Experiments provide first-hand information, make difficult subjects easier to learn, encourage students to question, research, and observe, thus helping them better understand nature. Therefore, students participating in experiments are more likely to develop positive attitudes towards experiments in particular and science in general (Doğan, 2010). Theoretical learning with only mental activities appeals to cognitive or cognitive-affective learning domains while ignoring the motor learning domain. On the other hand, experiments achieve learning in all three domains. Students who do not participate in lab activities cannot achieve psychomotor learning outcomes (Ergin, Pekmez & Erdal, 2012). Therefore, lab activities play a crucial role in science teaching. Teachers are responsible for conducting effective lab

activities and teaching students how to use simple lab equipment and benefit from out-of-classroom lab settings. Primary school students learn science from classroom teachers. The Science Teaching Program revised in 2013 stipulates that science education start from the third grade of primary school, allowing students to learn about living things and natural phenomena at an early age through observation and experimentation (Ministry of National Education (MoNE), 2013). Students are exposed to science for the first time in primary school. Therefore, classroom teachers have a great responsibility for science teaching (Genç, Deniş & Demirkaya, 2010). Students can conduct a wide range of experiments with simple everyday life materials in science labs (Önen & Çömek, 2011). However, research shows that preservice teachers know little about how to use lab equipment and conduct experiments. Therefore, before starting out their professional career, preservice teachers should be trained to encourage their students to develop scientific process skills and conduct experiments with everyday life materials (Yu & Bethel, 1991). Preservice teachers should learn how to use labs effectively before they graduate so that they can teach that to their students. This, above all things, depends on their perceptions and attitudes towards labs (Şenler, Karışan & Bilican, 2017) because those with positive perceptions, beliefs, and attitudes towards labs are likely to integrate lab activities more into their teaching (Feyzioğlu et al., 2011). Therefore, if we want to make sure that students can use labs and conduct experiments effectively, we should first help teachers develop positive attitudes towards labs and experiments. Teachers' attitudes affect students' attitudes and performance. Therefore, it is of paramount importance to know about teachers' and preservice teachers' attitudes towards teaching. What is more, students' attitudes affect and are affected by their performance because there is a positive correlation between attitude and academic achievement (Uyanık, 2017; Bozdağ, 2019).

Science experiments allow students to understand difficult subjects easily and learn by doing and living. Therefore, lab activities should be designed in a way that they can promote student engagement, meaningful and permanent learning, and positive attitudes towards experimentation. In this context, cooperative learning models (CLMs) are very useful for getting students to carry out classroom and lab activities (individual or group) with simple equipment. Cooperative learning is a model where small and heterogeneous groups of students help each other learn. Cooperative learning models are used in different cultures, geographies, areas, and levels of education (Dendup & Onthanee, 2020; Garcia, 2021; Han & Son, 2020; Sulfemi & Kamalia, 2020; Van Ryzin, Roseth & Biglan, 2020; Yıldız, Çalıklar & Şimşek, 2020). Cooperative learning is a pedagogical method that helps students interact and collaborate to achieve shared goals, and thus, develop cognitive, affective, and psychomotor skills (Samosa, 2021; Yıldız, Ağgül, Çalıklar & Şimşek, 2020). This was the focal point of this study, which focused on determining the effect of a CLM on preservice classroom teachers' attitudes towards science experiments. We believe that the results will guide future studies and contribute to science and classroom education.

© 2021 INASED

Research Objective

This study aimed to determine the effect of (CLMs) on preservice classroom teachers' attitudes towards science experiments. The study sought answers to the following subquestions:

Is there a significant difference in pretest scores between the experimental and control groups?

Is there a significant difference between pretest and posttest scores for the experimental group?

Is there a significant difference between pretest and posttest scores for the control group?

Is there a significant difference in posttest scores between the experimental and control groups?

How does the experimental group think the CLM affects their attitudes towards science experiments?

Method

Research Model

The explanatory sequential design was the mixed research design of choice in this study to ensure that participants understood the research questions. The explanatory sequential design consists of two stages: qualitative and quantitative (Creswell & Plano-Clark, 2015). In the first stage, quantitative data are collected, and statistical tests are used to overview the subject of interest. In the second stage, qualitative data are collected and analyzed based on quantitative results. The qualitative data helps the researcher explain and enrich the quantitative data (Creswell, 2009). Figure 1 shows the path diagram of the design.

Figure 1. Explanatory Sequential Design

The quantitative stage employed an semi-experimental pretest-posttest control group design, in which participants' scores are measured before and after an experiment concerning the same dependent variable. Participants are divided into two groups: experimental and control (Karasar, 2005).

The qualitative stage employed phenomenology, which seeks answers to the question, "What is the truth? Phenomenology is used by researchers interested in how people experience a phenomenon or a situation and what meaning they attribute to it. Phenomenology is a descriptive form of research in which defining facts is more critical than generalizing (Akturan & Esen, 2008). In this study, the experimental group participants were interviewed after the CLM. Interviews were held with volunteer participants (n=22).

Participants

The sample consisted of 45 second-year students (30 women and 15 men) of the department of primary education of the faculty of education of a public university in the 2017-2018 academic year. The sample was randomized into two groups: experimental (n=24) and control (n=21). Participants were recruited by the researcher using convenience sampling within the scope of the "Science Laboratory Activities" course.

Data Collection Tools

Quantitative data were collected using the Scale of Attitudes towards Science Experiments (SATSE) developed by Yıldız, Aydoğdu, Akpınar, and Ergin (2007). SATSE consists of 19 items scored on a five-point Likert-type scale. It has an item-total score correlation coefficient of .33 to .88, an internal consistency coefficient of.91 to .94., and a Cronbach's Alpha of .92, indicating high reliability.

Qualitative data were collected through individual semi-structured interviews to determine how participants thought the CLM affected their attitudes towards science experiments. In the interviews, they were asked, "How did the CLM affect your attitudes towards science experiments?" followed by probe questions for clarification and elaboration when needed.

Data Analysis

In the quantitative stage, the Shapiro–Wilk test was used for normality testing. The results showed that the data were normally distributed, and therefore, were analyzed using a t-test (Büyüköztürk, 2010). Tables 1 and 2 show the normality results for the experimental and control groups, respectively.

Table 1. Normality Testing for Experimental Group SATSE Pretest and Posttest Scores

Experimental group	n	Shapiro- Wilk	X	df	sd	Skewness	Kurtosis
Pretest	24	.098	3,07	23	.329	-.684	-.400
Posttest	24	.309	3,24	23	.257	-.684	-.400

The SATSE pretest and posttest scores of the experimental group were normally distributed (S-W=.098, sd=.329 and p>.05; S-W= .309, sd=.257 and p>.05) (Table 1), and therefore, were analyzed using a t-test.

Table 2. Normality Testing for Control Group SATSE Pretest and Posttest Scores

Control group	n	Shapiro- Wilks	X	df	sd	Skewness	Kurtosis
Pretest	21	.778	3.24	20	.282	.358	.035
Posttest	21	.147	3.04	20	.159	.-758	.282

The SATSE pretest and posttest scores of the control group were normally distributed (S-W=.778, sd=.282 and p>.05; S-W= .147 sd=.159 and p>.05) (Table 2), and therefore, were analyzed using a t-test.

The qualitative data were analyzed using content analysis. The interviews were transferred to a computer and made ready for analysis. The researcher and an expert read them multiple times and then coded them. Concepts were determined based on the interviewees' views on the effects of the CLM on their attitudes towards science experiments. This allowed the researcher to see how many interviewees reflected on the same concepts. After coding, a code list was created to determine the shared aspects of the codes, and then, themes were developed to outline the results. In qualitative research, reliability is the consistency between codes developed by multiple researchers (Creswell, 2013). The codes were compared, and those that did not match were classified into corresponding categories or were eliminated. Direct quotations were used to provide an accurate and coherent picture of the interviewees' views and to increase the reliability of the study (Yıldırım & Şimşek, 2011). The themes were defined and interpreted in the "Results" section.

Experimental Process

This section addressed the applications carried out in the experimental and control groups during the research process.

Procedure in Experimental Group

The experimental group was informed about the purpose, content, and procedure prior to the learning together method which is the one of the CLM. Afterward, they took SATSE as a pretest. The whole process lasted 12 weeks (one experiment each week). The experimental group participated in learning together method experiments two hours a week for 12 weeks (48 hours in total). The experiments were as follows:

© 2021 INASED

1. The reflection of sound and light waves
2. The image in the mirror
3. Heat and temperature
4. Acids and bases
5. Magnetism
6. Separating mixtures
7. Buoyancy, floating-sinking
8. Changes of state
9. Force and motion
10. Electricity
11. Pressure
12. Germination

The experimental participants were divided into six groups of four before the experiments. The groups were randomly assigned tasks, such as doing research about the experiments and providing materials. The participants in learning together group were randomly assigned roles; an observer (motivating group members for participation and high performance and taking observation notes), a supplier (procuring materials), a recorder (writing down experimental outcomes on a piece of paper), and a spokesperson (communicating with other groups and informing the teacher of in-group problems). They conducted the experiments according to the instructions. All participants did research on the same topic and fulfilled the duties assigned to them. For evaluation, a randomly selected group explained the subject assigned to them and conducted the related experiment, and then presented a report to the class. Another group selected by the teacher asked one or all group members questions about the subject. The groups took notes in each class. The in-group roles were reassigned every week. The experimental group completed SATSE (posttest) and was interviewed after the experiments. Figure 2 shows procedure in experimental (learning together) group.

Figure 2. Research Process for the Experimental Group

Procedure in Control Group

The control group was informed about the purpose, content, and procedure prior to the CLM. Afterward, they took SATSE as a pretest. The whole process lasted 12 weeks (one experiment each week). The control group participated in the CLM two hours a week for 12 weeks (48 hours in total). They conducted the same experiments as the experimental group and covered classes as specified by the curriculum.

The participants were divided into five groups of four and five (one group) at their request at the beginning of the procedure. They conducted the experiments according to the instructions. During the experiments, the teacher walked around and answered questions and offered assistance when needed. Participants drew up reports on the experiments and handed them over to their teachers the following week. Their performance was evaluated based on those reports. They completed SATSE (posttest) after the experiments. Figure 3 shows procedure in control group.

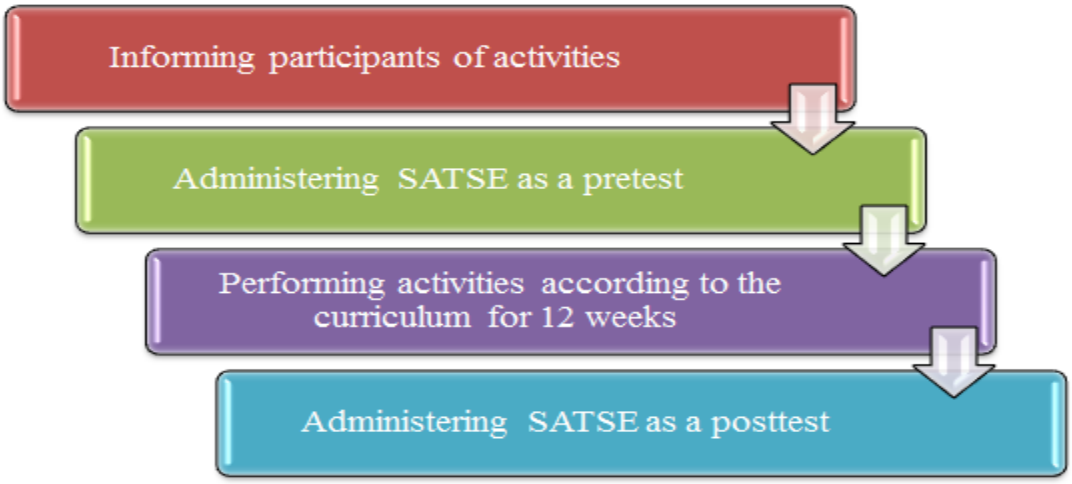

Figure 3. Research Process for the Control Group

© 2021 INASED

Results

This section addressed the results of the qualitative and quantitative analysis.

Quantitative Results

A t-test was used to answer the first research question. Table 3 shows the results.

Table 3. SATSE Pretest and Posttest T-Test Results for Experimental Group

Experimental group	n	X	ss	sd	t	p
Pretest	24	2.73	.371	23	-1.280	.213
Posttest	24	2.88	.462			

There was no statistically significant difference between SATSE pretest and posttest scores for the experimental group (t=-1.280 and p>.05) (Table 3).

A t-test was used to answer the second research question. Table 4 shows the results.

Table 4. SATSE Pretest and Posttest T-Test Results for Control Group

Control group	n	X	ss	sd	t	p
Pretest	21	2.76	.220	20	2.714	0,213
Posttest	21	2.63	.242			

The control group had a significantly lower mean posttest than pretest SATSE score (t=2.714 and p<.05) (Table 4).

A t-test was used to answer the third research question. Table 5 shows the results.

Table 5. SATSE Pretest T-Test Results for Experimental and Control Groups

Groups	n	X	ss	sd	t	p
Experimental	24	2.73	.371	44	-.351	.727
Control	21	2.76	.220			

There was no significant difference in mean SATSE pretest scores between the experimental and control groups (t= -.351 and p>.05).

A t-test was used to answer the fourth research question. Table 6 shows the results.

Table 6. SATSE Posttest T-Test Results for Experimental and Control Groups

Groups	n	X	ss	sd	t	p
Experimental	24	2.88	.462	44	2.271	.028
Control	21	2.63	.242			

The experimental group had a significantly higher mean SATSE posttest score than the control group (t= 2.271 and p<.05) (Table 6).

Qualitative Results

The experimental group participants (n=22) were interviewed to seek answers to the fifth research question. Figure 4 shows the results.

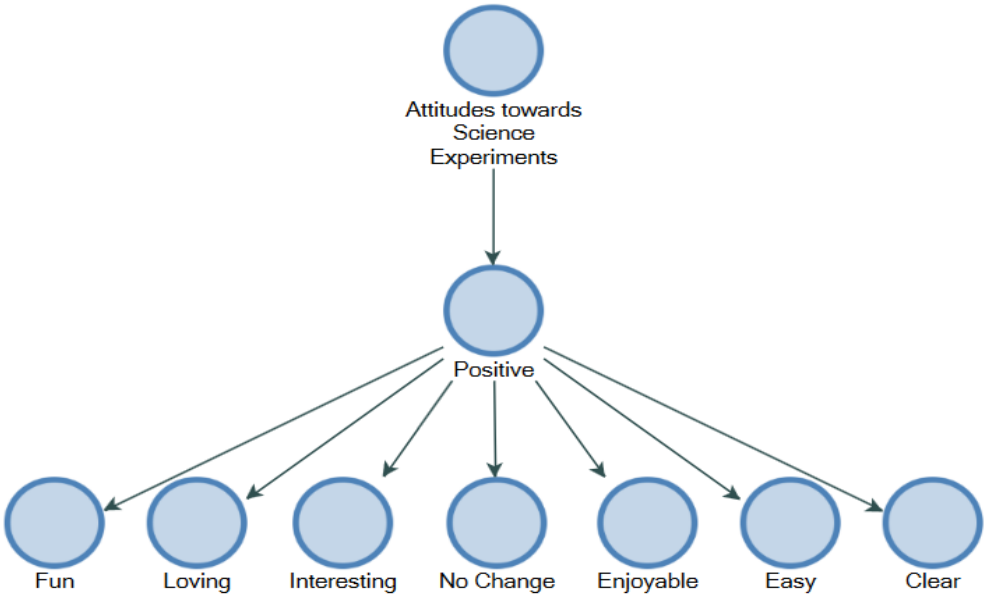

Figure 4. Participants' Attitudes towards Science Experiments

The interviewees' attitudes towards science experiments were grouped under the theme of "positive," which consisted of the codes of "Easy (f=5)," "Loving (f=5)," "Fun (f=4)," "Interesting (f=3)," "Enjoyable (f=2)," "Clear (f=2)," and "No change (f=6)" (Figure 4). The following are direct quotations from interviewees (pseudonyms):

Filiz: We shared the materials, which made the whole thing cheaper. We did the experiments after collecting theoretical information. It helped us better understand the experiments. Plus, everybody knew what they were supposed to do, so we could work together.

(Positive, clear)

Aygül: It helped me express myself and feel comfortable around my groupmates and see my own shortcomings. I love teamwork and experiments better now.

(Positive, loving)

Ibrahim: The point of this method is getting us to do research. I was not that interested in and did know much about the subjects I was searching for, so the experiments helped me learn about them. Science experiments are fun, so I will do the same with my students in the future.

(Positive, interesting, fun)

Zerrin: I wouldn't understand the experiments at all, If I was the only one doing them. I did them with four classmates in learning together group, which made it easier for me to learn and achieve learning retention

(Positive, easy, clear)

Davut: We helped each other and had different responsibilities during the experiments. We all observed the experiments and tried to reach a consensus. However, it didn't change my attitude towards experiments because I already love science experiments.

(Positive, no change)

Discussion, Conclusion and Recommendations

This study investigated the effect of a cooperative learning model (CLM) on preservice classroom teachers' attitudes towards science experiments. The results were discussed in the light of the literature.

Before the procedure, all participants completed the scale of attitudes towards science experiments (SATSE) as a pretest. Their prettest scores were analyzed using a t-test. There was no statistically significant difference in mean SATSE pretest scores between the experimental and control groups, indicating that all participants had similar attitudes towards science experiments before the procedure.

The experimental group participated in the learning together method. Their mean SATSE pretest and posttest scores were analyzed using a t-test. However, the results showed no significant difference between their scores, indicating that the learning together method did not significantly affect the participants' attitudes towards science experiments. Although not statistically significant, the learning together method slightly improved the participants' attitudes towards science experiments. This is due to the critical properties of learning together method. During the experiments, the tasks were carefully distributed and then redistributed each week, which reduced the participants' workload and strengthened the bond between them, allowing them to do the experiments more easily. This led to a slight improvement in their attitudes towards science experiments. The participants did research on the subjects of the experiments and informed their groups about them beforehand. Altıparmak and Nakipoğlu (2002) also found that CLMs improved students' biology lab performance but did not change their attitudes towards science experiments. Taşdemir (2004) reported that CLMs made students academically more successful but did not improve their attitudes towards science experiments. These results support ours. Yapıcı, Hevedanlı, and Oral (2009) compared the effects of CLMs and conventional methods on students' lab performance and attitudes. They determined that CLMs made students more successful, with little improvement in their attitudes towards science experiments.

The control group's mean SATSE pretest scores were analyzed using a t-test. They had significantly lower posttest than pretest scores, indicating that the activities based on the current curriculum negatively affected their attitudes towards science experiments. This may be because the control group could not build a strong bond and failed to get organized during the activities, resulting in a few participants doing most of the work. This might have negatively affected their attitudes towards science experiments. Besides, the control group did not do much research on the subjects, which may also have negatively affected their attitudes towards science experiments.

The experimental and control groups' mean posttest SATSE scores were analyzed using a t-test. The results showed that the experimental group had significantly higher scores than the controls, indicating that the CLM was better at improving the participants' attitudes towards science experiments than the current curriculum, which is also supported by the qualitative results. In the interviews, most participants stated that the CLM positively affected their attitudes towards science experiments in various ways. However, others stated that the CLM did not significantly change their attitudes because science experiments helped them understand abstract science concepts or because they already loved and were interested in science experiments and found them enjoyable and entertaining. The participants shared responsibility in the CLM activities, which reduced their workload and helped them conduct the experiments easily. Therefore, they loved science experiments better thanks to the CLM activities. Exchanging information, learning from each other, and correcting incomplete or inaccurate information made the experiments easier to understand. Interaction, naming the group, and reassigning the tasks weekly made the science experiments more fun for the participants. Sontay and Karamustafaoğlu (2018) argue that students who collaborate to conduct science experiments are likely to share, organize, interact, and collaborate more. Positive commitment (the group fails if one of the group members fails), an indispensable component of cooperative learning, made the participants more eager to do the experiments. Townsend (2012) notes that students should be encouraged to conduct interesting and cost-effective experiments that can be conducted with easy-to-access materials. Research shows that students who interact and collaborate during lectures help each other learn without even knowing that they do (Arslan & Zengin, 2016; Doymuş, Şimşek & Bayrakçeken, 2004; Güvenç & Açıkgöz, 2007). The experimental group had higher SATSE scores than controls, probably because CLMs support social and emotional development (Şimşek, Şimşek, & Doymuş, 2006). There is no published research examining the effect of learning models on preservice classroom teachers' attitudes towards science experiments. Most studies examine teachers' or students' attitudes towards science, physics, chemistry, and biology laboratories or focus on their perceptions and views on science experiments (Çil & Çalışoğlu, 2020; Genç et al., 2010; Sezen Vekli, 2018; Şenler, Karışan & Bilican, 2017). However, earlier studies have reported results similar to ours (Collison, 1993; Foley & McPhee, 2008; Lang, Wong & Fraser, 2005; Önen & Çömek, 2011; Townsend, 2012). Yıldız, Akpınar, Aydoğdu, and Ergin (2006) found that

science teachers had positive attitudes towards the goals of science experiments. They also determined that teachers considered science experiments important because they appealed to senses, facilitated learning and cooperation, and helped them develop manual, observational, and reasoning skills. According to Kaya and Böyük (2011), students have positive attitudes towards science experiments because they regard them as exciting and useful activities that promote collaboration and learning retention. Our participants also stated that they found the science experiments more interesting and fun after the CLM. Çil and Çalışoğlu (2020) argue that students love applied science courses better than theoretical ones. Our participants also stated that they started to like science experiments after the CLM.

This study will contribute to the literature given that science experiments do not necessarily have to be conducted in a lab, but they can also be conducted in a classroom.

This study looked into the effect of a CLM on preservice classroom teachers' attitudes towards science experiments. The first result was that the CLM was better at improving preservice classroom teachers' attitudes towards science experiments than the current curriculum. Therefore, CLMs should be integrated into both lab and classroom activities. Future studies should focus on the impact of different CLMs on preservice classroom teachers' academic performance, perception, vision, cognitive, and social skills. Future studies should also investigate the effects of CLMs on primary school students' attitudes towards science experiments. Encouraging preservice classroom teachers to conduct undergraduate experimental activities with primary school students can make them more successful in professional life. Classroom teachers should be provided with in-service training on conducting science experiments in labs and when there is no lab to conduct experiments in. The primary school curriculum should offer more experiments that can be done with simple equipment.

Limitations

This study is limited to the answers given to the scale and interview questions of pre-service classroom teachers and pre-service classroom teachers studying in the 3rd grade of a public university in the 2017-2018 academic year.

References

Akturan, U. & Esen, A. (2008). Fenomenoloji. T. Baş ve U. Akturan (Ed.) içinde, *Nitel araştırma yöntemleri.* Seçkin Yayıncılık.

Altıparmak, M., & Nakipoğlu, M., **(**2002). Lise Biyoloji Laboratuarlarında İşbirlikli Öğrenme Yönteminin Tutum ve Başarıya Etkisi. *Proceeding of V. National Science and Mathematics Semposium, I,* (40-45).

Annagün, Ş. & Duban, N. (Ed.) (2014). *Fen Bilimleri Öğretimi*. Anı Yayıncılık.

Arslan, A., & Zengin, R. (2016). İşbirlikli öğrenme yönteminin fen öğretimi laboratuar uygulamaları dersine yönelik öğrencilerin tutumlarına etkisi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi, 14*(2), 37-49. https://doi.org/10.17679/iuefd.17245785

Baran, Ş. & Doğan, S. (2004). Erzurum il merkezindeki liselerin biyoloji laboratuarlarının araç ve gereçleri bakımından durumu. *Erzincan Eğitim Fakültesi Dergisi, 6*(1), 23-33.

Bozdağ, H. C. (2019). 5. sınıf öğrencilerinin fen bilimlerine yönelik motivasyonları, tutumları ve fen başarıları arasındaki ilişki. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, *15*(3), 720-740. https://doi.org/10.17860/mersinefd.592823

Büyüköztürk, Ş. (2010). *Sosyal bilimler için veri analizi el kitabı.* Pegem Yayıncılık.

Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches.* SAGE Publication.

Creswell, J. W. (2013). *Nitel araştırma yöntemleri: Beş yaklaşıma göre nitel araştırma ve araştırma deseni.* Siyasal Kitabevi.

Creswell, J. W., & Plano-Clark, V. L.(2015). *Karma yöntem araştırmaları: Tasarımı ve yürütülmesi,* Çev. Ed.: Totan, T., Anı Yayıncılık.

Collison, G. E. (1993). *Teacher attitudes toward hands-on science instruction versus traditional teaching methods.* Reports-Research/Technical, Georgia Southwestern College.

Çetin, A., & Cengiz, M., (2021). Laboratuvar Uygulamalarının Dokular Konusunda Fen Bilgisi Öğretmen Adaylarının Akademik Başarılarına ve Tutumlarına Etkisi. *Academia Eğitim Araştırmaları Dergisi*, *6*(1), 37-45. Retrieved from https://dergipark.org.tr/en/pub/egitim/issue/58093/792783

Çil, S. & Çalışoğlu, M, (2020). Sınıf Öğretmenlerinin Fen Bilimleri Dersi "Maddenin Özellikleri " Ünitesinde Deney Yönteminin Kullanılmasına Yönelik Görüşleri. *Ağrı İbrahim Çeçen Üniversitesi Sosyal Bilimler Enstitüsü Dergisi /AİCUSBED),* *6*/1, 451-473. https://doi.org/10.31463/aicusbed.767673

Dendup, T., & Onthanee, A. (2020). Effectiveness of Cooperative Learning on English Communicative Ability of 4th Grade Students in Bhutan. *International Journal of Instruction*, *13*(1), 255-266.

Doğan, Ö. F. (2010). *Okul Öncesi Eğitimde Fen ve Doğa Etkinlikleri Saatinde Öğretmenlerin, Deney Yöntemine Yer Verme Durumlarının İncelenmesi* [Yayımlanmamış Yüksek Lisans Tezi], Selçuk Üniversitesi.

Doymuş, K., Şimşek, Ü., & Bayrakçeken, S. (2004). İşbirlikçi öğrenme yönteminin fen bilgisi dersinde akademik başarı ve tutuma etkisi. *Türk Fen Eğitimi Dergisi*, *1*(2), 103-115.

Ergin, Ö., Pekmez, E. Ş., & Erdal, S. Ö. (2012). *Kuramdan uygulamaya deney yoluyla fen öğretimi* (2.Baskı). Dinazor Yayınevi.

Feyzioğlu, B., Demirdağ, B., Ateş, A., Çobanoğlu, İ., Altun, E., & Akyıldız, M. (2011). Students' views on laboratory applications: Izmir sample. *İlköğretim Online*, *10*(3), 1208-1226.

Foley, B. J., & McPhee, C. (2008). Students' attitudes towards science in classes using hands-on or textbook based curriculum. *American Educational Research Association*, 1-12.

Garcia, M.B., (2021). Cooperative learning in computer programming: A quasi-experimental evaluation of Jigsaw teaching strategy with novice programmers. *Education and Information Technologies 26*, 4839–4856. https://doi.org/10.1007/s10639-021-10502-6

Genç, H., Deniş, H. & Demirkaya, H. (2010). Sınıf Öğretmeni Adaylarının Fen Bilgisi Öğretimi Dersine Yönelik Tutumlarının Çeşitli Değişkenlere Göre İncelenmesi. *Mehmet Akif Ersoy Üniversitesi Fen Bilimleri Enstitüsü Dergisi, 2*, 133-149. Retrieved from https://dergipark.org.tr/en/pub/makufebed/issue/19425/206577

Güvenç H., & Açıkgöz, K. Ü. (2007). İşbirlikli öğrenme ve kavram haritalarının öğrenme stratejisi kullanımı üzerindeki etkileri. *Kuram ve Uygulamada Eğitim Bilimleri*, *7*(1), 95-127.

Han, S. I., & Son, H. (2020). Effects of Cooperative Learning on the Improvement of Interpersonal Competence among Students in Classroom Environments. *International Online Journal of Education and Teaching*, *7*(1), 17-28.

Hançer, A., H., Şensoy, Ö., & Yıldırım, H., İ. (2003). İlköğretimde çağdaş fen bilgisi öğretiminin önemi ve nasıl olması gerektiği üzerine bir değerlendirme. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, *1*(13), 80-88.

Hofstein, A., & Lunetta, V.N. (2004). The laboratory in science education: foundation for the 21st century. *Science Education*, *88*, 28-54.

Karaer, G., Karademir, E., & Tezel, Ö. (2020). Proje Tabanlı Öğretimin Fen Laboratuvarı Dersinde Kullanımının Sınıf Öğretmeni Adaylarının Görüşlerine Göre Değerlendirilmesi. *Eğitimde Nitel Araştırmalar Dergisi*, *8*(1), 73-95. https://doi.org/10.14689/issn.2148-2624.1.8c.1s.4m

Karasar, N. (2005). *Bilimsel Araştırma Yöntemi*. Nobel Yayınları.

Kaya, H. & Böyük, U. (2011). İlköğretim II. kademe öğrencilerinin fen ve teknoloji dersine ve fen deneylerine karşı tutumları. *TÜBAV Bilim Dergisi, 4*(2), 120-130. Retrieved from https://dergipark.org.tr/en/pub/tubav/issue/21523/230940

Lang, Q. C., Wong, A. F. L., & Fraser, B. J. (2005). Student perceptions of chemistry laboratory learning environments, student–teacher interactions and attitudes in secondary school gifted education classes in Singapore. *Research in Science Education*, *35*, 299–321.

Lunetta, V. N. (1998). The school science laboratory: Historical perspectives and contexts for contemporary teaching. *International Handbook of Science Education*, *1*, 249-262.

Ministry of National Education (MoNE). (2013). *İlköğretim Kurumları (İlkokullar ve Ortaokullar) Fen Bilimleri Dersi (3, 4, 5, 6, 7 ve 8. sınıflar) Öğretim Programı*. Milli Eğitim Bakanlığı.

Ministry of National Education (MoNE), (2017). *Hayat Bilgisi Dersi Öğretim Programı (İlkokul 1, 2 ve 3. Sınıflar)*. Milli Eğitim Bakanlığı.

Önen, F. & Çömek, A. (2011). Öğretmen Adaylarının gözüyle basit araç-gereçlerle yapılan fen deneyleri. *Batı Anadolu Eğitim Bilimleri Dergisi, 1*(3), 45-71. Retrieved from https://dergipark.org.tr/en/pub/baebd/issue/3340/46236

Özdemir, M., & Kaptan, F. (2013). Sınıf öğretmeni adaylarının bilimsel süreç becerileri ve fen öğretimine yönelik tutumlarının incelenmesi. *Karaelmas Eğitim Bilimleri Dergisi*, *1*(1), 62-75.

Partalcı, O., Topsakal, Ü. U., & Özkan, G. (2019). Laboratuvar Etkinliklerinin Öğrencilerin Laboratuvara Karşı Tutumuna Etkisi. *ERPA International Congresses on Education, In Book of Proceedings,* 1-5.

Samosa, R. C. (2021). Cooperative Learning Approach as Innovation to Improve Students' Academic Achievement and Attitude in Teaching Biology. *Journal of World Englishes and Educational Practices, 3*(1), 01-10.

Sezen Vekli, G. (2018). Sınıf öğretmeni adaylarının bilimsel süreç becerilerine dayalı deney tasarlama ve uygulama becerilerinin incelenmesi. *Sakarya University Journal of Education, 8*(3), 128-141. https://doi.org/10.19126/suje.411723

Sontay, G. & Karamustafaoğlu, O. (2018). 'Sıvı basıncı' konusunda basit araç gereçlerle yapılan bir deney etkinliğine ilişkin öğretmen görüşleri. *Journal of Research in Educatıon and Society, 5*(1), 220-246. Retrieved from https://dergipark.org.tr/en/pub/etad/issue/37928/364637

Sulfemi, W. B., & Kamalia, Y. (2020). Jigsaw Cooperative Learning Model Using Audiovisual Media to Improve Learning Outcomes. *JPsd (Jurnal Pendidikan Sekolah Dasar), 6*(1), 30-42.

Şenler, B., Karışan, D. & Bilican, K. (2017). Sınıf öğretmeni adaylarının fen ve teknoloji laboratuvarına yönelik algı ve tutumlarının incelenmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi. 42,* 105-122. https://doi:10.21764/efd.14921

Şimşek, U., Şimşek, Ü. & Doymuş, K. (2006). İşbirlikçi öğrenme yöntemi üzerine derleme çalışması III: İşbirlikçi öğrenme yönteminin eğitim ortamındaki faydaları. *Kazım Karabekir Eğitim Fakültesi Dergisi,13,* 414-437. Retrieved from https://dergipark.org.tr/en/pub/ataunikkefd/issue/2774/37178

Taşdemir, A. (2004). *Fen bilgisi öğretmenliği kimya laboratuvarı dersinde çözeltiler konusunun öğrenilmesinde işbirlikli öğrenme yönteminin etkileri* [Yayınlanmamış Yüksek Lisans Tezi]. Gazi Üniversitesi.

Tobin, K. (1990). Research on science laboratory activities: In pursuit of better questions and answers to improve learning. *School Science and Mathematics, 90*(5), 403-418.

Townsend, L. A. (2012). *The Effects of laboratory-based activities on student attitudes toward science*. (Master thesis), Montana State University, Bozeman, Montana. https://scholarworks.montana.edu/xmlui/handle/1/2435

Ulu, C., (2019). Argümantasyon Tabanlı Bilim Öğrenme Yaklaşımına Dayalı Laboratuvar Uygulamalarının Üstbilişsel Bilgi ve Becerilere Etkisi. *Uluslararası Bilim ve Eğitim Dergisi, 2*(1), 11-23. Retrieved from https://dergipark.org.tr/en/pub/ubed/issue/48031/437451

Uyanık, G. (2017). İlkokul Öğrencilerinin Fen Bilimleri Dersine Yönelik Tutumları İle Akademik Başarıları Arasındaki İlişki. *Tübav Bilim Dergisi, 10*(1), 86-93. Retrieved from https://dergipark.org.tr/en/pub/tubav/issue/27928/296802

Van Ryzin, M. J., Roseth, C. J., & Biglan, A. (2020). Mediators of effects of cooperative learning on prosocial behavior in middle school. *International journal of applied positive psychology, 5*(1), 37-52.

Yapıcı İ. Ü., Hevedanlı M., & Oral B., (2009). İşbirlikli öğrenme ve geleneksel öğretim yöntemlerinin tohumlu bitkiler sistematiği laboratuarı dersine yönelik tutum ve başarıya etkisi. *Pamukkale*

Üniversitesi Eğitim Fakültesi Dergisi, 26, 63-69. Retrieved from https://dergipark.org.tr/en/pub/pauefd/issue/11117/132955

Yıldırım, A. & Şimşek, H. (2011). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seçkin Yayıncılık.

Yıldız, E., Ağgül, Ö., Çalıklar, Ş., & Şimşek, Ü., (2020). Eğitsel Oyun ve İşbirlikli Öğrenmenin 6. Sınıf Öğrencilerinin Akademik Başarılarına, Sosyal Becerilerine ve Öğrenme Motivasyonlarına Etkisi. *Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi*, *8*(6), 1703-1716. https://doi.org/10.18506/anemon.671575

Yıldız, E., Akpınar, E., Aydoğdu & Ergin, Ö. (2006). Fen bilgisi öğretmenlerinin fen deneylerinin amaçlarına yönelik tutumları. *Journal of Turkish Science Education*, *3*(2), 2-18.

Yıldız, E., Aydoğdu, B., Akpınar, E. & Ergin, Ö. (2007). Fen Bilgisi öğretmenlerinin fen deneylerine yönelik tutumları. *Boğaziçi Üniversitesi Eğitim Dergisi, 24(2),* 71-86.

Yıldız, E., Çalıklar, Ş., & Şimşek, Ü. (2020). Gazların kinetik teorisi konusunun öğretiminde üç farklı işbirlikli öğrenme yönteminin etkisi. *Dokuz Eylül Üniversitesi Buca Eğitim Fakültesi Dergisi*, (49), 24-42.

Yu, S. M. & Bethel, L. J. (1991). The influence of hands on science process skills training on preservice elementary teachers' anxiety and concerns about teaching science activities Taiwan, Republic of China. *The Annual Meeting of the National Association for Research in Science Teaching,* Lake Geneva (April 7-10, 1991).

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Interactive Metadiscourse Markers in the Turkish Articles on Science and Social Sciences

Mustafa Onur KAN[1]

Hatay Mustafa Kemal University

Abstract

This study aims to identify the interactive metadiscourse markers in the main sections of the articles (introduction, method, findings, results, discussion and conclusion) in the fields of science and social sciences. Designed as a descriptive research, this study employs the survey model. The articles analyzed in this study are a total of 16 articles, 8 science and 8 social sciences articles selected from the science and social sciences journals at DergiPark. The study group of this paper includes 54,253 words, 16,301 of which are in the articles on science and 37,952 are in the articles on social sciences. To achieve, this study draws on Hyland and Tse's framework of metadiscourse model. The data are analyzed through descriptive analysis method. A Mann-Whitney U test is performed to find out whether there is a significant difference in the use of metadiscourse markers identified in the descriptive analysis of the articles on science and social sciences. The analysis indicate that more interactive metadiscourse markers are used in the articles on social sciences compared to the articles on science; yet, this difference is not significant. Furthermore, the use of code glosses is significant for social sciences; nonetheless, there is no significant difference in the use of other interactive metadiscourse markers.

Keywords: Academic Writing, Metadiscourse, Interactive Metadiscourse, Turkish Scientific Texts

DOI: 10.29329/epasr.2021.373.4

[1]Assoc. Prof., Faculty of Education, Hatay Mustafa Kemal University, Hatay, Turkey, ORCID: 0000-0001-8319-0791

Correspondence: mustafaonurkan@gmail.com

© 2021 INASED

Introduction

Text is an act between the writer and the reader. Metadiscourse is a concept concerning the relationship and communication between the writer and the reader. This concept was first coined by Harris (1959) and later developed by researchers such as Williams (1981), Vande Kopple (1985) and Crismore (1989) (Hyland, 2005, p. 3). Metadiscourse is defined as non-topic material by Lautamatti (1978), writing about writing by Williams (1981, p. 40), communication about communication by Vande Kopple (1985, p. 83) and discourse about discourse by Hyland (1998, p. 437).

Metadiscourse that contributes to the way a text is understood (Hyland, 2005, p. 23) helps writers create consistent and reader-friendly texts (Mirshamsi and Allami, 2013, p. 23). It is thus emphasized that metadiscourse is about the relationship between the writers who make up the text and the readers who analyze it (Kan, 2016). Metadiscourse has taken on new significance given that it contributes to the creation of consistent and understandable texts, as mentioned above, and serves to establish the relationship between the writers and the readers.

Metadiscourse research has often focused on interdisciplinary comparisons as scientific copywriters from different disciplinary communities are expected to follow different rules in the production and communication of knowledge (Becher & Trowler, 2001; Hyland, 2000 as cited in Cao & Hu, 2014). With these studies, especially inexperienced writers who are candidates to join the discourse community can gain awareness of the metadiscourse markers of scientific texts in different areas. There are some metadiscourse studies that compare science and social sciences, which are two main areas in the literature (e.g. Pooresfahani, Khajavy and Vahidnia, 2012; Zarei and Mansoori, 2011), because studies that compare these two areas by analyzing the interactive metadiscourse markers in all the main sections of Turkish scientific texts are insufficient. Therefore, this study, which compares the articles in science and social sciences, adds to the relevant literature as well as offers insights for metadiscourse studies that compare main areas based on Turkish scientific texts.

Metadiscourse Markers

Vande Kopple proposed his pioneering metadiscourse model first in 1985 and developed it by 2002. In the following years, researchers such as Crismore (1989), Bunton, (1999), Hyland and Tse (2004), Ädel (2006) presented new models to the literature. Among the aforementioned models, Hyland and Tse's model features two basic dimensions: interactional and interactive. The interactional dimension, which determines the level of personality in the text, shows the ways the writer manages the interaction; the purpose of the writer here is to explain his/her opinion and involve the reader in the text (Hyland, 2005, p. 49, 52). It includes hedges, boosters, attitude markers, engagement markers, self-mentions.

The interactive dimension, which shapes the text considering the reader needs, explains the ways in which the writer is aware of the reader involvement and regulates the reader's possible knowledge, interest, rhetorical expectations, and processing abilities (Hyland, 2005, p. 49). It includes transitions, frame markers, endophoric markers, evidential markers and code glosses. These interactive metadiscourse markers are discussed below with examples from the articles analyzed in this study.

Transitions

Transitions help readers interpret pragmatic connections and signal causative and contrastive relations in the writer's thinking, expressing relationships between stretches of discourse (Hyland, 2005, p. 50). Transitions are words such as "also, moreover, but, however, thus, and, even, therefore, already, thereby, because" and phrases such as "on the other hand, that being said, even though, moreover, in addition to." Examples are as follows:

Pear can be grown in almost all regions in the world where apple can be grown. **However**, pears are less resistant to cold than apples, which allows pears to be grown even in the regions at the 55th degree of north latitude. (Food science and technology)

It was found in the univariate model that sex and short stature had a significant effect on the differentiation of patients with normal and non-normal vitamin B12 levels ($p < 0.05$). **Moreover**, family history, age at diagnosis, duration of disease, current age, body weight, mobility, and type were analyzed and they were not found effective ($p > 0.05$). (Medicine)

Among crimes against sexual immunity, sexual abuse is the most difficult crime to detect **and** appears to be an important problem that affects the individual, family and society as a whole, regardless of gender, race, social or ethnic origin. (Law)

Increasing the rate of literacy especially among the women and children population was one of the most important priorities for the new Republic that took over from the Ottoman Empire. **Because** modernization at that time was something that could only be possible in this way. (Art)

Frame Markers

Frame markers signal elements of schematic text structure or text boundaries, helping readers understand the discourse more clearly (Hyland, 2005, p. 51). Frame markers are words such as "study, paper, then, briefly, to summarize, to highlight, to seek" or phrases such as "this study, this paper, first of all, in this sense, in this context, in this framework, in this section, in section X, the purpose of this study, the purpose of this paper." Examples are as follows:

In this study, the quantitative status as well as the spatial and vertical distribution of the present stock of mesozooplankton in the Turkish Straits System were determined, which hopefully helps us understand the ecological processes in the pelagic ecosystem in the region. (Environmental sciences)

This paper molecularly investigated whether T. foetus is among the chronic diarrhea factors in cats and identified the risk factors of infection. (Veterinary medicine)

The term "traditional" is used as the opposite of modern. **In this context**, modernization refers to the transition from traditional society to modern society. (Public administration)

The other concept that **this study focused on**, temperament, is the expression of the bodily aspect of the human being, and although it provides explanations about the biological side of a person, it mostly indicates the predispositions of the person and her/his own character structure. (Science of religion)

Endophoric Markers

Endophoric markers are expressions which refer to the other parts of the text and thus make additional ideational material salient and available to the reader in aiding the recovery of the writer's meanings, often facilitating comprehension and supporting arguments by referring to earlier material or anticipating something yet to come (Hyland, 2005, p. 51). Endophoric markers are words such as "noted, mentioned, see, table, figure, below, following, above, aforementioned" or phrases such as "noted above, mentioned below, as seen, as given in Table X." Examples are as follows:

As given **in Figure 2**, the placement of longitudinal and transverse reinforcements in rectangular cross-section reinforced concrete columns, the change of transverse reinforcement intervals and column dimensions. (Engineering)

Table 1 shows the observations and measurements made in 50 Festuca valesiaca genotypes. (Agriculture)

This idea, **as mentioned above**, caused two world wars in the century XX. (Humanities)

The changes and developments that are explained **above** and constitute the main problem of the research also affect the accommodation businesses, which are the backbone of the tourism sector. (Hotel management, accommodation, sports and tourism)

Evidentials

Evidentials, which are metalinguistic representations of an idea from another source, guide the reader's interpretation and establish an authorial command of the subject, thus involve hearsay or

attribution to a reliable source (Hyland, 2005, p. 51). Evidentials are uses such as “according to X; X defines/explains/states; X, year.” Examples are as follows:

Abdel-Wahed and Snyder (2015) estimated the sunshine duration using monthly average temperature, relative humidity and wind speed data. (Common disciplines)

Önal and et al.[21] investigated serum B12 levels in 250 pregnant women and their newborn babies in Istanbul and found that 81.6% of the mothers and 42% of their babies had B12 deficiency. (Medicine)

In order to prevent the damages caused by natural flood waves in the Basin Oder, storage pools and other hydro-technical infrastructures that play a role in directing the flood waters and reducing the maximum discharge were built **(Dubicki et al., 2005)**. (Humanities, common disciplines)

The communication, interaction and data exchange of different devices with each other created various needs in terms of privacy, security and usability, which are the three elements of information security **(McCumber, 1991)**. (Education, educational research)

Code Glosses

Code glosses provide additional information by rephrasing, explaining or elaborating what was said to ensure that the reader is able to recover the writer’s intended meaning (Hyland, 2005, p. 52). Code glosses are words such as “e.g., namely” or phrases such as “in other words, that is.” Examples are as follows:

In Model 2, the volume reduction of the transverse reinforcement used in the confinement zone by 0.10% did not change the carrying capacity of the column shear force much, but it had an effect especially on the lateral displacement amounts. **That is to say**, 162 kN, which is the largest shear force that columns can carry for Model 1 and Model 2, created 15.54 mm lateral displacement in Model 1 and 18.27 mm in Model 2. (Engineering)

In this study, the average activation energy value required during the thermal decomposition of the hydroxyapatite crystals produced in the presence of pure and 1000 ppm pentanoic acid was calculated in the temperature range of 700-900 oC, **namely** using the Kissinger model in the main decomposition zone. (Basic sciences)

The origin of the understanding of "being in the middle", **in other words**, "moderation" in this order, goes back to Galen, one of the first thinkers who put forward systematic ideas about temperament. (Science of religion)

Today, the first thing that comes to mind about political order is the Western-style political order in the literature and this is used as such. **That is**, when one asks which political order, the answer is always the Western one. (Public administration)

This study aims to identify the interactive metadiscourse markers in all the main sections of the Turkish articles (introduction, method, findings, results, discussion and conclusion) in the fields of science and social sciences. Accordingly, the sub-purposes of this study are as follows:

- To identify the frequency of interactive meta-discourse elements,
- To determine whether there is a significant difference in the use of interactive meta-discourse elements depending on different areas in all the main sections of articles in social sciences and science.

Method

Designed as a descriptive research, this study employs the survey model. The reason for choosing the survey model within descriptive research is that this study seeks to identify the interactive metadiscourse markers in the articles on science and social sciences. Since survey models are research approaches that aim to describe a past or present situation as it exists (Karasar, 2012).

Data Collection

The articles analyzed in this study were a total of 16 articles, 8 science and 8 social sciences articles selected from the science and social sciences journals at https://dergipark.org.tr/tr/. The study group of this paper, which examines the main sections of these articles (introduction, method, findings, results, discussion and conclusion), included 54,253 words, 16,301 of which were in the articles on science and 37,952 were in the articles on social sciences.

There are two main fields, science and social sciences, on the website of DergiPark (https://dergipark.org.tr/tr/). The sub-fields of science consist of “environmental sciences; food science and technology; engineering; common disciplines; basic sciences; medicine; veterinary medicine; agriculture” whereas the sub-fields of social sciences consist of “humanities, common disciplines; the science of religion; education, educational research; law; public administration; hotel management, accommodation, sports and tourism; art; political sciences.”

A filtered search was performed in the sub-fields mentioned above on 23.07.2020. The studies were scanned through the filters of Category (Article), Primary Language (Turkish) and The Publisher Type (University). As a result of this filtered search, the Turkish article on the relevant sub-field which was published in last issue of the first journal of 2020 was included in this study.

© 2021 INASED

Data Analysis

The analysis in this study drew on the metadiscourse model proposed by Hyland and Tse (2004). The model in question was limited to the use of metadiscourse markers for this study. The data were analyzed through descriptive analysis method.

Because the data have non-parametric properties, this study performed a Mann-Whitney U test to find out whether there was a significant difference in the use of metadiscourse markers identified in the descriptive analysis in the articles on science and social sciences. All words in the main sections of the identified articles were analyzed. Furthermore, as the number of words in the articles in the fields of science and social sciences was not the same, the metadiscourse markers are also presented items per 1000 words, and the Mann-Whitney U test was performed based on these data.

Expert review (see. Merriam, 2009) was conducted to enhance the credibility of this research. To that end, an evaluation meeting was held with an expert lecturer specialized in the field of text linguistics. After the expert was informed about the research process, a consensus was reached on all the data obtained from the analyses of the articles.

Results

Table 1 indicates the frequency of interactive metadiscourse markers in the Turkish articles on science and social sciences and their rate of incidence per 1,000 words.

Table 1. Interactive Metadiscourse Markers in The Articles on Science and Social Sciences

Interactive Metadiscourse	Science		Social Sciences	
Markers	f	Items per 1000 Words	f	Items per 1000 Words
Transitions	170	10.43	533	14.04
Frame Markers	64	3.93	110	2.90
Endophroric Markers	88	5.40	119	3.14
Evidentials	173	10.61	443	11.67
Code Glosses	22	1.35	188	4.95
Total	517	31.72	1393	36.70

Table 1 shows that 517 interactive metadiscourse markers were used in the research articles on science whereas the number of interactive metadiscourse markers in the research articles on social sciences were 1393. Moreover, more interactive metadiscourse markers were used in the articles on social sciences, in terms of items per 1000 words when compared to the articles on science.

As given in Table 1, the most common interactive metadiscourse markers in the research articles in the field of science were evidentials and transitions, respectively. On the other hand, the most common markers in the articles on social sciences were transitions and evidentials, respectively, in terms of items per 1000 words. The least used interactive metadiscourse markers were code glosses

in the articles on science and frame markers in the articles on social sciences in terms of items per 1000 words.

This study also performed a Mann-Whitney U test to find out whether there was a significant difference in the use of metadiscourse markers identified in the descriptive analysis of the articles on science and social sciences. Table 2 presents the results of this test.

Table 2. The Mann-Whitney U Test on The Interactive Metadiscourse Markers in Science and Social Sciences Articles

	Transitions	Frame Markers	Endophoric Markers	Evidentials	Code Glosses	Total
Mann-Whitney U	24.000	21.000	20.000	25.000	4.000	26.000
Wilcoxon W	60.000	57.000	56.000	61.000	40.000	62000
Asymp. Sig. (2-tailed)	.401	.248	.208	.462	.003	.529

*: $p < 0.05$

Table 2 demonstrates that there was not a significant difference between the articles on science and social sciences regarding the total use of interactive metadiscourse markers in terms of items per 1000 words. Yet, there was a significant difference in the use of code glosses for the articles on social sciences. It was revealed that there was not any significant difference in the use of other interactive metadiscourse markers.

Discussion, Conclusion and Recommendations

This study analyzed the use of interactive metadiscourse in the articles on science and social sciences. It concluded that 517 interactive metadiscourse markers were used in the research articles on science whereas the number of interactive metadiscourse markers in the research articles on social sciences were 1393. Further, more interactive metadiscourse markers were used in the articles on social sciences, compared to the articles on science, in terms of items per 1000 words (36.70; 31.72, respectively); yet, this difference was not found significant. This implies that the authors of the articles on both fields seem to guide the readers through the text (Hyland and Tse, 2004). Similarly, other studies in the literature (Ünsal, 2008; Zarai, 2011) ascertained that more interactive metadiscourse markers were used in the articles on social sciences, relative to those on science.

It was discovered that transitions were the most common interactive metadiscourse marker in terms of items per 1000 words in the articles on social sciences and the second most common interactive metadiscourse marker in the articles on science following the use of evidentials. Yet, the Mann-Whitney U test demonstrated that there was not a significant difference in the use of transitions in these two fields. Considering the role of transitions in helping readers interpret the connection between thoughts (Hyland, 2005, p. 50), the writers in both fields seemed to help readers understand the text more easily – more in the articles on social sciences, without a significant difference between the fields. The study by Zarai (2001) on interactive metadiscourse markers in the articles on science

and social sciences revealed that the articles in both fields used transitions the most and that even though the articles on social sciences benefited from transitions more, there was not a significant difference between the use of transitions in the two fields. Another relevant study, which was conducted by Ünsal (2008) on the English articles on science and social sciences, ascertained that the most commonly used interactive metadiscourse markers in both fields were transitions and transitions were used in social sciences more. The frequent use of transitions identified both in this study and in the mentioned studies in the literature supports the argument by Hyland and Tse (2004) that the high use of transitions is clearly an important feature of academic writing.

It was found that evidentials were the most commonly used markers in the articles on science in terms of items per 1000 words and the second most commonly used markers in the articles on social sciences following the use of transitions. Yet, the Mann-Whitney U test revealed no significant difference between the two fields in terms of evidentials. Given that evidentials increase the reliability of the information in the discourse by showing the responsible source of that information based on citations (Hyland, 2005, p. 51), the writers in both fields made an effort to enhance the reliability of their articles – through the frequent use of evidentials. Similarly, other studies in the literature (Ünsal, 2008; Zarai, 2011) demonstrated that evidentials are used in the articles on social sciences more, compared to the articles on science.

Code glosses were the least used markers in the articles on science in terms of items per 1000 words and the third most commonly used markers in the articles on social sciences. Yet, the Mann-Whitney U test revealed no significant difference between the fields in terms of code glosses. Considering that code glosses provide additional information to the readers (Hyland, 2005, p. 52), the writers in social sciences helped their readers more in this regard. Likewise, other studies in the literature (Ünsal, 2008; Zarai, 2011) highlighted that code glosses were used in the articles on social sciences more compared to the articles on science and they were the least used interactive metadiscourse markers in the articles on science.

Frame markers were the least used markers in the articles on science and the second least used markers in the articles on social sciences; however, this was not a significant difference. Given that frame markers signal elements of schematic text structure and makes the discourse clear to the readers (Hyland, 2005, p. 51), the writers in both fields made approximately the same amount of effort to allow the readers to understand and follow the text more easily. Asghar (2015) stated that frame markers help readers understand the structure of the text and the text will become more difficult to read in the absence of frame markers. Likewise, Zarai (2011) and Ünsal (2008) determined that frame markers are more used in the articles on science compared to those on social sciences.

Endophroric markers were less used in both fields compared to transitions and evidentials. Although relatively more endophroric markers were used in terms of items per 1000 words in the field

of science compared to social sciences, this difference was not significant. Considering that endophroric markers allow the text to be read both univocally and linearly as they refer to the text itself or parts of the text (Uzun, 2006, p. 138), the writers of the articles on science tried to guide the readers to understand the text and read it linearly – albeit without statistically significant difference. Similar to this study, studies in the literature (Ünsal, 2008; Zarai, 2011) reported that endophroric markers were not among the two most common metadiscourse markers and they were used in the articles on science more compared to those on social sciences.

This study examined the Turkish articles in the fields of science and social sciences in relation to the use of interactive metadiscourse markers. Further studies may analyze different types of scientific texts such as master's theses and doctoral dissertations written in Turkish and compare them with existing studies, offering insights into Turkish scientific texts and thus adding to the literature.

References

Ädel, A. (2006). *Metadiscourse in L1 and L2 English*. John Benjamins.

Bunton, D. (1999). The use of higher level metatext in PhD theses. *English for Specific Purposes*, 18, 41-56.

Cao, F. & Hu, G. (2014). Interactive metadiscourse in research articles: A comparative study of paradigmatic and disciplinary influences. *Journal of Pragmatics*, 66, 15-31. https://doi.org/10.1016/j.pragma.2014.02.007

Crismore, A. (1989). *Talking with readers: Metadiscourse as rhetorical act*. Peter Lang Publishers.

Hyland, K. (1998). Persuasion and context: The pragmatics of academic metadiscourse. *Journal of Pragmatics*, 30 (4), 437-455.

Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. Continuum.

Hyland, K. & Tse, P. (2004). Metadiscourse in academic writing: A reappraisal. *Applied Linguistics*, 25 (2), 156-177.

Kan, M. O. (2016). The use of interactional metadiscourse: A comparison of articles on Turkish education and literature. *Educational Sciences: Theory Practice*, 16 (5), 1639–1648.

Karasar, N. (2012). *Bilimsel araştırma yöntemi [Scientific research method]*. Nobel Yayın Dağıtım.

Lautamatti, L. (1978) Observations on the development of the topic in simplified discourse. In V. Kohonen & N. E. Enkvist (Eds), *Text Linguistics, Cognitive Learning, and Language Teaching* (pp. 71-104). University of Turku Publications.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. Jossey-Bass.

Mirshamsi, A. & Allami, H. (2013). Metadiscourse markers in the discussion/conclusion section of Persian and English master's theses. *The Journal of Teaching Language Skills (JTLS)*. 5 (3), 23-40. https://doi.org/10.22099/jtls.2013.1706

Pooresfahani, A. F., Khajavy, G. H. & Vahidnia, F. (2012). A contrastive study of metadiscourse markers in research articles written by Iranian applied linguistics and engineering writers in English. *English Linguistics Research*. 1 (1), 88-96.

Uzun, L. (2006). Bilimsel söylem ve özellikleri [Scientific discourse and its features], In Karakütük, K. (Ed.) *TUBITAK ULAKBIM Periodical Publishing in Social Sciences 1st National Congress Proceedings*, 133-140.

Ünsal, Ö. (2008). *A comparative study of metadiscourse used in academic texts in the fields of science and social sciences* [Unpublished Master's thesis]. Çukurova University.

Williams, J. M. (1981). *Style: Ten Lessons in Clarity and Grace*. Harper Collins Publishers.

Vande Kopple, W. J. (1985). Some explanatory discourse on metadiscourse. *College Composition and Communication*, 36 (1), 82-93.

Vande Kopple, W. J. (2002). Metadiscourse, discourse and issues in composition and rhetoric. In E. Barton & G. Stygall (Eds.), *Discourse Studies in Composition* (pp. 91-114). Hampton Press, Inc.

Yıldırım, A. & Şimşek, H. (2011). *Sosyal bilimlerde nitel araştırma yöntemleri [Qualitative research methods in the social sciences]*. Seçkin Yayınları.

Zarei, G. R. & Mansoori, S. (2011). A contrastive study on metadiscourse markers used in humanities vs. non humanities across Persian and English. *English Language Teaching*. 4 (1), 42-50. https://doi.org/10.5539/elt.v4n1p42

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Developing Visual Literacy Skills in Teacher Education: Different Ways of Looking at the Visual Images

Vedat ÖZSOY[1]

TOBB University of Economics and Technology

Sevcan SARİBAŞ[2]

Anadolu University

Abstract

This article attempts to use different ways of looking that help classroom and visual art teachers analyze the meanings attributed to visual images, thereby enhancing their visual literacy skills. In the study, holistic multiple-case sampling was employed in the context of case study method as each group of teachers was individually considered as an analysis unit and their analysis of visual images through different ways of looking was evaluated in a holistic way. The participants of the study comprised of a total of 508 teachers who attended teacher training workshop of the Project titled 'The Implementation of Visual Culture Theory on Primary and Secondary Visual Arts Courses.' The data were collected with worksheets, artistic drawings and participant diaries and analyzed inductively. The data were presented in three themes: analyzing visual elements, approaching the visual contextually, and determining the contributions of visual experience. The results denoted that classroom and visual arts teachers interacted with images through a series of questions related to different ways of looking at visual images, questioned visual representations, artistic components and sub-meanings and created various meanings in terms of social, economic, psychological and cultural contexts, thereby increasing their visual literacy skills.

Keywords: Visual Culture, Visual Literacy, Teacher Education, Visual Art Education

DOI: 10.29329/epasr.2021.373.5

[1]Prof. Dr., Faculty of Architecture and Design, TOBB University of Economics and Technology, Ankara, Turkey, ORCID: 0000-0003-0483-1445

Correspondence: vozsoy@etu.edu.tr

[2] Dr.,Education Faculty, Anadolu University, Eskişehir, Turkey, ORCID: 0000-0002-0608-4888, Email: sevcantuncalp@anadolu.edu.tr

Introduction

With globalization and the rapid pace of technology advancements, we live in an age in which information is digital, participatory, immediately manipulable and visual. Being sometimes transparent and sometimes serving different purposes, the visuals that we often come across in private or public spaces surround our environment through different forms (auditory, visual, discursive) and various mass communication channels (TV, internet, advertisement, film, poster, video, magazine, etc.). Visual arts education gives students the opportunity to play with these visual structures. For example, students constantly produce new visual formats by taking photos, creating videos or sending messages such as stickers, gifs and emoji to others (Grushka, et all, 2021). The practice of visual arts education centers upon objects, ideas, beliefs, and learning activities that create the visual experience; such an effort shapes students' thinking about the world and enables them to create new meanings through visual forms (Freedman, 2003). As noted by Stewart (2014), students attend to expressive properties of imagery through art, explain the ways in which they respond to objects in a variety of contexts, and analyze the impact of or cultural associations prompted by specific images.

In the last two decades, many art educators in the field of art education have aimed to develop students' critical skills towards visual images, under the name of visual culture studies (Dilli, 2013; Dilli, Mamur & Alakuş, 2016; Etherington, 2018; Karagöz, 2020; Kwon, 2020; Lai & Cooper, 2016; Mamur, 2012; Riedler, 2016; Saribaş, 2019). For this purpose, the educators included many subjects dealing with comics as popular culture elements, cartoon analysis, the effect of fashion on personal identity and visual culture perceptions regarding gender roles in their lectures. However, the need for critical thinking that entails versatile reading is increasing with the pace of technological progress today. Further, children and youth generation should be equipped with the ability they need to change the audio-visual expressions and create meaning from them by using different ways of looking at visuals as well as learning to discuss the images from popular culture and mass media. In their recent studies, art educators (Bertling, 2019; Blaikie, 2019; Errázuriz, 2019; Kraehe, 2019; Wilson, 2019) pointed out the importance of 'visual based education' with enhanced visual literacy skills which concerns with images, imagination, image-making, and the relationship between them.

Visual-based education helps students understand the importance of visuality, which has an important place in their daily lives. It supports the development of critical thinking and visual literacy skills by making students think about why some visual images are more valuable and effective than others and how they choose these images (Grushka, 2010). According to Tavin (2014), the expectation of contemporary art education from teachers is to teach students to see the world in different ways, to see art deeply. In this direction, an in-service training project has been prepared for classroom and visual arts teachers who conduct visual arts classes in primary and secondary schools in Turkey. This project was implemented with the support of the Scientific and Technological

Research Council of Turkey [TUBITAK] in 7 provinces of Turkey in 3-day workshops with the participation of 508 teachers in total. In this project, it was aimed for teachers to understand the power of visual images acquired through their daily lives through visual culture theory. The workshops within the scope of the project included activities covering theoretical and artistic practices that would enable participant teachers to reflect on how images surrounding individuals shape the identities, values and behaviors of children and adults.

In recent years, slow looking learning method has been emphasized in art teaching education, which means learning through observation and slowly viewing the artworks, objects, or images in learning environments, such as art galleries, museums, art studios, design studios, and artisan ateliers, in order to thoroughly perceive and understand them. This method was found to be significant in terms of stimulating various senses of the students in visual arts classes and in terms of making learning permanent (Özsoy, 2019; Tishman, 2018). This study focuses on the assessment of the process of the "looking" activity, which is one of the activities of this workshop. This activity focused on developing visual literacy skills by making use of different looking practices during the production and interpretation of visual images. The reason for this is to encourage teachers to look at visual images from different angles and provide students with learning environments that will enable them to navigate visual information, evaluate visuals, create meaning, and encourage critical and creative thinking by establishing connections between these visuals and their daily lives.

Conceptual Framework

Today's generation stands out for their interaction with digital technology. They have the capability of actively discovering, experiencing, constructing, sharing and creating meaning from information just one click. This situation has changed what it means to be literate today. While literacy was a cognitive action that involved mental processes based on reading and writing text in the past, it currently includes interpreting, multiple reading and looking at audio-visual and digital media (Bleed, 2005; Duncum, 2004). In addition to traditional literacy, multiple literacies such as media literacy, digital literacy and visual literacy have emerged in today's world.

According to Parsa (2012), one of the areas of literacy that has become a necessity to develop today is visual literacy, which is based on 21st century literacy and develops in parallel with visual communication technologies. The term visual literacy was first coined in 1968 by John Debes, who was the founder of the International Visual Literacy Association. Visual literacy has been variously defined in the literature. In the definitions made (Bamford, 2003; Fransecky & Debes, 1972; Roswell et al., 2012), it was seen that visual literacy focused on contextual, critical and communicative skills that enable the individual to use images and visual media effectively, interpret and create meaning from visual information. These skills are defined as visual learning (understanding visual features, rules, and how images interact with text), critical gaze (questioning the context of images and the

producer's intent), and visual communication (thinking about images) (Milbourn, 2013). It has been emphasized that in today's world where visuals play an important role, it is necessary to initiate visual-oriented teaching at every educational level for individuals to gain these skills. Especially in universities, emphasis has been placed on extending traditional text-based literacy teaching to include visual literacy skills that enable critical thinking on images and on practices that support valuing and using visual representations (Elkins, 2003; Felten, 2008; Kedra, 2018).

Students need to be aware of the manipulative uses and ideological implications of images. It is therefore of vital importance to enhance students' visual literacy skills that involve making judgements of the accuracy, validity and worth of images. Amongst the skills students can acquire through visual literacy , there are: having knowledge of the visuals generated and disseminated in the digital environment, to understand the cultural, social, economic, ethical, aesthetic and technical components involved in the production and use of the visuals, to be able to criticize, to discuss and thus to create personal knowledge, in other words, to encourage students to become innovative and problem-solving visual thinkers (Avgerinou, 2009; Bamford, 2003; Cheung & Jhaver, 2016; Ravas & Stark, 2012). To be visually literate, art students need an education that enhance their visual literacy skills and help them embody and understand the world of visual culture they live in, going beyond a technical or formal analysis, (Callow, 2008; Stankiewicz, 2004; Mitchell, 2002). It has been observed that there are a limited number of studies (Bozdik, 2019; Doğru, 2014; Eraslan, 2019; Taşpınar, 2017) examining the relationship between visual literacy and visual arts education in Turkey. These studies, mostly carried out by quantitative method, aimed to measure the visual literacy proficiency level of the participants and focused on determining the relationship between visual literacy with variables such as gender, academic achievement and visual reading.

The notion of visual literacy is grounded on 'seeing' and 'looking' phenomena which focus on what things look like and how they are interpreted (Parsa, 2012). Leppert (1996) claims that seeing is related to mental and thought processes rather than a biological and physical phenomenon. According to Amburgy (2011), looking is shaped in the relationship between subject (viewer) and object (thing looked at). As for looking, it involves the ability to define and analyze different ways of seeing (historical, economic, social, cultural and etc.) beyond a physical act of seeing. To illustrate, when we look at something, we not only engage with visual images but also interact with other related images featured or published together, our own bodies, other bodies, human-made or natural objects and possession, and the social contexts we look at (Huggins, 2008; Sturken & Cartwright, 2009).

Duncum (2015) emphasizes the importance of visual in art education by arguing that the visual image includes versatile "looking" skills and that meaning should be created in these images. Given today's visual content-driven world, the contexts in which images circulate have become increasingly complex. For instance, it is now possible to send digital images captured by smartphones

to web pages via e-mail, to publish the private moments of people on the internet via photos and videos and millions of people can watch these private moments at the same time. This means that any imagery or video can be displayed in very different contexts within a short time, thereby creating different representations and meanings (Sturken & Cartwright, 2009). Therefore, more comprehensive approaches that will encourage students to look at visual images from different perspectives should be adapted so that students will have the chance to improve their visual literacy skills by interpreting and making sense of these versatile texts. Therefore, in order to improve their visual literacy skills by interpreting and making sense of these versatile texts, broader approaches, which will lead the students to look at the images from different aspects, are necessary. Regarding understanding and critical interpretation of visual images and versatile texts, some art educators (Keifer- Boyd & Maitland-Gholson, 2007; Rose, 2002; Serafini, 2011) suggested different ways of looking at the images. The approaches suggested for interpretation of the images focus on demonstrating the ways the individuals interact with the images from the mass media within the context of visual literacy, and the ways they question, interpret, and make sense of these visual text according to their own experiences within social, historical, environmental, cultural, and political contexts.

In visual arts lessons, it is important to encourage students to think and observe visuals and to gain experience on visual and aesthetic components. To achieve this, it is necessary to help them develop critical and divergent thinking skills (Tomljenovic, 2015). In this context, important responsibilities fall on the classroom and visual arts teachers who teach art lessons. In a significant number of studies conducted with classroom teachers in Turkey and in some countries, it has been observed that teachers use art for decorative purposes in practices, and they prioritize developing practical skills rather than questioning skills of students (Çakmak & Türkcan, 2019; Lajevic, 2013; Smilian & Miraglia, 2009; Tarı, 2011; Yükselgün & Türkcan, 2012). In addition, in these studies, it was concluded that classroom teachers felt inadequate in applying visual arts teaching principles and techniques, and were superficial in terms of artistic knowledge, skills and experience. For this reason, it has been emphasized that the position of art should be re-evaluated in terms of professional development of teachers with pre-service and in-service training programs in today's global world. According to Romero and Bobkina (2021), teachers should consider the multiple use of visual texts to prepare students for the 21st century. They should bring together different techniques and activities to analyze visual images in order to develop their critical thinking and visual literacy skills. In this context, in the workshop held within the scope of the in-service training project in this research, it was aimed to develop visual literacy skills of classroom and visual arts teachers in order to use different ways of seeing that will help them analyze the meanings attributed to visual images with the theme of "looking" activity.

© 2021 INASED

Method

Research Design

In order to examine the main purpose of this research in a holistic and in-depth manner, case study method, which is one of the qualitative research approaches, is used in this study. According to Patton (2015), case-oriented elements in case studies can be analyzed in a holistic approach, and how the participants have been affected by the case researched can be revealed. Holistic multiple-case design, which is a type of case study, is used in this study. In this design, classroom and visual arts teachers are considered as one units of analysis. The case in the study is reflected in a holistic way of how both groups of teachers interpret visual images in different ways of looking.

Participants

508 teachers who teach visual arts at primary and secondary school levels from provinces selected from seven geographical regions of Turkey (Çanakkale, Erzincan, Kayseri, Diyarbakır, Giresun, Mersin ve Denizli) participated in the teacher training workshops organized within the framework of the project carried out within the scope of TÜBİTAK 4005 Science and Society Innovative Education Practices support program. 284 of these teachers are visual arts teachers, and 222 are classroom teachers. To determine these participants under the research, we used typical case sampling, which is one of the purposeful sampling strategies. The purpose in typical case sampling is to inform the individuals, who do not have sufficient information regarding a certain field, subject, application, or innovation (Yıldırım & Şimşek, 2013, p.138). Informing two groups of classroom and visual arts teachers about visual literacy skills through different ways of looking at visuals was effective in the selection of this sample.

Data Collection Tools

In this study, document review method (Yin, 2018), which plays a significant role in case studies, is used as data collection method. Worksheets, artistic drawings, and participants' diaries were used within the scope of the document review, since the authors wanted to see how multiple resources complement each other within the data analysis process.

Worksheet (W)

Within the scope of the TUBITAK project used in this study, 3-day workshop activities were performed in each city. In this study, the data were collected through artistic practices performed within the scope of group activities in the first and second days of the workshop, and the reflective diaries/memo books, where the teachers noted their individual opinions. On the first day of the workshop, a 2-hour presentation was made regarding the messages given by the images and the ways people look at these images. Then, homogeneous groups of five participants, which include equal numbers of both form teachers and visual arts teachers, were created. Two worksheets were prepared

in the workshop within the scope of this project. These worksheets are based on a trilogy of visual, audience (teachers) and producer / artist. Figure 1 shows how these worksheets are constructed according to different looking approaches as part of visual literacy skills.

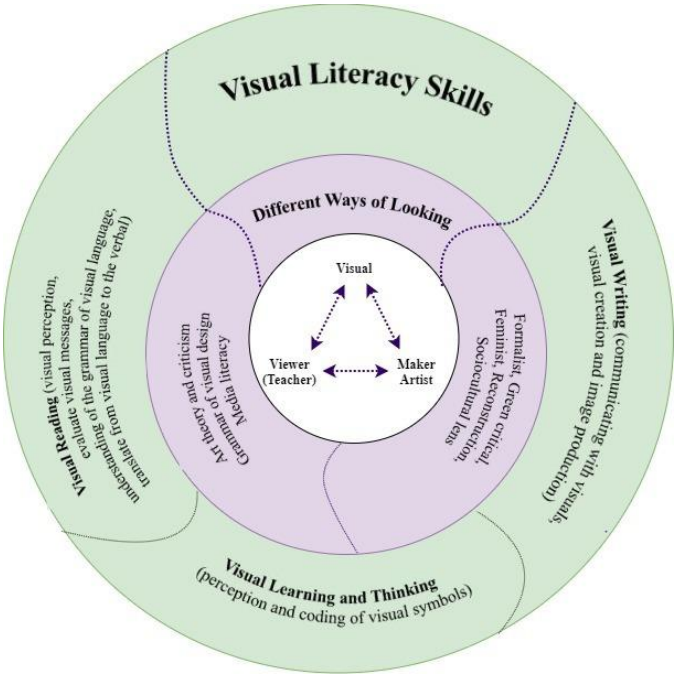

Figure 1. The use of different ways of looking in visual literacy skills

Aiming to enhance visual literacy skills of young adults, Kedra (2018) questions what it means to be visually literate and proposes three lists of visual skills with thematic categories, namely, visual reading (visual perception, evaluate visual messages, understanding of the grammar of visual language, translate from visual language to the verbal), visual writing (communicating with visuals, visual creation and image production), visual learning and thinking (perception and coding of visual symbols). In this context, Kedra's lists of visual skills were used to associate the worksheets with visual literacy skills. In the first worksheet, various posters and advertising visuals were employed to expand teachers' perspectives on interpreting versatile popular culture texts and to raise their awareness of how to question media images. Open-ended questions such as art theory and criticism, grammar of visual design and predominantly media literacy perspective suggested by Serafini (2011) were used to interpret these visual images. In the second worksheet, teachers were asked to analyze and interpret cultural, environmental and social issues addressed by contemporary artists. To this end, teachers were asked to answer open-ended questions regarding the works of some contemporary artists (İrfan Önürmen, Christian Boltanski, İnci Eviner, Yoko Ono, Michelangelo Pistoletto, Gürbüz Doğan Ekşioğlu). They were also asked to look at the artworks from the perspective of Keifer-Boyd and Maitland-Gholson (2007) which they call multivocal approach including formalist, green critical, feminist, reconstruction and sociocultural lens. It was thus intended to form a basis for both classroom teachers and visual arts teachers regarding how to see and create the representational meanings (ideas,

context and technical features) of images and transfer them to their own learning environments. Table 1 shows questions prepared according to different ways of looking.

Table 1. Activity questions according to different ways of looking

First Activity Questions	Second Activity Questions
• What do these images say about the world? • How are groups or individuals represented in the images presented to you? • How are wishes, dreams, beliefs and fears represented in these images? What is most promised? What is not shown? • What do these images say about you? • What are the image(s) that bother you the most? What causes your discomfort? Why do you think the power of this image(s) stems from?	• How are visual features (objects, people, lines, textures, shapes, colors) handled in the work? • From where did the artist get the necessary tools and materials for his work? • How could the work contribute to the environmental sensitivity of the place where it is located? • What does the work tell us about a specific time and place? • What are the meanings of the images in the artist's work? • What do you think about the artist's intention? • Who or what is stronger in this image? • What kind of social relations does this image convey? • Who could this image be made for? • How does this image affect you? • What does the main subject of this image mean to you? • Associate this visual with a concept and reinterpret it with an artistic work.

Participant Diary (PD)

Participants' diaries include the representation of teachers' visual experiences and emotions regarding this application at the end of the process. The opinions of the teachers were received through open-ended questions, such as "How do you think today's learning activity has contributed to your daily life?", "What kind of contributions will this learning activity bring to your teaching experience?", "What do you think about the ways today's learning activity will influence primary and secondary school students?"

Data Analysis

The research data were analyzed by inductive analysis, one of the qualitative data analysis techniques. According to Patton (2015, p. 792), inductive analysis involves exploring patterns, themes and categories in data. During the analysis phase, all the data of the research were read many times. Then, codes were taken from the data, and the codes that were thought to be related to each other were brought together to reach the categories and from there to the themes. This process, which progresses from codes to themes, summarizes the inductive structure of the research. In order to ensure the reliability of the research, a similar process was applied by a field expert, and all codes, categories and themes were compared to reach meaningful, realistic and holistic data units. The themes obtained as a result of the analysis are named bi-directionally. These; 1) Definition: Analyzing visual elements, 2) Interpretation and reflection: Contextual approach to visual, 3) Evaluation: Determining the contributions of visual experience. These themes have been tried to be illustrated in the findings with direct quotations.

© 2021 INASED

Results

As a result of the analysis of the data, three themes were created: analyzing visual elements, contextual approach to the visual and determining the contributions of visual experience. The content information for these themes is as follows:

Analyzing visual elements; It includes defining the elements that structure the visual images regarding what the figures, objects or texts in the visual images represent, what they promise, the art elements and principles that make up the visual composition, and the effects that the images create on them. *Contextual approach to the visual;* It includes teachers' visual interpretations of the contexts in which visual images are produced and their reflection on artistic works. *Determining the contributions of visual experience;* As a result of the examination of the participant diaries, the teachers' evaluation of the assumed contributions of the process to themselves, the learning-teaching environments and their students.

Description: Analyze visual elements

Teachers critically questioned metaphorical and symbolic meanings of the formal elements (people and objects) in visual images. Mostly female and male representation styles are discussed in advertisements and posters and it was seen that these interpretations of representations often addressed a global problem such as racial discrimination coupled with gender judgments. To illustrate, regarding the symbolic meanings of women, *following* statements were made: are sexual object, being responsible for housework, being dependent on a man, passive, attractive, female, self-confident and consumer. On the other hand, men were evaluated as strong, confident, authoritative, handsome, good-looking, free and problem solver. In addition to that, teachers reported that the white race were portrayed as clean, superior and good while the black race was portrayed as dirty, bad, slovenly and second-class person. The symbolic meanings of the objects are represented through contemporary artworks in a way that address different emotions, social and experiential concepts. Accordingly, many symbolic narrations were identified. For example, coffin was regarded as death of nature, sadness and anxiety; plant was regarded as rebirth, life, immortality, peace and hope; sculpture, was associated with simplicity, perfection and holding on the past; pile of clothes were considered as chaos, consumerism and disorder; puppet were associated with the manipulated possession; mask were associated with confidentiality, shadow was associated with fear and nudity was associated with sexuality and desire.

Emanuel and Challons-Lipton (2013) contend that the individual examines the techniques used to create the imagery, learns the vocabulary of shapes and colors, determines the characteristics of an image that makes sense and analyzes the ideas creating the image. Teachers were invited to interpret the distribution and characteristics of the art elements and principles that form the unique

language of art in the works of art. Teachers emphasized the use of colors on highlighting objects or figures and describing emotional situations; geometric structures of shapes such as rectangles, triangles, squares and forms like cubes as wells as stressing symmetrical balance, horizontal-vertical lines and light-dark values. They also mentioned illusions created by light-shadow objects and shapes and the contrasts resulted from the use of different (hard-soft) materials and textures together. The participants also stressed the repetition of units and shapes and irregular and wrinkled textures. Some of the opinions are as follows:

Dark and dominant colors create a sense of mysterious atmosphere, chaos and curiosity (Group 34).

The composition mainly consists of rectangular prisms (Group 1).

The sculptural model was highlighted by using vivid colors (Group 44).

Contrast was created by using soft and hard materials together (Group 56).

There are horizontal and vertical lines on each object (Group 26).

Visual literacy includes cognitive functions such as critical thinking, visualization, make and create meaning and utilizes the affective domain that reveals emotions and attitudes as well (Avgerinou & Pettersson, 2011). During the workshops, teachers were asked to share their ideas regarding how these images influenced them and which imagery made them feel discomfort while analyzing the visual elements. The teachers described the images projected in contemporary art works as thought-provoking, questioning, developing different perspectives and impressive. When it comes to emotional effects of images on themselves, they highlighted positive and negative emotions such as pessimism, hope, fear, calmness, sadness, anxiety, depressing and unhappiness. For instance:

When we think that the objects do not make sense on their own and there can be many underlying causes, it has led to emotions such as fear, anxiety and pessimism (Group 28).

It makes me sad. It reminds me of wars and makes me think of the desperation of the innocent people there and makes me upset (Group 40).

While the coffins that remind of death give pain and sadness, the green saplings make me feel the new hope and life (Group 38).

Looking advertisements and posters, teachers described the images they found uncomfortable. They interpreted disturbing visual contents using some expressions such as the use of women as sexual objects, violence against women, racial discrimination and abuse of childhood, sexist view, economic inequality and destruction of nature. According to teachers, this emanated from the value

judgments imposed by the society on women and men, the weaknesses of the people, the sales and marketing policy, the belief that money controls the world and ecological unconscious. In this respect, some of the teachers' views are as follows:

The most disturbing image in the soap ad for us is that the child turns into a white boy and feels happy after taking a bath. Because there is a racist approach. Whites are portrayed as a superior race (Group 44).

It is quite disturbing to associate only one organ of the woman's body with sex, and here it is especially associated with food. This is because the world is ruled by men because women are characterized by only fertility and sex (Group 52).

The bruise on the woman's foot bothered us. It shows that women are constantly exposed to violence (Group 32).

Interpretation and reflection: Contextual approach to the visual

Teachers interpreted the contexts affecting visual production as *capitalism and society, culture and society, environment and society, personal and experiential*. According to Anderson and Milbrandt (2005), context focuses on the surrounding conditions rather than the physical qualities of images and their impact on individual perceptions. Teachers most frequently commented on capitalism consumer culture through advertising and poster images. More specifically, they questioned the idealized life styles, the imposed values and their effective roles in shaping individual and social identity. In regards to becoming a consumer society, they articulated their point of views as follows: everything is furnished with colorful and eye-catching elements to boost consumption, big brands are everywhere and people's clothing looks like each other and individuals consume too much without questioning whether they really need them. In this sense, some groups interrogated consumer society in their artistic works creating meanings such as 'insatiable, dissatisfaction, burnout syndrome, collapse, exaggeration, limitlessness and be set free from unnecessary burdens.' To illustrate, discussing the notion of 'Nonsatisfaction', the Group 11 commented regarding their artistic works as follows:

We consume everything very quickly in all areas of our lives. This leads us into a terrible consumerism. We consume without asking like 'Do we need it, do we really need it?' In this picture, there are many colorful clothes in the wardrobe, on the floor, around, on the bag, on the bed. However, it reflects how insatiable we are, although many of us have many clothes, like she has nothing to wear and creates a negative moment.

Figure 2. Nonsatisfaction (Group 11, Erzincan)

Some teachers commented the overall message underlying the image in the context of culture and society according to gender roles. In this respect, while they described men as strong, the one who can manage themselves, they described women as follows: weak, destined to be ruled, easily manipulated, whose purpose of coming into the world is to serve men and to reproduce. Some teachers' perceptions towards the images include the following statements: people of all colors and types can live together and accepting differences are natural. Thus, some groups questioned being sensitive to different cultures and created images using such concepts as respect for differences, empathy and tolerance in their artistic works. For example, Group 21 made an abstract transfer by using fingerprints of the group members in their artistic work 'Respect for Diversity.' They shared their views pertaining to the work; remarking that 'We made a picture that conveys the message of respecting for differences, not being prejudiced, welcoming people's different thoughts (good and bad) with tolerance, and accepting ourselves and others as what it is.'

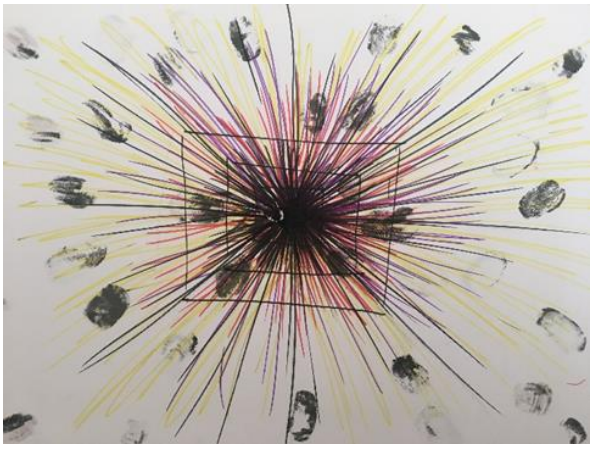

Figure 3. Respect for Diversity (Group 21, Çanakkale)

In the workshops, some groups discussed major current social and environmental issues such as violence against women, animal rights, war and environmental pollution with respect to their inquiries about images in the context of environment and society. Questioning these issues, some

teachers embodied the meaning of images using following concepts such as natural balance, slaughter, protection, chaos, and social peace using images. For example, the views of Group 26 on their artistic work 'Natural Balance' are given below:

As a concept, it discusses natural balance. Animal rights are underlined through this concept. If we critically approach to image, we can articulate that people actually cause the extinction of animals and the deterioration of the natural balance by buying clothes made from animal fur and skin for their own pleasure.

Figure 4. Natural Balance (Group 26, Denizli)

Some groups of teachers interpreted visuals in terms of personal and experiential contexts. In this respect, some of them examined the concept of death related to human existence for the continuity or end of life, and some teachers questioned human fears, religious teachings, traumatic memories and dreams. In this context, some groups concretized the meanings they created through concepts such as memories, obscurity, fear and repressed emotions. For example, Group 44 shared following views in their artistic work titled 'Repressed Emotions':

The hidden, unavoidable emotions with fear and anxiety and the obstacle of these emotions to our lives, while exhibiting a colorful and cheerful personality in our daily life, the imprisonment of many emotions (fear) that do not appear in the background and put obstacles in our lives.

Figure 5. Repressed Emotions (Group 44, Kayseri)

Briefly stated, the teachers created artistic works by producing meanings in social, cultural, economic and psychological contexts. Such a practice in the workshop contributed to the teachers in terms of creating meaning from visual images, approaching them from different perspectives and looking critically.

Evaluation: Identifying the contributions of the visual experience

In the workshop, both teacher groups found the process effective in terms of raising visual awareness. This process allowed teachers to realize what was seen did not have a single meaning and that meaning could change according to individuals and go to multiple perspectives, to build connections between images, to create meaning by questioning sub-meanings attributed to visual images. In addition, it was observed that the visual experiences provided by the process also enabled teachers to construct ideas regarding their own teaching environments. Especially classroom teachers mentioned that they should incorporate more visual content across learning activities. Further, both groups of teachers stated that they would teach their students different ways of looking at visuals in their classrooms, and they would create an opportunity for them to make critical inquiries by enabling them to create dialogue through visuals. Accordingly, some of the teachers' comments are as follows:

I understood that others cannot evaluate many visual expressions from my point of view and it will differ from one person to another (CT, PD)

I gained critical thinking skills regarding the detrimental effects of global visual culture (VAT, PD).

I learned that the visual perspective has many effects on children. Therefore, I have learned that we should not ignore art lessons and that art increases success in other lessons and positively affects brain development. (CT, PD).

© 2021 INASED

I will guide my students to better interpret visual communication images and to see and think rather than look (VAT, PD).

I realized that I should use more visuals in my lessons. I will make children do more intensive visual activities in primary school (CT, PD)

During the workshops, teachers expressed their opinions about how they could contribute to students when they applied different ways of looking approaches to visuals in their classes. They concluded that this would contribute to the development of visual literacy skills among students in terms of gaining different perspectives, critical and creative thinking, being a conscious consumer, being sensitive to art and respecting different opinions. Some of the statements regarding these opinions are as follows:

I believe it will have many benefits to bring different viewpoints to the students regarding images (books, magazines, social media, etc.) (CT, PD).

Our students may gain awareness on negative images that have an impact on the subconscious (VAT, PD).

They gain awareness. They begin to consume more carefully. They know how to use what they have, and economize (VAT, PD).

This will make them to examine their surroundings more critically and carefully, and to notice their positive and negative aspects (CT, PD).

Discussion, Conclusion and Recommendations

Living in the visual age requires art teachers to guide students to critically question and interpret visual culture (Grodoski, 2016). Therefore, it is important for teachers to dedicate themselves to a visual education in the classroom that includes visual learning and thinking strategies that will enable students to perceive visual messages and create meaning for them from different perspectives. In this study, which was planned in this context, classroom and visual arts teachers interpreted various visual forms that were accompanied by questions about different ways of looking at visual images. In this process, teachers constantly communicated with the visuals. They perceived and coded what the figures and objects in the images represent, and defined the artistic components that make up the visual composition. It can be said that this situation helps them to recognize the elements and principles of visual design and to develop an aesthetic perspective. Similarly, in the studies conducted by Williams (2019) and Yeh (2010), it was concluded that the participants were able to interpret the images by using various art and design elements and developed aesthetic sensitivity while analyzing the images.

Teachers made evaluations about the consumption culture created by the capitalist system in their advertisements and posters, and expressed the situations they were disturbed by social and environmental problems. Among these, they mostly focused on global issues such as gender and racial discrimination. Contemporary works of art, on the other hand, were thought-provoking and questioning, and based on these works, they referred to different emotions, social and experiential concepts. As a result of these, teachers have produced artistic works by making inquiries in social, cultural, economic and psychological contexts. This helped them to create meaning from visual images, to approach them from different perspectives and to look critically. This result of the study is similar to the findings of some studies on visual literacy skills. For example; In the studies conducted by Abas (2019), Carpenter II and Cifuentes (2011), Chung (2005), Doğru (2014), Kelly-Jackson and Delacruz (2014), teachers with advanced visual culture and critical looking skills help students understand the power of visual image. They revealed that they helped them to gain critical awareness towards the world of consumption and to produce various meanings through their own life experiences. In addition, these studies have shown that teachers, with their visual culture education competencies, help their students to experience how art can be used as a tool to create social awareness, to interpret information in context and to think critically.

Teachers should consider the multiple use of visual texts to prepare students for the 21st century. They should bring together different techniques and activities to analyze visual elements in their classrooms in order to develop their critical thinking and visual literacy skills (Romero & Bobkina, 2021). This study supported the development of visual literacy skills of teachers such as reading, thinking and writing visuals through different visual texts. It also helped them develop ideas about how to transfer these skills to the arts classrooms and how they could contribute to students. Particularly, classroom teachers emphasized that they understood the need to include more visual content in learning activities. However, both groups of teachers stated that they would provide an environment for students in the classroom to make critical inquiries that would provide different ways of looking at the visual and initiate a dialogue over the visuals. These findings are similar to those of Begoray (2001), Şahin and Kıran (2011) obtained in their studies. These researchers emphasized the importance of incorporating more visual materials into the classroom environment for teachers to create meaning and experience through various visual forms such as cartoons, photography, artwork and video so that students can use visual language in their daily lives.

Art education is an important way to provide students with critical life skills that encourage questioning, creating and thinking about visual content beyond the obvious (Etherington, 2018). According to Herrmann (2005), more than one perspective understanding should be accepted and discussed in art classes. Thus, it can be ensured that students understand how visual images and texts relate to each other and develop a critical perspective on how they are affected by them. In this study, both groups of teachers stated that they would contribute to the development of visual literacy skills

such as critical and creative thinking, being a conscious consumer, being sensitive to art and respecting different ideas, through different approaches to looking at images. As a matter of fact, there are studies in the literature that support these views of teachers. For example; Lopatovska et. al. (2016), Özkubat and Ulutaş (2018) found in their studies on the development of children's visual literacy skills, that children are more interested in the images in the environment, they develop their visual interpretation skills by paying attention to visual objects, symbols and signs, It has been concluded that they are willing to interact with the work of art, recognize visual art elements and imagine themselves in paintings.

Seeing the world from a broad perspective, being able to interpret what we see through visual communication in the context of visual culture, and learning how to transfer these skills to others are the keys to academic success in our visual world. For this reason, it is important for both classroom and visual arts teachers to review traditional approaches in visual arts teaching practices and turn to a literacy that includes visual texts and multiple perspectives. In this regard, it is important to provide teachers with in-service training on their ability to acquire visual literacy skills and use visual communication technologies. In addition, it may be beneficial to add courses on how to develop visual literacy skills to teacher candidates in the teacher training programs of universities and to create an opportunity for them to design activities. Classroom practices can include computer games, film criticism, visual inquiry through mass media, contemporary art practices, and online websites. In cooperation with online museums or galleries, visual literacy skills can be developed with questions about different ways of looking at visuals. Contemporary artists can directly affect students' lives as they often make visual references to daily life and social problems. For this reason, teachers can encourage their students to seek information on contemporary works of art and to make inquiries through different ways of looking in their classroom practices.

References

Abas, S. (2019). Reading the world – Teaching visual analysis in higher education. *Journal of Visual Literacy, 38*(1-2), 100-109. https://doi.org/10.1080/1051144X.2019.1574120

Amburgy, P. M. (2011). Diversity, pedagogy, and visual culture. *Art Education, 64*(5), 6-11.

Anderson, T., & Milbrandt, M. K. (2005). *Art for life authentic instruction in art*. New York, NY: McGraw-Hill.

Avgerinou, M. D. (2009). Re-viewing visual literacy in the “Bain D’image” era. *TechTrends, 53*(2), 28–34.

Avgerinou, M.D., & Pettersson, R. (2011). Toward a cohesive theory of visual literacy. *Journal of Visual Literacy, 30*(2), 1-19. https://doi.org/10.1080/23796529.2011.11674687

Bamford, A. (2003). The visual literacy white paper. *Adobe Systems*. Retrieved from https://www.aperture.org/wp-content/uploads/2013/05/visual-literacy-wp.pdf.

Begoray, D.L. (2001). Through a class darkly: Visual literacy in the classroom. *Canadian Journal of Education, 26*(2), 201-217. https://doi.org/10.2307/1602201

Bertling, J.G. (2019). Layered collaborative visual reflection: Sharing lived experiences and making meaning. *Art Education, 72*(3), 28-38. https://doi.org/10.1080/00043125.2019.1578022

Blaikie, F. (2019). A review of the common european framework of reference for visual literacy–prototype (CEFR-VL). *International Journal of Education Through Art, 15*(1), 51-61. https://doi.org/10.1386/eta.15.1.51_1

Bleed, R. (2005). Visual literacy in higher education. *EDUCAUSE Learning Initiative Explorations, 1*(1), 1-11.

Bozdik, N. (2019). *Görsel sanatlar öğretmen adaylarının görsel okuryazarlık becerilerinin incelenmesi [Investigation of the visual literacy skills of visual arts teacher candidates]* (Unpublished master's thesis). Çukurova University, Adana.

Callow. J. (2008). Show me: Principles for assessing students' visual literacy. *The Reading Teacher, 61*(8), 616-626. https://doi.org/10.1598/RT.61.8.3

Carpenter II, B.S., & Cifuentes, L. (2011). Visual culture and literacy online: Image galleries as sites of learning. *Art Education, 64* (4), 33-40.

Cheung, C.K., & Jhaveri, A.D. (2016). Developing students' critical thinking skills through visual literacy in the new secondary school curriculum in hong kong. *Asia Pacific Journal of Education, 36*(3), 379-389. https://doi.org/10.1080/02188791.2014.959470

Chung, S.K. (2005). Media/visual literacy art education: Cigarette ad deconstruction. *Art Education, 58*(3),19-24. https://doi.org/10.1080/00043125.2005.11651539

Çakmak, N. & Türkcan. B. (2019). Değişmeyen algılar, değişmeyen sorunlar: Öğrenci-öğretmen- veli bağlamında ilkokul görsel sanatlar dersi [Permanent perceptions, unchanging problems: Visual arts course in primary school at the context of student-teacher-parent]. *Eğitimde Nitel Araştırmalar Dergisi, 7* (2), 768-791.

Dilli, R. (2013). *Görsel kültür kuramının ilköğretim 4.sınıf görsel sanatlar dersinde uygulanması [Application of the visual culture concept in visual art courses in the 4th classes of primary schools]* (Unpublished doctorate dissertation). Gazi University, Ankara.

Dilli, R., Mamur, N., & Alakuş, A .O. (2016). Sanat ve tasarım eğitimi alan üniversite öğrencilerinin popüler görsel kültüre yönelik eleştirel yaklaşımları [Critical approach of undergraduate students of the departments of arts and design towards popular visual culture]. *Journal of National Education, 45* (211), 187-209.

Doğru, A.G. (2014). *Lise düzeyi görsel sanatlar dersinin, öğrencilerin görsel okuryazarlık becerilerinin gelişimine etkisi [The effect of visual arts course on the development of visual literacy skills of high school students]* (Unpublished master's thesis). Gazi University, Ankara.

Duncum, P. (2004). Visual culture ısn't just visual: Multiliteracy, multimodality and meaning. *Studies in Art Education, 45*(3), 252-264. https://doi.org/10.1080/00393541.2004.11651771

Duncum, P. (2015). A journey toward an art education for wired youth. *Studies in Art Education, 56*(4), 295-306. https://doi.org/10.1080/00393541.2015.11518972

Elkins, J. (2003). *Visual studies: A skeptical introduction.* New York: Routledge.

Emanuel, R., & Challons-Lipton, S. (2013). Visual literacy and the digital native: Another look. *Journal of Visual Literacy, 32*(1),7–26. https://doi.org/10.1080/23796529.2013.11674703

Eraslan, S. (2019). *Ortaokul 8.sınıf görsel sanatlar dersinde pedagojik sanat eleştirisi yönteminin öğrencilerin görsel okuryazarlık becerilerine etkisi[The effect of the pedegeogical art criticism method in visual arts class in secondary school in visual muscular skills of students]* (Unpublished master's thesis). Atatürk Universty, Erzurum.

Errázuriz, L. (2019). Metamorphosis of visual literacy: From'reading images' to a critical visual education. *International Journal of Education Through Art, 15*(1),15-26. https://doi.org/10.1386/eta.15.1.15_1

Etherington, M. (2018). Criticizing visual culture through fashion design and role-playing. *Art Education, 71*(6), 26-32. https://doi.org/10.1080/00043125.2018.1505387

Felten, P. (2008). Visual literacy. *Change: The Magazine of Higher Learning, 40*(6), 60-64.

Fransecky, R. B., & Debes, J. L. (1972). *Visual literacy: A way to learn--a way to teach.* Washington, D.C.: AECT Publications.

Freedman, K. (2003). *Teaching visual culture: Curriculum, aesthetics and the social life of art.* New York: Teachers College Press.

Grodoski, C. (2016). Unpacking & packing visual culture: Creative thinking strategies. *Art Education, 69*(3), 20-26. https://doi.org/10.1080/00043125.2016.1158588

Grushka, K. (2010). Conceptualising visual learning as an embodied and performative pedagogy for all classrooms. *Encounters in Theory and History of Education, 11,* 13-23. https://doi.org/10.24908/eoe-ese-rse.v11i0.3167

Grushka, K., Lawry, M., Chand, A., & Devine, A. (2021). Visual borderlands: Visuality, performance, fluidity and art-science learning. *Educational Philosophy and Theory,* 1-18. https://doi.org/10.1080/00131857.2020.1859368

Herrmann, R. (2005). The disconnect between theory and practice in a visual culture approach to art education. *Art Education, 58*(6), 41- 46.

Huggins, M. (2008). The sporting gaze: Towards a visual turn in sports history—documenting art and sport. *Journal of Sport History, 35*(2), 311- 329.

Karagöz, C.T. (2020). *Okul dışı öğrenme programlarına yönelik görsel kültür temelli görsel sanatlar etkinliklerinin geliştirilmesi ve uygulanması: Bir eylem araştırması [Developing and implementing visual culture based visual arts activities for out-of school learning programs: An action research]* (Unpublished doctoral dissertation). Gazi Universty, Ankara.

Kędra, J. (2018). What does it mean to be visually literate? Examination of visual literacy definitions in a context of higher education. *Journal of Visual Literacy, 37*(2), 67–84. https://doi.org/10.1080/1051144X.2018.1492234

Keifer-Boyd, K. T., & Maitland-Gholson, J. (2007). *Engaging visual culture*. Worcester, MA: Davis Publications.

Kelly-Jackson, C., & Delacruz, S. (2014). Using visual literacy to teach science academic language: Experiences from three preservice teachers. *Action in Teacher Education, 36*(3), 192-210. https://doi.org/10.1080/01626620.2014.917364

Kraehe, A.M. (2019). Visual(ization) education: More than meets the eye. *Art Education, 72*(3), 4-7. https://doi.org/10.1080/00043125.2019.1589799

Kwon, H. (2020). Graphic novels: Exploring visual culture and multimodal literacy in preservice art teacher education. *Art Education, 73*(2), 33-42. https://doi.org/10.1080/00043125.2019.1695479

Lai, A., & Cooper, Y. (2016). Untangling gender divides through girly and gendered visual culture. *Journal of Social Theory in Art Education, 36*(1), 96-107.

LaJevic, L. (2013). Arts integration: What is really happening in the elementary classroom?. *Journal for Learning through the Arts, 9*(1), 1-28.

Leppert, R.D. (1996). *Art and the committed eye: The cultural functions of imagery.* Boulder, CO: Westview Press.

Lopatovska, I. Hatoum, S., Waterstraut, S., Novak, L., & Sheer, S. (2016). Not just a pretty picture: Visual literacy education through art for young children. *Journal of Documentation, 72* (6), 1197-1227. https://doi.org/10.1108/JD-02-2016-0017

Mamur, N. (2012). Görsel sanatlar öğretmen adaylarının görsel kültür diyaloglarına yönelik algıları [Perceptions concerning visual culture dialogues of visual art pre-service teachers]. *Educational Sciences: Theory & Practice, 12* (3), 2149-2174.

Milbourn, A. (2013). A big picture approach: Using embedded librarianship to proactively address the need for visual literacy instruction in higher education. *Art Documentation: Journal of the Art Libraries Society of North America,* 32(2), 274–283. https://doi.org/10.1086/673517

Mitchell, W.J.T. (2002). Showing seeing: A critique of visual culture. *Journal of Visual Culture, 1*(2),165-181. https://doi.org/10.1177/147041290200100202

Özkubat, S., & Ulutaş, İ. (2018). The effect of the visual awareness education programme on the visual literacy of children aged 5-6. *Educational Studies, 44*(3), 313-325. https://doi.org/10.1080/03055698.2017.1373632

Özsoy, V. (2019). Sanat Galerileri, Sanatçı Atölyeleri, Tasarım Stüdyoları ve El Sanatları İşlikleri [Art Galleries, Artists' Studios, Design Studios and Craft Studios]. In A.İ. Şen (Ed.), *Okul Dışı Öğrenme Ortamları [Out of School Learning Environments]*(pp.275-305). Ankara: Pegem.

Parsa, A.F. (2012). 21.Yüzyıl okuryazarlığında sayısal noktalarda buluşmak [Meeting at Numerical Points in 21st Century Literacy]. In V.D.Günay, and A.F.Parsa (Eds.), *Görsel Göstergebilim İmgenin Anlamlandırılması [Visual Semiotics Making Sense Image]* (pp.153-172). Istanbul: Es Yayınları.

Patton, M. Q. (2015). *Qualitative research and evalutaion methods.* (4th ed).Thousand Oaks: Sage Publications.

Ravas, T., & Stark, M. (2012). Pulitzer-prize-winning photographs and visual literacy at the university of montana: A case study. *Art Documentation: Journal of the Art Libraries Society of North America, 31*(1), 34-44. https://doi.org/10.1086/665334

Riedler, M. (2016). Exploring the Visual Culture Approach to Art Literacy and Education In Terms of the Condition of Postmodern Children. *Electronic Turkish Studies, 11* (14), 623-630.

Romero, E. D., & Bobkina, J. (2021). Exploring critical and visual literacy needs in digital learning environments: The use of memes in the EFL/ESL university classroom. *Thinking Skills and Creativity, 40*, 1-16.

Rose, G. (2002). *Visual methodologies: An introduction to the interpretation of visual materials*. Thousand Oaks, CA: Sage.

Roswell, J., McLean, C., & Hamilton, M. (2012). Visual literacy as a classroom approach. Journal *of Adolescent & Adult Literacy, 55*(5), 444-447. https://doi.org/10.1002/JAAL.00053

Saribaş, S. (2019). *Görsel sanatlar öğretmen eğitimi bağlamında görsel kültür öğretimi [Visual culture teaching within the context of visual arts teacher education] (*Unpublished doctorate dissertation). Anadolu University, Eskişehir.

Serafini, F. (2011). Expanding perspectives for comprehending visual ımages in multimodal texts. *Journal of Adolescent & Adult Literacy, 54*(5), 342-350. https://doi.org/10.1598/JAAL.54.5.4

Smilan, C., & Miraglia, K. M. (2009). Art teachers as leaders of authentic art integration. *Art Education, 62*(6), 39-45.

Stankiewicz, M.A. (2004). Notions of technology and visual literacy. *Studies in Art Education, 46*(1), 88-91.

Stewart, M.G. (2014). Enduring understandings, artistic processes, and the new visual arts standards: A close-up consideration for curriculum planning. *Art Education*, 67(5), 6-11.

Sturken, M., & Cartwright. L. (2009). *Practices of looking: An ıntroduction to visual culture.* New York: Oxford University Press.

Şahin, Ç. & Kıran, I. (2011). İlköğretim 5. sınıf öğretmen ve öğrencilerinin görsel okuryazarlıkları üzerine bir araştırma [A search about the visual literacy of 5th grade students and their teachers]. *Selçuk Üniversitesi Ahmet Keleşoğlu Eğitim Fakültesi Dergisi, 31*, 363-381.

Tarı, H. (2011). *İlköğretim okullarının 1. 2. 3. sınıflarında uygulanan güzel sanatlar dersinin öğretmen görüşlerine dayalı olarak değerlendirilmesi [The evaluation of the education and the training of the class teachers concerning the visual arts of 1st, 2nd, 3rd grades]* (Unpublished master's thesis). Marmara University, İstanbul.

Taşpınar, Ş. E. (2017). Görsel Sanatlar Öğretmeni Adaylarının Görsel Okuryazarlık Düzeylerinin Belirlenmesi [Determination of visual literacy levels of visual art teacher candidates]. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi, 19*(2), 321-334.

Tavin, K. (2014). Art education is stupid (and it should be). *Studies in Art Education, 56*(1), 438-441.

Tishman, S. (2018). *Slow looking: The art and practice of learning through observation*, Routledge.

Tomljenovic, Z. (2015). An interactive approach to learning and teaching in visual arts education. *CEPS Journal, 5*(3), 73-93. DOI: 10.25656/01:11406

Yin, R.K. (2018). *Case study research and applications: Design and methods.* (6th ed).Thousand Oaks: Sage Publications.

Yıldırım, A., & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri [Qualitative research methods in social sciences]*. Ankara: Seçkin Yayınları.

Yeh, H. (2010). Towards evidence of visual literacy: Assessing preservice teachers' perceptions of ınstructional visuals. *Journal of Visual Literacy,* 29(2),183-197. https://doi.org/10.1080/23796529.2010.11674680

Yükselgün, Ö. & Türkcan, B. (2012). İlköğretim görsel sanatlar dersi öğretim programındaki "görsel sanat kültürü" öğrenme alanının uygulanması [Application of the "visual art culture" learning field in the primary school visual arts course curricullum]. *Abant İzzet Baysal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *12*, 337-366.

Williams, W.R. (2019). Attending to the visual aspects of visual storytelling: Using art and design concepts to interpret and compose narratives with images. *Journal of Visual Literacy,* 38(1-2), 66-82. https://doi.org/10.1080/1051144X.2019.1569832

Wilson, G. J. (2019). Visual(ization) education: Expanding possibilities of arts-based pedagogy. *Art Education,* 72(3), 50-53. https://doi.org/10.1080/00043125.2019.1577943

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

A Qualitative Assessment on 'My School Rize Project'

Arzu KÜÇÜK[1]
National Ministry of Education
Nagihan YILDIRIM[2]
Recep Tayyip Erdogan University

Abstract

The use of out-of-classroom and/or school teaching environments has become increasingly important in recent years and is included in the 2023 educational vision document of the Turkish Ministry of National Education. Within the scope of this new vision of the document, provincial directorates of national education have started to plan various activities aiming at bringing teachers out of classes and/or especially schools. One of them is the "My School is Rize Project". In the scope of this project; a guide teaching material was prepared for the matching of course acquisitions with various out-of-school settings in Rize province with the participation of one representative teacher from all branches from pre-schools to high schools. The first researcher was one of the participants of this project. This study aimed to present the views of the teachers who had worked on the preparation period of this material. Based on the qualitative paradigm, the data were collected through semi-structured interviews from the twenty teachers at the end of the project. The data obtained from each question were subjected to descriptive analysis after being transcribed. The results were interpreted in line with the codes and categories that emerged from the analysis. In line with the critical results of the study, some suggestions were made to various stakeholders such as national education directorates, teachers, and also researchers to use out-of-classroom and/or school teaching environments.

Keywords: My School is Rize Project, Out-of-School Learning, Teacher Education

DOI: 10.29329/epasr.2021.373.6

[1]Dr., National Ministry of Education, Rize, Turkey, ORCID: 0000-0001-8933-8179
Correspondence: arzukucuk@gmail.com

[2] Assoc Prof. Dr., Faculty of Education, Recep Tayyip Erdogan University, Rize, Turkey, ORCID: 0000-0002-2985-6086, Email:nagihan.yildirim@erdogan.edu.tr

© 2021 INASED

Introduction

Educational literature includes different definitions of learning that are possible in many ways (Ainsworth & Eaton, 2010). One is a formal education in schools, in line with the objectives and achievements of teaching programs. Another is more informal learning that is realized by chance and interaction with the environment through the individual's own life (Lacin Simsek, 2011; Sen, 2019). Out-of-school learning takes place in an area where both informal and formal learning intersect (Gerber et al., 2001; Rogoff et al., 2016). Many institutions, organizations, and natural environments can be used as an out-of-school learning environment. Factories, planetariums, museums, science centers, botanical gardens, zoos, and national parks can be counted among these environments (Dillon et al., 2006).

The use of out-of-school learning environments enables children to gain first-hand rich experiences, to see and observe events and elements in their usual environment, to perceive many sensory organs by employing them, to experience abstract and complex events in concrete, to increase their attention and motivation, to establish an inter-disciplinary relationship, personal and social skills (Atmaca, 2012; Balkan et al., 2010; Dillon et al., 2006). It also provides students with opportunities to learn and strengthen their learning with different learning styles at their learning speed, through learning channels that are not available in the classroom (Ertas et al., 2011; Sahin & Saglamer-Yazgan, 2013; Tatar & Bagriyanik, 2012). The happiness of the students in the out-of-school settings ensures that the positive life is kept in mind for a long time, but also the permanence of the knowledge and the increase in academic success (Ayotte-Beaudet et al., 2017; Bakioglu & Karamustafaoglu, 2014; Braund & Reiss, 2006; Kelly, 2000; Rivkin, 2000). In addition to increasing learning and success, individuals think critically, empathize with events, and their curiosity increases. It can also enable individuals to develop high-level skills, increase awareness of science and technology and gain values (Coskun Keskin & Kaplan, 2012; Kucuk & Yildirim, 2020). In short, out-of-school learning environments offer rich opportunities for individuals to develop in terms of social, cognitive, affective, and skills (Anderson et al., 2000; Ayotte-Beaudet et al., 2017; DeWitt & Storksdieck, 2008; Eryaman et al., 2010; Morag et al., 2013; Orion & Hofstein, 1994).

Because of these advantages for education and training, teachers should go beyond the physical boundaries of the school when they find or create opportunities (Anderson et a., 2006; DeWitt & Osborne, 2007). However, different mental images can be found in the stakeholders of the school regarding the concept of out-of-school activity. Students, parents, and teachers who are among these stakeholders can perceive these activities not as a rich learning opportunity, but as entertaining activities where pleasant and new places are seen (Lacin Simsek, 2011; Sen, 2019). First of all, this perception should be corrected. The process to be carried out should be well planned, as it would not be right to leave the important outcomes of out-of-school learning activities to chance (Kucuk, 2020).

This process should be the practice that the teacher prepares within the scope of a specific plan and carries out step by step within the plan to achieve the targeted acquisitions (Braund & Reiss, 2006). The content of the course should be applied in a meaningful and consistent way through out-of-school learning environments. In this way, it will be possible for out-of-school settings to offer rich learning opportunities for children (Kucuk, 2020; Kucuk & Kucuk, 2019; Tatar & Bağriyanik, 2012; Okur Berberoglu & Uygun, 2013).

In this context, out-of-school learning activities should be planned in three stages (Kucuk & Yildirim, 2019).

1. Works to be done before the trip

a) Preparations for education

• During these preparations, the teachers should go and see the place they intend to study in advance. If support from a specialist in the field is to be received, the teacher should talk about his / her expectations and exchange ideas.

• What should be focused on in such a way that the interests of the students do not dissipate should be determined and the planning should be done accordingly.

• Brochures presenting the environment to be visited should be taken as ready, if available, or prepared and distributed to the students. These brochures should contain brief information and rules to be followed.

• Students should be briefly informed about where to go, as well as what they aim to do, what to do and what to learn.

• Worksheets should be prepared for use during the activity and they should be in such a way that students can add their pre-questions.

• The teacher should decide what methods and techniques he/she will use while preparing the material and prepare materials if necessary.

• If there are any inconveniences related to security, they should be identified and the necessary precautions taken and eliminated. (Where safety issues cannot be resolved, another safe out-of-school learning environment should be preferred.)

b) Bureaucratic works and preparations for transportation

• If you leave the provincial borders after informing the parent and school administration and obtaining the necessary permissions, timely permission should be obtained from the local

administrative authorities. If going out of the district, the director of the institution should inform the provincial/district national education directorate at least three days in advance and also by official procedures within the social activities regulation of the National Ministry of Education (NME, 2019).

• The mode of transportation, the route to be preferred in transportation, the time of departure, the duration of the trip, the number of students, and the cost of the trip, if any, should be determined.

• By contacting the institution to be visited, information should be given about the day, hour, many students, and an appointment should be made.

c) Preparations for eating and drinking and lodging

• If there is a need for nutrition in the environment, preliminary preparation should be made. Or, if the event is going to take place outside the city limits for a few days, preparations and reservations should be made for both eating and lodging.

2. Activities during the trip

• The specialist or teacher should provide the necessary information.

• Students should be allowed to observe the environment and be guided to explore.

• Activities to increase students' motivation should be included.

• Students should be allowed to investigate in line with their interests and curiosities.

• There should be a process that provides opportunities for social interaction.

3. Activities to be done after the trip

• Complementary activities outside the school should be carried out.

• What they learn from outside the school environment should be repeated and discussed.

• Measurement and evaluation activities should be carried out (These activities may vary according to subject or course. Among the most widely used are composition, painting, poetry, board preparation, poster work, open-ended questions, alternative measurement tools).

• Images and information about the activity should be shared with other students in various areas of the school.

• Parents should be informed about the activity.

Although certain steps should be followed and should not be ignored, there are studies in the literature about the subject area that teachers experience some difficulties in performing out-of-school

learning activities (Anderson el al., 2006; Aydin et al., 2016; Buyukkaynak et al., 2016; Cicek & Sarac, 2017; Chantrell, 2015; Demir & Oner Armagan, 2018; Ernst & Tornabene, 2012; Ernst, 2013; Mirka, 2014; Sarısan-Tungac & Unaldi-Coral, 2017; Sontay & Karamustafaoglu, 2017; Tatar & Bagriyanik, 2012) and that teachers' knowledge and skills in teaching environments are not sufficient (Smith-Sebasto & Smith, 1997; Türkmen, 2018). Some studies are suggesting that teachers also have some concerns about using out-of-school settings. These include security, attitudes towards out-of-school teaching, time, lack of financial resources, number of students and student age, and physical and mental deficiencies (Dillon et al., 2006). The deficiencies of teachers in terms of knowledge, skills, and experience on this subject create serious difficulties both for the implementation and for the qualified execution of the application (Thomas, 2010).

In Turkey, the National Ministry of Education emphasizes the importance it attaches to out-of-school learning in both its curriculum and the 2023 Education Vision Document (see http://2023vizyonu.meb.gov.tr/doc/2023_VIZYON_ENG.pdf.). In the 2nd Action of the 2nd Objective of the Vision Document;

“innovative applications will be provided which is included in the basic education theme; cooperation with schools, science centers, museums, art centers, technoparks, and universities will be increased."

In the 2nd Action of the 3rd Objective of the Vision Document;

“Natural, historical and cultural places and extra-curricular learning environments such as science-art centers and museums will be used more effectively in line with the acquisitions in the curricula”.

In addition, with the official letter dated 08.02.2019 and numbered 84037561-602.07.01-E.2830032, it was requested to determine the out-of-school learning environments in the provinces in line with the National Ministry of Education Out-of-School Learning Environment Guide. In this direction, studies have been initiated to identify out-of-school learning environments and to create local guidelines. In this context, a team of teachers from various branches was established under the auspices of the Rize provincial directorate of national education, and a study entitled "My School Rize” was conducted and a guide was prepared for the Rize out-of-school learning environments.

This study aimed to examine the total process beginning from the team-building phase to make an action plan, implementing and developing out-of-school learning environments teaching material.

© 2021 INASED

Method

This study used a phenomenology pattern in terms of examining the outdoor teaching experiences based on a qualitative research approach and has a phenomenology pattern in terms of examining the science fair experiences (Cresswell, 2003). This qualitative pattern is used as a study to reveal how a certain number of people make sense of a concept or a phenomenon they experience.

Study Group

22 teachers, 17 males, and 5 females, working under the Rize provincial directorate of national education are involved in the study. While 18 of the teachers in the study group took the students out of school throughout their professional life at least once, 4 of them never went out of school. The professional experience periods of the teachers in the study are given in Table 1.

Table 1. Professional experience of the study group

	Year	Frequency
Professional experience	1-5	4
	6-10	4
	11-15	9
	16-20 years	4
	Over 20 years	1
	Total	22

Context of "My School Rize Project"

Within the scope of this study, primarily the Provincial Directorate of National Education established a team and the teachers to be included in the team were determined. The teachers were selected from among the teachers whom one of the staff working in the Provincial Directorate of National Education had previously known and thought they could do this job. While 16 of the teachers were willing to participate in such a study at the beginning, 6 of them were not willing and only participated in the study because they thought it was not appropriate to reject the offer.

First of all, a meeting was held with the selected teachers and they were informed about the objectives, content, and process of the project. In the beginning, some places were determined by the research team of the project, and an opportunity was provided for teachers to access the same file and intervene via the internet. In this way, acquisition-place matches were initiated. One week later, the second meeting was held and mutual communication was established again, and then teachers were made to make the new venue and acquisition matches. Certain travel routes have been prepared and some places have been visited, with priority places being added frequently. After the visits made with the places that were not visited, the teachers made the necessary additions and subtractions by working on the online document again. After that, this document was sent to the District National Education Directorates to receive contributions from the related branch teachers. After the necessary revisions were made in line with the feedback provided in this way, the provincial directorate of the

national education research and development team designed the booklet and sent the booklet to print. The electronic edition of the book has been shared with the public on the web (see https://rize.meb.gov.tr/rista/). In this material, it is explained where and what kind of activities can be held for which acquisition within the scope of the subject and themes of the teaching curriculums.

Data Collection

The data were collected through semi-structured interview questions developed by the researchers to determine the post-study views of the teachers who participated in the "My School Rize Project." After the interview form was prepared, necessary arrangements were made by contacting the expert opinion. During the interview, demographic characteristics of the teachers such as professional seniority year and branch were recorded, and then other questions were passed. A total of 13 questions were asked to the teachers and the interviews lasted approximately 30 minutes. The data were recorded with the permission of the participants.

Data Analysis

In this study, after the interview data were transcribed, they were checked by a full reading method by the first researcher. Then, the data were separated according to the code and themes by using the descriptive analysis method, which is one of the qualitative data analysis methods, and was critical for its suitability to the literature (Cresswell, 2003). To ensure the reliability of the research, the data obtained were coded by other researchers and a joint decision was made and their final arrangements were also made. To ensure the validity of the research, although direct quotations from the interview notes are not given the codes of the teachers who shared the relevant views were presented separately. For example, teachers coded as T6,7,10 and 15 said that they were not taking students out of school (see Table 3.2).

Results

The findings are presented in the relevant tables by making a descriptive analysis of each question asked during interviews with teachers.

Question 1: “Have you encountered any difficulties during this study process? If so, what kind of difficulties did you encounter?”

Table 2 includes the descriptive analysis of the first question.

Table 2. Teachers' difficulties during the project process

Category	Code	Frequency (f)	Total Frequency (tf)
No difficulty	I didn't face any difficulty	7	7
Acquisition-place	Acquisition-environment association	5	8
	Finding a suitable place for acquisitions	3	
The concern (anxiety)	The concern that the relationship between acquisitions and place will be considered worthless.	3	9
	Insufficiency concern	1	
	Anxiety about not being able to train the curriculum within due time	4	
	Lack of information due to the lack of preparatory education	1	
Insufficient support from others	Insufficient feedback	2	4
	Only one teacher from each branch in the team	2	
The others	Working and data loss in the same Excel program	1	4
	Working outside business hours	1	
	Weather conditions	1	
	Nausea	1	

It is seen from Table 2 that, 7 of the teachers stated that they did not encounter any difficulties. In addition, teachers stated that it was difficult to associate the acquisitions with predetermined venues (f = 5) and to find a suitable venue (f = 3). However, it is seen that teachers experience difficulties due to anxiety in the process. Anxiety-related difficulties, anxiety because matching is not required by the teachers who will use the guide in schools (f = 3), not being able to train the curriculum within the period (f = 4), inadequacy (f = 1), and lack of preparatory education (f = 1) was repeated 9 times.

Among the difficulties faced are the fact that there is 1 teacher from each branch in the study team (f = 2) and the feedback given to the working drafts sent to the districts in the districts (f = 2). In addition, it has been stated that there are difficulties (f = 4) due to working outside the working hours, weather conditions, nausea during travel, and working by the entire team to intervene in the same file.

Question 2: 'Have you ever taken your students to out-of-school environments during your professional life?' If your answer is yes, the question of what purpose and how often did you take it?'

Table 3.1 includes the descriptive analysis of the second question.

Table 3.1. Teachers' aims to take students out of the school environment

Category	Code	Frequency (f)	Total Frequency (tf)
Associated with acquisition	Lesson processing	9	10
	Seeing the relation of the lesson with daily life	1	
Not associated with the acquisition	Having a good time	4	15
	Reading	2	
	Motivation	2	
	Travel-observation	2	
	Knowing professions	1	
	Socialization	1	
	School introduction	1	
	Specific days and weeks	1	
	Values education	1	

According to Table 3.1, the number of teachers who stated that they used out-of-school learning environments for teaching purposes was 10, and the number of those who declared that they went out of school settings in a way that is not related to acquisitions is 15. The teachers, who said that they came out of school learning environments in a way that is not related to acquisitions, mentioned goals such as having a pleasant time (f = 4), reading a book, observing trips, providing motivation (f = 2).

In Table 3.2, data are showing how often the teachers who use out-of-school learning environments use.

Table 3.2. Frequency of taking students out of school settings

Category	Code	Frequency (f)	Total Frequency (tf)
Several times a year	2 times a month	1 (T3)	9
	1 time a month	3 (T11, T13, T17)	
	1 time in two months	1 (T21)	
	Several times a year	4 (T2, T10, T12, T16)	
Every few years	Most once a year ****	9 (T1, T4, T5, T8, T9, T14, T18, T19, T20)	9
Not taking students out of school	Not *****	4 (T6, T7, T10, T15)	4

According to the data in this table, it is seen that 9 of the teachers responded to the learning environments out of school, 9 of them responded at most once a year and 9 of them were several times a year. Four of the teachers stated that they never used out-of-school learning environments.

Question 3: 'Would you consider using out-of-school learning environments from now on? If you are a thinker, how often would you like to use it? "

Table 4 includes the descriptive analysis of the third question.

Table 4. The frequency of using out-of-school environments from now on

Category	Code	Frequency (f)	Total Frequency (tf)
With the same frequency	2 times a month	1 (T3)	15
	1 time a month	3 (T11, T13, T17)	
	1 time in two months	1 (T21)	
	Several times a year	3 (T2, T12, T16)	
	Most once a year	7 (T1, T4, T20, T8, T14, T18, T19)	
More	1 time a month	1 (T5)	6
	1 time a year	1 (T6)	
	Several times a year	4 (T7, T9, T10, T15)	
Not taking students out of school	Not	1 (T18)	1

According to table 4, Ö18 stated that he has used out-of-school learning environments before, except for course acquisitions once a year, and stated that he will never use it from now on. He stated that he would use 15 of the teachings with the same frequency, while 6 would use it more often. Table 3.2. Compared to Table 4, it is understood that 4 of these 6 teachers are those who have not used out-of-school learning environments before.

Question 4. 'Is it necessary and important to use out-of-school learning environments? What changes and improves the student? "

Table 5 includes the descriptive analysis of the fourth question.

Table 5. Contribution of out-of-school learning to students

Category	Code	Frequency (f)	Total Frequency (tf)
For learning the concepts	Learning the relationship between the subject and daily life	7	17
	Permanent learning ****	7	
	Learning	3	
For Interest and Attitude	Motivation ****	5	18
	Developing a positive attitude towards the course ****	3	
	Wonder ****	3	
	Getting to know the jobs	1	
	Plant growing	1	
	Respect for nature	1	
	Realizing the importance of the course	1	
	Awareness	1	
	Teacher perception	1	
	Sensitivity to historical monuments	1	
	Perspective on life and events	4	
	Making observations	3	
	Self-confidence	3	
	Reading-research	2	
	Socialization	2	
	Self-awareness	2	
	Intra-group and teacher interaction	4	

For skill and personality	Problem-solving	1	28
	Teamwork	1	
	Critical looking	1	
	Commenting	1	
	Generating ideas	1	
	Ability to act with the community	1	
	Reasoning and analytical thinking	1	
	Interaction with the expert	1	
	Psychomotor skill	1	
	Behave according to the environment	1	
	Visual perception	1	
The others	Beautiful moment	1	3
	Feeling comfortable	1	
	Be happy	1	

It is seen from Table 5 that, the teachers gave answers to this question in 4 different categories: learning the concepts, interest and attitude, skill and personality, and others. It is seen that 28 codes for skill, 18 for interest and attitude, and 17 for learning the concepts are repeated. It is understood that the codes of permanent learning (f = 7) and seeing the reflections of the subject in daily life (f = 7) are repeated for understanding the subject. In the category of interest and attitude, answers were given that mostly motivation (f = 5), attitude towards the course (f = 3), and wonder (f = 3). Among the responses given to the skill and personality, it is seen that the perspective of life (f = 4), observation (f = 3), and self-confidence (f = 3) codes are frequently repeated.

Question 5: "What are the disadvantages and limitations of teaching in out-of-class environments?"

Table 6 includes the descriptive analysis of the fifth question.

Table 6. Limitations of the out-of-school learning process

Category	Code	(f)	T(f)
Time	Loss of other courses	8	16
	Spending a lot of time on the road	7	
	Conflict with other schools in place	1	
Security	Risk of accident	3	10
	Security	6	
	Additional personnel for security purposes	1	
Class domination	Age	2	13
	Number of students	5	
	Classroom management	6	
Cost	Financial opportunities	5	13
	Transportation cost	7	
management-related limitations	Management difficulties	2	
Permission	Student parent's permission	1	5
	Management’s permission	1	
	Car rental and documents	3	
Environment-related limitations	Distractions in the environment	2	5
	The ignorance of the employees of the institution	2	
	Not being able to find a place to be active in the environment	1	

The others	It is tiring	1	6
	Classroom readiness for out-of-school activities	1	
	Knowing the problems from the teacher	1	
	Weather conditions	1	
	Students coming unprepared	1	
	Inequality of opportunity	1	

When the table is examined, it is seen that it is among the categories that are repeated over time 16, class domination 13, cost 13, security 10 times.

Question 6: "How do you deal with the disadvantages and limitations of teaching in out-of-school learning environments?"

Table 7 includes the descriptive analysis of the sixth question.

Table 7. Ways to combat limitations

Category	Code	Frequency (f)	Total Frequency (tf)
Permission	To inform the student	3	5
	Informing the parent	2	
Finding financial support	Financial resources	3	9
	Parent support	2	
	Financial support for students with economic difficulties	1	
	The school provides financial support	3	
Time	Going with several classes and several teachers at the same time	3	8
	Exchange between teachers	2	
	Good planning	1	
	School support	1	
	Going out on issues of more importance	1	
security	Class size reduction	1	8
	Guiding the student in the process	1	
	Parent support	1	
	Identifying the risks of the environment ***	1	
	Additional personnel	1	
	Taking security measures	1	
	Don't go to the environment he knows	1	
	Describe the rules	1	
Can’t cope	Not possible	2	3
	So hard	1	
The others	Taking relevant students ***	2	9
	Cover to be protected from rain	1	
	Motivation	2	
	Training of administrators and the teachers on this issue	2	
	Communication with the institution	1	
	Administrative support	1	

In Table 7, there are two codes in the permissions category: parent information (f = 2) and student information (f = 3). A total of 9 codes are listed in the financial support finding category. It is seen that there are codes such as going with several classes and teachers at the same time (f = 3) and

exchanging lessons between teachers (f = 2). Each code in the security category has been repeated only once and it is seen that there are codes such as taking security precautions, determining the risks of the environment, getting support from the parents. It is seen that 3 of the teachers have responded that these difficulties cannot be overcome. Among the codes collected under the other name, it is seen that codes such as taking relevant students (f = 2), administrative support (f = 1), and teacher education (f = 1) are included.

Question 7: "What preparations are required to be able to teach in out-of-school learning environments?"

Table 8 includes the descriptive analysis of the seventh question.

Table 8. Preliminary preparations to be made in out-of-school learning environments

Category	Code	Frequency (f)	Total Frequency (tf)
Lesson Planning	Planning the Process	6	38
	Getting to know the environment	5	
	Goals and acquisitions of the curriculum should be known	5	
	Lesson Planning	3	
	Acquisition- environment harmony	3	
	Material preparation	4	
	Measuring preparation	4	
	Preparing an activity	2	
	Method determination	1	
	Time planning	1	
	Alternative activity planning	1	
	Cooperation with the management	1	
Permission***	Parent's permission	5	10
	Management's permission	5	
Environment	Seeing the environment before	3	12
	Appointment - contact	9	
Transportation ***	Rent a car	2	3
	Financial account	1	
Student's responsibilities	Assigning students	1	3
	Student readiness	1	
	Requesting material from the student	1	
Security ***	Security measures	4	9
	Determining the limitations of the environment	2	
	Additional personal	1	
	Apply for peer experience related to the institution to be visited	1	
	Identifying security problems	1	
Information***	Informing the student	6	7
	Brochure	1	
The others	Taking precautions to meet the physical needs of children	1	2
	Student clothing	1	

When Table 8 is analyzed, it was seen that the teachers stated the most ideas for the planning of the lesson to be taught outside (f = 38). In the preparations category for the environment, the codes of seeing the environment in advance (f = 3) and making an appointment - establishing communication (f = 9) were included, but they were repeated 12 times in total. However, the codes in the permissions category are 10, security 9, information 7, and transportation 3 times.

Question 8: "How should the course be taught in an out-of-school learning environment?"

Table 9 includes the descriptive analysis of the eighth question.

Table 9. Lesson teaching process during an out-of-school learning activity

Category	Code	Frequency (f)	Total Frequency (tf)
Teaching method-technique	Give a lecture	9	20
	Application and activity	9	
	Discussion	1	
	Presentations of the student	1	
Observation ***	Travel	1	5
	Observation	3	
	Make research	1	
Record ***	To write	2	3
	Video- photo	1	
The others	Animation	1	4
	Answering student questions ***	1	
	Free time ***	1	
	General information about the environment	1	

It is seen from Table 9 that the teaching methods and techniques (f = 20), observation (f = 5), and recording (f = 3) categories are included. The codes for answering students' questions and giving students free time were repeated under the other category and were repeated 1 time.

Question 9: "What should be done after returning from of school environment?"

Table 10 includes the descriptive analysis of the ninth question.

Table 10. Things to be done after the out-of-school learning activity

Category	Code	Frequency (f)	Total Frequency (tf)
Summing up the topic	Verbal sharing (expressing what they see)	5	9
	Repeating	3	
	To write	1	
Deepening the subject	Doing research	1	2
	Making a model	1	
Getting ideas about the environment ***	Verbal feedback	4	12
	Survey	5	
	Opinion	3	
Assessment and evaluation ***	Text-poem-story-songs	4	12
	Open-ended question	2	
	Question-answer	5	
	Control List	1	

From table 10, it is seen that two codes of assessment and evaluation and getting ideas of children about the environments were repeated 12 times, and also summing up the topic code for 9 times about what should be done after out-of-school learning activities. However, the code for deepening the subject was repeated just only twice.

Question 10: "What do you think about the suitability of out-of-school education for your branch?"

Table 11 includes the descriptive analysis of the tenth question.

Table 11. Eligibility for the branch

Category	Code	Frequency (f)	Total Frequency (tf)
Positive	Very suitable	9	17
	suitable	8	
Negative	Limited	3	5
	Not suitable	2	

When the categories in table 11 are examined, it was seen that 17 teachers responded positively and 5 teachers responded negatively.

Question 11: "What kind of competencies does the teacher need to have to carry out out-of-school learning activities?"

Table 12 includes the descriptive analysis of the eleventh question.

Table 12. Teacher competencies

Category	Code	Frequency (f)	Total Frequency (tf)
Cognitive competencies	Subject area knowledge	8	11
	Out-of-school learning knowledge ***	2	
	Knowing the curriculum well	1	
Personal competencies	Contact	4	19
	Being responsible	2	
	Being an idealist	2	
	Love your job	2	
	Innovation	2	
	Being able to motivate the student	2	
	Fast problem solving	1	
	Dynamism	1	
	Courage	1	
	Be patient	1	
	Leadership	1	
Professional competence	Classroom management	5	8
	Professional experience	2	
	Getting to know the student	1	
Others	No physical disability	1	2
	Getting to know the environment	1	

It is seen from Table 12 that, teachers' answers were classified into three categories in terms of cognitive, affective, professional, and physical competencies. It is seen that most of the answers by teachers are in the affective competence dimension (f = 19) and communication skills are repeated more than other codes (f = 4). In the cognitive competency dimension, it is seen that the area information code is repeated 8 times, and out-of-school learning knowledge is repeated twice. In terms of professional competence, it is seen that class management is the most (f = 5).

Question 12: "What would you recommend to be used effectively in your branch?"

Table 13 includes the descriptive analysis of the twelfth question.

Table 13. Teachers' suggestions for effective use

Category	Subcategory	Code	Frequency (f)	Total Frequency (tf)
Before activity	Planning	Getting to know environments	3	16
		Process planning	2	
		Communication with other teachers	2	
		Selection of suitable environments	2	
		Being selective	1	
		Don't go with few students	1	
		Activity planning	1	
		Observation	1	
		Time planning	1	
		Foreseeing the environment	1	
		Complete material	1	
	Security***	Security measure	1	4
		Risk assessment	1	
		Informing the student	1	
During activity	Process	Informing the student	1	4
		Motivating the student	2	
		Getting to know the student	1	

It is seen from Table 13 that, teachers stated some ideas which can be collected in two categories as pre-activity (f = 20) and during the activity (f = 4). The pre-activity category is divided into two sub-dimensions: planning and security. It is seen that the codes for planning are repeated 16 times and the codes for security are repeated 4 times.

Question 13: "Did getting involved in this project bring you new things?"

Table 14 includes the descriptive analysis of the thirteenth question.

Table 14. Contribution of the project to teachers

Category	Code	Frequency (f)	Total Frequency (tf)
Pedagogical content knowledge for	Acquisition-environment association	9	29
	Getting to know environments	9	
	Gaining interdisciplinary perspective	2	
	Going to out-of-school environments	2	
	Realizing the importance of informal learning	2	
	Learning the process	2	

out-of-school learning	Noticing your shortcomings	1	
	Learning about out-of-school learning ***	1	
	Realizing the limitations of the environments	1	
Professional development	Realizing the importance of collaboration between teachers	4	16
	To examine program acquisitions in detail	2	
	Generating ideas	2	
	Leading teachers as managers - limiting expectations	1	
	Career development	1	
	Empathy	1	
	Dominate the program	1	
	Developing a new perspective	1	
	Realizing the shortcomings of the acquisition and program	1	
	Improving out-of-school activities	1	
Socio-cultural impact	Getting to know the environment	13	15
	Meet other teachers	2	
Affective effect	Professional satisfaction	1	3
	Happiness - pride	2	

It is seen from the Table 14 that the codes are divided into four categories as pedagogical content knowledge for out-of-school learning (f = 30), professional development (f = 17), socio-cultural impact (f = 15) and affective effect (f = 3). The codes of establishing a relation between learning out of place and learning places are also mentioned nine times. On the other hand, learning about out-of-school learning is emphasized just only once. In terms of professional effects, teachers' learning from each other's takes place with the code of cooperation between teachers, and it is understood that it is emphasized four times. However, codes of examining the gains in detail and generating ideas are emphasized twice. The number of teachers who state that they know the places and the environment in terms of social culture is 13.

Discussion, Conclusion and Recommendations

In this study, we aimed to reveal the views of teachers who worked on the preparation of the guide material. First of all, teachers were asked what kind of difficulties they faced in this process. From table 2, it is understood that the participant teachers stated that they experienced various difficulties, such as finding a suitable environment for the acquisitions of teaching programs and needing support opinions with the acquisition-place matching. It is thought that these difficulties may be caused by the fact that teachers have not used out-of-school environments based on the acquisitions of teaching programs (f = 15) (see Table 3.1) and some of them have never used out-of-school environments (see Table 3.2) until the study carried out. However, it is understood that teachers feel inadequate with some concerns arising from the lack of preparatory education for out-of-school teaching during the study process (see Table 2). It was also reflected in the statements of teachers that the reason for these concerns may be the lack of information about out-of-school teaching. However, it is thought that the concerns may be caused by the lack of knowledge of most teachers to teach in out-of-school settings, as well as their experience. As an indicator of this, it can be presented that 4 of the teachers never went out of school, and 9 of them went out every few years (see

Table 3.2.). Similarly, the fact that rarely out-of-school goals are not directly related to course acquisitions can be considered as a normal situation for teachers who go out for this purpose for the first time.

Remarkably, a teacher who appeared in Table 4 stated that most of the teachers who participated in such a study (f = 15) would continue to use them outside of school as often as before and that a teacher who said that he rarely used it before the study would not teach any lessons in out of school environment. It is believed that the reason for this situation is that the teachers have been to out-of-school environments only for purposes not directly related to their course acquisitions and that they have not been able to adequately associate out-of-school environments with their lessons throughout the study. However, it is seen that some of the teachers who have never used out-of-school learning environments before are planning to use them from now on. It turned out that all three teachers who used out-of-school learning environments previously planned to increase their frequency of use. These results can be accepted as positive outcomes of the studies conducted. This result may have resulted from the relevant teachers' familiarization with the external environments, recognizing their importance, establishing perspectives on how the achievements will be given in the environment, exchanging ideas with other teachers about learning activities outside the school, and the encouraging actions of the Directorate of National Education on this issue.

In the context of the out-of-school learning environments examined, when teachers were asked about the contribution of out-of-school practices to learning, all of the teachers could not give appropriate answers according to the conceptual framework of the subject. As it is known, the main purpose of out-of-school learning is to provide individuals with the opportunity to learn in-depth subjects in the curriculum outside the walls of the school in various ways (Balkan Kıyıcı & Atabek Yiğit, 2010). However, these outcomes are not sufficiently formed by preparing a guide for out-of-school learning which does not have a clear purpose. Although it is reported in the literature that out-of-school learning environments develop some skills and attitudes in the student (Balkan Kiyici & Atabek Yigit, 2010; Bozdogan, 2007; Griffin, 2004; Kelly, 2000; Martin, 2004; Hannu, 1993; Pedretti, 2004; Sozer & Oral, 2016). Teachers in the study group mostly gave answers in these categories without elaborating skills and attitudes. The reason for this is that most of the teachers do not have an education on the theoretical basis of out-of-school learning and that they have used out-of-school environments outside of their course acquisitions so far.

Likewise, teachers who use out-of-school environments both rarely and mostly out of the teaching of program acquisitions are happy to be in such a team and develop a positive attitude towards out-of-school learning (see Table 3.2, 4, and 14). Nevertheless, it is out of the question that how to perform out-of-school learning practices has emerged as a side effect of such an examination activity. Teaching directly before this process may produce more qualified outcomes.

On the other hand, the teachers were asked what kind of preparations could be made before going out of school, and the answers to the planning of the lesson were obtained. Adequate opinions on permits have not been provided. However, it is not possible to go beyond the borders of the school without obtaining the permissions under the legislation. Making an appointment, security, preliminary information and preparations for transportation from the environment to be visited are the most important stages of the process (Bozdogan, 2007; Hannu, 1993; Pedretti, 2004). The answers given in these categories belong only to less than half of the teachers. It is believed that they did not experience the stages needed until they were included in such a work process in a planned and programmed way and that they did not undergo open training at the beginning of the process, causing such results. Although there are teachers who plan to increase the frequency of out-of-school learning activities in the future, important deficiencies regarding planning, implementation, and evaluation processes will make this difficult.

Participant teachers also gave answers such as time, security, classroom domination, cost, permission as the limitations of out-of-school learning environments (see Table 6.) None of the teachers mentioned them with a holistic approach. When asked about ways to combat these limitations, three teachers responding as "unmanageable" and the answers given to determine the risks of the environment and take precautions in the security category are still very remarkable results. It is not possible for teachers, who do not know the ways to cope with the limitations towards out-of-school learning, to manage the process healthily (Atmaca, 2012; Jarvis & Pell, 2005; Turkmen, 2018).

As a solution to the related limitations, it was observed that some teachers stated ideas about going out of school by reducing the number of students (for example, by taking the relevant students). This solution does not coincide with the principle of equal opportunity in education. Another solution proposed is to reduce class sizes. It is also reported in the literature that crowded classes will have difficulties in out-of-school practice (Turkmen, 2018). The realization of this proposal requires some arrangements that exceed the teacher. To overcome this limitation, training managers need to take a role and produce solutions. For administrators to play such a role, they are expected to have positive thoughts on the importance and necessity of out-of-school learning.

Even though the participant teachers talked about the teaching methods and techniques they will use during out-of-school learning activities, it is seen that they do not express enough ideas to record the facts and events with observation (see Table 9). This result was similar in previous studies (Tatar & Bagriyanik, 2012).

In the literature on the subject area, it is stated that students should be given free time in out-of-school environments by their interests, while only one participant teacher referred to this subject. This result coincides with the information obtained in similar studies. In a study by (Griffin & Symington, 1997), it was revealed that teachers do not have enough ideas about how to handle the

lesson in out-of-school learning environments and they do not have sufficient efforts to relate the outcomes of the lesson with the out-of-school environments around them. Similarly, after returning from the out-of-school learning environment, repeating the subject and measuring and evaluating are among the steps to be followed. It can be seen from the statements in Table 10 that the participants have limited knowledge in this regard. Similarly, it was noteworthy that the participants' opinions about the environment were needed only in planning the activities in the future, but that the participants stated that they would use various ways for this purpose (see Table 10). It is concluded from this that teachers still need rich feedback and different practices in the process of enriching pedagogical content knowledge for out-of-school learning.

A few of the teachers whose evaluations were applied within the scope of this study stated that they did not find out of school learning environments adequate in terms of their branches (see Table 11). Similarly, they emphasized personal competencies, not professional, mostly about the competencies that teachers should have to carry out out-of-school learning activities successfully. At this point, although the relevant competencies were found to be very important for teachers to manage the implementation process, there was hardly any reference to the competence of how out-of-school activities should take place for this process to be efficient. All the data discussed up to this point reveal that the participants could not gain enough information for the execution of the process and even they do not see this issue as a need.

Participants were also asked to provide recommendations to other teachers that encourage out-of-school learning practices. At this point, it was revealed that the suggestions shared were mostly directed before the out-of-school activity (see Table 13). In this context, they stated very few ideas about security, which is often referred to as the most important limitation of out-of-school learning practices in the literature (see Table 13). Similarly, they did not express an opinion regarding the post-activity. This result reveals that participatory teachers do not see the post-activity phase as part of out-of-school learning to support the previously discussed findings.

Participants suggested that pedagogical content knowledge for out-of-school learning changed as the most important output of the project (see Table 14). Knowledge of establishing the most shared acquisition-place relationship and getting to know the places in this category can be evaluated as having both professional and socio-cultural and affective effects on the process experienced by the participants. However, the fact that teachers share their contributions in this way may not mean that they can conduct out-of-school learning activities effectively. At this point, in the light of the information shared in the first part of the study, where the theoretical foundations of the research are discussed, the inclusion of the process after the first effective training can create more positive outcomes.

Teachers' involvement in the process without training on out-of-school learning has caused various difficulties. Even though they have provided a guideline at the end of this process, identifying the venues and matching the achievements with the venues is not sufficient to carry out out-of-school learning activities even for the participants. Even for teachers who are partially or directly interested in the subject, the ongoing problems will affect their tendency towards out-of-school practice, considering that other teachers in schools are not as motivated as those who experience the project process themselves. This problem can be solved by teachers at work gaining a positive attitude towards out-of-school learning through well-planned educational programs. Similarly, it may be an appropriate action strategy to integrate out-of-school learning into compulsory courses at the undergraduate level, which integrates into the curriculum, is highlighted in various documents, and has been found to produce desired results in many respects. In the literature on the subject area, it is among the difficulties that the curriculum is not designed to facilitate the execution of the relevant out-of-school activities (Tatar & Bagriyanik, 2012). In this context, it is expected that the Ministry of National Education does not leave the various limitations in the process to the solution of teachers who are practitioners only and to make the necessary facilitative arrangements in administrative dimensions, for example, during school hours.

References

Ainsworth, H. L., & Eaton, S. E. (2010). *Formal, non-formal, and informal learning in the sciences.* Calgary: Onate Press.

Anderson, D., Kisiel, J., & Storksdieck, M. (2006). Understanding teachers' perspectives on field trips: Discovering common ground in three countries. *Curator, 49*(3), 364-386.

Anderson, D., Lucas, K. B., Ginns, I. S., Lynn, D., & Dierking, L. D. (2000). Development of knowledge about electricity and magnetism during a visit to a science museum and related post-visit activities. *Science Education, 84*(5), 658-679.

Atmaca, S. (2012). *Derslik dışı fen etkinlikleri ve bu etkinliklere dayalı öğretimin öğretmen adayları üzerindeki etkileri* [Outdoor education activities in science education and effects of these activities on pre-service teachers] (Unpublished doctoral thesis). Hacettepe University, Ankara.

Aydın, S., Hasiloglu, M. A., & Kunduraci, A. (2016). Fen bilimleri öğretmenlerinin ders dışı etkinlikleri kullanmada özyeterlik algılarının farklı değişkenler açısından incelenmesi [Evaluation of science teachers' usage of extracurricular activities with respect to various variables]. *International Journal of Education, Science and Technology, 2*(2), 94-103.

Ayotte-Beaudet, J. P., Potvin, P., & Lapierre, H. G. (2017). Teaching and learning science outdoors in schools' immediate surroundings at K-12 levels: A meta-synthesis. *Eurasia Journal of Mathematics, Science and Technology Education, 13*(8), 5343-5363.

Bakioglu, B., & Karamustafaoglu, O. (2014). Okul dışı ortamlarda fen eğitimi: Diyaliz merkezine teknik bir gezi [Outdoor science education: Technical visit to a dialysis center]. *Turkish Journal of Teacher Education, 3*(2), 15-26.

Balkan Kiyici, F., & Atabek Yigit, E. (2010). Sınıf duvarlarının ötesinde fen eğitimi: Rüzgâr santraline teknik gezi [Science education beyond the classroom: A field trip to wind power plant]. *International Online Journal of Educational Sciences, 2*(1), 225-243.

Bozdogan, A. E. (2007). *Bilim ve teknoloji müzelerinin fen öğretimindeki yeri ve önemi* [Role and importance of science and technology in education] (Unpublished doctoral thesis). Gazi University, Ankara.

Braund, M., & Reiss, M. (2006). Towards a more authentic science curriculum: The contribution of out-of-school learning. *International Journal of Science Education, 28*(12), 1373-1388.

Buyukkaynak, E., Ok, Z., & Aslan, O. (2016). Fen bilimleri öğretmenlerinin fen eğitiminde okul dışı öğrenme ortamlarına yönelik görüşleri [Science teachers' views on out-of-school learning environments in science education]. *Kafkas University Journal of the Institute of Social Sciences, 1*, 43-60.

Coskun Keskin, S., & Kaplan, E. (2012). Sosyal bilgiler ve tarih eğitiminde okul dışı öğrenme ortamı olarak oyuncak müzeleri [Toys museums as out- of- school learning method in social studies and history education]. *Electronic Journal of Social Sciences, 11*(41), 95-115.

Cresswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd Ed.). Sage Publication.

Cicek, O., & Sarac, E. (2017). Fen Bilimleri öğretmenlerinin okul dışı öğrenme ortamlarındaki yaşantıları ile ilgili görüşleri [Science teachers' opinions about experience in out of school learning environments]. *Ahi Evran University Journal of Kırsehir Education Facuty, 18*(3), 504-522.

Chantrell, G. (2015). *Challenges, as perceived by teachers, to learning outdoors* (Unpublished master thesis). Nanaimo: Vancouver Island University

Demir, N., & Oner Armagan, F. (2018). Okul dışı öğrenme ortamlarına yönelik fen bilgisi öğretmenlerinin görüşleri: Planetaryum [Science teachers views about informal learning environments: Planetarium] *Journal of Social And Humanities Sciences Research, 5*(30), 4241-4248.

DeWitt, J., & Osborne, J. (2007). Supporting teachers on science-focused school trips: Towards an integrated framework of theory end practice. *International Journal of Science Education, 29*(6), 685-710.

DeWitt, J., & Storksdieck, M. (2008). A short review of school field trips: Key findings from the past and implications for the future. *Visitor Studies, 11*(2), 181-197. https://doi.org/10.1080/10645570802355562

Dillon, J., Rickinson, M., Teamey, K., Morris, M., Choi, M. Y., Sanders, D., & Benefield, P. (2006). The value of outdoor learning: evidence from research in the UK and elsewhere. *School Science Review, 87*(320), 107-111.

Ernst, J., & Tornabene, L. (2012). Preservice early childhood educators' perceptions of outdoor settings as learning environments. *Environmental Education Research, 2*(1), 97-122.

Ernst, J. (2013). Early childhood educators' use of natural settings as learning environments: An exploratory study of beliefs, practices, and barriers. *Environmental Education Research, 20*(6), 735-752.

Ertas, H., Sen, A. I., & Parmaksizoglu, A. (2011). Okul dışı bilimsel etkinliklerin 9. sınıf öğrencilerinin enerji konusunu günlük hayatla ilişkilendirme düzeyine etkisi [The effects of out-of school scientific activities on 9th grade students' relating the unit of energy to daily life]. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education, 5*(2), 178-198.

Eryaman, M. Y., Ozdilek, S. Y., Okur, E., Cetinkaya, Z. & Uygun, S. (2010). A participatory action research study of nature education in nature: Towards community-based ecopedagogy. *International Journal of Progressive Education, 6*(3), 53-70.

Gerber, B. L., Marek, E. A., & Cavallo, A. M. (2001). Relationships among informal learning environments, teaching procedures and scientific reasoning ability. *International Journal of Science Education, 23*(5), 535-549.

Griffin, J. (2004). Research on students and museums: looking more closely at the students in school groups. *Science Education, 88*(1), 59-70.

Griffin, J., & Symington, D. (1997). Moving from task-oriented to learning-oriented strategies on school excursions to museums. *Science Education, 81*(6), 763–779.

Hannu, S. (1993). *Science center education: Motivation and learning in informal education (*Unpublished doctoral dissertation). Helsinki University.

Jarvis, T., & Pell, A. (2005). Factors influencing elementary school children's attitudes toward science before, during, and after a visit to the U.K. National Space Centre. *Journal of Research in Science Teaching, 42*(1), 53-83.

Kelly, J. (2000). Rethinking the elementary science methods course: A case for content, pedagogy, and informal science education. *International Journal of Science Education,*

Kucuk, A. (2020). *Fen bilimleri 5. sınıf insan ve çevre ünitesinin okul dışı öğrenme ortamında öğretimi* [Teaching the grade-5 human and environment unit of science course in an out-of-school learning environment] (Unpublished doctoral thesis). Recep Tayyip Erdogan University, Rize.

Kucuk, A., & Kucuk, M. (2019). Türkiye'de okul dışı öğrenme ortamlarına yönelik yapılan lisansüstü tezlerin içerik analizi [A content analysis study of the graduate thesis related to outdoor learning environments in Turkey]. In D. Koksal (Eds.), X. International Congress on Research in Education Proceedings Book, (pp. 502-510). http://ulead2019.ulead.org.tr/files/50/editor/files/ulead_2019(10).pdf

Kucuk, A., & Yildirim, N. (2019). Doğa eğitimi ve doğa okulları [Nature education and nature schools]. In A. I. Sen (Eds.), *Okul dışı öğrenme ortamları* [Out of school learning environments], (pp. 246-272). Ankara: Pegem Academy.

Kucuk, A., & Yildirim, N. (2020). The effect of out-of-school learning activities on 5th grade students' science, technology, society and environment views. *Turkish Journal of Teacher Education, 9*(1), 37-63.

Lacin Simsek, C. (2011). Fen öğretiminde okul dışı öğrenme ortamları [Out-of-school learning environments in science teaching]. In C. Laçin Şimşek (Eds.), *Okul dışı öğrenme ortamları ve fen eğitimi* [Out-of-school learning environments and science education], (pp. 1-23). Ankara: Pegem Academy.

Martin, L. M. (2004). An emerging research framework for studying informal learning and schools. *Science Education, 88*, 71-82.

Mirka, G. (2014). Factors which influence teachers' use of outdoor classrooms. *The Journal of Environmental Education, 19*(2), 25-33.

Morag, O., Tal, T., & Rotem-Keren, T. (2013). Long-term educational programs in nature parks: Characteristics, outcomes, and challenges. *International Journal of Environmental & Science Education, 8*(3), 427-449.

NME. (2019). *Millî Eğitim Bakanlığı Eğitim Kurumları Sosyal Etkinlikler Yönetmeliği* [Educational Institutions Social Activities Regulation]. Ankara: National Ministry of Education.

Okur Berberoglu, E., & Uygun, S. (2013). Sınıf dışı eğitimin dünyadaki ve Türkiye'deki gelişiminin incelenmesi [Examining of outdoor education development in the world and in Turkey]. *Mersin University Journal of the Faculty of Education, 9*(2), 32-42.

Orion, N., & Hofstein, A. (1994). Factors that influence learning during a scientific field trip in a natural environment. *Journal of Research in Science Teaching, 31*(10), 1097–1119.

Pedretti, E. G. (2004). Perspectives on learning through research on critical issues-based science center exhibitions. *Science Education, 88*(1), 34-47.

Rivkin, M. S. (2000). *Outdoor experiences for young children.* ERIC. https://files.eric.ed.gov/fulltext/ED448013.pdf adresinden alındı.

Rogoff, B., Callanan, M. A., Gutierrez, K. D., & Erickson, F. (2016). The organization of informal learning. *Review of Research in Education, 40*(1), 356–401.

Sarisan-Tungac, A., & Unaldi-Coral, M. N. (2017). Fen bilimleri öğretmenlerinin okuldışı (doğa deneyimine dayalı) eğitime yönelik görüşlerinin değerlendirilmesi [Evaluation of science teachers' views towards outdoor (nature-based) education]. *International Journal of Eurasia Social Sciences, 8*(26), 24-42.

Smith-Sebasto, N. J., & Smith, T. L. (1997). Environmental education in Illinois and Wisconsin: A tale of two states. *The Journal of Environmental Education, 28*(4), 26-36.

Sontay, G., & Karamustafaoğlu, O. (2017). Fen bilimleri öğretmenlerinin gezi düzenlemeye ilişkin öz-yeterlilik inançlarının incelenmesi [Investigation of science teachers' self-efficacy beliefs related to trip arrangement]. *H. U. Journal of Education, 32*(4), 863-879

Sozer, Y., & Oral, B. (2016). Sınıf içi öğrenmelerini destekleyen okul dışı aktif öğrenme süreci: Bir meta sentez çalışması [Supplementary active outdoor learning process for classroom learning: A meta-synthesis study]. *International Journal of Eurasia Social Sciences, 7*(22), 278-310.

Sahin, F., & Saglamer-Yazgan, B. S. (2013). Araştırmaya dayalı sınıf dışı laboratuvar etkinliklerinin öğrencilerin akademik başarısına etkisi [The effect of inquiry based outdoor laboratory activities on academic achievements of students]. *Sakarya University Journal of Education, 3*(3), 107-122.

Sen, A. I. (2019). Okul dışı öğrenme nedir? [What is out-of-school learning?], In A. I. Sen (Eds.), *Okul dışı öğrenme ortamları* [Out of school learning environments], (pp. 2-18). Ankara: Pegem Academy.

Tatar, N., & Bagriyanik, K. E. (2012). Fen ve teknoloji dersi öğretmenlerinin okul dışı eğitime yönelik görüşleri [Opinions of science and technology teachers about outdoor education]. *Elementary Education Online, 11*(4), 883-896.

Thomas, G. (2010). Facilitator, teacher, or leader? managing conflicting roles in outdoor education. *Journal of Experiential Education, 32*(3), 239–254.

Turkmen, H. (2018). Ortaokul öğretmenlerinin sınıf-dışı ortamlarda öğretime bakış açıları [Perspectives of secondary school teachers about out-door teaching]. *Journal of Ege Social Science, 1*(1), 12-26.

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

A Metaphorical Approach: How are the Concepts of Principal, Inspector and Curriculum Perceived?

Neşe ERTOK[1]

Ministry of National Education and Culture

Azize UMMANEL[2]

European University of Lefke

Abstract

The proper and thorough functioning of the education process is based on the cooperation of the elements in education. Among the elements that should cooperate and act in harmony are teachers, school administrators and experts in educational management and supervision. Further, a curriculum is needed for the education process to proceed in a planned manner. This study aims to explore the metaphorical perceptions of teachers concerning the concepts of principal, inspector and curriculum. A qualitative research design was adopted in this study. The study group was formed through convenience and purposive sampling methods, and the study was conducted with 25 primary school teachers working in Northern Cyprus. A two-stage form was used to identify the metaphorical perceptions of the teachers. The collected data were analysed through content analysis method. They considered principals as the leader and manager of the school they worked in while stressing moderate or rigid attitudes of certain principals. Associations related to the concept of inspector were mostly about guidance; however, they also mentioned the negative characteristics of the inspectors they encountered regarding human relations. Finally, the concept of curriculum was perceived as a guiding adviser and as having a difficult, complex and restrictive structure. In the light of the results, it is recommended that principals be supported as regards human relations, managing relationships and communication, benefiting from guidance services in this regard. In the light of the results, it is recommended that principals and inspectors be supported as regards human relations, managing relationships and communication, benefiting from guidance services in this regard. Teachers are primary practitioners of the curriculum, and attempting to implement a challenging curriculum will reduce the efficiency and quality of education.

Keywords: Metaphor, Perception, Principal, Inspector, Curriculum.

DOI: 10.29329/epasr.2021.373.7

[1]MA, Ministry of National Education and Culture, Lefkoşa, Northern Cyprus, ORCID: 0000-0002-0966-2399, Email: nesertok@hotmail.com

[2] Assist. Prof. Dr., Faculty of Education, European University of Lefke, Lefke, Northern Cyprus, ORCID: 0000-0002-1452-3449.

Correspondence: aummanel@eul.edu.tr

© 2021 INASED

Introduction

Thoughts about objects, events, concepts and situations can be conveyed in various ways. One of these ways is the use of metaphors. Metaphors are defined as the meanings that humans create by filtering the real-world events in their minds (Nikitina & Furuoka, 2008). Accepted also as a kind of analogy and explanation, metaphors are the expression of unknown things through the things we know (Perry & Cooper, 2001).

The process that emerges with the use of metaphors is called metaphoric thinking. This process comprises three stages. The first stage encompasses any abstract phenomenon, concept, event or situation that is intended to be explained or interpreted. In the second stage, concrete linguistic expressions are used to explain this phenomenon. The final stage includes the equivalence established between these two phenomena (Sezer, 2003).

Metaphors can help us express our ideas more easily on issues we are afraid to talk about or subjects that are difficult to talk about (Lakoff & Johnson, 2003). Metaphors are also a modelling mechanism for individuals to understand and make sense of their own world (Arslan & Bayrakçı, 2006). Furthermore, metaphor is a language event that occurs as a result of transferring the name of one to the other by establishing an analogy between two things with distant or close interest (Aksan, 1999). In addition, metaphors are important because they are a way of perceiving, seeing and understanding the world (Girmen, 2007).

Several topics, facts or concepts are difficult to talk about in educational management. As researchers, we think that we can take the opinions of the participants about issues that can be difficult to explain by using metaphors and we can reveal problem situations with an in-depth analysis. In this study, the focus was on the concepts of principal, inspector and curriculum, which are all included in the field of educational management and supervision.

In the field of educational management and supervision, the concepts of principal, inspector and curriculum are important, as they are interrelated concepts that complement each other. Whereas the principal deals with the educational system at the micro level, the inspector deals with it at the macro level (Bursalıoğlu, 1994). While the inspector conducts audits within the current education system, the principal maintains educational management in schools, which are the most important part of this system. On top of the issues that are subject to inspection and evaluation are the teaching programmes, also known as curriculum.

This study aims to explore the metaphorical perceptions of teachers as regards the concepts of principal, inspector and curriculum.

© 2021 INASED

The Significance of the Study

Education is the most fundamental process in the development and improvement of societies. The higher the quality and efficiency of this process, the more investment is made towards the development of the people and society. The proper and thorough functioning of the education process is based on the cooperation of the elements in education. Among the elements that should cooperate and act in harmony are teachers, school administrators and experts in educational management and supervision. Further, a curriculum is required for the education process to proceed in a planned manner. The proper functioning of the process is important at all levels of education. It is a well-known fact that the first years of life form the basis for the following years. The importance of the first years cannot be denied in education, as in every field. Children with basic social skills through preschool education are able to prepare for primary education and acquire basic academic skills during their primary school years. In these years, many factors such as the teacher's approach towards the child and his or her teaching skills, the decisions of the school administrators on education, the curriculum to cover, the structuring of the curriculum and the proper functioning of the control mechanisms can affect the education process and the child, directly or indirectly. In this context, it is important to understand how teachers perceive the concepts related to educational management and supervision to evaluate and determine the process and the negative situations experienced within the process.

Method

Model

This study is a qualitative study structured according to the phenomenological pattern. Studies conducted with phenomenological pattern determine the participants' experiences and interpretations related to a given phenomenon. The important aspect of such studies is to reveal the viewpoints and perspectives people involved in the study on a given phenomenon. In phenomenological studies, the researcher attempts to form the meaning of a phenomenon from the perspective of participants (Richards & Morse, 2007). The researcher makes interpretations regarding the participants' experiences and elucidates the phenomenon (Creswell, 2013; Neuman, 2008).

Study Group

The study group was formed using the convenience-sampling method, which is a non-random sampling method, and the study was conducted with 25 primary school teachers working in Northern Cyprus, of which 15 were females and 10 were males. Two of the participants had 1–5 years of work experience, one had 6–10 years, three had 11–15 years, nine had 16–20 years and ten had 21 years or more. While five of the teachers underwent an inspection in the previous year, 20 did not. The demographic characteristics of the participants are presented in Table 1.

Table 1. Demographic characteristics of the teachers in the study

Gender		Age Range			
		21–30	31–40	41–50	51–60
Female	15	2	7	6	-
Male	10	1	2	5	2

Gender		Educational Background			
		Undergraduate Degree	Master's Degree	PhD Degree	Academy
Female	15	10	1	-	4
Male	10	7	3	-	-

Gender		Term of employment in the present school					
		0–2 years	3–5 years	6–8 years	9–11 years	12–14 years	15 years or above
Female	15	3	2	1	2	2	5
Male	10	1	2	-	-	3	4

Data Collection Tool and Data Collection

The data collection tool of this study was a form developed by the researchers, which was similar to the tools used commonly in metaphorical studies. A two-stage form for each concept was used to determine the participants' metaphorical perceptions about the concepts of principal, inspector and curriculum. The form that was distributed to the teachers included expressions such as 'A principal is like … because …'; 'An inspector is like … because …' and 'A curriculum is like … because …'. The teachers were required to fill in the blanks. The data collection took 5 minutes on average for each teacher.

Data Analysis

The data collected were analysed through content analysis. The analysis was made in three stages. In the first stage, we transferred the participants' responses to an electronic environment and then sorted the data. We checked whether the participants had created metaphors related to the concepts provided to them and whether they had filled in the segment that started with 'because'. If a participant did not respond to one or both, his or her responses were not taken into consideration. The responses of eight teachers who had not met this criteria were excluded from the analysis.

After data sorting, we listed the metaphors and identified the salient metaphors. Next, we grouped the metaphors with similar characteristics under relevant categories. Some of the teachers in the study created multiple metaphors. We evaluated all the metaphors regardless of the quantity.

In the final stage of the analysis, we measured reliability and validity. In this context, we also referred to expert opinion. The expert reviewed the analysis independently from the researchers and made an evaluation. The formula by Miles and Huberman ($r_{M\&H} = \frac{Number\ of\ Agreements}{Number\ of\ Agreements + Number\ of\ Disagreements}$) was used to measure reliability. The analysis ($r_{M\&H} = \frac{58}{58+9}$) revealed that the interrater reliability rate was 86%, indicating that this study is reliable

(Miles & Huberman, 1994). Moreover, the methods involved in the data collection and analysis have been clearly expressed in this study through coding, which inserted direct quotations at certain parts, and the objectivity has been maintained throughout the study.

Results

This section presents the metaphors created by the teachers related to the concepts of principal, inspector and curriculum. The metaphors created by teachers related to the concept of principal are presented in Table 2.

Table 2. The metaphors of the primary school teachers about the concept of principal

Metaphor	f	%	Metaphor	f	%	Metaphor	f	%
Leader	6	22.2	Boss	2	7.4	Shepherd	1	3.7
Mother	3	11.1	Train locomotive	1	3.7	Scented plant	1	3.7
Elder sister	3	11.1	Dictator	1	3.7	Ambitious	1	3.7
Sibling	2	7.4	Conductor	1	3.7	Hardworking	1	3.7
Administrator	2	7.4	Friend and fellow	1	3.7	Manager	1	3.7
Total							27	100

The primary school teachers created 27 metaphors about the concept of principal, which are as follows: leader (n=6), administrator (n=2), conductor (n=1), friend and fellow (n=1), shepherd (n=1), train locomotive (n=1), dictator (n=1), mother (n=3), elder sister (n=3), sibling (n=2), boss (n=2), scented plant (n=1), ambitious (n=1), hardworking (n=1) and manager (n=1). The most salient metaphor was that of leader (n=6).

The metaphors teachers created about the concept of principal were categorised based on their similarity under four headings. The categories and the metaphors under each category are presented in Table 3.

Table 3. The categories of the metaphors created by the primary school teachers about the concept of principal

Leading	f	Family members	f	Administration	f	Other	f
Leader	6	Mother	3	Dictator	1	Friend/fellow	1
Conductor	1	Elder sister	3	Shepherd	1	Hardworking	1
Train locomotive	1	Sibling	2	Boss	2	Ambitious	1
				Administrator	2	A scented plant	1
				Manager	1		
Total	8		8		7		4

It was noted that most of the categories created by primary school teachers about the concept of principal were categories under ‘Leading’ and ‘Family Members’. Principals, in addition to their role as administrators, are considered educational leaders of their schools (Jones & Pound, 2008). Therefore, it is natural that the teachers described them as guiding advisers. Moreover, good leaders are expected to be positive role models and lead their team (Moos & Reeves, 1998). In this context,

leaders should be close to the people they work with and establish good relationships. Based on the metaphors created, it can be argued that the principals evaluated within this study were in close relationship with the teachers and were perceived as a member of their families.

> "*A principal is like a train locomotive because teachers, as freight cars, follow the locomotive*." (T12)

> "*A principal is like our mother because he/she takes care, asks and helps to the best of his/her abilities.*" (T22).

In addition to being perceived as a guiding individual and a family member, the concept of principal was also associated with the concept of administrator. Some of the metaphors created by the participants were grouped under the category of 'Administrator'. In addition to being an educational leader, the principal is also the administrator of the school. All the responses grouped under this category shed light on the characteristics that principals have as administrators.

> "*A principal is like a dictator because he or she has no knowledge of democracy*." (T13)

The metaphors outside of the above categories were grouped under the title of 'Other'. These metaphors were friend and fellow, hardworking, ambitious and a scented plant.

> "*A principal is like a scented plant because they may change from person to person. For some it might be a sweet scent, for others, it might be unpleasant*." (T23)

The primary school teachers created various metaphors about the concept of inspector. These metaphors were inspecting (n=4), guiding (n=2), adviser (n=4), the mirror of the curriculum (n=1), guide (n=2), I do not know who he or she is (n=1), ghost (n=1), machinist (n=1), a neutral element (n=1), a robot with common software (n=1), teacher (n=1), informative (n=1), epistatic (n=1), there is or there is not (n=2), friend (n=1), invisible (n=1) and moderate (n=1). The most salient metaphors were guiding (n=4) and adviser (n=4). The metaphors created about the concept of inspector are presented in Table 4.

Table 4. The metaphors of the primary school teachers about the concept of inspector

Metaphor	f	%	Metaphor	f	%	Metaphor	f	%
Inspecting	4	15.4	Ghost	1	3.8	Epistatic	1	3.8
Adviser	4	15.4	Machinist	1	3.8	The mirror of curriculum	1	3.8
Guide	2	7.7	Neutral element	1	3.8	Friend	1	3.8
Guiding	2	7.7	A robot with common software	1	3.8	Invisible	1	3.8
There is or there is not	2	7.7	Teacher	1	3.8	Moderate	1	3.8
I do not know who he or she is	1	3.8	Informative	1	3.8			

Total	26	100

The metaphors that the primary school teachers created about the concept of inspector were grouped under four categories which are 'Leading', 'Obscurity', 'Inspection' and 'Other'.

Table 5. The categories of the metaphors created by the primary school teachers about the concept of inspector

Leading	f	Obscurity	f	Inspection	f	Other	f
Guiding	2	I do not know who he or she is	1	Inspecting	4	Machinist	1
Adviser	4	Ghost	1	The mirror of the curriculum	1	A robot with common software	1
Guide	2	There is or there is not	2	Epistatic	1	Friend	1
Teacher	1	Invisible	1	Neutral element	1	Moderate	1
Informative	1						
Total	10		5		7		4

Inspectors are officials that are responsible for inspecting teachers and providing feedback to relevant individuals. Among the metaphors about the concept of inspector, it was noted that the metaphors about leading were greater in number than the other metaphors. This shows that the teachers perceived inspectors as guides rather than inspecting bodies. In other words, teachers need more guidance rather than being inspected.

"*An inspector is like an adviser because they are guides for teachers*." (T5)

The number of metaphors the participants created about obscurity is noteworthy. Only five participants underwent an inspection in the previous year. Those who did not go through an inspection formed the majority group, and it was observed that some teachers expressed this by describing inspectors as people that they 'could not see'.

"*An inspector is like a ghost because I have seen only one in my teaching career*." (T11)

In addition to being perceived as an inspecting body, inspectors were also described through concepts such as friend, machinist and robot. These descriptions were grouped under 'Other'.

"*An inspector is like a machinist because they become involved in case of a breakdown*." (T12)

Primary school teachers created 23 metaphors about the concept of curriculum. These metaphors were the mirror of a teacher (n=1), a good guide (n=1), there is not (n=1), a bottomless well (n=1), dough (n=1), heavy (n=2), the rules that robots should follow (n=1), a garden surrounded by barbed wire (n=1), manager (n=2), challenging (n=1), a powder barrel (n=1), not updated for a long time (n=1), guiding (n=3), guiding light (n=3), road map (n=2) and knowledge of road (n=1). The most salient metaphors were guiding (n=3) and guiding light (n=3).

Table 6. The metaphors of the primary school teachers about the concept of curriculum

Metaphor	f	%	Metaphor	f	%	Metaphor	f	%
Guiding	3	13.0	The rules that robots should follow	1	4.3	Not updated for a long time	1	4.3
Guiding light	3	13.0	A garden surrounded by barbed wire	1	4.3	A good guide	1	4.3
Road map	2	8.7	The mirror of the teacher	1	4.3	There is not	1	4.3
Heavy	2	8.7	Challenging	1	4.3	A bottomless well	1	4.3
Manager	2	8.7	A powder barrel	1	4.3			
Dough	1	4.3	Knowledge of road	1	4.3			
Total							23	100

The metaphors created were grouped under four categories considering their characteristics. These categories were ‘Leading’, ‘Becoming Stereotyped’, ‘Challenge’ and ‘Other’.

Table 7. The categories of the metaphors created by the primary school teachers about the concept of curriculum

Leading	f	Becoming stereotyped	f	Challenge	f	Other	f
The mirror of the teacher	1	The rules that robots should follow	1	Heavy	2	Manager	2
A good guide	1	A garden surrounded by barbed wire	1	Challenging	1	There is not	1
Guiding	3	Dough	1	A bottomless well	1	Not updated for a long time	1
Guiding light	3			A powder barrel	1		
Road map	2						
Knowledge of road	1						
Total	11		3		5		4

The metaphors created in primary schools about the concept of curriculum, which describes the topics teachers will cover throughout an academic year and their order, were mostly in the category of ‘Leading’. The curriculum guides teachers on what to teach and in what order to teach them, and teachers perceive curriculum in this context.

“*A curriculum is like a road map because it shows the direction of the train*.” (T12)

In addition, since the curricula in schools are not flexible, there were metaphors about being stereotyped.

“*A curriculum is like a garden surrounded by barbed wire because you are not allowed to walk outside, but you can walk inside*.” (T20)

Lastly, some teachers touched upon the challenges of the curriculum, and others emphasised that it should be updated.

"*A curriculum is challenging because it is difficult for us to cover all subjects*." (T22)

Discussion and Conclusion

The findings showed that participants perceived the concepts included in this study positively; they mostly attributed positive characteristics to these concepts. The concept of principal, which was evaluated positively by 85% of the teachers and negatively by 15%, was associated with metaphors primarily about the concept of administration. In addition to being evaluated as leaders who direct their team and people with whom teachers can talk freely, principals are perceived as individuals who are ambitious, do not treat people equally and dictate people to do things. In other studies on perceptions about principals, the concept of principal was mostly associated with administration (Sözer & Sel, 2020; Tekel & Bayır, 2021); besides, the metaphors about principals included commander, soldier and computer (Akan, Yalçın & Yıldırım, 2014). However, other studies revealed that teacher candidates used the concepts of guiding and advising more for principals (Kösteriloğlu, 2014) and created mostly positive metaphors about principals (Zembat, Tunçeli & Akşin, 2015). Relevant studies in the literature show that while teacher candidates have positive attitudes towards principals, in-service teachers evaluate their principals based on their experiences with them. It can be said that the primary school teachers in the present study mostly had positive relationships with their principals.

Similar to the concept of principal, it was seen that the metaphors created about the concept of inspector were 77% positive and 23% negative. Although the main responsibility of inspectors was to inspect, very few people mentioned this role of the inspectors, and the metaphors about the concept of inspector were mostly about leading. Since inspectors, who are considered as authorities, possess a high level of knowledge and skills in the areas they inspect, they are expected to utilise these characteristics and identify the deficiencies of the institutions or people they inspect and help these individuals develop themselves in areas where they are inadequate (Oliva & Powels, 2001). Few teachers touched upon the moderate aspect of inspectors. Therefore, it can be said that teachers see inspectors as hard-tempered individuals. On the other hand, many teachers emphasised the absence of inspectors and all agreed that they were not around. In fact, most teachers who participated in this study argued that they were not inspected in the previous year. The perceptions towards the concept of inspector were found to be positive in a study conducted with pre-service teachers (Döş, 2010), but teachers in another study created negative metaphors on these concepts (Töremen & Döş, 2009). Our perceptions are shaped by our experiences. If the experiences of the teachers in the study about the inspectors in the previous year had been different, the findings related to this part of the study would have been different.

Finally, the metaphors created in relation to the concept of curriculum were 52% positive and 48% negative. While the emphasis on the concept of curriculum was that it reminded more of a guiding adviser, it was criticised for its difficulty, complexity and lack of flexibility and for not being up-to-date. In similar studies, the concept of curriculum was associated with concepts such as adviser and road map (Özdemir, 2012), and it was found that negative metaphors were generally created in relation to this concept (Taşdemir & Taşdemir, 2011). In this study, the negative metaphors created in relation to the concept of curriculum focused on the challenges related to the curriculum. At this point, it can be said that the teachers had difficulty in understanding the curriculum, or they had difficulties with its lack of flexibility. When developing curricula, not considering teachers' opinions, their experience and their exclusion from such studies can cause teachers to develop negative thoughts about the curriculum.

While the concepts of principal and inspector in the study are related to human concepts, a curriculum is about a non-living entity. Our perceptions about the concepts related to human beings vary according to the attitudes and behaviours of each person. While our perception towards a moderate inspector who leads us is positive, we can have negative thoughts about a principal who treats teachers differently. Therefore, our recent experiences may affect our perceptions about the concepts that we associate people with. Conversely, our thoughts about a non-living entity like curriculum can be more objective. Thus, this study found that while the concepts related to human beings had a higher rate of positive attitudes, it can be said that the reason behind the difference in opinions about the concept of curriculum was the difference between the concepts.

Recommendations

Generally, the primary school teachers presented positive metaphors regarding the concept of principal. While principals were considered the leader and manager of the school they worked at, some principals were found to have moderate or rigid attitudes. Harmony among school staff is an important element for creating a healthy school climate, which requires healthy communication. It is recommended that principals be supported as regards human relations, managing relationships and communication, benefiting from guidance services in this regard.

The teachers mostly associated the concept of inspector with guidance and perceived inspectors as guiding authorities. Moreover, they mentioned the negative characteristics of inspectors they encountered in terms of human relations. In the field of educational management and supervision, it is recommended that inspectors, who are considered competent authorities in their field of inspection, approach teachers as moderate and guiding educational leaders and guide them on developing themselves in areas where they are inadequate.

Most of the teachers in this study stated that they had not undergone any inspection in the previous year and had not noticed any inspectors around. Inspectors are one of the most important pillars of the control mechanism. The reasons why inspectors cannot visit schools frequently should be investigated, and if there is an inadequacy as to the number of inspectors, it should be resolved. Thus, it will be possible to strengthen inspection mechanisms and enhance inspection. Guidance services may be more necessary especially in the first years of the teaching profession. If inspectors meet more frequently with the stakeholders and contribute to the development of especially principals and teachers' skills by guiding them, it will positively affect the education process. In addition, there can be studies with principals investigating their work conditions, and thus, their problems can be revealed.

The concept that was evaluated most negatively in this study was curriculum. In addition to perceiving curriculum as a guide, the teachers talked about it as being difficult and complex. The main reasons for this negative attitude should be explored and determined in greater depth. Teachers are primary practitioners of the curriculum, and attempting to implement a challenging curriculum will reduce the efficiency and quality of education. Therefore, it is recommended that teachers who are one of the most important stakeholders of education be involved and have a voice in the process of curriculum development. The curriculum should not be limited to the knowledge and opinions of the commission members developing it, but it should be designed through consultation with, and evaluation among, stakeholders from the preparation phase to the implementation phase. Thus, curriculum development, in which teachers can become more active through participatory practices, will prevent teachers from experiencing the same problems or help them reduce such problems and increase the efficiency and quality of education. Another aspect of the curriculum under focus was that the curricula are not up-to-date. Considering the innovations both in our country and across the world, necessary updates should be made, problems in implementation should be addressed, and deficiencies must be eliminated.

Acknowledgement

The author would like to acknowledge all the teacher candidates who volunteered to participate in this research as respondents to the data tool.

References

Akan, D., Yalçın, S., & Yıldırım, İ. (2014). "Okul müdürü" kavramına ilişkin öğretmenlerin metaforik algıları. *İlköğretim Online, 13*(1), 169-179.

Aksan, D. (1999). *Türkçenin zenginlikleri incelikleri*. Bilgi Yayınevi.

Arslan, M. M., & Bayrakçı, M. (2006). Metaforik düşünme ve öğrenme yaklaşımının eğitim öğretim açısından incelenmesi. *Milli Eğitim Dergisi, 171*, 100-108

Bursalıoğlu, Z. (1994). *Okul yönetiminde yeni yapı ve davranış*. Pegem Yayıncılık.

Creswell, J. W. (2013). *Nitel araştırma yöntemleri* (M. Bütün & S. B. Demir, Trans.). Siyasal Kitapevi.

Döş, İ. (2010). Aday öğretmenlerin müfettişlik kavramına ilişkin metafor algıları. *Gaziantep Üniversitesi Sosyal Bilimler Dergisi, 9*(3), 607 -629.

Girmen, P. (2007). *İlköğretim öğrencilerinin konuşma ve yazma sürecinde metaforlardan yararlanma durumları*. [Unpublished doctoral dissertation] Anadolu Üniversitesi.

Jones C., & Pound L. (2008). *Leadership and management in the early years from principles to Practice*. Open University Press.

Kösteriloğlu, M. A. (2014). Öğretmen adaylarının okul yöneticisi kavramına ilişkin metaforik algıları. *Journal of World of Turks, 6*(3), 115-133.

Lakoff, G., & Johnson, M. (2003). *Metaphors we live by*. The University of Chicago Press

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage Publications.

Moos L., Mahony P., & Reeves J. (1998). What teachers, parents, governors and pupils want from their heads. In J. MacBeath (Ed.), *Effective School Leadership: Responding to Change* (pp. 60-79). Paul Chapman Publishing.

Neuman, W. L. (2008). *Toplumsal araştırma yöntemleri: Nitel ve nicel yaklaşımlar* (Ö. Sedef, Trans.) Yayınodası.

Nikitina, L., & Furuoka, F. (2008). Measuring metaphors: A factor analysis of students' conceptions of language teachers. *Metaphoric.de, 15*, 161-180.

Oliva, P. F., & Powels, G. E. (2001). *Supervision for today's schools*. John Willey & Sons Inc.

Özdemir, S. M. (2012). Eğitim programı kavramına ilişkin öğretmen adaylarının metaforik algıları. *Kuramsal Eğitimbilim Dergisi, 5*(3), 369-393.

Perry, C., & Cooper, M. (2001). Metaphors are good mirrors: Reflecting on change for teacher educators. *Reflective Practice, 2*(1), 41-52.

Richards, L., & Morse, J. M. (2007). *Users guide for qualitative methods*. Sage.

Sezer, E. (2003). Dilde ve edebiyatta yol metaforu, *Kitap-lık, 65*, 88-92.

Sözer, M. A., & Sel, B. (2020). A metaphoric approach to the conception of the teacher-headmaster-school in different age categories. *International Journal of Progressive Education, 16*(2), 56-71. https://doi.org/10.29329/ijpe.2020.241.5

Taşdemir, M., & Taşdemir, A. (2011, April 27-29). *Teachers' metaphors on K-8 curriculum in Turkey* [Conference presentation]. 2nd International Conference on New Trends in Education and Their Implications, Antalya, Turkey.

Tekel, E., & Bayır, Ö. Ö. (2021). Turkish education system from the eyes of the future teachers: metaphorical perceptions. *Educational Policy Analysis and Strategic Research, 16*(2), 179-207.

Töremen, F., & Döş, İ. (2009). İlköğretim öğretmenlerinin müfettişlik kavramına ilişkin metaforik algıları. *Kuram ve Uygulamada Eğitim Bilimleri, 9* (4), 1973-2012.

Zembat, R., Tunçeli, H. İ., & Akşin, E. (2015). Okul öncesi öğretmen adaylarının" Okul Yöneticisi" kavramına ilişkin algılarına yönelik metafor çalışması. *Hacettepe Üniversitesi Sağlık Fakültesi Dergisi, 1*(2), 446-459.

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Examination of Faculty of Sports Sciences Students' Unethical Behaviours In-classroom: A Mixed Research Approach

Emrah ASLAN[1]

Kirikkale University

Aynur YILMAZ[2]

Trabzon University

Abstract

This study aims to determine the level of unethical behaviours (UBs) of students studying in the field of sports sciences. In this research, the explanatory sequential design was used for mixed research approaches where quantitative and qualitative data collection tools were used. The quantitative part of the study attended 465 Sports Science Faculty students in Kirikkale University during the fall semester of 2017-2018 academic year. Following the quantitative research qualitative data were obtained with five scenarios prepared by the researchers. As a result of the research, it was seen that UBs differ according to gender, class level, and the department of education. In the scenarios presented in the qualitative section of the research, it was determined that students who have higher Unethical Behaviours Climate Scale (UBCS) scores tend to apply more sanctions to the students when they are teachers. It has been observed that male students are more likely to have UBs than women. Not using technological tools in the lessons was defined as UB. The results of the study showed that the source of student UBs could be the teachers or the students themselves.

Keywords: College Student, Content Analysis, Media Tools, Scenario, Unethical Behavior.

DOI: 10.29329/epasr.2021.373.8

[1] Dr., Sports Science Faculty, Kirikkale University, Kirikkale, Turkey, ORCID: 0000-0002-0284-8350

Correspondence: emrahaslan@kku.edu.tr

[2] Associate Professor, Sports Science Faculty, Trabzon University, Trabzon, Turkey, ORCID: 0000-0001-7562-9469

© 2021 INASED

Introduction

Ethics is defined as the total of the behaviours that the parties must abide by each and every profession (Türk Dil Kurumu [TDK], 2011). Ethics is a system of principles that helps to decide whether it is good or bad, right or wrong (Buckley, Wiese & Harvey, 1998). Acting outside of ethical is defined as unethical behaviour. There are different scales developed to detect unethical behaviour. Unethical behaviours can be listed at school as that said something hurtful to someone, made fun of someone, spent too much time without working, came in class late without permission, lost temper, worked on a personal matter, cursed someone, put little effort, intentionally slowly working, longer break, left school work to someone, joke badly, rude, being rude and made an ethnic, religious, or racial remark at university. (Birtch & Chiang, 2014). Yadav et al. (2019) mentioned that three main problems: not showing interest in the class and talking during the lesson, and being rude. Witt (2016) stated that classroom problems may arise from student characteristics and behaviours, which are considered as social perspective of learning. Cultural values, in-changing social identity, student's motivation to learn and communication can be mentioned as social perspective of learning.

Sims (1978) stated that ethical and UBs occur as a result of some cultural unethical decision-making processes. The ethical decision making was evaluated under different reinforcement conditions was designed and carried out a laboratory experiment. It was concluded that the UBs of the subjects increased by rewarding them. It was observed that higher competition increases UB and it is associated with some personality variables. In another study, the relationship between UB and social class was mentioned. It has been stated that individuals in the upper social class are more likely to break the law than lower social class individuals due to their greed (Piffet et al., 2012).

It was observed that the tendency to behave unethically was strong, especially when individuals could not achieve their goals. In the same study, it was found that people with unachievable goals tend to be more unethical than people trying their best (Schweitzer, Ordóñez & Douma, 2004). Hilbert's (1988) study had conflicting results that it was not found any opposite relationship between moral development and UB in the classroom. Researchers could not explain this situation and stated that this situation may be due to differences in terms of morality. Birtch & Chiang (2014) investigated the effect of school ethical climate on students' UBs. They used the ethical climate scale includes issues such as regulations and codes of conduct, rules and procedures, the mayor of the university, protection of their interests, efficiency, ethical climate scale, which includes issues such as making right and wrong decisions for themselves. In the results of study, it was reported that students' positive perceptions of ethical climate of university had an effect on their avoidance of UB.

The teacher may encounter many problems that are not academic in the classroom and the teacher needs to have a good communication and the ability to create a positive classroom

environment in order to cope with the problems (Filiz, 2011). Classroom problems may arise from student characteristics and behaviours, which are considered as social perspective of learning. Cultural values, in-changing social identity, student's motivation to learn and communication can be mentioned (Witt, 2016). Also, the teacher is responsible for making the necessary adjustments that are learning environment and the process which is an important part of classroom management (Yıldırım, 2012). There are several strategies teachers are recommended to use. These strategies such as ignoring, using eye contact and non-verbal stimuli, redirecting, leaving the student alone or changing his/her position, discouraging and criticizing the student, giving silence, taking short breaks, making logical conclusions, speaking face to face with the student, defining the problem can be used to solve the problem (Erdem, 2012).

In this study, it was tried to reveal the perspectives of university students studying in the field of sports sciences on unethical behaviour in the classroom. To reveal the views of students will help to understand and solve unethical problems experienced.

In the first part of the study, a quantitative study was conducted with the UBCS available in the literature. In the second part, the qualitative paradigm was used with 5 different scenarios by using the scale sub-dimensions. In order to reflect the views specific to the branch, the contents were prepared based on the faculty courses.

Within the scope of the research, below questions are tried to be answered:

1. Do the UBCS and its sub-dimensions average scores of the students from studying at the Faculty of Sports Sciences differ according to gender, department, class of level, monthly income and parents' place of residence?

2. What are the UBs that the participants describe in the scenarios?

3. What are the sources of UBs in the scenarios?

4. What are the responses of the participants in the dilemmas that take place in the produced scenarios?

Method

This section includes the research model, study group, data collection, data analysis, validity and reliability analysis topics.

Participants

The study group consists of 465 students who have been educated at Kirikkale University Sports Sciences Faculty (total students number of faculty is 865) during the fall semester of 2017-

2018 academic year. Criteria sampling method was used in the selection of the study group. The basic understanding of the sampling method is the study of all situations that meet a set of predetermined criteria (Yıldırım & Şimşek, 2011). While the participants were included in the qualitative part of the study, an deviant case sampling was made. Deviant cases may have an important impact on revealing more comprehensive data and examining the research problem more thoroughly compared with normal cases (Glesne, 2012). 12 participants (7 women, 5 men) with the highest and lowest mean score of the measurement tool in the quantitative section of the study were included in the second phase of the study (qualitative section). While 7 of them have a high average score from the "UBCS", 5 have a low average score. 5 of the participants included in the qualitative part of the study are in Physical Education and Sports Teaching Department, 3 of them in the Recreation Department, 2 of them in the Coaching Department, and 2 of them in the Sports Management Department as students.

Research Design

In this study, explanatory sequential design was used from mixed research approaches. In this design, qualitative data is collected after quantitative data is collected. The analysis of the data is related to each other and is often combined in the interpretation or discussion of the data (Creswell 2003). In the research in which the mixed research model is used, the reason for using the method is to be explained (Tashakkori & Creswell, 2007). In this context, the reason for the use of mixed models in the field of Social Sciences is that qualitative or quantitative paradigms may be insufficient to define abstract concepts and interpret the results in this context.

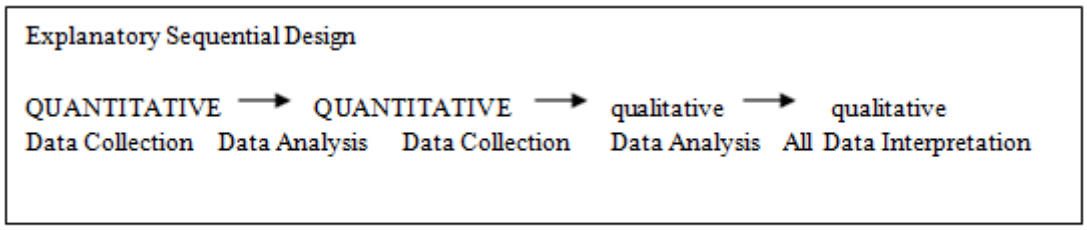

Figure 1. Research flow chart

Instrument

This section provides information on the qualitative and quantitative data collection tools which are preferred for the research.

Collection of Quantitative Data

Personal Information Form

The average score of the students who were educated in the Faculty of Sports Sciences was studied in terms of gender, age, type of high school they graduated from, the place where the family lived, and the status of family income.

© 2021 INASED

UBCS Determination

The assessment tool for determining the level of UBs of students at university by Mengi (2017) consists of 28 items and five sub-dimensions. The scale includes the sub-dimensions of "UBs related to Faculty Members and Students in the Lesson", "UBs related to Using Media Tools in the Lesson", "UBs related to Courtesy Rules in the Lesson", "UBs related to Cheating in the Lesson", "UBs related to Attendance". The measurement tool is of 5 Likert types scale and the lowest score can be obtained from the scale is 28 and the highest score is 140.

Collection of Qualitative Data

In order to examine the reasons for the UB tendency, the second part of the research is designed with reference to the qualitative paradigm and the scenarios on the UBs. Scenario topics were created based on the sub-dimensions of the scale used in the quantitative part of the research. These produced scenarios were presented to the opinion of four experts (Turkish Language Specialist and Expert in Educational Sciences). Scenarios were created after the corrections made in line with the expert opinion. The general topics of the scenarios are as follows. The subject of Scenario 1 is about entrance and exit to the classroom. The subject of Scenario 2 is about teacher-centered learning. The subject of Scenario 3 is an extremely comfortable classroom environment. The subject of Scenario 4 is a difficult lesson and cheating. The subject of Scenario 5 is about the student's being late for the class and telling lies. Regarding the scenarios presented to the participants, they were asked to answer the following questions for each scenario.

- Please specify UBs in the event is described.
- What would you do if you were the lecturer? Please explain.
- What is the source of the problem described in the text?

Data Collection Procedure

This section provides information on the qualitative and quantitative data collection tools which are preferred for the research.

Collection of Quantitative Data

Personal Information Form

The average score of the students who were educated in the Faculty of Sports Sciences was studied in terms of gender, age, type of high school they graduated from, the place where the family lived, and the status of family income.

UBCS Determination

The assessment tool for determining the level of UBs of students at university by Mengi (2017) consists of 28 items and five sub-dimensions. The scale includes the sub-dimensions of "UBs related to Faculty Members and Students in the Lesson", "UBs related to Using Media Tools in the Lesson", "UBs related to Courtesy Rules in the Lesson", "UBs related to Cheating in the Lesson", "UBs related to Attendance".

Data Analysis

In collecting the research data, the quantitative data collection tool was applied to the participants. Statistical analyzes were carried out in line with the question sentences that could produce a solution to the research problem. Participants with low and high scores on the UBCS were included in the qualitative part of the study according to the voluntary principle. The aim here is to reveal the responses of students, who exhibit and do not exhibit UBs tendencies to case studies presented in scenarios, and to support and explain the findings obtained from quantitative data with qualitative findings.

SPSS 20 and Lisrel 8.8 package programs were used in data analysis. In the quantitative section of the study, descriptive statistics such as arithmetic mean, standard deviation, percent, and frequency of for the class were included. In the quantitative part of the study, descriptive statistics such as arithmetic mean, standard deviation, percentage, and frequency of the UBCS were included. Normal distribution analysis was performed for the data. T-test, variance analysis, and Pearson correlation analysis were used for the relationship between dependent variables and independent variables (gender, age, school type, family income status, and place of residence). Content analysis was used in the qualitative part of the study. The volunteer participants were particularly selected and the code name was used in interpreting the results. UBs in the scenarios in qualitative research are presented in the table below.

Table 1. UBCS and UBs in the Scenarios

Themes	Subject	UB Indicators
Scenario 1	Unauthorized talking and use of properties, physical contact	Disrespect the lecturer Leave the class without permission Unauthorized talking Using friends materials without permission Physical contact with each other in a way that disrupts lesson
Scenario 2	Oppressing lecturer, teacher-centered learning, not using technological tools	Using mobile phone Following social media Connect to the Internet Video and audio recording in lessons and exams and taking pictures
Scenario 3	Lying on a table, eating and drinking	Crossing the legs Lying on a table Listening music Eating and drinking

Scenario 4	Punishing, cheating	Cheating Denying the cheating
Scenario 5	Being late for class, telling lie, excessive tolerance of the lecturer	Late for class and exam Lying to the lecturer Signing the attendance list instead of your friend

Research Validity and Reliability

This section contains information on the applications made for the validity and reliability of both quantitative and qualitative measurements.

Validity and Reliability for Quantitative Measurement. The "UBCS", which was performed by Mengi (2017), consists of five aspects and 22 items. The variance of this scale is 49.36%. As a result of the confirmatory factor analysis of the scale in order to provide evidence for structural validity of the current study, compliance indices were calculated as $\chi 2/df=1.82$, RMSEA=0.05, GFI=0.87, GFI= 0.85, CFI=0.9, NFI= 0.94, IFI=0.92, PNFI= 0.84. These values indicate that the five-factor structure of the scale was also confirmed in the present study group. While the item factor load values of the five-factor structure consisting of twenty-eight items are between 0.54 and 0.86, the t values for the items are between 10.15 and 29.16.

The Cronbach Alpha internal consistency coefficient for the reliability of the original scale was calculated for general and sub-dimensions of the scale. For the general scale, this value is 0.93. This value was calculated as 0.90, 0.80, 0.74, 0.80 and 0.63 respectively for the sub-dimensions of the scale. The reliability of the scale has been tested in the context of the current study. Cronbach Alpha internal consistency coefficient calculated from the data collected within the scope of this study was 0.94. The reliability values for the sub-dimensions of the scale are 0.86, 0.82, 0.79, 0.90 and 0.90.

Validity and Reliability for Qualitative Measurement. The participants' responses to the scenarios were analyzed by taking into account the sub-dimensions of the measurement tool developed by Mengi (2017) and the indicators representing these dimensions. For the reliability of coding applications in the present study, the correlation coefficient between the researchers revealed by Miles & Huberman (1994); [consensus/(agreement + disagreement)] x100 formula was used. Each of these is the stages that are important in collecting valid and reliable data that needs to be carefully focused on. With the use of the given equality, the correlation coefficient for the coding process was determined as 94%. When the percentage of appropriateness in reliability calculation is 70%, reliability is considered to have been reached (Yıldırım & Şimşek, 2011). The results of reliability analysis demonstrate that the findings obtained over 0.70 are reliable. Within the scope of validity, the participants' opinions representing the existing categories were taken into consideration and tried to be provided.

Findings

Quantitative Findings

Participants UB total scale and sub-dimensions correlation analysis were performed to determine whether there is a significant relationship between results are given in Table 2.

Table 2. Correlation Analysis

	1st Dimension	2nd Dimension	3rd Dimension	4th Dimension	5th Dimension
Scale r	,590**	,785**	,680**	,783**	,744**

p<.001**

Table 2 demonstrates the positive meaningful relationship between the UBs of the students and the "UB scenarios in relation with the academicians and students" (R=.590**, p<.001) and the "UB scenarios in relation to the courtesy rules" (r= 680**, p<.001).

Table 3. T-test Results According to Gender

Gender	Female (n=163)		Male (n=285)			
	x̄	Sd	x̄	Sd	t	p
1st Dimension	1.09	0.19	1.18	0.27	-3.94	0.00*
2nd Dimension	1.54	0.61	1.68	0.76	-2.09	0.37
3rd Dimension	1.16	0.24	1.27	0.46	-4.38	0.00*
4th Dimension	1.27	0.46	1.48	0.67	-3.84	0.00*
5th Dimension	1.21	0.46	1.45	0.68	-4.35	0.00*
Scale (Total)	1.26	0.28	1.42	0.41	-4.85	0.00*

P<.05*

In Table 3, there was a significant difference in favour of the tendency to exhibit UB across the scale and other dimensions except for the "UB scenarios in relation with the use of media tools in the lesson" sub-dimension (p<.05).

Table 4. One-Way Variance Analysis Results According to the Department

Department	1 (n=150)		2 (n=143)		3 (n=101)		4 (n=55)				
	x̄	Sd	x̄	Sd	x̄	Sd	x̄	Sd	F	p	MD
1st Dimension	1.16	0.26	1.13	0.21	1.15	0.27	1.17	0.28	5.14	0.67	-
2nd Dimension	1.53	0.63	1.73	0.81	1.71	0.69	1.50	0.64	2.87	0.03	2-4
3rd Dimension	1.21	0.31	1.28	0.38	1.25	0.31	1.22	0.33	1.16	0.32	-
4th Dimension	1.41	0.62	1.40	0.61	1.35	0.52	1.51	0.71	0.85	0.46	-
5th Dimension	1.45	0.70	1.40	0.62	1.26	0.54	1.23	0.43	2,88	0.03	1-4
Scale (Total)	1.35	0.37	1.39	0.40	1.34	0.33	1.36	0.37	0.48	0.69	-

p<.05* *Note:*1=Physical Education and Sports Teaching; 2=Sports Management; 3=Recreation; 4=Coaching

The results in Table 4 indicate that there were no significant differences between the groups in which the participants studied and their tendency to exhibit UB except for "UB scenarios in relation with the use of media tools in the lesson" and "UB scenario in relation with the attendance" in the lesson. The tendency of the students studying in the department of sports management in the dimension of "UB scenarios in relation with the use of media tools in the lesson" is higher than the students in the department of coaching.

Table 5. One-Way Variance Analysis Results According to the Level of Class

Class Level	1 (n=125)		2 (n=154)		3 (n=90)		4 (n=80)				
	x̄	Sd	x̄	Sd	x̄	Sd	x̄	Sd	F	p*	MD
1st Dimension	1.16	0.25	1.13	0.27	1.13	0.22	1.19	0.23	1.51	0.21	-
2nd Dimension	1.63	0.69	1.53	0.71	1.60	0.69	1.86	0.73	3.78	0.01	4-2
3rd Dimension	1.27	0.38	1.20	0.34	1.26	0.32	1.25	0.27	1.05	0.36	-
4th Dimension	1.35	0.54	1.29	0.51	1.39	0.58	1.73	0.78	10.25	0.00*	4-1,2,3
5th Dimension	1.38	0.66	1.20	0.45	1.36	0.64	1.66	0.70	10.37	0.00*	4-1,2,3
Scale (Total)	1.36	0.37	1.27	0.34	1.35	0.34	1.54	0.41	9.43	0.00*	4-1,2,3

p<.05*

In Table 5, the UBs of the students according to the level of class they read differ significantly from the general and sub-dimensions of the scale, “UB scenarios in relation with the use of media tools in the lesson”, “UB scenarios in relation with the cheating in the lesson”, “UB scenario in relation with the attendance”. As a result of the complementary post-hoc LSD analysis to determine the origin of this discrepancy, it was found that the UB of students in the 4th year of the university is higher than those in the 1st, 2nd, and 3rd year of the university.

Table 6. Correlation Test Results According to Monthly Income

	Monthly Income		
	N	R	p
1st Dimension	449	.011	0.82
2nd Dimension	449	.094	0.04*
3rd Dimension	449	.024	0.60
4th Dimension	449	.039	0.40
5th Dimension	449	.028	0.55
Scale (Total)	449	.063	0.17

p<.05*

There was no significant difference between the monthly income of the students' families and the UB scores. It was determined that there was a positive correlation between the “UB scenarios in relation with the use of media tools in the lesson” dimension and the mean of UB. It can be said that the monthly income of the participants increases the UB of technological equipment in the classroom.

Table 7. The Results of One-way Variance Analysis According to the Parents' Place of Residence

High School Type	1 (n=66)		2 (n=146)		3 (n=130)		4 (n=107)				
	Mean	Ss	Mean	Ss	Mean	Ss	Mean	Ss	F	p	MD
1st Dimension	1.13	0.19	1.15	0.28	1.17	0.27	1.14	0.22	0.35	0.78	-
2nd Dimension	1.53	0.64	1.55	0.59	1.77	0.81	1.63	0.71	2.80	0.04*	3-2
3rd Dimension	1.24	0.30	1.24	0.33	1.27	0.37	1.21	0.32	0.46	0.70	-
4th Dimension	1.43	0.63	1.40	0.61	1.37	0.53	1.44	0.68	0.28	0.83	-
5th Dimension	1.36	0.52	1.46	0.71	1.31	0.62	1.29	0.52	2.02	0.11	-
Scale (Total)	1.34	0.36	1.36	0.37	1.38	0.39	1.34	0.37	0.22	0.88	-

p>.05* *Note:* 1=Village, 2= Sub-province, 3=Province 4= Metropolitan Municipality

In Table 7, there is no significant difference between the UBs exhibited by the students in the classroom according to their parents' place of residence ($p<.05$). However, there was a significant difference in the "UB scenarios in relation to the use of media tools in the lesson", which is one of the sub-dimensions of the scale.

Qualitative Findings

*U= represents the participants with a high score in the UBCS; *S= represents the participants with a low score in the UBCS.

Table 8. UBs in Relation to the Academicians and Students in the Lesson

Category	Codes	Frequency	
		*U/S	Gender
UB perception	Unauthorized talking	$U_1, U_3, U_4, U_5, U_6, U_7, S_2, S_4, S_5$	M, F, F, F, F, F, M, F, F
	Physical contact with each other	$U_3, U_4, U_5, U_6, U_7, S_2, S_4, S_5,$	F, F, F, F, F, M, F, F
	Unauthorised use the property of others	$U_3, U_4, U_5, U_6, U_7, S_2, S_4, S_5$	F, F, F, F, F, M, F, F
Types of consideration the matter	Punishing	U_5, S_4	F, F
	Disciplined behaviour	U_2	M
	Being friendly	U_2	M
	Rewarding	U_3, U_5	F, F
	Strongly warn	U_1	M
	Threat the student with exam	U_1	M
	Not taking the late student into the class	U_4	F
	Expulsion of the student from the classroom	U_4	F
	Use different teaching methods and materials	U_6	F
	Creating rules from the first week	U_6, U_7	F, F
	Failing the student	S_1	M
	Planning different events out of class	S_2	M
	Responsibility for students	S_2	M
Sources of UB in the scenario	Flexible behaviour of lecturer	U_1, U_2, S_4, S_5	M, M, F, F
	Students behaving irresponsibly	U_3, U_4	F, F
	Lack of experience and qualifications of the lecturer	U_6, U_7, S_2, S_3	F, F, M, M

The situation (new teaching staff) is in the first scenario that causes student UBs and damages the classroom management and course progress. As a solution, they have set rules of conduct in-classroom with students, but students continue to exhibit behaviours that disrupt classroom rules. The lecturer does not know how to behave in such a situation. There is a problem caused by the inexperienced teaching staff. As a result of the analysis of their responses to the scenario presented to the participants, there were three categories of UB, the way they approach the event and the sources of UB in the scenario. In the lesson, to detect UBs of the lecturer and students, the participants expressed UBs as unauthorized talking, physical contact, and using the properties of their friends without permission. The following are some of the participants' opinions regarding the perception of UB.

"*Students talk without permission, engage in physical contact with each other in a way that disrupts classroom rules, and use each other's materials without permission.*" (Elif, Physical Education, and Sports Teaching, Upper Group)

"*Students entering the classroom during the lesson, talking without permission to disturb the lesson flow, use each other's properties without permission and physical contact to each other.*" (Hülya, Recreation, Sub Group).

The "*types of consideration of the matter*" to be obtained by asking participants about the situation in scenarios as "*What would you like to do if you were in the place of this teaching staff*?" as a result of the analysis of the responses given by the participants to the question, expressed different opinions. In relation to the event, it has been observed that they include such approaches as applying to reward and punishment, making harsh warnings, throwing away and writing, rewarding, collecting student attention by using different teaching methods and techniques. Examples of some of the participatory approaches are as follows:

"I'd warn those in physical contact first, then hold a record. I would throw away those who spoke in a class without permission, in a way that would disrupt the classroom rules, and I would check as absent."(Semra, Coaching Education, Upper Group)

"*Giving responsibility to students who show undesired behaviour and planning different activities during the lessons can be effective in solving the problem.*" (Fatih, Physical Education and Sports Teaching, Sub-Group).

The answers to the question to be asked as "Please explain the sources of the reasons why there is UB" to the participants on the scenario. The answers to the question are given below.

"*As a source of the problem, I see that the lecturer is flexible and has not enough professional experience.*" (Anıl, Physical Education and Sports Teaching, Upper-Group).

"*The ineffectiveness and the inability of the lecturer to provide discipline*" (Serkan, Physical Education and Sports Teaching, Sub-Group).

Table 9. UBs in Relation to the Use of Media Tools

Category	Codes	Frequency	
		U/S	Gender
UB perception	The prohibition of communication tools	U_2,	M,
	The pressure of the lecturer	U_3, U_7, S_2	F, F, M,
	Teacher-centered learning	U_4, U_5, U_6, S_1, S_5	F, F, F, M, F,
	Monotone processing of courses	U_6, S_5	F, F
	Cheating via technological tools	S_2,	M,
	Use of technological tools for extracurricular purposes	S_3, S_4, S_5	M, F, F,
Types of consideration on the use of technology in the course	Should be used under the supervision of the lecturer	U_1, S_1, S_5,	M, M, F,
	The use should be restricted	U_2,	M,
	Monotone lessons	U_2, U_4,	M, F,
	To use materials for ensuring permanence learning	U_3, S_2, S_5,	F, M, F,
	It should be used in accordance with the course objectives	U_6,	F,
	It is not suitable for use at every stage of the lesson	U_7,	F,
	Makes it easy to learn and reach information	U_7, S_4,	F, F,
Sources of UBs in the scenario	Past experiences	U_2,	M,
	Teacher-centered learning, traditional approach	U_3, U_5, S_1	F, F, M,
	Oppressing students	U_3,	F,
	Students abuse of technological tools	U_4, S_4	F, F,
	The lecturer is disciplined; does not consider the opinions of the student	U_6, U_7, S_2, S_5	F, F, F, F,

The second sub-dimension of UBCS was designed by taking into consideration the "UB in relation to the use of media tools in the lesson". In the scenario, the preference of a teacher-centered learning with a tight discipline, the wishes and suggestions of the students about the course are ignored. In addition, the students' request to study in the lesson by using technological equipment for sometimes is not accepted due to the problems of other students and banned the use of technology in the lessons. As a result of the analysis of the responses given by the participants to this scenario, three categories were obtained: perception of UB opinions about the use of technology in the lesson, and sources of UB in the scenario. Some of the opinions of the participants regarding the perception of UB are presented below.

"*It is the UB that is found in the scenario that the lecturer is overly disciplined and more involved in teacher-centered learning.*" (Semra, Coaching Education, Upper Group).

"*In the scenario, I see that teaching as UB is monotonous and teacher-centred, and that students are directed towards technological tools.*" (Şengül, Sports Management, Sub Group).

Participants made different opinions under the category of "views on technology use in the classroom". The participants frequently mentioned the use of technological equipment in classroom control of teaching staff and the ability to address different sense organs in providing permanence in learning. In addition, they stated that the use of technological tools would provide permanence in learning as they would appeal to different sensory organs. They stated that the technological tools used in teaching can save the lesson from uniformity, facilitate the learning and access of information, and also have benefits. Some participant opinions on this subject are presented below.

"*During the lessons, I think it would be beneficial for students to use technological tools in teaching the subject. If instructional video is used in teaching a subject or skill, the subject is more understandable and lasting, as it appeals to different sensory organs.*" (Zahide, Physical Education and Sports Teaching, Upper Group).

"*Technological tools and materials should be used in accordance with the objectives of the course. For example, a projection device and a smart board, graphics and images can be used.*" (Fatih, Physical Education and Sports Teaching, Sub Group).

The participants ask for the "explanation of the sources and reasons of the UB" and the answers to the question are given below.

"*The tightness about the rules, the ignorance of the opinions of the students of Ahmet teacher who generalizes her perception on students abused technology in the past to all students and accepting all the same.*" (Meltem, Upper Group).

"*Students want to benefit from technological equipment in the lesson and the teacher cannot see this request because of a negative experience in the past, and the teacher does not meet expectations of the students. Perhaps it is the source of the problem that he does not give the students active roles.*" (Şengül, Sports Management, Sub Group).

Table 10. UBs in Relation to the Courtesy Rules in the Lesson

Category	Codes	Frequency	
		U/S	Gender
UB perception	Usage of alternative approach	U_1,	M,
	Leaving the students extremely comfortable	U_2	M
	Listening music	U_3, U_4, U_5, U_6, U_7, S_2, S_4, S_5,	F, F, F, F, F, M, F, F
	Lying on the table	U_3, U_4, U_7, S_2, S_3, S_4,	F, F, F, M, M, F,
	Consuming food and drink	U_4, U_6, U_7, S_2, S_4, S_5,	F, F, F, M, F, F
Types of consideration the matter	Dividing of consecutive theoretical courses	U_1, S_3,	M, M,
	I would let something consume so as not to interfere with the course	U_2,	M,
	I wouldn't let anything in the scenario	U_3, S_2,	F, M,
	I let them be comfortable	U_4,	F,
	I would allow anything in the scenario	U_5, S_1,	F, M,
	I only let them drink water	U_6, U_7,	F, F,
	They can get out of the classroom in case of an emergency.	U_7,	F,
	No course without break	S_5,	F,

The findings presented in Table 10 are based on the "UB in relation with the courtesy rules in the lesson. The important part of the scenario is that the student can learn, so it is good to leave them comfortable rather than over-bored, and in the classroom of the lecturer, the students eat and drink something, lie down on the line, listen to the course or listen to music with headphones. Two

categories were obtained as a result of the analysis of the students' responses to these scenarios. These categories are the perception of UB and the approach to the event involved in the scenario. The participants' opinions regarding the perception of UB, the first category, are given below.

> "*In the scenario, it is unethical to me that students listening music, lie on the table and eat something.*" (Semra, Coaching Education, Upper Group).

> "*Teacher needs not to give three theoretical courses consecutively, without a break. If I was, I'd sleep on the table, as well. I don't deem this practice as appropriate. The teacher has to give the course according to the duration of the students' attention. I think that the teacher is wrong.*" (Serkan, Sub Group).

Questions to participants on the situation in the scenario "*what kind of approach would you take if you were in the position of the Şule teacher?*" were asked and the analysis of the answers gave the "*types of the considerations of the matter*" with positive and negative approaches to the students and teachers, categorically. As a criticism of the teacher's practice, it is observed that the negative reflection of the consecutive classes without break on the practice attracts attention. In addition, it has been determined that the teacher of the school will allow students to consume something in a way that does not disturb the course flow, and in case of emergency, the student will be allowed to leave the classroom. The participants, Fatih and Zahide, who had low tendency to conduct UB, stated that the attitude of the teacher in the classroom was wrong and that they would not allow any of the behaviours exhibited by the students in the classroom. Some of the participatory approaches are as follows:

> "*I wouldn't allow anything that the teacher would allow. Because consuming food and drink, listening music, and sitting spread out are things that distract the teacher. The student who does this can get out of class and dream. I believe it would be helpful to give a break between courses. Then you won't have students who tend to exhibit such UB.*" (Zahide, Upper Group).

> "*I would allow for the physiological needs when needed. But I certainly wouldn't let them sleep on the table or listening music. There's a course there. There are a lot of cases that tend to disrupt this course environment. The teacher can gather students' attention by using the question-answer technique and enable them to participate in the courses.*" (Fatih, Physical Education and Sports Teaching, Sub Group).

Table 11. UBs in Relation to the Cheating

Category	Codes	Frequency	
		U/S	Gender
Types of consideration the matter	Using visual materials	$U_{1,}$	M,
	Punishing	U_2	M
	During the exam, warning student and giving a second chance	$U_{3,}$ $S_{3,}$ $S_{4,}$	F, M, F,
	Discuss specifically with regard to misconduct	$U_{4,}$ $U_{6,}$ S_5	F, F, F
	Ignoring the misconduct of students and forgiving	$U_{5,}$ $S_{1,}$	F, M,
	Keeping a record of cheating behaviour	$U_{7,}$	F,
	I finish the student's exam	S_2	M,
UB perception	No provision of necessary convenience to the student	$U_{1,}$	M,
	Student's denial of cheating	$U_{2,}$ $U_{7,}$	M, F,
	There is no UB in the scenario	$U_{3,}$ $U_{7,}$	F, F,
	Student's cheating	$U_{4,}$ $U_{5,}$ $U_{6,}$ $U_{7,}$ $S_{1,}$ $S_{2,}$ $S_{4,}$ S_5	F, F, F, F, M, M, F, F
Sources of UBs in the scenario	The course is boring.	$U_{1,}$	M,
	The student does not understand the course	$U_{2,}$ $U_{3,}$	M, F,
	The lecturer does not make the course suitable for the student's level	$U_{3,}$ $U_{5,}$	F, F,
	Excess duration of the courses	$U_{6,}$	F,
	The student does not show the necessary devotion	$U_{6,}$ $S_{1,}$ $S_{2,}$ $S_{4,}$ $S_{5,}$	F, M, M, F, F,
	No required explanations in the exams	$S_{3,}$	M,

In Table 11, participant views regarding the scenario designed to determine the "UBs of students towards cheating", which is the sub-dimension of the UBCS, are included. An instructor who carefully teaches the lectures of the participants uses different tools to help students grasp in a lesson where foreign terms are frequently used. However, one of the students who did not understand the course tried to cheat despite he/she has a scholarship, during the examination. The lecturer did not take the student's paper and start any procedure. The participants were asked what kind of behaviour they would perform if they were the lecturer, and three categories were obtained as a result of the analysis of the responses. These categories: the perception of UB has been determined as approaches to the case. Participants' opinions on the first category of UB vary. This UB is that the teacher does not provide the necessary convenience to the student, and that the student is cheating and deny to cheat.

"*There is not any unethical situation*." (Zahide, Upper Group).

"*The student tends to cheat*." (Alican, Sub Group).

In the scenario where cheating is an UB during the exam, researchers directed participants to "what would you do if you were Ali Teacher?" it was determined that the students from the upper and lower groups who exhibited UB gave various answers to the question. Some of the students in the upper group were inclined to impose sanctions. It has been determined that these students could be involved in the practices against the students, such as completing the student's examination and keeping a record of the behaviour. It was determined that students with low levels of UB in the lower

group exhibited a forgiving attitude towards UB in the scenario. The participant views for the situation in the scenario are at below.

"*I had an investigation on the exam. I don't approve of cheating. No matter how difficult the subject is, it is important for me to pass the examination by the student with the self-knowledge.*" (Elif, Upper Group)

"I'd get directly the student's paper. After all, this person will be an educator. Where will continue to do so. This person needs to get smart and take courses." (Fatih, Sub Group)

In the scenario, "what is the situation that causes students to cheat?" The participants' responses to the question vary widely. The reasons for this situation were found to be due to teacher and student. The participants stated that the course was boring, that the students did not understand the course, and that the content of the course was not adjusted to the level of the students; as a result, the student applied different methods in order to pass the course during the examination. Participants who scored lower than the UBCS, that is, low UB, stated that the event was due to the fact that the students did not prepare themselves to the exam adequately. However, a few of the participants in the upper group stated that the source of the problem was the student; the majority of the students were found to be difficult, the duration of the course is long and teachers' fun as the teacher does not make the course of the teacher source elements were determined. Participants' opinions on this subject are given below.

"*Ali Teacher's inability to explain foreign terms and complex concepts in a more simple way has caused the students not to understand the course. This has prompted students to make copies*." (Anıl, Upper Group).

"*The situation that directs the student to perform UB in the scenario is that the student does not study the course. I think the student works harder if he was afraid of the scholarship to be cut, doesn't cheat to save the self.*" (Alican, Sub Group).

Table 12. UBs in Relation to the Attendance

Category	Codes	Frequency	
		U/S	Gender
UB perception	Lecturer takes the matter excessively easy	$U_1, U_4, S_1, S_3,$	M, F, M, M,
	Acceptance of the late comers to the course	$U_1, U_3, U_7,$	M, F, F,
	Signing the attendance list instead of a friend	U_1, U_6, S_2, S_4	M, F, M, F
	Teaching staff to encourage students to lie	$U_2, S_4, S_5,$	M, F, F,
	Students abusing the goodwill of the teaching staff	$U_4, U_5,$	F, F,
	Reinforcement of wrong behaviour by ignoring events	$U_5,$	F,
Types of consideration the matter	Lecturer becomes fiend of students	$U_1, S_3,$	M, M,
	No tolerance to lie	U_2, S_2	M, M,
	No tolerance to late comers	$U_3, S_2, S_5,$	F, M, F,
	Deciding according to the situation	$U_4,$	F,
	To take necessary precautions to avoid misconduct by other students	$U_6, S_2,$	F, M,
	I kept a record, punishment	$U_7, S_4, S_5,$	F, F, F,

The last scenario to determine the students' UB is about course attendance. As a result of the analysis of the scenario, there were two categories: UB perception and approach to the event. In the scenario, it follows an approach that a teacher had worked enough to have the right to retirement and reached professional satisfaction can continue to work as a teacher because he loves teaching, and that this teacher can ignore the error if there is a reasonable explanation for why they do. Accordingly, students exhibited the behaviour of being late for class and signing instead of their absent friend. Examples of UB of participants in the scenario are as follows:

> "*It is not ethical for Yılmaz Teacher to be more optimistic and to encourage the students to lie. It is definitely unethical the teacher to promote the students to lie with any justification. I also see the students being late for course and the signing instead of another friend as UB here.*" (Aziz, Upper Group).

> "*These are exactly UBs which the teacher encourages the students to lie and the signature of the attendance sheet for an absent friend.*" (Hülya, Sub Group).

The participants were asked what kind of approach they were going to take when they encountered the situation in the scenario, and different answers were taken from the students. They stated that participants in two groups who were lower and higher than the UBCS would never be allowed to lie and be late for course. It has been observed that searching for logical reasons under false behaviour will reinforce the behaviour of lying in the student. Some of the opinions of the participants on this subject are shown below.

> "*I wouldn't tolerate on being late. Because the student always has an excuse. Otherwise, they can find one. What the teacher does is encourage the student to lie. The way the lecturer exercises the student, the student continues. In this case, the teacher will have many troubles in the future.*" (Zahide, Upper Group).

> **"***I wouldn't give the students that much of a chance. If it becomes habit in the future, it is habit to lie constantly in the struggle for life. I wouldn't tolerate on the matter of attendance. The student must know the responsibility.*" (Fatih, Sub Group).

Discussion & Conclusion

In this study, it was determined that the average of the students' UBs in the classroom was 2.56 in order to determine the UB exhibited by the students in the Faculty of Sports Sciences. When it is considered that the lowest and highest score values to able to be taken from the scale are 1 and 5, respectively, it can be said that the students' average score is less than mean value. In this study, it was found that there was a high positive correlation between the UBCS and its sub-dimensions.

The average score obtained from the UBCS differs according to gender in the overall and sub-dimensions of the scale. Male students are more likely to have UB than females. Unlike study results Sims (1978) found no relationship between UB and gender. There are studies supporting the results of the study. In the study in which the dimensions of UBs were examined, it was reported that the tendency of male students to engage in UB was higher than female students (Buckley, Wiese & Harvey, 1998). Studies supporting the present findings have been found in the literature. In a study conducted by Altınkurt & Yılmaz (2011), it was found that males tend to show more UB than females. In the study of Borkowski and Ugras, (2004) examining students' attitudes towards ethical behaviour, it was determined that female students were more sensitive about ethics than male students. In the present study, the second dimension of the measurement tool, "UB in relation with the use of media tools in the lesson", was not found to be different in terms of the gender. This can be interpreted as having similar behaviours for both genders in terms of using media tools. It was determined that the female and male students reacted similarly to the scenario presented to participants in the qualitative dimension of the study regarding the use of technology. In this respect, the qualitative dimension of the study supports the quantitative dimension.

According to the department that students have their education, there were no differences in the general and other dimensions of the scale except for "UB in relation with the use of media tools in the lesson" and "UB in relation with the attendance." It can be said that the department in which students are educated, has no effect on the UB they show in the classroom. It was observed that the students who were educated in the Department of Sports Management in the dimension of "UB in relation with the use of media tools in the lesson" exhibited a higher UB than the students in the Department of Coaching. This can be explained by the more tendencies of sports management students to use media tools in the lesson. It was determined that physical education teacher candidates behaved more intrusive than coach students in the UB of the course attendance, which is another dimension of the UBCS. In the study, Erdoğan et al. (2010) examined classroom management and classroom problems; teachers and administrators view the most common disciplinary problem in classroom as students' extracurricular activities (Instagram, Facebook, etc.) they are busy and this situation prevents listening to the course. In our present study; it has been observed that the use of media tools under the control of teaching staff in lessons. It was determined that the ban on the use of media tools was defined as a UB. Under the control of the teaching staff, the views that the use of media tools to diversify teaching can provide permanence and reinforce learning were reached in the study findings. In the present study, it was determined that the use of media tools in the lesson was not considered as an UB (except for cheating with technological tools), and that participants emphasized the necessity of using technology extensively in the courses. Due to the negative experience experienced by the lecturer in the research, students ignore the need for technological equipment in the course. It can be said that the students are interested in different activities. The task

of the lecturer is to prepare the ground for the formation of the desired behaviours in the classroom. Güven & Akdag (2002) found that teachers punished or deprived the general class for a negative behaviour of anyone in the classroom. It is thought that preparing the content of the course will contribute to creating a positive classroom atmosphere by taking as much attention as possible to the interests, wishes and expectations of the students.

Contrary to the study results, Yadav et al. (2019) stated that the perception of UB increased in the 5th grade compared to the 1st grade. In this study, the difference between class level and UB was determined in favour of the students who study in the 4th grade. There were no significant correlations between the “UBs of faculty members and students in lesson” and “UBs regarding the rules of courtesy in lesson” in the class level of the measurement tool. Given the situations in the indicators and scenarios of these two dimensions; it can be said that it is not related to the class variable of the students, such as exhibiting any UB towards faculty members and violating the rules of courtesy in lesson. However, the use of media tools, cheating in exams and increasing the class level for the attendance to the course increases the students' UB. This can be interpreted as more dependent on behaviour such as disturbing the order, cheating, and obeying the rules of the students who are new to the university. In this study, it was concluded that UB is lower than moderate. Ethics manifests itself in different areas.

It is stated that the UBs of the participants involved in the scenarios are to talk without permission in lesson, to make physical contact with each other, and to use the properties of their friends without permission. As a source of these behaviours, it is stated that the teaching staff behaves too flexibly and is inexperienced and unqualified. In the study of Erdem et al. (2014) it was found that the lecturers who took responsibility for the course did not renew themselves sufficiently and develop themselves in the face of changes. In this study, one of the main reasons for the problems related to classroom management and discipline in the study of Erdoğan et al. (2010) was that teachers did not have enough knowledge and experience about classroom management. According to the participants, the rules are formed in line with the student and teacher's wishes and expectations from the first week. Erdoğan et al. (2010) do not clearly state the rules and routines that need to be obeyed in the classroom, and it constitutes a problem in providing classroom control. In the qualitative part of the present study, participants with a high-class UB were told about punishment, disciplined behaviour, warning strongly, threatening the student with grades, taking the late attendance class and throwing the undesired student out of the class. In his study, Memişoğlu (2005) pointed out that behaviours such as threatening students with grades, discriminating among them, ignoring students and failing to understand students cause undesired student behaviour in the classroom.

In another scenario where the rules of courtesy are questioned, the participants perceived the students listening music, lying on the table, consuming food and drink to perform UBs. In addition, it

has been determined that the faculty members are extremely comfortable leaving the students in the classes and exhibiting a flexible approach in the category of UB. Erdoğan et al. (2010) considered it as disrespect to teachers and classmates for intruding, chewing gum, consuming food/beverage in a classroom environment. The participants expressed that they could allow students to meet their physiological needs, but behaviours such as eating and drinking, listening music or sitting spread out could disrupt the course flow and distract the teacher.

UBs in the scenario, which deals with UB of cheating, are evaluated both in terms of the student and the lecturer. The lack of the necessary convenience of the faculty members is stated as UB by the participants. The fact that the students in the scenario are cheating and denying that they are cheating is the UB for the participants. It is stated by the participants that the situations that make students cheating are boring, the course is not understood, the course is not explained in accordance with the student's level, the student's attention span is ignored and the explanation required in the exams is not made to the students. The participants also expressed the necessity that the lecturer should present the difficult terms and concepts in a more understandable way. Bozdoğan & Öztürk (2008) demonstrated that the students had the perception that the exam grade was important only to pass the course, so the students who were afraid of it tried to cheat for various reasons (because they did not study adequately, do not trust themselves; do not like the course or teacher). In the current scenario, the students do not understand the course and their belief in passing the course is low as a result of the discontinuation of the study scholarship received as a result of the student's tendency to withdraw from the course is faced by some participants naturally, while some participants also fear that the student should study more and cheating is not an ethical behaviour under any circumstances.

In this case, the participants expressed that both the faculty members and the students were unethical in the scenario for the attendance issue. The participants considered it unethical that the students should sign instead of their friends and that the students should abuse the academician's goodwill. On the other hand, it is stated that the lecturer is extremely tolerable, the late coming student is taken in the course, the lecturer is informed about the reasons for his/her late coming, the student is encouraged to lie and the teacher is encouraged to accept to the course, and the teacher is encouraged to ignore his/her UB and reinforce the false behaviour. Sims (1978) stated that unethical decision-making (the beginning of UB) is a combination of personality, culture, and environmental reward and punishment. Contrary to the common belief that ethical behaviour is innate, there are studies emphasizing the importance of education. Lau’s (2010) research revealed that the ethical education carried out increased students' ethical awareness and improved their moral reasoning. The study reveals that the education given on work ethics changes the perspective of business students towards UB (Tang & Chen, 2008).

As a result of the research, it was observed that UBs was affected by variables such as gender, department they study and grade level. The students have high score from UBCS, tended to punish UBs on the assumption that they were teachers. In those with low scale scores, the situation was the opposite. It has been observed that the use of technology is necessary today and not using technological tools is perceived as UB.

Suggestions

The current research has addressed UBs in the classroom from the perspective of university students only. Determining the perspectives of the lecturers can be important in terms of preventing undesirable behaviours that may occur in the classroom. The thoughts of teachers who are new to the profession and experiences about UBs in the classroom can be examined in another study. It is thought that the course contents that can be presented to students by using technology-based teaching approaches attract students' attention and can be effective in providing permanent learning. In determining the rules in the classroom, determining the rules to get his/her with the teacher and student can prevent unwanted behaviours.

References

Altınkurt, Y., & Yılmaz, K. (2011). Öğretmen adaylarının öğretmenlerin mesleki etik dışı davranışlar ile ilgili görüşleri. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 1(22), 113-128.

Birtch, T. A., & Chiang, F. F. (2014). The influence of business school's ethical climate on students' unethical behavior. *Journal of Business Ethics*, 123(2), 283-294. DOI: 10.1007/s10551-013-1795-y

Borkowski, S. C., & Ugras, Y. J. (2004). The ethical attitudes of students as a function of age, sex and experience. *Journal of Business Ethics*, 11(12), 961–979.

Bozdoğan, A. E., & Öztürk, Ç. (2008). Why do teacher' candidates cheat? *İlköğretim Online*, 7(1), 141-149.

Buckley, M. R., Wiese, D. S., & Harvey, M. G. (1998). An investigation into the dimensions of unethical behavior. *Journal of Education for Business*, 73(5), 284-290. DOI: https://doi.org/10.1080/08832329809601646

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Erdem, A., R. (2012). Sınıf disiplini ve kuralları. Sarpkaya, R., (Ed), *Sınıf Yönetimi* (2. baskı) içinde (81-116). Ankara: Anı Yayıncılık.

Erdem, F., Ömüriş, E., Öz, Ö., Boz, H., Özmen, M., & Kubat, U. (2014). Öğretim elemanlarının etik sorumlulukları üzerine üniversite öğrencilerinin algılamaları. *Eğitimde Nitel Araştırmalar Dergisi*, 2(1), 38-63. DOI: 10.14689/issn.2148-2624.1.2s2m

Erdoğan, M., Kurşun, E., Şişman, G. T., Saltan, F., Gök, A., & Yıldız, İ. (2010). Sınıf yönetimi ve sınıfiçi disiplin problemleri, nedenleri ve çözüm önerileri üzerine nitel bir araştırma: Bilişim teknolojileri dersi örneği. *Kuramdan Uygulamaya Eğitim Bilimleri*, 10(2), 853-891.

Filiz, S.B. (2011). İletişim ve etkileşim. Özdemir, M. Ç. (Ed.), *Sınıf yönetimi* (Geliştirilmiş 2. baskı) içinde (125-154). Ankara: Pegem Akademi.

Glesne, C. (2012). *Nitel araştırmaya giriş*. (A. Ersoyve P. Yalçınoğlu, Çev.). Ankara: Anı Yayıncılık.

Güven, S., & Akdağ, M. (2002). İlköğretim ikinci kademe öğretmenlerinin sınıf yönetimi etkinliklerine ilişkin öğrenci algıları. *Kuram ve Uygulamada Eğitim Yönetimi*, 29(29), 69-80.

Hilbert, G. A. (1988). Moral development and unethical behavior among nursing students. *Journal of Professional Nursing*, 4(3), 163–167. DOI: https://doi.org/10.1016/S8755-7223(88)80133-9

Lau, C. L. (2010). A step forward: Ethics education matters!. *Journal of Business Ethics*, 92(4), 565-584.

Memişoğlu, A. P. (2005). Sınıf ortamında istenmeyen davranışlara yol açan öğretmen davranışları. *Çağdaş Eğitim*, 30(323), 32-39.

Mengi, A. (2017). Sınıfiçi etik dışı davranış düzeyi belirleme ölçeğinin geliştirilmesi: güvenirlik ve geçerlik çalışması. *Electronic Turkish Studies*, 12(25), 535-560. DOI: http://dx.doi.org/10.7827/TurkishStudies.12335

Miles, M.B., & Huberman, A.M. (1994). *Qualitative date analysis* (second edition). United Kingdom: Sage pub.

Piff, P. K., Stancato, D. M., Côté, S., Mendoza-Denton, R., & Keltner, D. (2012). Higher social class predicts increased unethical behavior. *Proceedings of the National Academy of Sciences*, 109(11), 4086-4091. DOI: https://doi.org/10.1073/pnas.1118373109

Schweitzer, M. E., Ordóñez, L., & Douma, B. (2004). Goal setting as a motivator of unethical behavior. *Academy of Management Journal*, 47(3), 422-432. DOI: https://doi.org/10.5465/20159591

Sims, H. P. (1978). Some determinants of unethical decision behavior: An experiment. *Journal of Applied Psychology*, 63(4), 451-457. DOI: https://doi.org/10.1037/0021-9010.63.4.451

Tang, T. L. P., & Chen, Y. J. (2008). Intelligence vs. wisdom: The love of money, Machiavellianism, and unethical behavior across college major and gender. *Journal of Business Ethics*, 82(1), 1-26.

Tashakkori, A., & Creswell, J. W. (2007). Editorial: The new era of mixed methods. *Journal of Mixed Methods Research*, 1(1), 3-7. DOI: 10.1177/2345678906293042

Türk Dil Kurumu (TDK) (2011). *Büyük Türkçe Sözlük.* Ankara: Türk Dil Kurumu Yayını.

Witt, P. L. (2016). *Communication and learning*. Boston: De Gruyter Mouton.

Yadav, H., Jegasothy, R., Ramakrishnappa, S., Mohanraj, J., & Senan, P. (2019). Unethical behavior and professionalism among medical students in a private medical university in Malaysia. *BMC Medical Education*, 19(1), 1-5

Yıldırım, N. (2012). Sınıfın fiziksel düzenini oluşturma. Sarpkaya, R., (Ed), *Sınıf Yönetimi* (2. baskı) içinde (59-80). Ankara: AnıYayıncılık.

© 2021 INASED

Yıldırım, A., & Şimşek, H. (2011). *Sosyal bilimlerde nitelar aştırma yöntemleri* (8.Baskı). Ankara: SeçkinYayınları.

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

The COVID-19 Pandemic: Teacher Candidates' Views regarding the Virus and Vaccination Process

Muhammed SALMAN[1]
Kastamonu University
Mustafa Öztürk AKCAOĞLU[2]
Kastamonu University
Muammer ERGÜN[3]
Kastamonu University

Abstract

In order for societies to normalize in educational, economic, social and mental health areas, the COVID-19 pandemic must be ended as soon as possible. Currently, the most critical factor in eliminating the pandemic seems to be the vaccine. Vaccination is one of the most successful public health interventions and is a cornerstone for communicable disease prevention. Both current teachers and teacher candidates should be competent in the field of health literacy as well as in the education and training process. In this study, we tried to reveal the views of teacher candidates regarding COVID-19 and its vaccines based on the studies reporting that anti-vaccination increased in individuals with more education. Six hundred thirty-eight teacher candidates participated in the study. The research data were collected through an 11-item questionnaire, and the data were analyzed using descriptive and cross-tabulation analyzes. Research findings mainly showed that vaccine acceptance was low, and most of the participants thought the virus is artificial. Another finding of the research revealed that most of the participants who complied with all the rules regarding COVID-19 did not get the virus; however, it was seen that nearly all of the participants who caught COVID-19 had an infected individual in their family. Given the importance of vaccination, measures should be taken for vaccination hesitation and rejection.

Keywords: Teacher Candidates, Vaccine Hesitation, Vaccine Rejection, COVID-19 Pandemic

DOI: 10.29329/epasr.2021.373.9

[1]Dr., Faculty of Education, Kastamonu University, Kastamonu, Turkey, ORCID: 0000-0003-2144-4842

Correspondence: msalman@kastamonu.edu.tr

[2] Dr., Faculty of Education, Kastamonu University, Kastamonu, Turkey, ORCID: 0000-0003-2155-4822, ozturk@kastamonu.edu.tr

[3] Dr., Faculty of Education, Kastamonu University, Kastamonu, Turkey, ORCID: 0000-0003-1066-8066, mergun@kastamonu.edu.tr

© 2021 INASED

Introduction

Systematic observations on how outbreaks emerge and spread are essential in terms of both prevention and the vaccine development process. The COVID-19 disease was declared a pandemic in March 2020 by the World Health Organization (2020). In the first place, each country announced its own protective measures to prevent the spread of the pandemic. To this end, such restrictions as temporarily closing educational institutions or shift work plans have been imposed by the governments because protective behaviors play an important role in managing pandemics (Bish & Michie, 2010). The COVID-19 pandemic has caused massive disruption to the education and training process, and there is currently uncertainty at all levels, from pre-school to higher education around the world.

With the emergence of the pandemic, educational institutions worldwide are making great efforts to meet the social-emotional needs of children and compensate for learning loss. In this direction, different scenarios that were not foreseen before have been tried. The resulting variations require that both current teachers and teacher candidates should be competent in the field of health literacy as well as in the education and training process.

Timely and accurate information plays a critical role in controlling the spread of disease and managing fear and uncertainty during the pandemic. In addition, the risk perception of the society and, to some extent, the anxiety related to the possibility of getting sick are effective on prevention behaviors and measures to be taken. Knowing what to do helps people feel more secure and strengthens the belief that they can take the necessary steps to protect themselves (Akdeniz et al., 2020). However, unfortunately, the uncertainty about how COVID-19 emerged and the subsequent measures to be taken to prevent the epidemic, along with the erroneous information shared on televisions and social media platforms, made it difficult to manage the process correctly.

Initially, experts stated in TV programs and social media accounts that the mask had no protection at all and even spread the disease more. Similar faulty statements, unfortunately, reduced participation, which would reduce the pace of the epidemic in the first place and led to the spread of rumors and conspiracy theories that would trigger social division (Cable News Network, 2020; Nguyen & Catalan, 2020).

Although society has been misled by such discussions and social media posts, it has adopted the suggested approaches to control the pandemic, such as self-quarantine, social distance, hygiene, and masks (Olaimat et al., 2020). As the process continued, individuals worldwide began to learn how to live in the pandemic process. However, the long duration of COVID-19, the questions about when and how it will end, and the different answers given to these questions have confused people's minds.

According to the researchers, the process, also called the new normal, has also started to deteriorate people's mental health (Cengizhan, 2021; Wang et al., 2020).

In order for societies to normalize in economic, social and mental health areas, this pandemic must be ended as soon as possible. The most crucial factor of this process seems to be the vaccine. Vaccination is one of the most successful public health interventions and is a cornerstone for communicable disease prevention (Andre et al., 2008; Salerno et al., 2019). However, unfortunately, different approaches, attitudes and negative opinions about COVID-19, which emerged at the beginning of the pandemic, have also been discussed for the COVID-19 vaccine.

Since the news that the COVID-19 virus has mutated began to spread, vaccine studies have come to the fore again. As a result, how this mutation will affect vaccines developed for the virus has emerged as a new problem. It is known that inaccurate and incomplete information in the press and social media environments regarding this question can change attitudes and behaviors related to vaccination (Dredze et al., 2016; Puri et al., 2020; Tustin et al., 2018). Mutations in the same day reflected in the written press in Turkey and examples of vaccines reveals this contradiction:

A member of the pandemic scientific board said in a statement about the coronavirus that mutated in England that: "The mutation can void such vaccines as Pfizer, Sputnik and Oxford which do not contain the full virus. But the Chinese vaccine containing full virus may be less affected by this mutation." (Hurriyet Newspaper, 2020).

Another newspaper, on the other hand, explained that "In case mutant viruses make the vaccine ineffective, it is stated that new vaccine technologies such as BioNTech and Moderna, which started to be used in the UK and the USA, makes it possible to make very rapid changes and updates on vaccines. However, for now, vaccines seem effective. Apart from mRNA, it is unknown whether it is the same for other conventional vaccines, such as the Chinese vaccine." (Bursalı, 2020).

One of the most interesting comments presented in the newspaper asserted that "While the virus is rapidly mutating, that is, it will turn into the common cold, you may not know, the flu, what is the relationship between the hasty availability and launch of the vaccine? We must know the economy-politics of health/medicine." (Yalçın, 2020).

These kinds of statements lead to a decrease in the trust of the society regarding the companies that develop vaccines and whether vaccines are needed. As a result, similar expressions that can affect the attitudes cause an increase in behavior related to vaccine hesitancy (Özceylan et al., 2020; Salerno et al., 2019).

Globally, vaccination is one of the most successful public health interventions and is crucial for the prevention of communicable diseases (Andre et al., 2008; Salerno et al., 2019), but vaccine

opposition and controversy have been increasing in recent years (Özceylan et al., 2020; Signorelli et al., 2018). Therefore, the world health organization has named vaccine hesitation as one of the ten most significant threats to global health in 2019 (World Health Organization, 2019). Therefore, as the vaccine development process continues, it becomes essential to start examining the level of individuals' acceptance of the COVID-19 vaccine. Currently, little is known about the factors affecting people's acceptance or rejection of a COVID-19 vaccine (Reiter et al., 2020). Since the beginning of the pandemic, many studies on attitude, awareness and protection methods towards COVID-19 have raised the awareness of citizens around the world. Similar studies about the COVID-19 vaccine should be carried out, and vaccine hesitations should be avoided. This type of information is useful for generating informed projections of what vaccine use may be in the future, as well as for developing strategies and improving acceptability.

Present Study

The opinions of teacher candidates who will educate future generations on the COVID-19 vaccine are important, because the perspectives of teachers as role models may directly affect their students' opinions on vaccination. However, unlike the previous programs, it is seen that there is no health-related course among the teaching profession courses in teacher training programs, which have been valid since 2017 (Yükseköğretim Kurulu, 2018). This situation may be reflected in the opinions of teacher candidates regarding the vaccination in the COVID-19 pandemic process. To this end, in this study, we tried to determine the views of teacher candidates towards COVID-19 and its vaccines based on the studies reporting that anti-vaccination increased in individuals with more education. In line with this aim, the opinions of the participants on vaccination, the origin of the virus and virus protection, and the availability of a therapeutic drug were determined and it was examined whether there was a relationship between these views. In addition, the relationships between these variables and grade level were examined.

Method

Participants and Design

This cross-sectional study was conducted online over a span of one week from December 2 to December 8, 2020. In order to design the online surveys, Google forms was used. Some questions were asked to teacher candidates about the COVID-19 vaccine through a questionnaire. Seven hundred students from a faculty of education participated in the study. Sixty-two forms were excluded from the analysis because of missing or incorrect data. In order to present an overview of the answers given to the questions, frequencies and percentages were calculated via descriptive analysis. In addition, we used cross-tabulation to interpret different questions together. Findings were presented by tabulating at the question level.

Information about the participants' department, grade level and gender distribution are presented in Table 1.

Table 1. Information about the participants

		Frequency	Percent
Department	Preschool Teaching	156	24.5
	Turkish Language Teaching	65	10.2
	Elementary Mathematics Teaching	52	8.2
	Social Studies Teaching	163	25.5
	Elementary School Teaching	79	12.4
	Guidance and Psychological Counselling	55	8.6
	Fine Arts Teaching	68	10.7
Grade Level	First	109	17.1
	Second	195	30.6
	Third	160	25.1
	Fourth	174	27.3
Gender	Male	139	21.8
	Female	499	78.2
Total		638	100.0

Measures

The questionnaire, developed by the researchers, contains 12 questions about COVID-19. Some of these questions are directly related to the pandemic, while others are about protection against the pandemic and vaccines.

The answers to all questions, except for two questions, consist of yes or no choices. There are seven choices in the question asking for the choice of the country that produces the vaccine. In addition, there are five different options in the question related to the measures taken against COVID-19. The questions can be grouped under three headings according to their content.

In the first group, the following two questions were asked about COVID-19:

Do you believe COVID-19 exists?

Is COVID-19 a natural virus or artificial?

In the second group, the following five questions were asked about protection from COVID-19 and treatment of COVID-19:

Do you believe there will be a vaccine that protects against COVID-19?

Do you comply with COVID-19 protection rules?

Could you get the COVID-19 vaccine?

If you had to get a vaccine, which country would you prefer?

Do you believe that there will be a therapeutic drug other than the protective vaccine?

In the third group, the following four questions were asked about being affected by COVID-19:

Have you caught COVID-19?

Does anyone in your family have COVID-19?

Do you have a chronic illness?

Does the thought of vaccines having side effects change your mind about getting vaccinated?

Ethical Considerations

Before conducting the present study, ethical approval was received from the research ethics board of the faculty where the research was carried out. The participants were informed through a consent form about the confidentiality of their responses before filling in the questionnaire and signed informed consent statements by choosing "I agree to participate".

Findings

The first item of the questionnaire sought an answer for whether the participants believe in the existence of COVID-19, an effective COVID-19 vaccine and whether they will get vaccinated.

Table 2. Participants' views regarding the belief in the existence of COVID-19, an effective COVID-19 vaccine and whether they will get vaccinated

	The belief in the existence of COVID-19		The belief in an effective COVID-19 vaccine		Whether the participants get vaccinated	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	616	96.6	163	25.5	348	54.5
Yes	22	3.4	475	74.5	290	45.5
Total	638	100.0	638	100.0	638	100.0

Findings regarding the first question revealed that among university students, there are still those who have this opinion (3.4%). As for the second question, we found that although the vaccine has been used in some countries, 25.5% of the participants still do not believe that a vaccine that protects from this virus will be found. The third question was about whether the participants will get vaccinated if an effective vaccine is developed. It was found that only 45.5% of the participants stated that they would get vaccinated.

The descriptive results regarding whether the COVID-19 virus is natural or artificial are presented in Table 3.

Table 3. Descriptive statistics regarding whether the novel coronavirus is natural or artificial

	Frequency	Percent
Natural	188	29.5
Artificial	450	70.5
Total	638	100.0

In Turkey, as in other parts of the world, there have been intensive discussions about whether the novel coronavirus was artificial. The findings obtained in this study show that 70.5% of the participants have the opinion that COVID-19 was produced in a laboratory environment.

In Table 4, participants' answers regarding the precautions taken against the COVID-19 were given.

Table 4. Descriptive statistics regarding the precautions taken against the COVID-19

Precautions	Frequency	Percent	Cumulative Percent
Face masks	9	1.4	1.4
Physical distancing	2	.3	1.7
Hygiene rules	7	1.1	2.8
Face masks and physical distancing	3	.5	3.3
Face masks and hygiene rules	48	7.5	10.8
Face masks, physical distancing and Hygiene rules	569	89.2	100.0
Total	638	100.0	

Participants were asked which one/ones of the recommended precautions they followed for protection from COVID-19. We found that 10.8% of the participants neglected at least one of the precautions.

In Table 5, the participants' views about their choice of producing country if they had to get vaccinated are presented.

Table 5. Descriptive statistics regarding the vaccine choice based on manufacturing countries

Manufacturing country	Frequency	Percent
The USA	24	3.8
Turkey	316	49.5
Germany	140	21.9
China	38	6.0
England	19	3.0
Russia	13	2.0
Does not matter	88	13.8
Total	638	100.0

49.5% of the participants answered the question "If you have to get vaccinated, which country would you prefer?" as Turkey. In the second place, the vaccine produced in Germany was preferred (21.9%). The least preferred vaccine was the one produced in Russia (2.0%).

Descriptive statistics regarding whether the participants or someone in participants' family have caught COVID-19, the participants' belief in the development of a therapeutic drug other than the protective vaccine, whether the thought of vaccine having side effects change participants' mind about getting vaccinated and whether the participants suffer from a chronic illness are presented in Table 6.

Table 6. Descriptive statistics related to COVID-19 and vaccine

	Have you caught Covid-19?		Has anyone caught Covid-19 in your family?		The belief in the development of a therapeutic drug other than the protective vaccine		The thought of vaccine having side effects		The existence of a chronic illness	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	561	87.9	410	64.3	295	46.2	122	19.1	577	90.4
Yes	77	12.1	228	35.7	343	53.8	516	80.9	61	9.6
Total	638	100.0	638	100.0	638	100.0	638	100.0	638	100.0

When Table 6 is examined, it can be seen that 12.1% of the participants stated that they were infected with the COVID-19 virus (N=510). When the participants were asked whether there is anyone in the family with the COVID-19 virus, 35.7% of the participants stated that at least one person in the family was infected with the virus. Furthermore, when the participants were asked whether a therapeutic drug other than the protective vaccine could be found, 46.2% of them stated that a therapeutic drug could not be found. On the other hand, 80.9% of the participants stated that the thought that the vaccine will have a side effect might affect their opinions about getting vaccinated. Finally, 9.6% of the participants expressed that they have a chronic illness.

Results of cross-tabulations regarding whether the participant or someone in the family has caught COVID-19 showed that 93.5% of the participants who caught COVID-19 had someone in their family who got this virus. A statistically significant relationship was found between the presence of an individual caught in the family with COVID-19 and the participants caught with COVID-19 (χ^2 (1, N = 638) = 127.25, p <.001).

Results of cross-tabulations between whether the participant has caught COVID-19 and obeying the COVID-19 precautions revealed that 89.2% of the participants obey all three precautions, mandatory face masks, physical distance and hygiene rules. 10.8% of the participants state that they violate at least one of these three rules. The rate of those who stated that they had the virus, although they stated that they obeyed all the rules, is 11.1%. Among those who do not obey at least one rule, the rate of getting the virus was found to be 20.3%. In the light of these data, it can be said that when all the rules are followed, the rate of protection from the virus is 88.9%. A statistically significant relationship at p = .05 level was found between obeying the rules and the participants' catching COVID-19 (χ^2 (1, N = 638) = 4.93, p=0.027).

Results of cross-tabulations between whether COVID-19 is natural or artificial and whether the participant believes there will be a vaccine that protects against novel coronavirus indicated that 25.5% of the participants do not believe that a vaccine that protects from the virus will be found. 83.4% of these participants stated that they believed the virus was produced in a laboratory environment. On the other hand, 85.6% of those who say that the virus is natural stated that they do not believe that the vaccine will be found. A statistically significant relationship has been found

between the participants' not believing that a vaccine that protects from COVID-19 will be found and the production of the virus in a laboratory environment (χ^2 (1, N = 638) = 17.54, p=0.000).

Results of cross-tabulations between the participants' views regarding whether COVID-19 is natural or artificial and whether the participant will get vaccinated implied that 78.7% of those who said that they would not get vaccinated also stated that the virus was produced in the laboratory. It was found that 39.4% of those who said the virus was of natural origin stated that they would not be vaccinated. A statistically significant relationship was found between the participants who said that they would not have the COVID-19 vaccine and the production of the virus in the laboratory (χ^2 (1, N = 638) = 24.78, p=0.000).

Results of cross-tabulations examining the relationship between whether the participants' could get vaccinated and whether the thought of vaccine's having side effects would change their mind about getting vaccinated revealed that 78.3% of those who said they would get vaccinated stated that the thought that the vaccine would have side effects would change the idea of vaccination. 78.3% of those who said they would get vaccinated stated that the thought that the vaccine would have side effects would change the idea of vaccination. 83.0% of those who do not want to be vaccinated state that they can change their idea of vaccination due to side effects (χ^2 (1, N = 638) = 127.26, p=0.000).

Results of cross-tabulations indicating the relationship between the source of novel coronavirus and whether the participants believe that there will be a therapeutic drug other than the protective vaccine revealed that 74.6% of the participants who do not believe that a therapeutic drug other than the preventive vaccine will be found also believe that the virus was produced in the laboratory. On the contrary, 60.1% of those who believe that COVID-19 is a natural virus also believe that there will be a therapeutic drug other than the protective vaccine. A statistically significant relationship was found between the participants' views of a therapeutic drug other than the COVID-19 preventive vaccine and the thought of whether the virus should be natural or not (χ^2 (1, N = 638) = 4.32, p=0.038).

Results of cross-tabulations between whether an effective vaccine will be developed and whether the participants believe that there will be a therapeutic drug other than the protective vaccine showed that 70.6% of the participants who do not believe that there will be a protective vaccine do not also believe that a therapeutic drug will be found. 86.0% of those who believe that a therapeutic drug will be found also believe that a protective vaccine will be found. A statistically significant relationship was found between the participants' views of a therapeutic drug other than the COVID - 19 protective vaccine and the opinion of whether or not an effective vaccine will be developed (χ^2 (1, N = 638) = 52.06, p=0.000).

Results of cross-tabulations between the source of novel coronavirus and the grade level of the participants were examined. It was found that 66.1% of the first-year students, 67.7% of the second-year students, 68.1% of the third-year students and 78.7% of the fourth-year students thought that the virus was produced in the laboratory environment. Pearson's Chi-Square coefficient was analyzed to test whether this increase according to grade level was significant. As a result of the analysis, a statistically significant relationship was found between the participants' thought whether the Covid-19 virus was produced in a laboratory environment and the grade levels of the participants (χ^2 (1, N = 638) = 7.88, p=0. 048).

Results of cross-tabulations between whether the participants believe there will be a vaccine that protects against COVID-19 and the grade level of the participants revealed that the rate of students who do not believe that a vaccine that protects from COVID-19 will be found has increased from 22.9% to first-year students to 31.6% in the fourth year. However, the Pearson Chi-Square coefficient between these two variables was not significant ($p>0.05$). While first-year students constitute 15.32% of total non-believers, this rate rises to 33.7% in the fourth year. A statistically significant relationship at $p\leq.05$ level was found between the participants' thought that there would be a vaccine protecting against COVID -19 and the class levels of the participants. As the grade level increases, the proportion of students who do not believe that a vaccine that protects from COVID-19 will be found increases. A statistically significant relationship was found between the participants' thought that there would be a vaccine protecting against COVID -19 and the grade levels of the participants (χ^2 (1, N = 638) = 7.23, p = 0.020).

Results of cross-tabulations between whether the participants will get vaccinated and the grade level of the participants showed that the participants who say that if the novel coronavirus vaccine application starts, they will not be vaccinated constitute 54.5% of the total participants. When the vaccination status of the participants is examined by grade level, it was found that 16.4% for those who say no to vaccination was first year students, while this rate rises to 27.6% in the fourth year. The Pearson Chi-Square test result was found to be $\chi2 = 8.162$ and $p = 0.043$. This finding shows that as the class level increases, the students who think about not having vaccination increase.

62.7% of those who believe that there will be both a therapeutic medicine and a protective vaccine believe that the origin of the COVID-19 virus is natural. On the contrary, 87% of those who believe that both the COVID-19 vaccine will not be available and that there will not be any medicine to treat this virus believe that this virus is produced in the laboratory environment (χ^2 (1, N = 638) = 17.54, p = 0.000).

© 2021 INASED

Discussion, Conclusion and Recommendations

Vaccines play a key role in preventing the increase in pandemics. There are seven vaccines authorized and approved as of December 2020 and 55 vaccine candidates in the development process in the world (Craven, 2020). Following the approval, distribution and administration process of some vaccines, the issues of vaccine rejection and vaccine hesitation have gained importance. To this end, in this study, we specifically aimed to determine the opinions of teacher candidates about the COVID-19 pandemic and protective vaccine. It is important that studies on vaccine hesitation are carried out at all stages of the vaccination process. The reason for this is that the anti-vaccine debate that started even before the pandemic process continues in the discussion programs on both social media and television.

The findings of the study revealed that most of the participants believed the presence of the COVID-19 virus. However, it is noteworthy that even in December 2020, some participants (3.4%) still do not believe that the virus exists. The fact that the participant group consists of teacher candidates makes this situation even more interesting. On the other hand, while a great majority of the participants believe that an effective vaccine will be found, 25.5 of them do not. During the data collection, discussions about the mutation may have increased the belief that the effect of vaccines will be eliminated. On the other hand, 54.5 of the participants stated that they would not get vaccinated. This indicates vaccine rejection is a widespread phenomenon among teacher candidates in Turkey. The reason for this may be the absence of a course among the teaching profession courses, which could provide health literacy, in the teacher training programs that have been implemented since 2018.

Another finding of the study is that the participants who do not believe that there will be a preventive vaccine against COVID-19 also do not believe that a therapeutic drug will be found, and there is a significant positive relationship between these two variables. In other studies, it is seen that there is a similar level of vaccine hesitation and rejection in different countries (Synnott, 2020). In an early study with regard to vaccine development, Chesser et al. (2020) revealed that 68% of the participants would get a COVID-19 vaccine. In the study carried out by Lazarus et al. (2020), it was found that 45.1% of the Russian participants had a negative opinion about vaccination. In another study, published in September 2020, 31% of the participants were undecided, and 3% rejected (Salali & Uysal, 2020), while another study published in December found that 57% of the participants did not want to have the vaccine or were undecided. However, there are some other studies with higher acceptance rates (Barello et al., 2020; Dror et al., 2020).

Another question sought an answer for whether the new type of coronavirus was artificial or natural. 70.5% of the participants believe that the virus is an artificial virus produced in a laboratory environment. In other studies, it was found that the number of participants who thought that the virus

was produced in a laboratory environment was lower (54%) (Salali & Uysal, 2020). This may be due to the increasing widespread misinformation and conspiracy theories in social media and other digital environments, as emphasized in different studies (Chou et al.; Frenkel et al., 2020; Pennycook et al., 2020).

Nearly half of respondents stated that they would prefer the vaccine produced in Turkey if vaccination was obligatory. The vaccine produced in Germany took second place in preferences (21.9%). Results of a survey conducted across the country in Turkey show similar rates (Erdem, 2020). This may be because the founders of the company producing vaccines in Germany are Turkish. The results may suggest that people's sense of belonging increases their trust in vaccines. It is also stated that there is a positive relationship between patriotism and beliefs in conspiracy theories (Rieger, 2020), so each individual may rely more on the vaccine produced by their country (Rieger & He-Ulbricht, 2020).

Another finding of the research revealed that 88.9 of the participants who complied with all the rules regarding COVID-19 did not get the virus. 20.3% of the participants who neglected at least one of the rules got the virus. On the other hand, as a result of the analysis, it was seen that 93.5% of the students who caught COVID-19 had an infected individual in their family. This situation can be accepted as an indication that COVID-19 preventive methods are neglected within the family. The data in the statements made by the Ministry of Health in November 2020 also support that the transmission increases within the family (Koca, 2020).

The results also demonstrated that 85.6% of the participants (N=161) who stated that the virus is natural do not believe that an effective vaccine will be developed against the virus. This may be due to the explanations based on previous experiences that the vaccine development process takes too much time.

Approximately one-third of the participants who believed the virus is artificial stated that they would get vaccinated. Furthermore, 60.6% of the participants, who believed the virus is natural, stated that they would get vaccinated. In the research conducted by Salali and Uysal (2020), it was found that those who think the virus is natural more accept vaccination. The similarity that emerges in these two studies means that as the opinion that the virus is natural increases, the rate of vaccination acceptance increases.

Research findings show that as the grade level increases, the views with regard to the percentages of the virus being produced in the laboratory environment (from 66.1% to 78.7%), the idea that there will be no effective COVID-19 vaccine (from 15.32% to 33.7%) and vaccine rejection (from 16.4% to 27.6%) increase. These findings may mean that the skepticism that is part of scientific

thinking increases as participants get closer to graduation. Similar findings are seen in other studies (Akdeniz et al., 2020; Harapan et al., 2020).

Another finding revealed that 87% of the participants, who believed that both an effective vaccine and a curative drug would not be available, believed that the virus was produced in the laboratory environment. The widespread use of conspiracy in digital media environments theories such as reducing the world population may have led to an increase in ideas that this virus was produced in a laboratory.

Conclusion

Teaching and learning about health problems are essential for the future of humanity and are regarded as direct components of the education process. In this context, health literacy is important to be successful in dealing with health problems that arise with pandemics. The curricula at all levels need to be urgently restructured to gain health literacy. To this end, teacher training programs should also be redeveloped in accordance with health education in order to help students make informed decisions about their future lives and health.

Individuals living in Turkey are predominantly and increasingly hesitant about the origins of the virus and the vaccine. The reason for the emergence of this hesitation may be the fact that sometimes incorrect and sometimes contradictory statements take place in digital and published media. In fact, scientists interpret new data (such as mutation) emerging in the process of accessing scientific knowledge as approaching the result rather than reducing the value of science. However, the fact that only selected titles are included in the presentation of scientific information, that the people making the explanations are far away from being scientific, and the scientists make different explanations about the same subject generally mislead individuals.

It is vital to use an effective vaccine to end the pandemic. Considering the rate of vaccine hesitations, the authorized persons and institutions have an essential role in eliminating or at least reducing this hesitation. To this end, declarations about vaccination should be made from a single office, and the scientists who made the explanation should include individuals who are trusted by society. Besides, the opinions of those who experience vaccine hesitation should be approached with respect, and they should be persuaded to be vaccinated. On the other hand, considering the high hesitation rate of teacher candidates, who constitute the study group of this study, it is predicted that the negative situation regarding vaccination will increase even more. If this hesitation experienced by the teachers of the future is reflected in the students to be educated, it will be more challenging to eliminate the vaccine hesitation. For this reason, it is necessary to raise awareness of the individuals, especially teachers and teacher candidates in order to gain health literacy and eliminate vaccination hesitation. In this respect, it is vital to include socially important and scientifically based topics such

as pandemics into teacher training programs. In addition, setting up vaccination persuasion teams across the country can be useful in order to fight against vaccine hesitations stemming from insufficient knowledge.

Limitations

The results of this study should be considered in light of some limitations. In this study, no formal random sampling framework was used because the data was collected from a mid-sized state university located in the Black Sea Region, Turkey. Collecting data from other universities would be better in terms of representing the population. In addition, the data collection instruments used in this study are limited to self-report tools. Because of this, future studies can include qualitative or mixed-method research designs. Finally, the inferences regarding the variables of this study have to be made with caution because the findings rely on cross-sectional analysis. More information with regard to vaccine hesitation can be learned through longitudinal data.

References

Akdeniz, G., Kavakci, M., Gozugok, M., Yalcinkaya, S., Kucukay, A., & Sahutogullari, B. (2020). A survey of attitudes, anxiety Status, and protective behaviors of the university students during the COVID-19 outbreak in Turkey. *Frontiers in Psychiatry*, *11*(695), 1-9. https://doi.org/10.3389/fpsyt.2020.00695

Andre, F. E., Booy, R., Bock, H. L., Clemens, J., Datta, S. K., John, T. J., Lee, B. W., Lolekha, S., Peltola, H., & Ruff, T. (2008). Vaccination greatly reduces disease, disability, death and inequity worldwide. *Bulletin of the World Health Organization*, *86*, 140-146. https://doi.org/10.2471/BLT.07.040089

Barello, S., Nania, T., Dellafiore, F., Graffigna, G., & Caruso, R. (2020). 'Vaccine hesitancy among university students in Italy during the COVID-19 pandemic. *European Journal of Epidemiology*, *35*(8), 781-783. https://doi.org/10.1007/s10654-020-00670-z

Bish, A., & Michie, S. (2010). Demographic and attitudinal determinants of protective behaviours during a pandemic: A review. *British Journal of Health Psychology*, *15*(4), 797-824. https://doi.org/10.1348/135910710X485826

Bursalı, O. (2020). Süper bulaştırıcı virüs, Türkiye'de var mı, aşılar iptal olur mu, daha tehlikeli mi? *Cumhuriyet*. https://www.cumhuriyet.com.tr/yazarlar/orhan-bursali/super-bulastirici-virus-turkiyede-var-mi-asilar-iptal-olur-mu-daha-tehlikeli-mi-1800436

Cable News Network. (2020). *Online petition urges a SoCal school district to close due to coronavirus outbreak*. https://edition.cnn.com/2020/02/04/us/coronavirus-school-district-petition-trnd/index.html

Cengizhan, S. (2021). The Effects of COVID-19 Process on Time Management of Foreign Language Teacher Candidates. *Educational Policy Analysis and Strategic Research*, *16*(2), 295-312.

Chesser, A., Drassen Ham, A., & Keene Woods, N. (2020). Assessment of COVID-19 Knowledge Among University Students: Implications for Future Risk Communication Strategies. *Health Education and Behavior*, *47*(4), 540-543. https://doi.org/10.1177/1090198120931420

Chou, W.-Y. S., Gaysynsky, A., & Vanderpool, R. C. The COVID-19 misinfodemic: Moving beyond fact-checking. *Health Education and Behavior*, *48*(1), 9-13. https://doi.org/10.1177/1090198120980675

Craven, J. (2020). *COVID-19 vaccine tracker*. Regulatory Affairs Professionals Society. https://www.raps.org/news-and-articles/news-articles/2020/3/covid-19-vaccine-tracker

Dredze, M., Broniatowski, D. A., Smith, M. C., & Hilyard, K. M. (2016). Understanding Vaccine Refusal: Why We Need Social Media Now. *American Journal of Preventive Medicine*, *50*(4), 550-552. https://doi.org/10.1016/j.amepre.2015.10.002

Dror, A. A., Eisenbach, N., Taiber, S., Morozov, N. G., Mizrachi, M., Zigron, A., Srouji, S., & Sela, E. (2020). Vaccine hesitancy: the next challenge in the fight against COVID-19. *European Journal of Epidemiology*, *35*(8), 775-779. https://doi.org/10.1007/s10654-020-00671-y

Erdem, A. K. (2020). Kovid-19 aşı anketi sonuçlandı. *Independent Türkçe*. Retrieved 08.12 from https://bit.ly/3gJCGVB

Frenkel, S., Alba, D., & Zhong, R. (2020). Surge of virus misinformation stumps Facebook and Twitter. *The New York Times*. https://www.bridgeportedu.net/cms/lib/CT02210097/Centricity/Domain/3754/Costello_Journalism_11_3_23.3_31.pdf

Harapan, H., Wagner, A. L., Yufika, A., Winardi, W., Anwar, S., Gan, A. K., Setiawan, A. M., Rajamoorthy, Y., Sofyan, H., & Mudatsir, M. (2020). Acceptance of a COVID-19 Vaccine in Southeast Asia: A Cross-Sectional Study in Indonesia. *Frontiers in Public Health*, *8*, 381-381. https://doi.org/10.3389/fpubh.2020.00381

Hurriyet Newspaper. (2020). Prof. Dr. Muhammed Emin Akkoyunlu: Çin aşısı ikinci tip koronavirüste daha avantajlı olabilir. *Hürriyet*. https://www.hurriyet.com.tr/gundem/prof-dr-muhammed-emin-akkoyunlu-cin-asisi-ikinci-tip-koronaviruste-daha-avantajli-olabilir-41695166

Koca, D. F. (2020, December 22). Ev içi bulaşma oranı. *Anadolu Ajansı.* https://www.aa.com.tr/tr/koronavirus/bakan-koca-kovid-19da-ev-ici-bulasma-oranlarinin-yuzde-85e-yukseldigini-acikladi/2085572

Lazarus, J. V., Ratzan, S. C., Palayew, A., Gostin, L. O., Larson, H. J., Rabin, K., Kimball, S., & El-Mohandes, A. (2020). A global survey of potential acceptance of a COVID-19 vaccine. *Nature Medicine*, 1-4. https://doi.org/10.1038/s41591-020-1124-9

Nguyen, A., & Catalan, D. (2020). Digital mis/disinformation and public engagement with health and science controversies: fresh perspectives from Covid-19. *Media Communication*, *8*(2), 323-328. https://doi.org/10.17645/mac.v8i2.3352

Olaimat, A. N., Aolymat, I., Elsahoryi, N., Shahbaz, H. M., Holley, R. A., & hygiene. (2020). Attitudes, anxiety, and behavioral practices regarding COVID-19 among university students in Jordan: A cross-sectional study. *The American Journal of Tropical Medicine*, *103*(3), 1177-1183. https://doi.org/10.4269/ajtmh.20-0418

Özceylan, G., Toprak, D., & Esen, E. S. (2020). Vaccine rejection and hesitation in Turkey. *Human Vaccines Immunotherapeutics*, *16*(5), 1034-1039. https://doi.org/10.1080/21645515.2020.1717182

Pennycook, G., McPhetres, J., Zhang, Y., Lu, J. G., & Rand, D. G. (2020). Fighting COVID-19 misinformation on social media: Experimental evidence for a scalable accuracy-nudge intervention. *Psychological Science*, *31*(7), 770-780. https://doi.org/10.1177/0956797620939054

Puri, N., Coomes, E. A., Haghbayan, H., & Gunaratne, K. (2020). Social media and vaccine hesitancy: new updates for the era of COVID-19 and globalized infectious diseases. *Human Vaccines & Immunotherapeutics*, *16*(11), 2586-2593. https://doi.org/10.1080/21645515.2020.1780846

Reiter, P. L., Pennell, M. L., & Katz, M. L. (2020). Acceptability of a COVID-19 vaccine among adults in the United States: How many people would get vaccinated? *Vaccine*, *38*(42), 6500-6507. https://doi.org/10.1016/j.vaccine.2020.08.043

Rieger, M. O. (2020). *COVID-19 Conspiracy Beliefs among Students in China and Germany–Causes and Effects*. (Working Paper). uni-trier.de/fileadmin/fb4/prof/BWL/FIN/Files/conpiracies3.pdf

Rieger, M. O., & He-Ulbricht, Y. (2020). German and Chinese dataset on attitudes regarding COVID-19 policies, perception of the crisis, and belief in conspiracy theories. *Data in Brief*, *33*, 106384. https://doi.org/https://doi.org/10.1016/j.dib.2020.106384

Salali, G. D., & Uysal, M. S. (2020). COVID-19 vaccine hesitancy is associated with beliefs on the origin of the novel coronavirus in the UK and Turkey. *Psychological Medicine*, 1-3. https://doi.org/10.1017/S0033291720004067

Salerno, M., Mizio, G. D., Montana, A., & Pomara, C. (2019). To be or not to be vaccinated? That is the question among Italian healthcare workers: a medico-legal perspective. *Future Medicine*, *14*(9s), 51-54. https://doi.org/10.2217/fmb-2018-0241

Signorelli, C., Iannazzo, S., & Odone, A. (2018). The imperative of vaccination put into practice. *The Lancet Infectious Diseases*, *18*(1), 26-27. https://doi.org/10.1016/S1473-3099(17)30696-5

Synnott, C. K. (2020). College students' COVID-19 vaccine hesitancy. *The Journal of Higher Education Management*, *36*(1). https://doi.org/10.2139/ssrn.3753756

Tustin, J. L., Crowcroft, N. S., Gesink, D., Johnson, I., Keelan, J., & Lachapelle, B. (2018). User-Driven Comments on a Facebook Advertisement Recruiting Canadian Parents in a Study on Immunization: Content Analysis [Original Paper]. *JMIR Public Health Surveill*, *4*(3), e10090. https://doi.org/10.2196/10090

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R. S., Choo, F. N., Tran, B., Ho, R., Sharma, V. K., & Ho, C. (2020). A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain, Behavior, and Immunity*, *87*, 40-48. https://doi.org/https://doi.org/10.1016/j.bbi.2020.04.028

World Health Organization. (2019). *Top ten threats to global health in 2019*. https://www.who.int/emergencies/ten-threats-to-global-health-in-2019

World Health Organization. (2020). *Coronavirus disease (COVID-19) Situation Report–126*. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200525-covid-19-sitrep-126.pdf?sfvrsn=887dbd66_2

Yalçın, S. (2020). Mutasyon kafada olmalı. *Sözcü*. https://www.sozcu.com.tr/2020/yazarlar/soner-yalcin/mutasyon-kafada-olmali-6177382/?utm_source=gazeteoku&utm_medium=referral

Yükseköğretim Kurulu. (2018). *Yeni öğretmen yetiştirme lisans programları*. Yükseköğretim Kurulu. https://www.yok.gov.tr/kurumsal/idari-birimler/egitim-ogretim-dairesi/yeni-ogretmen-yetistirme-lisans-programlari

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

The Role of Parents in Children's School Readiness

Sema ÖNGÖREN[1]
Nevşehir Hacı Bektaş Veli University

Abstract

The aim of this research was to examine parental practices aimed at supporting children's school readiness in social, emotional, cognitive, linguistic and self-care domains. A case study design, one of the qualitative research methods, was used in the research. The study group of the research included 25 participants. The participants were determined with the maximum variation sampling type of purposive sampling method. A semi-structured interview form consisting of two parts was used as the data collection tool in the research. The findings obtained in the study were analysed with the content analysis method. The research findings revealed that for supporting children's school readiness in social terms, parents performed practices related to friend relationships, social activities, educational activities, family interaction and giving responsibility, while for emotional support, they engaged in oral communication, emotional support, spending time and doing activities. It was revealed that for supporting children's school readiness in cognitive terms, number activities, book reading, games and oral activities were performed; for language support, conversation, book reading, games and feedback were practised; while for support in terms of self-care, practices aimed at fostering habits, giving responsibility and being a role model were carried out.

Keywords: Preschool, School Readiness, Parent, Child, Development

DOI: 10.29329/epasr.2021.373.10

[1]Assisstant Prof. Dr., Faculty of Education, Nevşehir Hacı Bektaş Veli University, Nevşehir, Turkey, ORCID: 0000-0002-6034-1400
Correspondence: ongorensema@gmail.com

© 2021 INASED

Introduction

Early learning experiences provide opportunities that affect children's development and contribute to developing their competences. While everything children learn from birth onwards forms the basis for the things they will learn later, this basic competence can be evaluated as a sign of readiness. Readiness is defined as the balance between the child's chronological age and its growth, development and maturation (Graue, 1993). Readiness expresses the acquisition of the skills and abilities required to carry out a certain learning activity (Pianta, Cox & Snow, 2007). School readiness, a term which is used to define children's individual abilities when they start school (Snow, 2006), is a construct that facilitates learning and adaptation to school. School readiness is a multidimensional concept that includes children's physical health and academic, social, emotional and linguistic competences (Kagan 1992; Miller & Kehl, 2019; Rimm-Kaufman & Pianta, 2000). School readiness encompasses a range of skills required for children to succeed in the physical, social, emotional, linguistic and cognitive domains (Shonkoff & Phillips, 2000). Readiness for school begins with the gradual development of the skills of sitting quietly, focusing on tasks, following instructions and expressing oneself (Blair, 2002). School readiness represents the competences acquired by the child in its areas of development. In other words, school readiness is the whole of the behaviours required to carry out learning activities.

Every child can show different characteristics in terms of its development. Together with greater acceptance of the developmental approach (Cairns & Cairns 2006), studies related to school readiness have focused on the child's developmental characteristics. In the National Education Goals Panel (NEGP) (1995), children's school readiness was evaluated in the domains of health and physical development, social and emotional development, learning approaches, linguistic development and communication, cognitive development, and general knowledge. School readiness has been defined in research studies aimed at evaluating children's academic-cognitive skills (Baptista, Osório, Martins, Verissimo & Martins, 2016; Duncan, Schmitt, Burke & McClelland, 2018; Kim & Suen, 2003; Vitiello & Greenfield, 2017), and their socio-emotional and behavioural competences (Bierman et. al., 2008; La Paro & Pianta, 2001; Mashburn & Pianta, 2006). Academic competence related to school readiness encompasses cognitive skills and preliteracy linguistic skills such as word recognition, phonemic awareness, arithmetic skills, and attention and concentration that will encourage later success at school (Howes, et. al., 2008; Prior, Bavin & Ong, 2011). Social competences consist of attention and perseverance, tolerance of disappointment, seeking appropriate assistance and following instructions, and interaction with adults and peers (Pianta, 2002). Emotional competence, which is shaped by social interaction, includes experiencing emotions, awareness of one's own and others' emotions, and emotion regulation skills (Halberstadt, Denham & Dunsmore, 2001). Physical and motor competence encompasses growth rate, fine and gross motor skills, and personal care skills (Kagan, Moore & Bredekamp, 1995). School readiness can be enabled with the

development of competences in the social, emotional, cognitive, linguistic and physical domains, and with support provided by the environment from birth onwards.

The child grows and maintains its development as a member of the family and society. Children's knowledge and skills can be associated with the capacity for support from their environment and the individuals with whom they interact in this environment for their development and learning. These contexts are taken into account while children's state of readiness for school is being assessed (Miclea & Mihalca, 2007). Socio-cultural, ecological, psychoanalytical and socio-cognitive theories evaluate the child in terms of the context he/she belongs to. These theories emphasise the effects of the characteristics of the parental and family environment on the child's cognitive, linguistic, social and emotional development. Bronfenbrenner's (1986) ecological theory stresses the effect of factors inside and outside the family in shaping children's development. The family system that the child belongs to supports the child's success at school and shapes its school experiences (Pianta & Walsh, 1996). Children who are given better quality support by their parents for their early education and care acquire higher cognitive and social skills (Pianta, Barnett, Burchinal & Thornburg, 2009). Physical, cognitive, linguistic and socio-cultural skills are predictors of later school achievement (Claessens & Engel 2013; Davies, Janus, Duku & Gaskin, 2016; Duncan et al, 2007; Kull & Coley, 2015). The majority of research related to the home learning environment examines behaviours for encouraging readiness enabled by parents at home (Bradley, 1994; Christian, Morrison & Bryant, 1998). Families' daily routines in the home environment, such as bedtime activities, reading books, and eating together have an impact on the child's academic achievement and social development (Ferretti & Bub, 2017). The quality of parent-child communication and the support given to the child also contribute to the child's success at school (Rimm-Kaufman, Pianta, Cox & Bradley, 2003). Especially, a sensitive care approach, a large amount of learning material, opportunities for cognitive stimulation, and predictable routines provided by parents develop children's learning motivation, self-regulation skills, language and literacy skills, and socio-emotional skills (Mashburn & Pianta, 2006). Parents contribute to children's acquisition of cognitive, social, behavioural and emotional skills and to their school readiness that will facilitate their learning and school adaptation when they start school. Children need the support of their families for their healthy development and good quality education.

As children's first teacher, parents can play a role in supporting the child's readiness for school. Issues concerning family participation (Puccioni, 2018), family education (Mathis & Bierman, 2015) and family characteristics (Burchinal et. al., 2018; Son & Peterson, 2017) that affect children's readiness for school are frequently discussed in studies. These reveal that family education programmes have positive effects in supporting children's academic performance (Valcan, Davis & Pino-Pasternak, 2018; Bierman, Welsh, Heinrichs, Nix & Mathis, 2015), social and emotional development (Bernier, Beauchamp & Cimon-Paquet, 2020), and linguistic development (Nix,

Bierman, Motamedi, Heinrichs & Gill, 2018). Although there are studies based on parental practices for school readiness (Jose et. al.,2020; Puccioni, 2015), it can be said that there is a need for further research to reveal positive practices that encourage children's school readiness. In this study, developmental support practices provided for children by their parents and aimed at school readiness are examined. Based on the ecological theory (Bronfenbrenner, 1986), which evaluates school readiness as the child's achieving the expected level in all areas of development with the support of the family and environment, and as the child's acquisition of the necessary knowledge, skills and attitudes in this regard, children's school readiness skills that are supported by their parents are focused on. In the study, the role of parents in the development of children's social, emotional, cognitive, linguistic and self-care skills related to school readiness is examined from the perspective of parents. It is thought that the results obtained in this study will serve as a guide for home-centred school readiness implementations.

The aim of this research is to examine the role of parents in children's school readiness. In line with this aim, the sub-aims of the research were determined as examining:

(1) Parents' social support practices for children's school readiness,

(2) Parents' emotional support practices for children's school readiness,

(3) Parents' cognitive support practices for children's school readiness,

(4) Parents' language support practices for children's school readiness, and

(5) Parents' self-care support practices for children's school readiness.

Method

Research Method

This research, which was conducted with the aim of examining the parental role in the child's readiness for school, was conducted with a case study design, one of the qualitative research methods. Qualitative research studies examine specific events from various aspects, make sense of the data obtained, interpret the data, and attempt to make the data understandable (Neuman, 2014). The case study is a research method by which one or more than one event, environment or social group are examined in detail and in depth within their own real-life framework (Flyvbjerg, 2006). Using a case study, the support provided by parents to their children for school readiness was examined in the social, emotional, cognitive, linguistic and self-care domains within a real-life framework.

Study Group

25 participants with children in the 5-6 age group were included in the study. The participants were determined with the maximum variation sampling method, one of the purposive sampling

methods. Purposive sampling aims to provide an in-depth understanding by selecting information-rich cases (Patton, 2014). In maximum variation sampling, instead of generalising, an attempt is made to discover whether there is a common phenomenon among cases showing variation (Marczyk, DeMatteo & Festinger, 2005). Variation was enabled by selecting participants for the study from among families of different age groups and with different socio-economic levels, having different numbers of children of different ages, and with at least one child attending a preschool education institution. The aim was to reveal similarities in parents' practices towards school readiness by discussing various cases related to the parents. The research variables were determined as parents' age, education level, employment status, number of children and socioeconomic level. 23 mothers (92%) and 2 fathers (8%) were included in the study. According to the age variable, 9 participants (36%) were aged 21-30, 15 (60%) were aged 31-40, and 1 (4%) was aged over 40. In terms of education level,, 7 participants (28%) had primary school education, 8 (32%) had secondary school education, and 10 (40%) had high school education. While 8 participants (32%) were working, 17 participants (68%) were unemployed. With regard to the variable of number of children, 3 participants (12%) had 1 child, 13 (52%) had 2 children, 5 (20%) had 3 children, 3 (12%) had 4 children, and 1 participant (4%) had 5 children. 23 of the participants (92%) included in the research had a medium socioeconomic level, while 2 participants (8%) had a high socioeconomic level.

Data Collection Tool and Data Collection

The research data were collected with the interview method. The interviews were conducted by using a telecommunication tool. In the data collection process, the researcher should be able to collect data with effective questions, and should see every new case encountered as a meaningful opportunity (Cohen, Manion & Morrison, 2011). For this purpose, an interview form consisting of semi-structured questions was prepared by the researcher. An interview form serves as a guide for obtaining data in line with the aims of the research, determining the guidelines of the interview and directing the researcher in the interview (Merriam, 2009). The semi-structured interview form included questions aimed at determining parents' demographic characteristics and questions related to parents' support for children's school readiness in social, emotional, cognitive, language and self-care domains. While preparing the interview form, the opinions of three domain experts were sought, and a pilot study was carried out with two parents outside the study group. Following these implementations, the interview form was given its final shape. Prior to the interviews, the participants were informed about the aim of the research and an attempt was made to create an environment of trust. The interview data were recorded with the note-taking technique.

Data Analysis

The research data were analysed with the content analysis method. Content analysis is a data analysis technique that aims to access different themes and concepts by analysing the data in depth

(Marshall & Rossman, 2006). During the analysis process, the steps of organising and encoding the data, finding the themes, organising the codes and themes, describing the findings, and interpreting the findings were followed (Corbin & Strauss, 2015). The data obtained from the interviews were organised by reading them several times and the interview notes were anonymised. Coding was made in line with the sub-aims of the research. During the coding, all views considered to respond to the same research question were combined under the same code. The codes obtained from the data were organised and grouped in themes. The data obtained from the interviews with the parents were collected under five themes. The themes and codes are presented together with quotations from the participants' views.

Validity and Reliability

To ensure validity and reliability in the research, the criteria of variation, expert examination, participant validation, and rich and in-depth description were taken as the basis (Merriam, 2009). In this study, inter-rater variability, which expresses the use of multiple analysts to check the findings, was used (Patton, 2014). The data were coded separately by two researchers, and the codes created by each researcher were checked by the other researcher. For inter-rater reliability, the formula [Number of agreements / (Number of agreements + Number of disagreements) X 100] developed by Miles and Huberman (1994) was used. Accordingly, it was determined that the expert opinions provided a reliability coefficient of 88%. Expert examination was carried out by obtaining feedback from two experts during the creation of the codes and themes. For participant validation, at the end of the interviews, validation of the obtained data was provided by the participants. For rich description, the data are presented in detail and the participants' views are supported with direct quotations.

Results

In this section of the study, the findings related to parents' practices for supporting children's school readiness are presented under five themes. Findings for social, emotional, cognitive, language and self-care themes are explained in detail with figures and direct quotations from the participants' views.

1. Social Support Practices

Parents' practices for supporting children's school readiness from the social perspective are included in Figure 1 below.

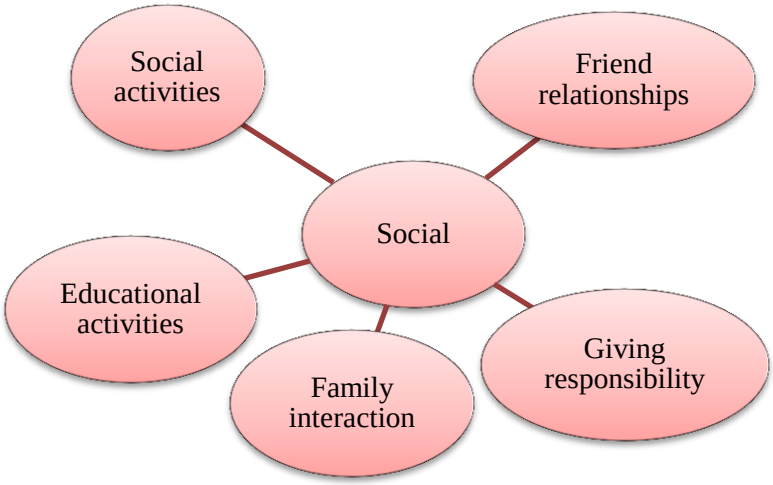

Figure 1. Parents' social support practices

Examination of Figure 1 shows that parents supported children's school readiness in a social sense with 5 different practices. Social support practices for children were stated as friend relationships by 13 participants (37%), social activities by 9 participants (26%), educational activities by 8 participants (23%), family interaction by 4 participants (11%), and giving responsibility by 1 participant (3%). Participants' views related to social practices for supporting children's school readiness are included below.

Friend relationships:

'I make sure that he interacts with his friends, and ensure that he is in the same environment as his peers.'(P.3)

'I allow him to spend time with his friends, and make sure that he plays games with them.'(P.5)

Social activities:

'I take my child to parks, the cinema, and places where he will be able to interact with people.'(P.9)

'I make sure that he joins in social environments.'(P.8)

Educational activities:

'I provide support with educational and instructional games.'(P.11)

'We play with educational toys, use applications, videos and films, and do family activities.'(P.16)

Family interaction:

‘I always talk to him and chat with him; I do not display a very heavy-handed attitude.’(P.18)

‘I chat, I try to take him with me to the places where I go.’(P.20)

Giving responsibility:

‘I make sure he takes responsibility.’(P.6)

2. Emotional Support Practices

Parents’ practices for supporting children’s school readiness from the emotional aspect are presented in Figure 2 below.

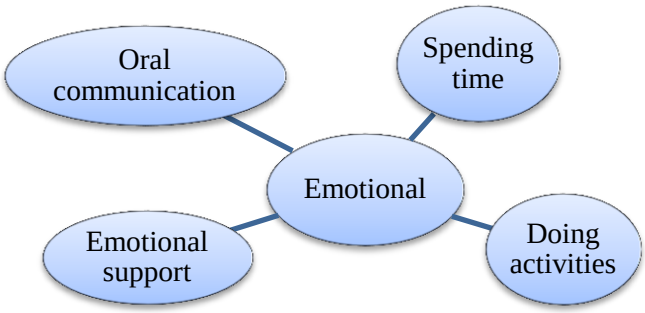

Figure 2. Parents’ emotional support practices

As can be seen in Figure 2, parents supported children’s school readiness from the emotional perspective with 4 different practices. Emotional support practices for children were expressed as oral communication by 14 participants (41%), emotional support by 13 participants (38%), spending time by 4 participants (12%), and doing activities by 3 participants (9%). Participants’ views regarding emotional practices for supporting children’s school readiness are given below.

Oral communication:

‘We try to talk to him and spend time with him as much as possible so that he can understand his emotions and express himself.’(P.8)

‘I talk to him, I listen to him, and I try to understand him.’(P.17)

Emotional support:

‘I support him so that he can express his emotions openly.’(P.3)

‘I am always with him when he is afraid or agitated.’(P.16)

'I share his joy when he is happy. I also share his sadness when he is unhappy.'(P.24)

Spending time:

'I try to spend more time with him.'(P.5)

'We make a point of spending time together.'(P.14)

Doing activities:

'I let him watch cartoons that are appropriate for his age and encourage him to care for animals.'(P.9)

'We read books. We try to solve problems with affection and attention.'(P.6)

3. Cognitive Support Practices

Parents' practices for supporting children's school readiness from the cognitive perspective are shown in Figure 3 below.

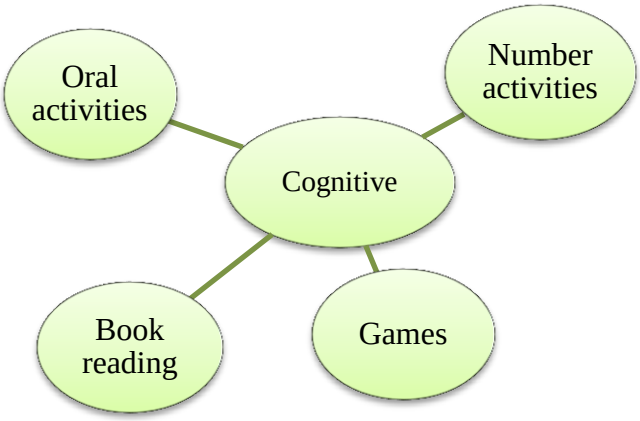

Figure 3. Parents' cognitive support practices

As shown in Figure 3, parents supported children's school readiness from the cognitive aspect with 4 different practices. Cognitive support practices for children were expressed as number activities by 16 participants (38%), book reading by 12 participants (29%), games by 8 participants (19%), and oral activities by 6 participants (14%). Participants' views on cognitive practices for supporting children's school readiness are presented below.

Number activities:

'We count numbers, we do activities.'(P.18)

'I ask questions about addition and subtraction with objects in the home.'(P.20)

'We count numbers together, we perform operations such as adding with the fingers.'(P.21)

Book reading:

'I read stories, and my child looks at the pictures while I read.'(P.22)

'We sometimes read books together. We make sure it sinks in by teaching visuality with educational books.'(P.11)

Games:

'As he is 6 years old, I play games like "find the words" so that he recognises the letters.'(P.3)

'I try to support his cognitive development by means of games.'(P.10)

'I buy various jigsaws and have him do them; there are numbers and letters in many activities; I show them to him with examples.'(P.13)

Oral activities:

'We play word games. I say a word. He makes a sentence containing that word. Then he says a word to me and I make a sentence.'(P.5)

'We repeat things in order to reinforce his memory.'(P.11)

4. Language Support Practices

Parents' practices for supporting children's school readiness in terms of language are included in Figure 4 below.

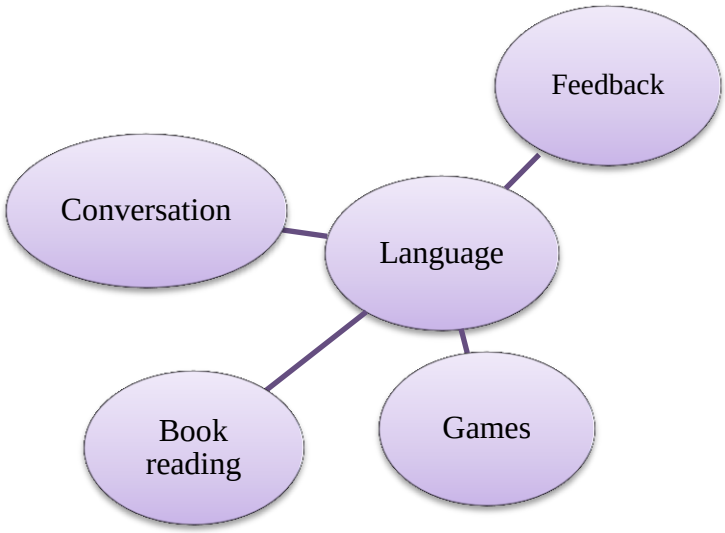

Figure 4. Parents' language support practices

© 2021 INASED

Examination of Figure 4 reveals that parents supported children's school readiness in terms of language with 4 different practices. Language support practices for children were expressed as conversation by 14 participants (41%), book reading by 10 participants (29%), games by 5 participants (15%), and feedback by 5 participants (15%). Participants' views related to language practices for supporting children's school readiness are included below.

Conversation:

'I speak with him frequently.'(P.13)

'We give the opportunity for dialogue and for him to express himself.'(P.14)

'I listen to him when speaking with him; I wait for him to finish speaking.'(P.17)

Book reading:

'I let him read books aloud.'(P.2)

'I make sure he reads a lot of books and I encourage him in this way.'(P.19)

Games:

'We play with picture cards.'(P.6)

'We play word games. For example, "say something beginning with a, say something beginning with c"; we play a game like this.'(P.5)

Feedback:

'I tell him about words he pronounces incorrectly.'(P.15)

'I explain every word whose meaning he doesn't know and asks about, and I warn him about whether the words he says are correct or bad words.'(P.21)

5. Self-Care Support Practices

Parents' practices for supporting children's school readiness with regard to self-care are presented in Figure 5 below.

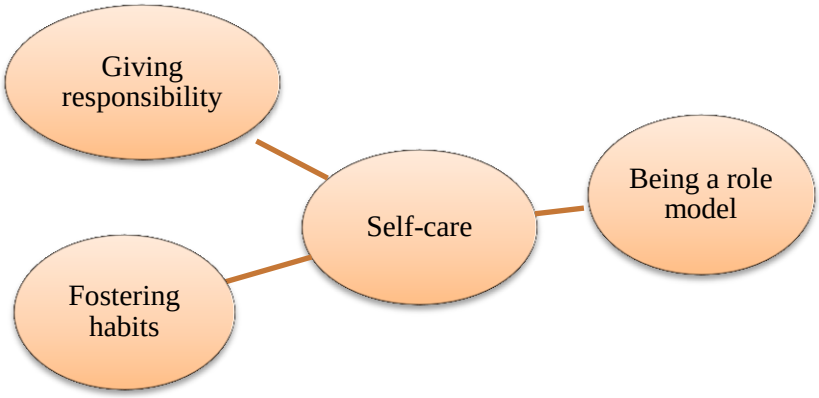

Figure 5. Parents' self-care support practices

As can be seen in Figure 5, parents supported children's school readiness with respect to self-care with 3 different practices. Self-care support practices for children were expressed as fostering habits by 16 participants (42%), giving responsibility by 13 participants (34%), and being a role model by 9 participants (24%). Participants' views on the subject of self-care practices for supporting children's school readiness are presented below.

Fostering habits:

'I encourage him to perform tasks concerning himself on his own, such as feeding himself and washing his hands by himself.'(P.8)

'We give him the opportunity to perform his own skills and acquire habits suited to his age.'(P.16)

Giving responsibility:

'I support him by giving him duties and telling him that he has to perform them himself.'(P.1)

'I make sure he helps with chores at home, and I ensure that he brushes his teeth himself, folds his clothes himself, and helps to set the table.'(P.4)

'We try to make sure that he does his own jobs himself.'(P.14)

Being a role model:

'I wash my hands together with him. I brush my teeth beside him and make sure that he sees how I do it.'(P.9)

'I do things the right way beside him and explain them while doing them.'(P.13)

© 2021 INASED

Discussion, Conclusion and Recommendations

The aim of this study was to examine parents' practices aimed at supporting children's school readiness in the social, emotional, cognitive, linguistic and self-care domains. School readiness, which is defined as the state of being ready to perform any activity in social, emotional, cognitive, linguistic and self-care domains, aims for the child to acquire skills and behaviours that will enable him/her to experience a sense of achievement. The immediate, home environment that consists of family members plays a critical role in supporting the child's development and school readiness.

When the findings of the study were examined in relation to parents' practices for supporting children's school readiness from the social aspect, it was determined that these practices concerned friend relationships, social activities, educational activities, family interaction and giving responsibility. It is seen that parents attempted to ensure that their children established friendships for school readiness. Considering the effect of friendships on social development, it can be said that peer interaction will support school readiness. Similar studies show that peer interaction has a positive effect on school readiness (Burgess & Ernst, 2020; Polat & Akyol, 2016; Sabol, Bohlmann & Downer, 2018). It was revealed that parents tried to ensure the socialisation of their children by means of social activities. Through social activities, children can acquire cooperation, sharing and empathy skills. It is thought that parents can support their children's socialisation by shaping their social skills. It is revealed in studies that social skills are correlated with school readiness (Walker & MacPhee, 2011) and that social competence facilitates adaptation to school (Hunter, Bierman & Hall, 2018). Parents also supported their children for school readiness from the social perspective with educational activities. It can be stated that educational games, applications and videos were used to foster social skills. Through these activities, children's acquisition of skills such as saying thank you, apologising, and admitting they are wrong can be enabled. Similar studies demonstrate that family routines are an important means for preparing children for the transition to school (Ferretti & Bub, 2017), and that parents' participation in their children's early learning experiences encourage them to be prepared for school (Hajal, Paley, Delja, Gorospe & Mogil, 2019; Marti, Merz, Repka, Landers, Noble & Duch, 2018). It was determined that parents gave importance to interaction within the family and that they interacted with their children in order to support them socially. Chatting with the child, not exhibiting a heavy-handed attitude and respecting the child's decisions as an individual in the family can enable the child to feel valuable and be independent. Autonomous and self-confident children become more competent in terms of school readiness. Research studies reveal that developmental support provided by home life and families (Crosnoe, 2007; Leventhal, Selner-O'Hagan, Brooks-Gunn, Bingenheimer & Earls, 2004; Son & Peterson, 2017), and family relationships and characteristics (Farver, Xu, Eppe & Lonigan, 2006; Gullo, 2018) are effective for children's school readiness. The research findings are such as to support the findings obtained in this study. It was determined that one parent aimed to support their child's school readiness in a social sense by giving him responsibility. It can be thought

that children's awareness of their responsibilities and ability to do things by themselves will pave the way for school readiness.

When the findings of the research were examined with regard to parents' practices to support children's school readiness from the emotional perspective, it was determined that these practices were related to oral communication, emotional support, spending time and doing activities. It was revealed that parents tried to support their children's school readiness in emotional terms by communicating with them orally. One can say that with oral communication, parents aimed to ensure that children were aware of and expressed their emotions. Talking about children's emotions and enabling them to express their emotions will help them to give meaning to their emotions. It is seen that recognising and expressing the emotions affects the formation of school readiness in an emotional sense (Garner & Toney, 2020; Harrington, Trevino, Lopez & Giuliani, 2020). It is seen that another practice carried out for school readiness was offering children emotional support. It was observed that both positive and negative emotions such as fear, anxiety, sadness and happiness were accepted by parents and that they supported their children with regard to coping with these emotions. It is expected that for school readiness, children should feel emotionally at ease and be able to recognise their emotions and express them correctly. In research studies, it is revealed that emotional state has an impact on children's school readiness (Soltis, Davidson, Moreland, Felton & Dumas, 2015; Treat, Sheffield-Morris, Williamson & Hays-Grudo, 2020). It was also determined that for school readiness, parents attempted to ensure that their children felt good emotionally by spending more time together with them. It can be said that the emotional bond formed between the child and its family affects children's social and emotional competences. Studies show that relationships within the family and emotional competence make a significant contribution to school readiness (Beceren & Özdemir, 2019; Sheridan, Knoche, Edwards, Bovaird & Kupzyk, 2010), and that secure attachment enables children to be prepared for school (Bernier, Beauchamp & Cimon-Paquet, 2020). It was found that parents tried to support their children emotionally with activities like caring for animals and book reading. It can be stated that through different activities, parents wanted to ensure that their children expressed their emotions. The child's environment provides emotional support for the child through game opportunities and relationships (Kirk & Jay, 2018). One can say that supporting children emotionally via different activities has an effect on their school readiness.

When the study findings were examined in terms of parents' practices for supporting children's school readiness from the cognitive aspect, it was determined that that these practices were related to number activities, book reading, games and oral activities. It is seen that parents gave importance to mathematical and literacy activities for school readiness. Many of the parents stated that they conducted mathematical activities for school readiness. It was revealed that number counting, number recognition, addition and subtraction activities were performed with children. It was found that literacy preparation activities were also carried out with oral activities such as finding

words and making words. It is considered that these practices will support the child's cognitive development. Similar studies reveal that the memory is a significant predictor of readiness for school (Baptista, Osório, Martins, Verissimo & Martins, 2016; Sahin & Is-Guzel, 2018; Swayze & Dexter, 2018), and that school preparation programmes have an effect on school readiness (Duncan, Schmitt, Burke & McClelland, 2018; Nonoyama-Tarumi & Bredenberg, 2009). It was determined that book reading was regarded as necessary by parents for supporting their children's readiness for school. It can be said that reading books, examining the pictures, and analysing and interpreting books by discussing them are practices that support cognitive skills enabling concentration. In research studies, it was found that concentration is directly correlated with academic performance and readiness for school (Isbell, Calkins, Swingler & Leerkes, 2018), and that the quality of parent-child interaction is a predictor of the child's cognitive functions (MacPhee, Prendergast, Albrecht, Walker & Miller-Heyl, 2018; Valcan, Davis & Pino-Pasternak, 2018). It is seen that parents intended to provide support in a cognitive sense by means of the games they played with their children. Considering the place of games in the child's development, one can say that parents' support for their children's school readiness through games is a positive practice. Similar studies reveal the positive effects on children of supporting academic activities through games (Kjær, Bach & Dannesboe, 2020; O'Sullivan & Ring, 2018), and that different learning approaches support children's readiness for school (McWayne, Fantuzzo & McDermott, 2004; Vitiello & Greenfield, 2017). Parents' practices for supporting children for cognitive readiness with different activities show similarity with the findings of the present study.

Examination of the research findings with regard to parents' practices for supporting children's school readiness in terms of language reveal that these practices were concerned with conversation, book reading, games and feedback. The use of conversation by many parents to support their children linguistically can be evaluated as an expected result. Chatting with children can be effective for the child to express itself orally and to learn examples of correct language from its parents. Similar studies demonstrate that parent-supported practices have positive benefits for children's language development and school readiness (Mathis & Bierman, 2015; Nix, Bierman, Motamedi, Heinrichs & Gill, 2018). It was determined that parents tried to support their children's school readiness in linguistic terms by reading books to them. Book reading is one of the practices that develop language skills and prepare children for literacy. While book reading improves children's vocabulary, it also develops their correct use of the language and their literacy awareness. Research studies reveal that book-reading practices for supporting literacy development at home are associated with school readiness in the early childhood period (Baker, 2014; Napoli & Purpura, 2018), and that books in the home have a positive effect on early literacy and reading skills (Quirk, Dowdy, Goldstein & Carnazzo, 2017; Wolf & McCoy, 2019). It was determined that parents aimed to support their children's school readiness linguistically by playing games with them. Word games and games played

with picture cards can enable children to learn new words and use the grammatical structure of the language correctly. It was found that parents gave feedback by warning their children in cases where they pronounced words incorrectly and used words that were considered undesirable by their families. In studies, it is revealed that parent-supported language practices develop children's language skills (Leech, Wei, Harring & Rowe, 2018; Samur, 2021; Suskind, et al., 2016), and that family characteristics have an impact on children's early language and literacy skills (Rowe, Denmark, Harden & Stapleton, 2016). Parents' practices for supporting language show similarity with the results of this study.

When the findings related to parents' practices to support children's school readiness in terms of self-care were examined, it was determined that these practices were concerned with fostering habits, giving responsibility and being a role model. It was revealed that parents intended to foster self-care habits in their children and that they gave their children responsibility for this. It is expected that for school readiness, the child will be able to meet its own needs independently and acquire correct habits. It can be stated that children should be given responsibility for the development of their fine and gross muscles and for meeting their care needs themselves. Parents believed that the child's meeting its own care needs independently and acquiring hygiene habits were important for school readiness (Jose et. al., 2020). It was found that parents were role models for their children in acquiring these habits and enabled them to do this by demonstration. Considering that in the preschool period, many behaviours are learnt by observation and imitation, the parents' acting as role models and being a guide is a supportive practice. Similar studies show that the quality of care offered by families in the preschool period is effective in children's readiness for school (Fram, Kim & Sinha, 2012). Furthermore, it is revealed that encouraging participation in physical activities can stimulate readiness for school (Becker, Grist, Caudle & Watson, 2018), and that motor skills are a powerful support for school readiness (Grissmer, Grimm, Aiyer, Murrah & Steele, 2010; Pagani & Messier, 2012; Sherry & Draper, 2013). These findings are such as to support the findings made in the current study.

When parents' practices aimed at supporting children's school readiness were examined, it was determined that various practices were carried out in social, emotional, cognitive, linguistic and self-care domains. It was determined that for supporting children's school readiness from the social perspective, parents performed practices related to friend relationships, social activities, educational activities, family interaction and giving responsibility, while for support in an emotional sense, they practised oral communication, emotional support, spending time and doing activities. It was revealed that for supporting children's school readiness in the cognitive aspect, number activities, book reading, games and oral activities were performed; for linguistic support, conversation, book reading, games and feedback were practised; while for support related to self-care, practices aimed at fostering habits, giving responsibility and being a role model were carried out. It can be said that support offered by parents to children in the preschool period is effective for children's school readiness. It

can be recommended that parent training programmes are organised so that parents, who are children's first teachers and best know their children's development characteristics, can provide conscious support for their school readiness. For social support, the number of family and environment activities for enabling children's socialisation can be increased. In emotional terms, unconditional love and acceptance can be given so that children can be happier. The number of cognitive activities that encourage school achievement can be increased. To enable children to express themselves correctly, parents can be role models for their children with their conversations. To support children in a physical sense and for them to meet their own self-care needs, activities for developing their fine and gross muscles can be organised. Presenting example activities to families aimed at supporting their children's school readiness in the preschool period can produce positive outcomes.

References

Baker, C. E. (2014). Mexican mothers' English proficiency and children's school readiness: Mediation through home literacy involvement. *Early Education and Development, 25*(3), 338-355. https://doi.org/10.1080/10409289.2013.807721

Baptista, J., Osório, A., Martins, E. C., Verissimo, M., & Martins, C. (2016). Does social–behavioral adjustment mediate the relation between executive function and academic readiness? *Journal of Applied Developmental Psychology, 46,* 22-30. https://doi.org/10.1016/j.appdev.2016.05.004

Beceren, B.Ö., & Özdemir, A.A. (2019). Role of temperament traits and empathy skills of preschool children in predicting emotional adjustment. *International Journal of Progressive Education, 15*(3), 91-107. https://doi.org/10.29329/ijpe.2019.193.7

Becker, D. R., Grist, C. L., Caudle, L. A., & Watson, M. K. (2018). Complex physical activities, outdoor play, and school readiness among preschoolers. *Global Education Review, 5*(2), 110-122.

Bernier, A., Beauchamp, M. H., & Cimon-Paquet, C. (2020). From early relationships to preacademic knowledge: A sociocognitive developmental cascade to school readiness. *Child Development, 91*(1), 134-145. https://doi.org/10.1111/cdev.13160

Bierman, K. L., Domitrovich, C. E., Nix, R. L., Gest, S. D., Welsh, J. A., Greenberg, M. T., Blair, C., Nelson, K. E., & Gill, S. (2008). Promoting academic and socialemotional school readiness: The Head Start REDI program. *Child Development,79*(6), 1802-1817. https://doi.org/10.1111/j.1467-8624.2008.01227.x

Bierman, K. L., Welsh, J. A., Heinrichs, B. S., Nix, R. L., & Mathis, E. T. (2015). Helping Head Start parents promote their children's kindergarten adjustment: The research-based developmentally informed parent program. *Child Development, 86*(6), 1877-1891. https://doi.org/10.1111/cdev.12448

Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist, 57*(2), 111-127. https://doi.org/10.1037/0003-066X.57.2.111

Bradley, R. H. (1994). The home inventory: Review and reflections. In H. W. Reese (Ed.), *Advances in child development and behavior*. San Diego, CA: Academic Press.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*, 723-742.

Burchinal, M., Carr, R. C., Vernon-Feagans, L., Blair, C., Cox, M., & Family Life Project Key Investigators. (2018). Depth, persistence, and timing of poverty and the development of school readiness skills in rural low-income regions: Results from the family life project. *Early Childhood Research Quarterly*, *45*, 115-130. https://doi.org/10.1016/j.ecresq.2018.07.002

Burgess, E., & Ernst, J. (2020). Beyond traditional school readiness: How nature preschools help prepare children for academic success. *International Journal of Early Childhood Environmental Education*, *7*(2), 17-33.

Cairns, R.B., & Cairns, B.D. (2006). The making of developmental psychology. In W. Damon & RM. Lerner (Edt.), *Handbook of child psychology. Vol 1: Theoretical models of human development*, (pp.89-165). Hoboken, NJ: Wiley.

Christian, K., Morrison, F. J., & Bryant, F. B. (1998). Predicting kindergarten academic skills: Interactions among child care, maternal education, and family literacy environments. *Early Childhood Research Quarterly*, *13*, 501–521. https://doi.org/10.1016/S0885-2006(99)80054-4

Claessens, A., & Engel, M. (2013). How important is where you start? Early mathematics knowledge and later school success. *Teachers College Record*, *115*(6), 1-29.

Cohen, L., Manion, L. & Morrison, K. (2011). *Research methods in education*. New York: Routledge

Corbin, J., & Strauss, A. (2015). *Basics of qualitative research: techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.

Crosnoe, R. (2007). Early child care and the school readiness of children from Mexican immigrant families. *International Migration Review*, *41*(1), 152–181. https://doi.org/10.1111/j.1747-7379.2007.00060.x

Davies, S., Janus, M., Duku, E., & Gaskin, A. (2016). Using the early development instrument to examine cognitive and non-cognitive school readiness and elementary student achievement. *Early Childhood Research Quarterly*, *35*, 63-75. https://doi.org/10.1016/j.ecresq.2015.10.002

Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., ... & Japel, C. (2007). School readiness and later achievement. *Developmental Psychology*, *43*(6), 1428-1446. https://doi.org/10.1037/0012-1649.43.6.1428

Duncan, R. J., Schmitt, S. A., Burke, M., & McClelland, M. M. (2018). Combining a kindergarten readiness summer program with a self-regulation intervention improves school readiness. *Early Childhood Research Quarterly*, *42*, 291-300. https://doi.org/10.1016/j.ecresq.2017.10.012

Farver, J. A. M., Xu, Y., Eppe, S., & Lonigan, C. J. (2006). Home environments and young Latino children's school readiness. *Early Childhood Research Quarterly*, *21*(2), 196-212. https://doi.org/10.1016/j.ecresq.2006.04.008

Ferretti, L. K., & Bub, K. L. (2017). Family routines and school readiness during the transition to kindergarten. *Early Education and Development*, *28*(1), 59-77. https://doi.org/10.1080/10409289.2016.1195671

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, *12*(2), 219-245. https://doi.org/10.1177%2F1077800405284363

Fram, M. S., Kim, J., & Sinha, S. (2012). Early care and prekindergarten care as influences on school readiness. *Journal of Family Issues*, *33*(4), 478-505. https://doi.org/10.1177/0192513X11415354

Garner, P. W., & Toney, T. (2020). The relations between maternal mental state talk and preschoolers' behavioral adaptation and school readiness: moderation by emotion situation knowledge. *Social Development*, *30*(1), 113-130. https://doi.org/10.1111/sode.12477

Graue, M. E. (1993). *Ready for what?: Constructing meanings of readiness for kindergarten*. New York: SUNY Press.

Grissmer, D., Grimm, K. J., Aiyer, S. M., Murrah, W. M., & Steele, J. S. (2010). Fine motor skills and early comprehension of the world: two new school readiness indicators. *Developmental Psychology*, *46*(5), 1008-1017. https://doi.org/10.1037/a0020104

Gullo, D. F. (2018). A structural model of early indicators of school readiness among children of poverty. *Journal of Children and Poverty*, *24*(1), 3-24. https://doi.org/10.1080/10796126.2017.1401899

Hajal, N. J., Paley, B., Delja, J. R., Gorospe, C. M., & Mogil, C. (2019). Promoting family school-readiness for child-welfare involved preschoolers and their caregivers: Case examples. *Children and Youth Services Review*, *96*, 181-193. https://doi.org/10.1016/j.childyouth.2018.10.047

Halberstadt, A. G., Denham, S. A., & Dunsmore, J. C. (2001). Affective social competence. *Social Development*, *10*(1), 79-119. https://doi.org/10.1111/1467-9507.00150

Harrington, E. M., Trevino, S. D., Lopez, S., & Giuliani, N. R. (2020). Emotion regulation in early childhood: Implications for socioemotional and academic components of school readiness. *Emotion*, *20*(1), 48–53. https://doi.org/10.1037/emo0000667

Howes, C., Burchinal, M., Pianta, R., Bryant, D., Early, D., Clifford, R., & Barbarin, O. (2008). Ready to learn? Children's pre-academic achievement in pre-kindergarten programs. *Early Childhood Research Quarterly*, *23*(1), 27-50. https://doi.org/10.1016/j.ecresq.2007.05.002

Hunter, L. J., Bierman, K. L., & Hall, C. M. (2018). Assessing noncognitive aspects of school readiness: The predictive validity of brief teacher rating scales of social–emotional competence and approaches to learning. *Early Education and Development*, *29*(8), 1081-1094. https://doi.org/10.1080/10409289.2018.1495472

Isbell, E., Calkins, S. D., Swingler, M. M., & Leerkes, E. M. (2018). Attentional fluctuations in preschoolers: Direct and indirect relations with task accuracy, academic readiness, and school performance. *Journal of Experimental Child Psychology*, *167*, 388-403. https://doi.org/10.1016/j.jecp.2017.11.013

Jose, K., Banks, S., Hansen, E., Jones, R., Zubrick, S. R., Stafford, J., & Taylor, C. L. (2020). Parental perspectives on children's school readiness: An ethnographic study. *Early Childhood Education Journal*, 1-11. https://doi.org/10.1007/s10643-020-01130-9

Kagan, S. L. (1992). Readiness past, present, and future: Shaping the agenda. *Young Children*, *48*, 48–53.

Kagan, S. L., Moore, E. K., & Bredekamp, S. (1995). *Reconsidering children's early development and learning: Toward common views and vocabulary*. Washington, DC: National Education Goals Panel.

Kim, J., & Suen, H. K (2003). Predicting children's academic achievement from early assessment scores: a validity generalization study. *Early Childhood Research Quarterly, 18*, 547–566. https://doi.org/10.1016/j.ecresq.2003.09.011

Kirk, G., & Jay, J. (2018). Supporting kindergarten children's social and emotional development: Examining the synergetic role of environments, play, and relationships. *Journal of Research in Childhood Education, 32*(4), 472-485. https://doi.org/10.1080/02568543.2018.1495671

Kjær, B., Bach, D., & Dannesboe, K. I. (2020). Academics as play and the social as discipline: school readiness in Denmark. *International Journal of Early Years Education, 28*(3), 246-261. https://doi.org/10.1080/09669760.2020.1806044

Kull, M. A., & Coley, R. L. (2015). Early physical health conditions and school readiness skills in a prospective birth cohort of US children. *Social Science & Medicine, 142*, 145-153. https://doi.org/10.1016/j.socscimed.2015.08.030

La Paro, K. M., & Pianta, R. C. (2001). Predicting children's competence in the early school years: A meta-analytic review. *Review of Educational Research. 70*, 443–484. https://doi.org/10.3102/00346543070004443

Leech, K., Wei, R., Harring, J. R., & Rowe, M. L. (2018). A brief parent-focused intervention to improve preschoolers' conversational skills and school readiness. *Developmental Psychology*, *54*(1), 15-28. https://doi.org/10.1037/dev0000411

Leventhal, T., Selner-O'Hagan, M. B., Brooks-Gunn, J., Bingenheimer, J. B., & Earls, F. J. (2004). The homelife interview from the project on human development in Chicago neighborhoods: Assessment of parenting and home environment for 3-to 15-year-olds. *Parenting*, *4*(2-3), 211-241. https://doi.org/10.1080/15295192.2004.9681271

MacPhee, D., Prendergast, S., Albrecht, E., Walker, A. K. & Miller-Heyl, J. (2018). The child-rearing environment and children's mastery motivation as contributors to school readiness. *Journal of Applied Developmental Psychology*, *56*, 1-12. https://doi.org/10.1016/j.appdev.2018.01.002.

Marczyk, G., DeMatteo, D., & Festinger, D. (2005). *Essentials of research design and methodology*. New York: John Wiley & Sons Inc.

Marshall, C., & Rossman, G.B. (2006). *Designing qualitative research*. California: Sage Publications.

Marti, M., Merz, E. C., Repka, K. R., Landers, C., Noble, K. G., & Duch, H. (2018). Parent involvement in the getting ready for school intervention is associated with changes in school readiness skills. *Frontiers in Psychology*, *9*, 1-15. https://doi.org/10.3389/fpsyg.2018.00759

Mashburn, A. J., & Pianta, R. C. (2006). Social relationships and school readiness. *Early Education and Development*, *17*(1), 151-176. https://doi.org/10.1207/s15566935eed1701_7

Mathis, E. T., & Bierman, K. L. (2015). Effects of parent and child pre-intervention characteristics on child skill acquisition during a school readiness intervention. *Early Childhood Research Quarterly*, *33*, 87-97. https://doi.org/10.1016/j.ecresq.2015.07.002

McWayne, C. M., Fantuzzo, J. W., & McDermott, P. A. (2004). Preschool competency in context: an investigation of the unique contribution of child competencies to early academic success. *Developmental Psychology*, *40*(4), 633-645. https://doi.org/10.1037/0012-1649.40.4.633

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: John Wiley & Sons.

Miclea, M., & Mihalca, L. (2007). A computerized platform for the assessment of school readiness. *Cognition, Brain, Behavior*, *11*(1), 83-90.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: A source book of new methods*. London: SAGE Publications.

Miller, M. M., & Kehl, L. M. (2019). Comparing parents' and teachers' rank-ordered importance of early school readiness characteristics. *Early Childhood Education Journal*, *47*(4), 445-453. https://doi.org/10.1007/s10643-019-00938-4

Napoli, A. R., & Purpura, D. J. (2018). The home literacy and numeracy environment in preschool: Cross-domain relations of parent–child practices and child outcomes. *Journal of Experimental Child Psychology*, *166*, 581-603. https://doi.org/10.1016/j.jecp.2017.10.002

National Education Goals Panel (NEGP) (1995). *National Education Goals report executive summary: Improving education through family–school–community partnerships*. Washington, DC: U.S. Government Printing Office.

Neuman, W.L. (2014). *Basics of social research: Qualitative and quantitative approaches*. Boston: Pearson Education.

Nix, R. L., Bierman, K. L., Motamedi, M., Heinrichs, B. S., & Gill, S. (2018). Parent engagement in a Head Start home visiting program predicts sustained growth in children's school readiness. *Early Childhood Research Quarterly*, *45*, 106-114. https://doi.org/10.1016/j.ecresq.2018.06.006

Nonoyama-Tarumi, Y., & Bredenberg, K. (2009). Impact of school readiness program interventions on children's learning in Cambodia. *International Journal of Educational Development*, *29*(1), 39-45. https://doi.org/10.1016/j.ijedudev.2008.07.003

O'Sullivan, L., & Ring, E. (2018). Play as learning: implications for educators and parents from findings of a national evaluation of school readiness in Ireland. *International Journal of Play*, *7*(3), 266-289. https://doi.org/10.1080/21594937.2018.1532720

Pagani, L. S., & Messier, S. (2012). Links between motor skills and indicators of school readiness at kindergarten entry in urban disadvantaged children. *Journal of Educational and Developmental Psychology*, *2*(1), 95-107.

Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice*. Thousand Oaks, CA: Sage.

Pianta, R. (2002). *School readiness: a focus on children, families, communities, and schools*. The Informed Educator Series. Washington, DC: Educational Research Service.

Pianta, R. C., & Walsh, D. J. (1996). H*igh-risk children in schools: Constructing sustaining relationships*. New York: Routledge.

Pianta, R. C., Barnett, W. S., Burchinal, M., & Thornburg, K. R. (2009). The effects of preschool education: What we know, how public policy is or is not aligned with the evidence base, and what we need to know. *Psychological Science in the Public Interest*, *10*(2), 49-88. https://doi.org/10.1177/1529100610381908

Pianta, R. C., Cox, M. J., & Snow, K. L. (2007). *School readiness and the transition to kindergarten in the era of accountability*. Baltimore: Brookes Publishing Company.

Polat, Ö., & Akyol, N. (2016). Analyzing the relationship between school readiness and peer relations of five-year-old children. *International Journal on New Trends in Education and Their Implications*, *7*(4), 29-39.

Prior, M., Bavin, E., & Ong, B. (2011). Predictors of school readiness in five-to six-year-old children from an Australian longitudinal community sample. *Educational Psychology*, *31*(1), 3-16. https://doi.org/10.1080/01443410.2010.541048

Puccioni, J. (2015). Parents' conceptions of school readiness, transition practices, and children's academic achievement trajectories. *The Journal of Educational Research*, *108*(2), 130-147. https://doi.org/10.1080/00220671.2013.850399

Puccioni, J. (2018). Parental beliefs about school readiness, home and school-based involvement, and children's academic achievement. *Journal of Research in Childhood Education*, *32*(4), 435-454. https://doi.org/10.1080/02568543.2018.1494065

Quirk, M., Dowdy, E., Goldstein, A., & Carnazzo, K. (2017). School readiness as a longitudinal predictor of social-emotional and reading performance across the elementary grades. *Assessment for Effective Intervention*, *42*(4), 248-253. https://doi.org/10.1177/1534508417719680

Rimm-Kaufman, S. E., & Pianta, R. C. (2000). An ecological perspective on the transition to kindergarten: A theoretical framework to guide empirical research. *Journal of Applied Developmental Psychology*. *21*(5), 491-511. https://doi.org/10.1016/S0193-3973(00)00051-4

Rimm-Kaufman, S. E., Pianta, R. C., Cox, M. J., & Bradley, R. H. (2003). Teacher-rated family involvement and children's social and academic outcomes in kindergarten. *Early Education and Development*, *14*(2), 179-198. https://doi.org/10.1207/s15566935eed1402_3

Rowe, M. L., Denmark, N., Harden, B. J., & Stapleton, L. M. (2016). The role of parent education and parenting knowledge in children's language and literacy skills among White, Black, and Latino families. *Infant and Child Development*. *25*(2), 198-220. https://doi.org/10.1002/icd.1924

Sabol, T. J., Bohlmann, N. L., & Downer, J. T. (2018). Low-income ethnically diverse children's engagement as a predictor of school readiness above preschool classroom quality. *Child Development*, *89*(2), 556-576. https://doi.org/10.1111/cdev.12832

Sahin, A. E., & Is-Guzel, C. (2018). Investigation of school readiness and academic development of elementary students firstly enrolled at school with'4+ 4+ 4 education regulation'in Turkey. *Educational Policy Analysis and Strategic Research*, *13*(2), 104-127. https://doi.org/10.29329/epasr.2019.201.4

Samur, A.O.I. (2021). Creating a reading culture in a preschool in collaboration with children, teachers and parents. *International Journal of Progressive Education, 17*(4), 405-436. doi: 10.29329/ijpe.2021.366.25

Sheridan, S. M., Knoche, L. L., Edwards, C. P., Bovaird, J. A., & Kupzyk, K. A. (2010). Parent engagement and school readiness: Effects of the getting ready intervention on preschool children's social–emotional competencies. *Early Education and Development, 21*(1), 125-156. https://doi.org/10.1080/10409280902783517

Sherry, K., & Draper, C. E. (2013). The relationship between gross motor skills and school readiness in early childhood: making the case in South Africa. *Early Child Development and Care, 183*(9), 1293-1310. https://doi.org/10.1080/03004430.2012.721358

Shonkoff, J. P., & Phillips, D. A. (Eds.), & Committee on Integrating the Science of Early Childhood Development, Board on Children, Youth, and Families. (2000). *From neurons to neighborhoods: The science of early childhood programs*. Washington, DC: National Academy Press.

Snow, K. L. (2006). Measuring school readiness: Conceptual and practical considerations. *Early Education and Development, 17*(1), 7-41. https://doi.org/10.1207/s15566935eed1701_2

Soltis, K., Davidson, T. M., Moreland, A., Felton, J., & Dumas, J. E. (2015). Associations among parental stress, child competence, and school-readiness: Findings from the PACE study. *Journal of Child and Family Studies, 24*(3), 649-657. https://doi.org/10.1007/s10826-013-9875-2

Son, S. C., & Peterson, M. F. (2017). Marital status, home environments, and family strain: complex effects on preschool children's school readiness skills. *Infant and Child Development. 26,* 1-26. https://doi.org/10.1002/icd.1967

Suskind, D. L., Leffel, K. R., Graf, E., Hernandez, M. W., Gunderson, E. A., Sapolich, S. G., ... & Levine, S. C. (2016). A parent-directed language intervention for children of low socioeconomic status: A randomized controlled pilot study. *Journal of Child Language, 43*(2), 366-406. doi:10.1017/S0305000915000033

Swayze, M., & Dexter, C. (2018). Working memory and school readiness in preschoolers. *Contemporary School Psychology, 22*(3), 313-323. https://doi.org/10.1007/s40688-017-0145-y

Treat, A. E., Sheffield-Morris, A., Williamson, A. C., & Hays-Grudo, J. (2020). Adverse childhood experiences and young children's social and emotional development: the role of maternal depression, self-efficacy, and social support. *Early Child Development and Care, 190*(15), 2422-2436. https://doi.org/10.1080/03004430.2019.1578220

Valcan, D. S., Davis, H., & Pino-Pasternak, D. (2018). Parental behaviours predicting early childhood executive functions: A meta-analysis. *Educational Psychology Review*. *30*, 607–649. doi 10.1007/s10648-017-9411-9

Vitiello, V. E., & Greenfield, D. B. (2017). Executive functions and approaches to learning in predicting school readiness. *Journal of Applied Developmental Psychology*. *53,* 1-9. https://doi.org/10.1016/j.appdev.2017.08.004

Walker, A. K., & MacPhee, D. (2011). How home gets to school: Parental control strategies predict children's school readiness. *Early Childhood Research Quarterly, 26*(3), 355-364. https://doi.org/10.1016/j.ecresq.2011.02.001

© 2021 INASED

Wolf, S., & McCoy, D. C. (2019). Household socioeconomic status and parental investments: Direct and indirect relations with school readiness in Ghana. *Child Development*, *90*(1), 260-278. https://doi.org/10.1111/cdev.12899

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Examining the Relationship Between Prospective Turkish Teachers` Public Speaking Anxiety and Digital Speech Tendencies

Yusuf Mete ELKIRAN[1]

Çanakkale Onsekiz Mart University

Abstract

This research aims to determine the relationship between prospective Turkish teachers` public speaking anxiety and digital speaking tendencies. In this context, 181 prospective teachers from different grades studying in the Turkish language teaching program of a state university in the west of Turkey were examined. The relational surveying method, which is one of the quantitative research methods, was used. "Public Speaking Anxiety Scale" and "Digital Speaking Tendency Scale" were used as data collection tools in the research. As a result of the analysis, it was determined that the data showed normal distribution, so independent sample t-test and one-way ANOVA analyzes were used in the study. In addition to them, arithmetic mean and standard deviation values were used. According to the results, it is seen that prospective Turkish teachers` public speaking anxiety levels and digital speaking tendencies are at the moderate level. Furthermore, it was concluded that public speaking anxiety levels and digital speaking tendencies did not show a significant difference according to gender, grade level, the average number of books read in a year and time spent on the internet in an average day. Turkish teachers should be given training and courses in order to reduce the anxiety of speaking in public and to raise awareness. Speech anxiety can also be prevented by adding the cause or causes of speech disorders and solving errors in the curriculum at all education levels. Therefore, it has been concluded that there is a positive and low-level significant relationship between prospective Turkish teachers' public speaking anxiety and digital speaking tendency.

Keywords: Digital Speech, Speaking Anxiety, Turkish Education.

DOI: 10.29329/epasr.2021.373.11

[1] Lecturer Dr., Çanakkale Onsekiz Mart University, Faculty of Education, Department of Computer and Instructional Technologies Education, Çanakkale, Turkey. ORCID ID: 0000-0001-8372-8555

Correspondence: ymelkiran@gmail.com

© 2021 INASED

Introduction

Language is the most basic communication tool used by people to convey their feelings, thoughts and wishes. Scientists make different language definitions. According to Özbay (2003), a language is a communication tool that has essential functions in every field, from developing culture and civilization to people's problems in their daily lives. The most accepted definitions for language set some limitations, Saussure's (1985) definition limited to a system, Chomsky's (1957) definition set of sentences and Sapir's (1921) definition limited it to humans, is Ergin's (1972) definition is language is a natural means of communicating between people. It is a living being that has its laws and develops only within the framework of these laws, a system of collusion whose foundation was laid at unknown times, a social institution woven from voices." In language education and training, listening, speaking, reading and writing skills are handled separately and developed in the process (Eryaman, 2008). In teaching Turkish as a mother tongue and a foreign language, each of these four language skills is treated as a different field and developed using different methods and techniques for each skill.

Speaking has been defined as verbally expressing thoughts with the words of a language (T.D.K., 2005). Speaking skill is an important skill used in every moment and area of life for the individual to communicate with his environment and continue his life. In order to exist and be accepted in society, a person must be able to express himself correctly and effectively. For the language to be used correctly, beautifully and effectively, speaking skills should be supported by reading, writing and listening skills (Gün and Akkaya, 2016; Güzel and Barın, 2013; Temizyürek, Erdem, and Temizkan, 2011). The most suitable environment in which language performance can be exhibited is speaking. There can be no listening without speaking. With the existence of speech, it is possible to develop listening skills (Kurudayıoğlu, 2003). It can be mentioned that the effectiveness of the comprehension skill can be mentioned based on the narration skill. Speaking skill is both a complex and multidimensional skill. Speaking is a skill that can be acquired and developed. The speech takes place by the sequential and simultaneous operation of many organs, both physically and mentally. As in mother tongue teaching or language learning, speaking skill plays a decisive role at every stage and level of education. In order to understand and learn a lesson or subject, teachers' comprehension and expression skills must be highly developed.

Speech anxiety is a phobia. Social phobia is the state of being anxious and afraid of being funny for more than one situation in which the person will be evaluated by others (Marks and Gelder, 1966). This situation consists of the feeling of being in the eyes of others for socializing environments. In addition, there may be anxiety not to look ridiculous (Liebowitz, 1987). In general, social phobia is considered the fear of situations in which the person will not feel well. According to Burger (2006), anxiety is an emotional experience that feels bad; it can lead to panic, sadness, anxiety,

and uneasiness. Some individuals experience this anxiety while eating, walking, walking or speaking in general, while others experience this anxiety only when speaking in public. Speaking anxiety can be explained as uneasiness and failure felt by the person who will speak in front of a group of people (Bodie, 2010). Speaking anxiety is the fear of appearing ridiculous to others after speaking.

If we interpret speech anxiety as communication anxiety from a broad perspective, it can be said that it is divided into two basic situations. First, speaking anxiety in general communication moments in social environments is not the same as speaking anxiety in public for any moment of the day. Second, in the field of Turkish education, studies are using different measurement tools related to speaking anxiety (Gündüz and Demir, 2021; Ünal and Özer, 2017; Sevim, 2012; Sofu, 2012; Yaman and Sofu, 2013). However, no research was found using a measurement tool for public speaking anxiety.

The world population is approximately 7.8 billion. This is reflected in the statistics that at least 4.9 billion of the population actively use the internet (Worldometers, 2021). Many life activities such as shopping, education, museum and exhibition trips have overflowed to digital environments in today's world. In short, there are shops, schools, libraries and museums in a digital virtual world. States have started to use the digital world to provide faster service to their citizens. People socialize heavily in these environments and websites. Thus, the possibilities of self-expression of people, who are the building blocks of society, have been transferred to digital environments. The digital world, which has developed in the last twenty years and has become indispensable day by day, has brought new skills and experiences (Ustabulut, 2021). Lectures, meetings and studies in front of the camera became common. In order to keep up with age, it is necessary to develop language skills and determine their needs by questioning, depending on their socialization status in the digital world (Kana, Yağmur and Elkıran, 2017).

This study reveals the relationship between prospective Turkish teachers` public speaking anxieties and their digital speaking tendencies in line with the explanations. Thus, it is thought to understand prospective teachers' perceptions in the digital environment and public speaking. The research problems determined by the purpose of the research are presented below:

1. What is the level of public speaking anxiety of prospective Turkish teachers?
2. What is the digital speaking disposition of prospective Turkish teachers?
3. Do prospective Turkish teachers` public speaking anxieties differ significantly according to gender, grade level, the average number of books read in a year, and time spent on the internet in an average day?

4. Do the digital speaking tendencies of prospective Turkish teachers differ significantly according to gender, grade level, the average number of books read in a year and time spent on the internet in an average day?

5. Is there a relationship between prospective Turkish teachers` public speaking anxiety and their digital speaking tendencies?

Method

Research Model

In this study, the correlational survey model, which is one of the quantitative research methods, was used to examine the correlation between the digital writing attitudes of prospective Turkish teachers and their digital reading tendencies. The relational surveying model, which is one of the main methods of correlational and causal comparison methods, and research that examines relationships and connections are often called associational research (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, and Demirel, 2018). In this study, the relationships between the digital writing attitudes of prospective Turkish teachers and their digital reading tendencies and the variables collected with data collection tools were examined.

Data Collection Tools

The "Public Speaking Anxiety Scale" developed by Bartholomay and Houlihan (2016) was adapted into Turkish by Çabuker, Çelik and Aldemir (2020). The scale requires a Likert-type scoring between 1 and 5. The scale consists of 16 items in total. The sub-dimensions of the scale are named "cognitive", "behavioural", and "psychological". The cognitive sub-dimension consists of seven items; the behaviourist sub-dimension consists of four items, and the psychological sub-dimension consists of five items. (Çabuker, Çelik, and Aldemir, 2020).

The "Digital Speech Tendency Scale" was developed by Yurdakal and Kırmızı (2019) as a 5-point Likert type scale. The scale consists of 16 items in total. The sub-dimensions of the scale are "negative point of view towards digital speech", "positive point of view towards digital speech", "characteristics of digital speech". The sub-dimension of negative perspective towards digital speech consists of seven items, the positive perspective towards digital speaking sub-dimension consists of five items. Finally, the characteristics of the digital speech sub-dimension consist of four items (Yurdakal and Kırmızı, 2019).

A reliability study was conducted within the scope of the research. The Cronbach-Alpha internal consistency coefficient calculated for the "Public Speaking Anxiety Scale" was .915, and the Cronbach-Alpha internal consistency coefficient for the whole "Digital Speech Tendency Scale" was calculated as .752. The Cronbach-Alpha, internal consistency coefficient for the "Public Speaking

Anxiety Scale" sub-dimensions was calculated as .860 for the cognitive sub-dimension, .736 for the behavioural sub-dimension, and .714 for the psychological sub-dimension. The Cronbach-Alpha internal consistency coefficient for the "Digital Speech Tendency Scale" sub-dimensions was calculated as .835 in the Negative Perspective on Digital Speech sub-dimension, .815 in the Positive Perspective on Digital Speech sub-dimension, and .794 in the Features of Digital Speech sub-dimension. Accordingly, it can be concluded that the scales are reliable.

Data Analysis

SPSS package program, one of the quantitative data analysis software, was used in the research. Standard deviation (Sd) and arithmetic mean ($\bar{x}$) values were used in the study. According to George and Mallery (2010), the value ranges providing normality are between (+2.0) – (-2.0). Therefore, the skewness and kurtosis values obtained from this study ranged from -2 to +2. Since the skewness and kurtosis values showed normal distribution, t-test, one-way ANOVA and Pearson correlation analyzes were used for the analysis.

Participants

The research sample group consists of 181 prospective Turkish teachers studying at Çanakkale Onsekiz Mart University Turkish Education Department. Descriptive statistical analyzes of the sample group of the study are given in the following part. In addition, the participants' gender distribution is given in table 1.

Table 1. Gender Distribution of the Participants

Gender	f	%
Female	127	70.2
Male	54	29.8

When Table 1 is examined, it is seen that 70.2% of the study participants are female, and 29.8% are male. The distribution of the participants' grade level is given in table 2.

Table 2. Grade Levels of the Participants

Grades	f	%
First Grade	32	17.7
Second Grade	37	20.4
Third Grade	51	28.2
Fourth Grade	61	33.7

When Table 2 is examined, it is seen that 17.7% of the participants are first grade, 20.4% are second grade, 28.2% are third grade, and 33.7% are fourth grade. The average number of books read by the participants is given in table 3.

Table 3. The Average Number of Books Read by the Participants in a Year

Number of Book	f	%
0-5	46	25.4
6-10	44	24.3
11-15	41	22.7
16 and above	50	27.6

When Table 3 is examined, it is seen that 25.4% of the respondents read 0-5 books, 24.3% read 6-10 books, 22.7% read 11-15 books, 27.6% read 16 or more books in a year. The average time spent on the internet by the participants is given in table 4.

Table 4. The Time that Participants Spend on the Internet in an Average Day

Average Time	f	%
0-1 hour	19	10.5
2-3 hours	39	21.5
4-6 hour	65	35.9
7 hours and more	58	32.0

When Table 4 is examined, it is seen that 10.5% of the respondents spend 0-1 hour, 21.5% 2-3 hours, 35.9% 4-6 hours, 32% spend 7 hours or more on the internet in a day.

Results

Analysis results of prospective Turkish teachers' public speaking concerns are given in table 5.

Table 5. Analysis Results of Prospective Turkish Teachers' Public Speaking Concerns

Dimensions	N	$\bar{x}$	S
Cognitive	181	2.92	.78
Behavioral	181	2.86	.78
Psychological	181	3.03	.70
Total	181	2.96	.70

When Table 5 is examined, when the total scale score is taken into account, it is revealed that prospective Turkish teachers stated their public speaking anxiety levels as "I partially agree". This statement corresponds to the moderate degree according to the evaluation of Likert-type scale statements. In addition to this, it is revealed that they stated "I partially agree" in cognitive, behavioural and psychological sub-dimensions. Finally, the analysis results of prospective Turkish teachers' digital conversation tendencies are given in table 6.

Table 6. Analysis Results of Prospective Turkish Teachers' Digital Conversation Tendencies

Dimensions	N	$\bar{x}$	S
Negative Perspective on Digital Conversation	181	2.74	.81
Positive Perspective on Digital Conversation	181	2.85	.82
Features of Digital Speech	181	3.48	.85
Total	181	2.96	.47

According to Table 6, when the total scale score is taken into account, it can be seen that prospective Turkish teachers state their digital speaking disposition levels as "I partially agree". In addition, it is revealed that prospective Turkish teachers stated their tendency levels as "I partially agree" in the sub-dimensions of negative perspective towards digital speech and positive perspective towards digital speech. However, in the sub-dimension of the characteristics of digital speech, it is revealed that the tendency level is "agree". Kurtosis and skewness values of the scales are given in table 7.

Table 7. Kurtosis and Skewness Values of The Scales

Dimension	Skewness	Kurtosis
Cognitive	-.109	-.318
Behavioral	-.056	-.277
Psychological	-.229	.064
Public Speaking Anxiety (Total)	-.194	-.174
Negative Perspective on Digital Conversation	.199	.403
Positive Perspective on Digital Conversation	.184	.306
Features of Digital Speech	-.271	.224
Digital Conversation Trend (Total)	-.026	.429

When Table 7 is examined, it can be seen that the public speaking anxiety scale skewness and kurtosis values for the total scale score (Skewness -.194, Kurtosis: -.174). In addition to that, skewness and kurtosis values of the sub-dimensions of the scale are respectively, cognitive sub-dimension (Skewness: -.109, Kurtosis: -.318), behavioural sub-dimension (Skewness: -.174) .056, Kurtosis: -.277), psychological sub-dimension (Skewness: -.229, Kurtosis: .064). Besides that, the digital speech disposition scale skewness and kurtosis values for the total scale score (Skewness: -.026, Kurtosis: .429) negatively affected digital speech. The sub-dimension of the perspective sub-dimension (Skewness: -.199, Kurtosis: .403), the positive point of view towards digital speech (Skewness: .184, Kurtosis: .306), the characteristics of digital speech sub-dimension (Skewness: -.271, Kurtosis: .359) It turns out that it takes a value between -2 and +2. According to George and Mallery (2010), the value ranges providing normality are between (+2.0) – (-2.0). In this context, considering that the data obtained from the scales and sub-dimensions take values between -2 and +2, parametric (normally distributed) tests will be applied for the analyzes in this study.

In order to determine whether the dimensions of prospective Turkish teachers' perceptions of public speaking anxiety and the scale differ according to the gender variable, independent groups t-test was applied, and the results are shown in table 8.

Table 8. Analysis Results of Prospective Turkish Teachers' Public Speaking Anxiety Levels by Gender

Dimension	Gender	N	x̄	Sd	t	p
Cognitive	Female	127	2.93	.79	.33	.73
	Male	54	2.89	.76		
Behavioral	Female	127	2.91	.79	1.32	.18
	Male	54	2.75	.73		
Psycological	Female	127	3.05	.72	.69	.48
	Male	54	2.97	.66		
Total	Female	127	2.99	.72	.89	.37
	Male	54	2.89	.66		

As it can be seen in Table 8, when the whole of the prospective Turkish teachers' public speaking anxiety scale is taken into account, there is no significant difference in terms of gender ($t(179) = .89$, $p > .05$). However, when the sub-dimensions of the scale were examined, cognitive ($t(179)= .33$, $p > .05$), behavioral ($t(179)= 1.32$, $p > .05$), psychological ($t(179)= .69$, $p > . 05$) simensions do not show a significant difference in terms of gender.

In addition, the independent groups' t-test was applied to determine whether the perceptions of the sub-dimensions and the scale constituting the digital speaking tendencies of the prospective Turkish teachers differ according to the gender variable, and the results are shown in table 9.

Table 9. Analysis Results of Prospective Turkish Teachers' Digital Speaking Tendency Levels by Gender Variable

Dimension	Gender	N	x̄	Sd	t	p
Negative Perspective on Digital Conversation	Female	127	2.80	.819	1.6	.11
	Male	54	2.59	.803		
Positive Perspective on Digital Conversation	Female	127	2.76	.77	-2.4	.01*
	Male	54	3.08	.89		
Features of Digital Speech	Female	127	3.47	.79	.30	.76
	Male	54	3.51	.98		
Total	Female	127	2.96	.44	-.23	.81
	Male	54	2.97	.52		

As can be seen in Table 9, when the total scale score of digital speaking tendencies of prospective Turkish teachers is taken into account, it does not show a significant difference in terms of gender ($t(179) = -.23$, $p > .05$). On the other hand, when the sub-dimensions of the scale are examined, there is no significant difference found between the negative perspective towards digital speech ($t(179) = 1.6$, $p > .05$) and the characteristics of digital speech ($t(179) = .30$, $p > .05$) in terms of gender variable. In addition, there is a significant difference found in favour of prospective male teachers in terms of gender variable ($t(179) = -2.4$, $p < .05$) in the sub-dimension of positive perspective towards digital speaking. In other words, male prospective Turkish teachers' perceptions of positive perspective towards digital speaking ($\bar{x} = 3.08$) are higher than female prospective Turkish teachers ($\bar{x}= 2.76$).

According to the total scale score and sub-dimensions scores of the public speaking anxiety scale in terms of grade level, a one-way ANOVA test was applied to determine whether the perception levels of prospective Turkish teachers regarding public speaking anxiety differ. The results obtained as a result of the tests applied are shown in Table 10.

Table 10. One-Way ANOVA Analysis Results of Prospective Turkish Teachers' Public Speaking Anxiety According to Grade Level Variable

Dimension	Source of Variance	Sum of Squares	sd	Mean Squares	F	p	Significant Difference
Cognitive	Between Groups	1.437	3	1.005	1.655	.178	-
	Within Groups	88.177	177	.607			
	Total	89.614	180				
Behavioral	Between Groups	3.016	3	.066	.107	.956	-
	Within Groups	107.496	177	.618			
	Total	110.512	180				
Psycological	Between Groups	.198	3	.479	.961	.412	-
	Within Groups	109.373	177	.498			
	Total	109.571	180				
Total	Between Groups	.095	3	.032	.063	.979	-
	Within Groups	89.005	177	.503			
	Total	89.101	180				

According to Table 10, the perception levels of prospective Turkish teachers towards public speaking anxiety do not show a significant difference according to the grade level variable [$F_{(3-177)}$= .063, p>.05]. On the other hand, perception levels of public speaking anxieties were correlated with cognitive [$F_{(3-177)}$= .1.655, p>.05], behavioral [$F_{(3-177)}$= .107, p>.05] and psychological [$F_{(3-177-}$ = .961, p>.05] does not show a significant difference in sub-dimensions according to the grade level variable.

According to the total scale score and sub-dimension scores of the digital speaking disposition scale in terms of grade level, a one-way ANOVA test was applied to determine whether the perception levels of prospective Turkish teachers towards digital speaking dispositions differ. The results obtained as a result of the tests applied are shown in Table 11.

Table 11. One-Way ANOVA Analysis Results of Prospective Turkish Teachers' Digital Speech Tendency by Grade Level Variable

Dimension	Source of Variance	Sum of Squares	sd	Mean Squares	F	p	Significant Difference
Negative Perspective on Digital Conversation	Between Groups	1.187	3	.396	.587	.624	-
	Within Groups	119.303	177	.674			
	Total	120.490	180				
Positive Perspective on Digital Conversation	Between Groups	3.894	3	1.298	1.948	.124	-
	Within Groups	117.925	177	.666			
	Total	121.819	180				

Features of Digital Speech	Between Groups	2.929	3	.976	1.358	.257	-
	Within Groups	127.286	177	.719			
	Total	130.215	180				
Total	Between Groups	1.901	3	.634	2.943	.034*	A-C
	Within Groups	38.110	177	.215			
	Total	40.011	180				

p*<.05 A: 1. Grade, B: 2. Grade, C: 3. Grade, D: 4. Grade

According to table 11, digital speaking tendencies of prospective Turkish teachers show a significant difference according to the grade variable [$F_{(3-177)}$=2.943; p<.05]. Tukey test was performed in order to reveal to which groups this difference originated. According to the Tukey test, first-grade prospective Turkish teachers ($\bar{x}$=3.18) show a significant difference favouring first graders compared to third-grade prospective Turkish teachers ($\bar{x}$ =2.90). On the other hand, the perception levels of prospective Turkish teachers towards digital speaking tendencies, the negative perspective of the scale towards digital speech [$F_{(3-177)}$ = 1.655, p>.05], the positive perspective of digital speech [$F_{(3-177)}$ = .107, p>.05] and features of digital speech [$F_{(3-177)}$ = .961, p>.05] do not show a significant difference in sub-dimensions according to the grade level variable.

According to the total scale score and sub-dimension scores of the public speaking anxiety scale in terms of the average number of books they read in a year, the one-way ANOVA test was applied to determine whether the perception levels of prospective Turkish teachers about public speaking anxiety differ. The results obtained as a result of the tests applied are shown in Table 12.

Table 12. One-Way ANOVA Analysis Results of Prospective Turkish Teachers' Public Speaking Anxiety According to Grade Level Variable

Dimension	Source of Variance	Sum of Squares	sd	Mean Squares	F	p	Significant Difference
Cognitive	Between Groups	1.769	3	.590	.960	.413	-
	Within Groups	108.743	177	.614			
	Total	110.512	180				
Behavioral	Between Groups	1.417	3	.472	.773	.511	-
	Within Groups	108.154	177	.611			
	Total	109.571	180				
Psycological	Between Groups	.426	3	.142	.282	.838	-
	Within Groups	89.188	177	.504			
	Total	89.614	180				
Total	Between Groups	1.266	3	.422	.85	.468	-
	Within Groups	87.835	177	.496			
	Total	89.101	180				

According to Table 12, the perception levels of prospective Turkish teachers towards public speaking anxiety do not show a significant difference according to the variable of the average number of books they read in a year [$F_{(3-177)}$ = .85, p>.05]. On the other hand, perception levels of public

speaking anxieties were determined by the scale's cognitive [$F_{(3-177)}$ = .960, p>.05], behavioural [$F_{(3-177)}$ = .773, p>.05] and psychological [$F_{(3-177)}$ = .282, p>.05] do not show a significant difference in sub-dimensions according to the average number of books they read in a year.

A one-way ANOVA test was applied to determine whether the perception levels of prospective Turkish teachers towards digital speaking tendencies differ when the total scale score and sub-dimension scores of the digital speaking tendency scale in terms of the variable of the average number of books they read in a year are taken into account. The results obtained from the tests are shown in Table 13.

Table 13. One-Way ANOVA Analysis Results of Prospective Turkish Teachers' Digital Speech Tendency by the Variable of Average Number of Books Read in a Year

Dimension	Source of Variance	Sum of Squares	sd	Mean Squares	F	p	Significant Difference
Negative Perspective on Digital Conversation	Between Groups	3.40	3	1.135	1.715	.166	-
	Within Groups	117.087	177	.662			
	Total	120.490	180				
Positive Perspective on Digital Conversation	Between Groups	2.127	3	.709	1.049	.372	-
	Within Groups	119.692	177	.676			
	Total	121.819	180				
Features of Digital Speech	Between Groups	.098	3	.033	.044	.988	-
	Within Groups	130.118	177	.735			
	Total	130.215	180				
Total	Between Groups	.285	3	.095	.423	.737	-
	Within Groups	39.726	177	.224			
	Total	40.011	180				

Considering Table 13, the digital speaking tendencies of prospective Turkish teachers do not show a significant difference according to the average number of books they read in a year [$F_{(3-177)}$=.423; p>.05]. On the other hand, the perception levels of prospective Turkish teachers towards digital speaking tendencies, the negative perspective of the scale towards digital speech [$F_{(3-177)}$= 1.715, p>.05], the positive perspective of digital speech [$F_{(3-177)}$= 1.049], p>.05] and features of digital speech [$F_{(3-177)}$= .044, p>.05] also do not show a significant difference according to the grade level variable.

According to the total scale score and sub-dimension scores of the public speaking anxiety scale in terms of the time spent on the internet on an average day, the one-way ANOVA test was applied to determine whether the perception levels of prospective Turkish teachers for public speaking anxiety differ. The results obtained from the test are shown in Table 14.

Table 14. One-Way ANOVA Analysis Results of Prospective Turkish Teachers' Public Speaking Anxiety According to the Time They Spend on the internet in an Average Day

Dimension	Source of Variance	Sum of Squares	sd	Mean Squares	F	p	Significant Difference
Cognitive	Between Groups	3.585	3	1.195	1.978	.119	-
	Within Groups	106.927	177	.604			
	Total	110.512	180				
Behavioral	Between Groups	1.749	3	.779	.957	.414	-
	Within Groups	107.822	177	.49			
	Total	109.571	180				
Psycological	Between Groups	2.277	3	.583	1.538	.206	-
	Within Groups	87.337	177	.609			
	Total	89.614	180				
Total	Between Groups	2.336	3	.759	1.588	.194	-
	Within Groups	86.765	177	.493			
	Total	89.101	180				

According to Table 14, the perception levels of prospective Turkish teachers towards public speaking anxiety do not show a significant difference according to the time they spend on the internet in an average day [$F_{(3-177)}$= 1.588, p>.05]. On the other hand, perception levels of public speaking anxieties were determined by the scale's cognitive [$F_{(3-177)}$=1.978, p>.05], behavioural [$F_{(3-177)}$= .957, p>.05] and psychological [$F_{(3-177)}$ = 1.538, p>.05] does not show a significant difference in sub-dimensions according to the time they spend on the internet in an average day.

According to the total scale score and sub-dimensions of the digital speaking disposition scale in terms of the time they spend on the internet in an average day, the One-way ANOVA test was applied to determine whether the perception levels of prospective Turkish teachers towards digital speaking tendencies differ. The results obtained from the test are shown in Table 15.

Table 15. One-Way ANOVA Analysis Results of Prospective Turkish Teacherss' Digital Conversation Tendencies According to the Time They Spend on the internet in an Average Day

Dimension	Source of Variance	Sum of Squares	sd	Mean Squares	F	p	Significant Difference
Negative Perspective on Digital Conversation	Between Groups	3.587	3	1.196	1.811	.147	-
	Within Groups	116.903	177	.660			
	Total	120.490	180				
Positive Perspective on Digital Conversation	Between Groups	.966	3	.322	.472	.702	-
	Within Groups	120.853	177	.683			
	Total	121.819	180				
Features of Digital Speech	Between Groups	3.233	3	1.078	1.502	.216	-
	Within Groups	126.982	177	.717			
	Total	130.215	180				

Total	Between Groups	1.566	3	.522	2.404	.069	-
	Within Groups	38.444	177	.217			
	Total	40.011	180				

Considering Table 15, digital speaking tendencies of prospective Turkish teachers do not show a significant difference according to the time they spend on the internet in a day [$F_{(3-177)}$=2.404; p>.05]. In addition, the perception levels of prospective Turkish teachers towards digital speaking tendencies, the negative perspective of the scale towards digital speech [$F_{(3-177)}$= 1.811, p>.05], the positive perspective of digital speech [$F_{(3-177)}$=. 742, p>.05] and the characteristics of digital speech [$F_{(3-177)}$= .216, p>.05] also do not show a significant difference in the sub-dimensions of the time they spend on the internet in an average day.

Table 16. Pearson Correlation Analysis on the Relationship Between Prospective Turkish Teachers' Public Speaking Anxiety and Digital Speaking Tendencies

Dimension		Writing	Reading
Public Speaking Anxiety	Pearson Correlation	1	.327**
	Sig. (2-tailed)		.000*
	N	181	181
Digital Conversation Trend	Pearson Correlation	.327**	1
	Sig. (2-tailed)	.000*	
	N	181	181

** Correlation is significant at the 0.01 level (2-tailed)
*p<.01 level is significant.

When Table 16 is examined, it is seen that there is a positive low-level significant relationship between prospective Turkish teachers' public speaking anxiety and digital speaking disposition [r=0.327, p<.01]. Accordingly, it can be said that as the prospective Turkish teachers' writing increases, their reading also increases. It was considering the coefficient of determination [r^2=.10], it can be said that 10% of the total variance in the writing scale is due to the reading scale.

Discussion and Conclusion

This study determined the relationship between prospective Turkish teachers' public speaking anxiety and digital speaking tendencies. One hundred eighty-one prospective Turkish teachers studying at Çanakkale Onsekiz Mart University participated in the research. 70.2% of the participants of the study are female, and 29.8% are prospective male teachers. 17.7% of the participants were first grade, 20.4% were second grade, 28.2% were third grade, and 33.7% were fourth-grade students. In a year, on average, 25.4% of the participants read 0-5 books, 24.3% read 6-10 books, 22.7% read 11-15 books, 27.6% read 16 or more books. In addition, 10.5% of the participants spend 0-1 hour, 21.5% 2-3 hours, 35.9% 4-6 hours, 32% spend 7 hours or more on the internet.

It has been observed that there is a positive and low-level significant relationship between prospective Turkish teachers' public speaking anxiety and digital speaking disposition. Furthermore, the low level of correlation indicates that there is a relationship between them. Accordingly, it can be

said that prospective Turkish teachers' public speaking anxieties and digital speaking tendencies affect each other positively and at a low level.

Prospective Turkish teachers' concerns about speaking in front of the public were at the level of "I partially agree". This result coincides with some speech anxiety studies in the literature (Karasakaloğlu and Bulut, 2019; Özkan and Kınay, 2015). In the study conducted by İşcan and Karagöz (2016), it was concluded that prospective Turkish teachers have a low level of speaking anxiety.

The public speaking anxiety of prospective Turkish teachers does not show a significant difference in gender when the total scale score is considered. In other words, the gender variable is not an influential variable on prospective Turkish teachers' public speaking anxiety. This result coincides with some speech anxiety studies in the literature (Akran and Özdemir, 2018; Lüle, 2015; Özkan and Kınay, 2015). However, in some studies, it has been concluded that the speech anxiety levels of female students are lower than male students (Kana, 2015; Kuşdemir and Katrancı, 2015).

Public speaking anxiety of prospective Turkish teachers does not significantly differ in terms of the grade variable when the whole scale is considered. In other words, the grade variable is not an influential variable on prospective Turkish teachers' public speaking anxiety. This result does not overlap with some speech anxiety studies in the literature (Lüle, 2015; Özkan and Kınay, 2015).

No significant difference was found in the total and sub-dimensions of the prospective Turkish teachers' public speaking anxiety scale according to the variables of grade level, the average number of books read in a year and time spent on the internet in an average day. Therefore, it is understood that prospective Turkish teachers' public speaking anxieties do not depend on the variables of grade level, the average number of books read in a year, and time spent on the internet in an average day.

A significant difference was found between the first and third grades favouring the first graders in prospective Turkish teachers' entire digital speaking disposition scale. Based on this result, it can be said that the digital speaking tendencies of the first-grade students are higher than the third-grade students. In addition, no significant difference was found in the sub-dimensions of the digital speaking disposition scale according to the grade level variable.

According to the variables of the average number of books read in a year and the time spent on the internet in an average day, there was no significant difference in the total and sub-dimensions of the prospective Turkish teachers' digital speaking tendency scale. Therefore, it is understood that the digital speaking tendencies of prospective Turkish teachers do not depend on the average number of books read in a year and the time spent on the internet in an average day.

Public speech anxiety should be considered as a different social anxiety (Blöte, Kint, Miers and Westenberg, 2009). In speaking anxiety, teachers need to give their students training that will strengthen their speaking skills. In order to eliminate anxiety, ways to reach the source of anxiety and fight it should be taught. Thus, awareness about the fears that increase the level of anxiety will be raised, and a solution will be approached (Özden, 2018; İşcan and Karagöz, 2016). In mother tongue education, speaking education and eloquence (diction) should be given together without separating them. (Ünal and Özden, 2018). There are different solution trials for public speaking anxiety, but no study has been found on Turkish teachers (Ansari, 2015; Cheng, Horwitz and Schallert, 1999; Šalkevičius, Miškinytė and Navickas, 2019; Shin and Newman, 2018). Including it in the curriculum for all education levels can contribute to solving the problem of speaking anxiety in society. In the development of Turkish teachers, they can be considered a separate course to specialize in more depth. In addition, in-service training of teachers in schools on these issues can contribute to speaking anxiety.

In order to improve the qualifications of state-affiliated teachers in Turkey, the benefits of technology have been utilized at the highest level recently. In particular, using digital systems, synchronous and asynchronous in-service training and courses are provided by getting rid of both time and space limitations. Teachers are the most important people in a society who need to speak correctly, beautifully and effectively (Akkaya, 2012). Especially Turkish teachers should be more careful about these issues. If they have lacks, they must make up for their deficiencies. Furthermore, for Turkish teachers who have started their professional life, training and courses can reduce public speaking anxiety and increase awareness.

It is essential to prepare and implement the practices and lessons in mother tongue teaching, starting from pre-school education, according to the brain-based approach (Onan, 2016). With the brain-bevel learning approach, materials should be used in a way that appeals to both the right and left hemispheres of the learner's brain. Thus, speaking skills can be developed, and all language skills and a solution to speech anxiety can be provided.

Speech disorders can also cause speech anxiety. Speech disorders can be caused by physical and mental reasons (Erdem, 2013; Kurudayıoğlu, 2003). Speech anxiety can also be prevented by adding the cause or causes of speech disorders and solving errors in the curriculum at all education levels. For this, it is of great importance to carry out large-scale research and projects.

References

Akkaya, A. (2012). Öğretmen adaylarının konuşma sorunlarına ilişkin görüşleri/The opinions of teacher candidates about speech problems. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *9*(20), 405-420.

Akran, S. K., and Özdemir, E. (2018). Yaşam boyu öğrenme sürecinde öğretmen adaylarının konuşma kaygılarına ilişkin görüşleri. *The Journal of International Lingual Social and Educational Sciences*, *4*(1), 38-49.

Ansari, M. S. (2015). Speaking anxiety in ESL/EFL classrooms: A holistic approach and practical study. *International Journal of Education Investigation*, *2*(4), 38-46.

Bartholomay, E. M., and Houlihan, D. D. (2016). Public speaking anxiety scale: preliminary psychometric data and scale validation. *Personality and Individual Differences*, *9*(4), 211-215. https://doi.org/10.1016/j.paid.2016.01.026.

Blöte, A. W., Kint, M. J., Miers, A. C., and Westenberg, P. M. (2009). The relation between public speaking anxiety and social anxiety: A review. *Journal of anxiety disorders*, *23*(3), 305-313. https://doi.org/10.1016/j.janxdis.2008.11.007.

Bodie, G. D. (2010). A racing heart, rattling knees, and ruminative thoughts: Defining, explaining, and treating public speaking anxiety. *Communication education*, *59*(1), 70-105. https://doi.org/10.1080/03634520903443849.

Burger, J. M. (2006). *Kişilik*. İstanbul: Kaknüs Yayınları.

Büyüköztürk, Ş., Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., and Demirel, F. (2018). *Eğitimde bilimsel araştırma yöntemleri.* Ankara: Pegem Akademi. https://doi.org/10.14527/9789944919289.

Çabuker, N. D., Çelik, S. B., and Aldemir, A. (2020) Topluluk önünde konuşma kaygısı ölçeği'nin türkçeye uyarlanması: geçerlik ve güvenirlik çalışması. *Elektronik Sosyal Bilimler Dergisi*, *19*(76), 1601-1610. https://doi.org/10.17755/esosder.674060

Cheng, Y. S., Horwitz, E. K., and Schallert, D. L. (1999). Language anxiety: Differentiating writing and speaking components. *Language learning*, *49*(3), 417-446. https://doi.org/10.1111/0023-8333.00095

Chomsky, N. (1957). *Syntactic structures*. The Hague: Mouton.

Erdem, İ. (2013). Konuşma eğitimi esnasında karşılaşılan konuşma bozuklukları ve bunları düzeltme yolları. *Adıyaman Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (11), 415-452. https://doi.org/10.14520/adyusbd.453

Ergin, M. (1972) *Türk dil bilgisi*, İstanbul:Edebiyat fakültesi basımevi

Eryaman, M. Y. (2008). Writing, method and hermeneutics: Towards an existential pedagogy. Elementary Education Online, 7(1), 2-14.

George, D., and Mallery, M. (2010). *SPSS for windows step by step: a simple guide and reference*, 17.0 update (10a ed.) Boston: Pearson.

Gündüz, A., and Demir, S. (2021). Konuşma kaygısı ölçeği'nin geliştirilmesi: geçerlik ve güvenirlik çalışması. *Fırat Üniversitesi Sosyal Bilimler Dergisi, 31*(1), 145-159. https://doi.org/10.18069/firatsbed.818704

Gün, M., and Akkaya, A. (2016). Araplara Türkçe öğretiminde karşilaşilan sorunlar: Ürdün örneği. *Turkish Studies (Elektronik), 11*(19), 9-18. http://dx.doi.org/10.7827/TurkishStudies.

Güzel, A., and Barın, E. (2013). *Yabancılara Türkçe öğretimi*, Ankara: Akçağ Yayınları.

İşcan, A., and Karagöz, B. (2016). Türkçe öğretmeni adaylarının konuşma kaygılarının incelenmesi Gaziosmanpaşa Üniversitesi örneği. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 17*(3), 193-206.

Kana, F. (2015). Investigation of preservice teachers' speech anxiety with different points of view. *International Journal of Progressive Education, 11*(3). 140-152.

Kana, F., Yağmur, Y., and Elkıran, Y. M. (2017). Ortaöğretim öğrencilerinin sanal dünyalarının günlük hayatlarına yansımaları üzerine bir durum çalışması. *Akdeniz Eğitim Araştırmaları Dergisi, 21*, 59-71.

Karasakaloğlu, N., and Bulut, B. (2019) Türkçe öğretmen adaylarının Türkçe dil bilgisine yönelik tutumları ile konuşma ve yazma kaygıları arasındaki ilişki. *Eğitim Araştırmaları-2019,* 55-68.

Kurudayıoğlu, M. (2003). Konuşma eğimi ve konuşma becerisini geliştirmeye yönelik etkinlikler. *Türklük Bilimi Araştırmaları*, (13), 287-309.

Kuşdemir, Y., and Katrancı, M. (2015). Öğretmen adaylarının konuşma kaygılarının incelenmesi: sözlü anlatım dersine yönelik bir uygulama. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi,* (24), 415-445. https://doi.org/10.14582

Liebowitz, M. R. (1987). Social phobia. *Modern Problems of Pharmacopsychiatry, 22,* 141–173. https://doi.org/10.1159/000414022

Lüle M. E. (2015). Türkçe öğretmeni adaylarının konuşma kaygılarına ilişkin bir inceleme. *Journal of International Social Research, 8*(37).

Marks, I. M., and Gelder, M. G. (1966). Different ages of onset in varieties of phobia. *American Journal of Psychiatry, 123*(2), 218-221. https://doi.org/10.1176/ajp.123.2.218

Onan, B. (2016). Türkçenin ana dili olarak öğretimine beyin temelli yaklaşım. *Zeitschrift für die Welt der Türken/Journal of World of Turks, 8*(1), 109-133.

Özbay, M. (2003). Öğretmen görüşlerine göre ilköğretim okullarında Türkçe öğretimi. Ankara: Gölge Ofset Matbaacılık

Özden, M. (2018). Türkçe eğitimi lisans öğrencilerinin konuşma becerisi öz yeterlikleri. *Uluslararası Türkçe Edebiyat Kültür Eğitim (TEKE) Dergisi, 7*(3), 1917-1930. https://doi.org/10.7884/teke.4306

Özkan, E., and Kınay, İ. (2015). Öğretmen adaylarının konuşma kaygılarının incelenmesi (Ziya Gökalp Eğitim Fakültesi Örneği). *Uluslararası Türkçe Edebiyat Kültür Eğitim (TEKE) Dergisi, 4*(3), 1290-1301. https://doi.org/10.7884/teke.519

Šalkevičius, J., Miškinytė, A., and Navickas, L. (2019). Cloud based virtual reality exposure therapy service for public speaking anxiety. *Information, 10*(2), 62. https://doi.org/10.3390/info10020062

Sapir, E. (1921). *Language*. New York: Harcourt Brace.

Saussure, F. D. (1985). *Genel dilbilim dersleri* (Çev. Berke Vardar). Ankara: Birey ve Toplum.

Sevim, O. (2012). Öğretmen adaylarına yönelik konuşma kaygısı ölçeği: bir geçerlik ve güvenirlik çalışması. *Turkish Studies, 7*(2), 927-937. https://doi.org/10.7827/TurkishStudies.2981

Shin, K. E., and Newman, M. G. (2018). Using retrieval cues to attenuate return of fear in individuals with public speaking anxiety. *Behavior therapy*, *49*(2), 212-224. https://doi.org/10.1016/j.beth.2017.07.011

Sofu, S. M. (2012). *Öğretmen adaylarının konuşma kaygıları.* (Unpublished master's thesis). Sakarya Üniversitesi Eğitim Bilimleri Enstitüsü, Sakarya.

T.D.K. (2005) *Türkçe Sözlük*, Ankara: TDK Yayınları

Temizyürek, F., Erdem, İ., and Temizkan, M. (2011). *Konuşma eğitimi: Sözlü anlatım*. Ankara:Pegem Akademi

Ünal, F. T. and Özer, F. (2017). Ortaokul öğrencileri için konuşma becerisi tutum ölçeği: geçerlilik ve güvenirlik çalışması. *International Journal of Language Academy*, *5*(6), 120-131. https://doi.org/10.18033/ijla.3739

Ünal, F. T., and Özden, M. (2018). *Diksiyon ve konuşma eğitimi*. Ankara:Pegem Akademi. https://doi.org/10.14527/9786053642725

Ustabulut, M. Y. (2021). Türkçe öğretmeni adaylarının yaşam becerileri ile ilgili görüşlerinin çeşitli değişkenler açısından incelenmesi. *Kahramanmaraş Sütçü İmam Üniversitesi Sosyal Bilimler Dergisi*, *18*(1), 205-219. https://doi.org/10.33437/ksusbd.879817

Worldometers, (2021, May 19). *Internet users in the world.* https://www.worldometers.info/

Yaman, H., and Sofu, M. S. (2013). Öğretmen adaylarına yönelik konuşma kaygısı ölçeğinin geliştirilmesi. *Türkiye Sosyal Araştırmalar Dergisi*, *173*(173), 41-50.

Yurdakal, İ. H. and Kırmızı, F. S. (2019). Okumaya yönelik tutum ölçeği güvenirlik ve geçerlik çalışması. *Elementary Education Online*, *18*(2), 714-733. https://doi.org/10.17051/ilkonline.2019.562036

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

A Cultural and Artistic Approach to Early Childhood Science Education: Shadow Play

Erdinç ÖCAL[1]

Muş Alparslan University

Abdulhamit KARADEMİR[2]

Muş Alparslan University

Özkan SAATÇİOĞLU[3]

Muş Alparslan University

Hatice Büşra YILMAZ TAM[4]

Gazi University

Abstract

Attitudes towards science and scientific perspectives in the future depend on early childhood science experiences. Preservice teachers who are provided with the opportunity to develop positive attitudes and self-efficacy towards science teaching before they enter professional life are more likely to help preschoolers develop positive attitudes towards science in their professional life. The aim of this 12-week study was, therefore, to determine the effect of a shadow play workshop on early childhood preservice teachers' self-efficacy beliefs and attitudes towards science teaching and to investigate their workshop experiences and application processes. This study employed an explanatory sequential mixed methods design. The sample consisted of 24 first-year early childhood preservice teachers. Quantitative data were collected using the Early Childhood Teachers' Attitudes Toward Science Teaching (TSAS) and the Science Teaching Efficacy Belief Instrument (STEBI) and were analyzed using the Wilcoxon Signed Ranks test and the dependent sample t-test. Qualitative data were collected through focus group interviews and observations and were analyzed using content analysis. Results showed that shadow play had a positive effect on participants' self-efficacy beliefs and attitudes towards science teaching, indicating that shadow play is an interesting, fun, and effective material that can be used in early childhood science education to turn abstract concepts into concrete forms. Results were discussed with reference to literature, and recommendations were made for future studies.

Keywords: Early Childhood, Science Education, Shadow Play, Teacher Education, Arts in Science.

DOI: 10.29329/epasr.2021.373.12

[1]Asst. Prof. Dr, Faculty of Education, Muş Alparslan University,Muş, Turkey, ORCID: 0000-0001-6940-4036,

Correspondence: e.ocal@alparslan.edu.tr

[2] Asst. Prof. Dr, Faculty of Education, Muş Alparslan University, Muş, Turkey, ORCID: 0000-0003-3062-8547, Email:a.karademir@alparslan.edu.tr

[3] Research Assistant, Faculty of Education, Muş Alparslan University, Muş, Turkey, ORCID: 0000-0001-8131-9619, Email: ozkan.saatcioglu@alparslan.edu.tr

[4] Research Assistant, Faculty of Education, Gazi University, Ankara, Turkey, ORCID: 0000-0003-2563-8353, Email: hbyilmaz@gazi.edu.tr

Introduction

Children defined as "scientists by birth" (Gençer, 2016) learn through their senses by breathing, telling a flat rock from cotton, pushing a toy car down a hill, building a sand castle or checking out the shell of a cicada (Hamlin & Wisneski, 2012). Just like scientists, children need scientific processes to explore the world around them, which draws them into science at early ages (Saçkes et al., 2010) and lays the foundation for their future interest in it. Therefore, many countries focus on improving science education in schools and helping students develop positive attitudes towards science (Küçükturan, 2017). Early childhood science education is part of play, inquiry, and trial and error processes (Osborne et al., 2004; Taha & İvrendi, 2010). Planned and systematic science education programs help children acquire basic knowledge and develop critical thinking and problem-solving skills (Mırzaie et al., 2009). Children should also have mental and physical experiences that provide them with an opportunity to develop conceptual structures and positive attitudes towards science (Loxley et al., 2016).

Research shows that most preschool teachers feel incompetent in science education and putting it into practice, find materials inadequate, and use only a handful of methods (Karamustafaoğlu & Kandaz, 2006; Koç, 2016; Özgül et al., 2017; Saçkes et al., 2010). They use the conventional question and answer method way more than child-centered methods of teaching (Takaoğlu & Demir, 2018). However, science topics involve abstract concepts that are hard to understand, and therefore, teachers should learn how to use child-centered teaching methods to make it easier for children to learn science concepts (Ampartzaki & Kalogiannakis, 2016). John Dewey, an educational theorist, once said, "If we teach today as we taught yesterday, we rob our children of tomorrow" (cited by Koç, 2016), highlighting that correct methods should be used to provide contemporary education to meet the needs of today's students. Preschool science teachers who know how children learn are likely to be better at planning teaching, preparing the learning environment, and choosing the right methods. Children enjoy hands-on science activities because they present challenges to be overcome and encourage them to be active and creative about inquiring and discovering new things by themselves and expressing their thoughts, feelings, and dreams (Loxley et al., 2016). During this period, children perceive most things concretely, and therefore, one of the goals of early childhood science education should be turning events, situations or abstract concepts into concrete visual representations (Greenfield et al., 2009).

Teachers play a key role in developing interactive and applied methods that transform abstract concepts into concrete forms, promote children’s development and respond to their interests and needs in early childhood science education (Diamond et al., 2014; Özgül et al., 2017). Teachers' views, beliefs, and attitudes towards science teaching determine the quality of science education (Diamond et al., 2014; Osborne et al., 2003). Research shows that the most important factors affecting

teachers' attitudes towards science education are associated with the steps taken before professional life (Orkunoğlu, 2016). Preservice science teachers with high professional competence and self-efficacy beliefs and positive attitudes towards science are more likely to help students develop positive attitudes towards science in the future (Güvenir, 2018).

Children learn best when they have fun (Conezio & French, 2002). Teachers should, therefore, present effective and fun materials that attract children's attention to science activities and organize the learning environment in that way. Children may enjoy playing games and singing songs that are rich in cultural values and beliefs, which teachers can also use to teach science concepts (Bose & Seetso, 2016). Shadow play, which is a main component of visual education and based on visual perception, can be used to teach basic concepts in preschool education institutions. This connection between visual arts and science plays a key role in education because it helps children develop comprehension and knowledge-acquiring skills (Dhanapal et al., 2014). What is more, activities and learning areas in early childhood science education curricula should not be separated, but, on the contrary, should be integrated with other types of activities (Chaille & Britain, 2003). This provides suitable learning experiences for children with different learning styles, thereby promoting learning and ensures learning retention in science. Children who are actively engaged in fun art activities are more likely to use their imagination as they wish, develop communication skills, release the emotions they suppress, and discover their own potential (Diğler, 2012).

This study was based on the assumption that early childhood science education through shadow play, which is a cultural and artistic art form also known as shadow puppetry, will improve preservice teachers' self-efficacy beliefs and attitudes towards science teaching. The study also addressed preservice teachers' experiences of shadow puppet-making (cut-out figures) and puppetry and its contributions to early childhood science education. Therefore, the study discussed preservice teachers' views on the use of shadow play as an alternative method in early childhood science education. We believe that our results will pave the way for further research on potential alternative methods that can be used in early childhood science education.

This study (1) investigated the effect of an interactive shadow play workshop (puppet-making and script-writing) on preservice teachers' self-efficacy beliefs and attitudes towards early childhood science teaching, (2) discussed their experiences of the workshop, and (3) examined, through interviews and observations, their views of the usability of shadow play in early childhood science education.

Early Childhood Science Education

The first six years of a child's life, referred to as early childhood, are critical for physical, mental, emotional, and social development. It is the period when children start learning basic science

concepts (Bose et al., 2013; Kalley & Psillos, 2001; Saçkes et al., 2010), develop intrinsic motivation for learning science (French, 2004; Inan et al., 2010), and acquire new knowledge and discover their potential (Jones et al., 2008; Loxley et al., 2016). The goal of early childhood science education is to help children explore their surroundings and observe natural phenomena, interpret new information, and develop scientific process skills and affective characteristics (Eshach & Fried, 2005; French, 2004; Osborne et al., 2004; Worth & Grollman, 2003). Observation and communication regarding science also contributes to language development in children (Jones et al., 2008). It can, therefore, be argued that the right early childhood science education also supports children's social development.

Science concepts and scientific knowledge introduced by early childhood science education lays the groundwork for future science knowledge and promotes future academic performance (Buldu & Olgan, 2018; Saçkes et al., 2010; Trundle, 2010). Early childhood science education not only introduces science concepts and scientific knowledge but also helps children develop high-level thinking skills (problem-solving, scientific, and critical thinking skills) that they will use throughout their lives. Those who fail to develop those skills in early childhood are less likely to acquire further knowledge and develop other skills needed in personal and professional life (Saçkes et. al., 2010; Saçkes et al., 2012). Therefore, children should be provided with high-quality early childhood science education that transforms abstract concepts into concrete forms and triggers curiosity and motivates children to become involved in learning.

Preschool Science Teachers

Preschool teachers play a vital role in providing children with rich and effective learning experiences and helping them develop positive attitudes towards science (Saçkes et al., 2012). Children participating in well-designed early childhood science activities are more likely to develop conceptual understanding of scientific principles (Gallegos Cazares et al., 2009) and scientific frameworks and models to better understand the world (Ravanis et al., 2013). Planning early childhood science education helps to choose the right learning strategies for children (Loxley et al., 2016). Therefore, teachers should design interactive learning environments to promote science education and to encourage students to explore new things (Diamond et. al., 2014; Küçükturan, 2017). Preschool teachers should be able to design and plan engaging activities with new and interesting materials to spark children's curiosity, to encourage them to develop new ideas and use creativity, and to enable them to learn by doing-living (Loxley et al., 2016; Saçkes et. al., 2010). Therefore, teachers should assume different roles, such as an observer, facilitator, and guide, during early childhood science activities (Genç Kumtepe, 2011).

Research shows that preschool teachers recognize the importance of science education, consider early childhood science activities necessary, and have positive attitudes towards science and science teaching (Akcanca et al., 2017; Bahçeci & Sansar, 2010; Karademir et al., 2020; Sağlam &

Aral, 2015; Simsar et al., 2017). However, some studies show that preschool teachers are not interested in science (Babaroğlu & Okur Metwalley, 2018; Can & Şahin, 2015; Tu, 2006; Tu & Hsiao, 2008). Children's attitudes towards science depend very much on the attitudes of teachers who introduce early childhood science education to them. Teachers with positive attitudes towards science are likely to be more active in their teaching, and their students are likely to be more engaged and successful in science. Moreover, teachers who are competent in science teaching have a significant effect on students' creativity and learning outcomes in early science education (Karademir et al., 2020). In this context, we can also talk about the concept of self-efficacy in early childhood science education. Moreover, teachers with high self-efficacy have more positive attitudes towards science education than those with low self-efficacy (Çamlıbel Çakmak, 2006; Orkunoğlu, 2016).

Some studies show that inappropriate classroom environment and inadequate material prevent students from having different levels of knowledge and experience and prevent teachers from developing positive attitudes towards science education and planning lessons (Çınar, 2013; Karademir et al., 2020; Sağlam & Aral, 2015; Saçkes et. al., 2010; Ünal & Akman, 2006). Although early childhood science activities with materials that appeal to different sensory organs play a significant role in helping children develop science skills (Büyüktaşkapu et al., 2012), preschool teachers are particularly incompetent in designing science materials and developing science activities with those materials (Güvenir, 2018; Karaer & Kösterilioğlu, 2005; Karamustafaoğlu & Kandaz, 2006). This means that early childhood science education should involve concept cards, story books, puppets, puzzles, stuffed toys, real objects, models, educational toys, costumes, graphics, charts, tables, and information or communication technology materials (Orhan, 2018). Therefore, undergraduate material development courses should also focus on science materials to help teachers develop their own science education materials (Özbek & Sığırtmaç, 2011).

Integration of Early Childhood Science Education and Art Disciplines

Thompson (1995) argues that interdisciplinary education is a cornerstone of national education. Integrated curriculum models encourage teachers not only to actively develop their own professional knowledge but also to improve their skills from areas other than their field of expertise and put them into practice (Bolotta, 2017). Moreover, integrating different disciplines and teaching methods to plan science education activities results in learning retention (Charlesworth & Lind, 2003). There are studies investigating the effect of science education integrated with different art forms on participants of different ages (Abed, 2016; Archilla, 2017; Braund, 2015; Butler et al., 2009; Gurnon et al., 2013; Hartwig, 2014; Hendrix et al., 2012; Kallunki et al., 2017; Verhoeff, 2017). Those studies conclude that science, math, geography, and history education integrated with visual arts have a significant effect on child development (Dhanapal et al., 2014).

Although science and art, which are the products of human endeavor, seem to be two independent disciplines, they both derive from nature (Bayav, 2009). Science satisfies our curiosity to know how this world works, while art allows us to convey our emotions and innermost thoughts about nature. Therefore, both science and art use the means of data collection, observation, analysis, creativity, imagination, aesthetics, emotions, and communication and interpretation to the same end (Türkoğuz & Yayla, 2011). Scientific developments influence art, and vice versa (Bayav, 2009). However, science is based on observation and experimentation, and thus, objective and data driven, whereas art is subjective and qualitative. Artists approach data from their own perspectives (Tepe Yılmaz, 2014). The integration of science and art allows children to engage in artistic science projects that help them develop imagination, high-level thinking skills, and creativity about both art and science (Dhanapal et al., 2014). The integration of science and art in education can, therefore, provide children with knowledge and resources from different areas and help them develop positive attitudes towards learning in general.

Turkish Shadow Play (Karagöz and Hacivat)

Puppetry, in different forms, is an entertaining drama technique that attracts children's attention and sparks their curiosity (Temuçin, 2007). Shadow play is a form of puppetry that involves manipulating carved leather figures (humans, animals, plants, things, etc.) in front of a light source to cast shadows on a white screen (Kudret, 1992; Sevilen, 1969).

Shadow play is a visual art that is influenced by events and sociocultural changes that take place throughout history and bears the traces of social identities (Ersan, 2011). It evolves in parallel with the sociocultural changes that each society undergoes and with the talent, experience, and knowledge of artists of that society. It is a popular form of entertainment in many countries around the world, such as China, India, and Egypt. The traditional Turkish shadow play is Karagöz and Hacivat (And, 1977), who are also the lead characters. Karagöz represents the lay people while Hacivat represents the upper class (Şişman, 2009). It also includes some other characters: *Çelebi, Tiryaki, Beberuhi, Kastamonulu* (loutish), *Karadenizli* (Laz), *Kürt, Acem, Arap* and *Arap Bacı*, *Arnavut, Rumelili, Yahudi, Frenk* (Greek), *Ermeni, Edirneli, Tuzsuz Deli Bekir* (drunkard), *Zenneler* (women), *Cazu, Cin* (supernatural characters), and *Çengi* and *Köçekler* (Kudret, 1992). A Karagöz and Hacivat play can be written, performed, and directed by one person, or a *hayalî* or *hayalbaz* (meaning imaginary or image creator) can assist the puppeteer and hand him the puppets in the correct order (Bulut, 2014). A Karagöz and Hacivat show can be about any topic and updated to the taste of the day as long as it does not offend good morals, go against common sense and disturb the public order and as long as the puppeteer has a sound grasp of the Turkish shadow play tradition (Atkın, 2010). Unlike most texts and stories, Karagöz and Hacivat scripts have an intuitive and humorous language, rather

than a direct and dry one, to convey messages to readers. They consist of everyday life humorous elements, word games, smart dialogues, jokes, and clever comebacks (Bulut, 2014).

Ersan (2011) argues that European countries, which met the art of shadow play at a later stage in history, did not integrate it with their own culture and turn it into a tradition but instead have taken advantage of its dramatic structure and visuality and decided to use it in education in different ways. Özdemir (2006) calls Karagöz and Hacivat "the cartoon of the day before the cartoon as we know it today was created" and states that it has characters, topics, and technical features that always appeal to children. Karagöz and Hacivat has a wide spectrum of characters, which is, in a sense, the symbol of multiculturalism emphasized all over the world today, and has songs, costumes, and settings, which can be viewed as high art. Karagöz and Hacivat is not only for literary refinement or popular entertainment but can also be used as a cultural and educational tool (Demir & Özdemir, 2013). Shadow play can also be an effective tool for children to overcome the fear of expressing themselves in front of others. They may feel safer and more comfortable speaking as they make puppets talk and move.

Dialogues in Karagöz and Hacivat are thought-provoking, discussion-triggering, and open to controversy, and therefore, may promote effective learning in early childhood science education as well. Karagöz and Hacivat may make early childhood science education topics full of abstract concepts more interesting, motivating, and entertaining because it consists entirely of funny characters, comical skits, clever comebacks, and fun dialogues. Shadow play texts are appealing to many senses because people can read, listen or watch them, and thus, can also develop listening and comprehension skills. Therefore, shadow play texts can be used to appeal to children.

Method

Research approach

This study employed an explanatory sequential mixed methods design and involved two stages; (1) quantitative data collection and analysis, and (2) qualitative data collection and analysis (Creswell & Plano Clark, 2015).

During the workshop, participants made their own shadow puppet figures and came up with scripts about early childhood science education topics and then put on puppet shows. The study integrated quantitative and qualitative processes by first quantitatively testing the effect of workshop on preservice teachers' attitudes and self-efficacy beliefs towards early childhood science education and then qualitatively investigating the effects of the workshop through focus group interviews and observations.

© 2021 INASED

Participants

Participants were recruited using sequential and simultaneous sampling, in which the sample of the qualitative stage depends on that of the quantitative stage (Creswell et al., 2003).

The sample of the quantitative stage consisted of early childhood preservice teachers who took the "Traditional Turkish Handicrafts" course and participated in the workshop of shadow puppet-making and script-writing. They worked on their puppets, sometimes alone and sometimes together with their peers. We encouraged them to cooperate with their peers to teach them how to make and implement joint decisions. We wanted them to demonstrate personal and team accountability and develop personal problem/conflict management and social/communication skills. All participants in the quantitative stage (16 women; 8 men) were first-grade undergraduate preschool education students with a mean age of 20.6 years. The sample of the qualitative stage consisted of six of the 24 preservice teachers who participated in the whole 12-week workshop and put on their own shadow puppet shows about the early childhood science education topics they chose. The mean age of participants in the qualitative stage (4 women; 2 men) was 21 years.

Data Collection Tools

Early Childhood Teachers' Attitudes toward Science Teaching (TSAS)

The Teachers' Science Attitudes Scale (TSAS) developed by Thompson and Shrigley (1986) for primary school teachers was adapted to early childhood preservice teachers by Cho et al. (2003). The Early Childhood Teachers Attitudes Toward Science Teaching (TSAS) was adapted to Turkish by Çamlıbel Çakmak (2006).

The TSAS-TR consists of 17 items and four subscales; comfort-discomfort, classroom preparation, managing hands-on science, and developmental appropriateness. The items are scored on a 5-point Likert-type Scale (1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5= Strongly Agree) (Çamlıbel Çakmak, 2006). Three items are reverse scored. The total scale score ranges from 17 to 85. Higher scores indicate more positive attitudes towards science teaching (Güvenir, 2018). The same holds true for the subscales as well (Güvenir, 2018). According to Çamlıbel Çakmak (2006) and Güvenir (2018), the TSAS had a Cronbach's alpha of 0.81.

The TSAS subscales "comfort-discomfort," "classroom preparation," "managing hands-on science," and "developmental appropriateness" had a Cronbach's alpha of 0.66-0.77, 0.75-0.75, 0.52-0.63, and 0.46-0.56, respectively. As noted by Thorndike and Thorndike-Christ (2010), those reliability coefficients indicate that the total scale has good reliability, but that its subscales have low reliability due to low number of items.

Science Teaching Efficacy Belief Instrument (STEBI)

The Science Teaching Efficacy Belief Instrument (STEBI) was developed by Enochs and Riggs (1990) and adapted to Turkish by Tekkaya, Çakıroğlu, and Özkan (2002). It was readapted by Tekkaya et al. (2010) for early childhood preservice teachers. STEBI-TR consists of 23 items and two subscales; (1) personal science teaching efficacy (PSTE) and (2) science teaching outcome expectancy (STOE). The items are scored on a 5-point Likert-type Scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree Nor Disagree, 4 = Agree, 5= Strongly Agree) (Tekkaya et al., 2002). Ten items are reverse scored. The total scale score ranges from 23 to 115. Higher scores indicate higher self-efficacy in science teaching. The same holds true for the subscales as well

Tekkaya et al. (2002) and Olgan et al. (2014) reported that the PSTE and STOE had a Cronbach's alpha (α) of 0.86 to 0.87 and 0.79 to 0.72, respectively. Fettahlıoğlu et al. (2015) also reported that STEBI had a Cronbach's alpha of 0.85 and that the PSTE and STOE had a Cronbach's alpha of 0.84 and 0.78, respectively.

Focus Group Interview and Observations

Focus group interview is a qualitative interview technique performed with a group of participants on a particular topic (Yıldırım & Şimşek, 2016) and is a dynamic and creative method that allows researchers to collect deep and rich data on research problems (Krueger & Casey, 2000). In this study, a focus group interview was conducted with six participants to gain insight into what they thought about the workshop and use of shadow play in early childhood science education in general.

Observations were made throughout the process to analyze the data with more than one method. The observation method allowed us to draw a comprehensive and detailed picture of participants' views.

Procedure

The quantitative stage involved training on shadow puppet-making, writing scripts on early childhood science education topics, and putting on puppet shows. The effect of the workshop on participants' attitudes and self-efficacy beliefs towards science teaching was experimentally tested. After the quantitative stage, qualitative methods were used to include participants' interviews, observations, and experiences in order to investigate the effects of the workshop. Table 1 shows the procedure steps.

Table 1. Shadow Play Workshop

Week	Date	Step	Hour
1	20.02.2019	Pretest	2
2	27.02.2019	Presentation on shadow play	3
3	06.03.2019	Making figures from leather-drawing-cutting	5
4	13.03.2019	Making figures from leather-piercing-sandpapering	5
5	20.03.2019	Making figures from leather-piercing-sandpapering	5
6	27.03.2019	Making figures from leather-dying	5
7	10.04.2019	Making figures from leather-dying-fixing- presenting script examples	5
8	17.04.2019	Writing a script for preschool science education-sample shadow play–training on shadow play	5
9	24.04.2019	Checking the scripts-putting on shadow puppet shows	5
10	01.05.2019	Putting on shadow puppet shows	5
11	08.05.2019	Posttest	2
12	15.05.2019	Focus group interview	2

The quantitative stage employed an experimental group pretest-posttest design. Participants completed the STEBI (Enochs & Riggs, 1990) and TSAS (Cho et al., 2003) prior to the workshop (pretest) and then were informed about shadow play. They were then allowed to make their own puppet figures in a workshop. Afterwards, they (in groups of two and three) chose early childhood science education topics and wrote scripts about them. Whoever finished writing their script put on their puppet show for other groups to watch. After the workshop, all participants completed the same two scales (posttest). Participants were recruited for the qualitative stage, and a focus group interview was conducted with them. The procedure lasted 12 weeks/49 hours.

In the qualitative stage, a focus group interview was conducted, and then, observations were carried out to support the interview data. The researchers developed an interview form based on the feedback of three experts (two in preschool education and one in measurement) and then conducted the focus group interview in a quiet place in the faculty on a scheduled day and time. The interview was audio-recorded. Participants were informed that the interview would be audio-recorded and that their names would be kept confidential prior to participation. After checking the recording device, asking general introductory questions, and reminding focus group interview rules, the researchers posed questions to elicit information on (1) participants' experience of shadow puppet-making and (2) of script-writing and puppet show, (3) advantages and disadvantages of using shadow play in early childhood science education, and (4) in what disciplines and fields of early childhood education they think shadow play can be used. The researchers asked follow-up questions for clarification and elaboration when needed.

The researchers made observations during the workshop for 12 weeks. They videotaped the observations and took field notes as well in order to obtained more detailed data and to examine over and over again how participants behaved during the workshop sessions. The qualitative and quantitative data were compared and integrated for results.

© 2021 INASED

Data Analysis

Quantitative Analysis

Descriptive statistics, histograms, and Shapiro-Wilk test (sample < 35) results regarding participants' STEBI and TSAS pretest and posttest scores were analyzed together (McKillup, 2012). Data were analyzed using the Statistical Package for Social Sciences (SPSS, v 24.0) at a significance level of 0.05. Table 2 shows the descriptive statistics for participants' STEBI and TSAS pretest and posttest scores and the difference between them.

Table 2. Descriptive Statistics

	STEBI Pretest	STEBI Posttest	STEBI Difference	TSAS Pretest	TSAS Posttest	TSAS Difference
Mean	84.000	89.208	5.208	59.208	66.875	7.666
Median	86.000	90.500	7.000	61.500	68.500	8.000
Mode	86.000	73.000	7.000	67.000	57,000	8,000
SD	9.445	12.782	9.463	9.947	12.515	8.889
Skewness	-.596	-.200	-.062	-,182	-1.040	-.027
Kurtosis	.097	-.798	-.667	-.592	2.318	.325
Minimum	63.000	63.000	-12.000	41.000	29.000	-12.000
Maximum	98.000	109.000	24.000	80.000	85.000	25.000

Participants' STEBI pretest and posttest scores and the difference between them had similar mean, mode, and median values, and the kurtosis and skewness coefficients ranged from +1 to -1. However, their kurtosis and skewness coefficients for TSAS pretest and posttest scores did not range from +1 to -1. When data were normally distributed ($p > 0.05$), dependent (paired) t test was used. When data were not normally distributed ($p < 0.05$), the Wilcoxon Signed Ranks test was used (Howell, 2013). Cohen's d effect size was calculated to determine the magnitude of the effect of the shadow play workshop on participants' self-efficacy beliefs and attitudes towards science teaching (Field, 2009; Sullivan & Feinn, 2012). Cohen (1988) suggests that an effect size of 0.2, 0.5, and 0.8 is small, moderate, and large, respectively.

A numerical value calculated for a reliability coefficient varies from group to group (Nitko & Brookhart, 2010). Therefore, Cronbach's alpha (reliability coefficient) was used to determine the internal consistency of STEBI and TSAS for our sample (Taber, 2018). The Cronbach's alpha values based on participants' pretest and posttest scores were assessed using George and Mallery's rules of thumb (2019): $0.70 < \alpha < 0.79$ acceptable, $0.80 < \alpha < 0.89$ good, and $0.90 < \alpha < 1.00$ excellent. The TSAS pretest ($\alpha_{pretest}$=.84) indicated good reliability while posttest ($\alpha_{posttest}$=.93) scores indicated excellent reliability. The STEBI pretest ($\alpha_{pretest}$=.76) score indicated acceptable reliability while the TSAS posttest ($\alpha_{posttest}$=.90) indicated excellent reliability.

Qualitative Analysis

Focus group interview and observation data were thoroughly analyzed to determine participants' experiences of the workshop and their views of the potential of shadow play in early childhood science education. Qualitative data were coded using second-cycle coding and then analyzed using inductive content analysis (Miles et al., 2014). The researchers first read all the focus interview transcripts and observation notes several times and watched the video recordings over and over again to get a general idea about how to code the data in line with the research objectives.

In the first stage of coding, the researchers coded some of the data separately and then compared them to develop themes. They agreed on some of the themes and codes without any revision while they discussed the others and modified them. In the second stage, they used constant comparison to code the remaining data (Corbin & Strauss, 2008). They used the QSR N-Vivo 12 to develop themes, subthemes and categories and then interpreted the findings. They consulted a different expert who had experience in the field to check the codes and themes for reliability. They discussed the codes and themes based on expert feedback and reached a consensus and then interpreted and presented them in Tables.

Results

Quantitative results

The Effect of Shadow Play on Participants' Attitudes towards Science Teaching

The Wilcoxon Signed Ranks test used to determine significant differences between participants' TSAS pretest and posttest scores. Table 3 shows the results.

Table 3. The Wilcoxon Signed Ranks Test Results for Mean TSAS Pretest and Posttest Scores

Total TSAS	N	Mean Rank	Rank Sum	z	p
Negative Ranks	3	10.00	30.00	-3.288	.001**
Positive Ranks	20	12.30	246.00		
Ties	1				
Comfort-Discomfort	N	Mean Rank	Rank Sum	z	p
Negative Ranks	6	8.67	52.00	-2.220	.026*
Positive Ranks	15	11.93	179.00		
Ties	3				
Classroom Preparation	N	Mean Rank	Rank Sum	z	p
Negative Ranks	7	8.36	58.50	-1.474	.140
Positive Ranks	12	10.96	131.50		
Ties	5				
Hands-on Science Activities	N	Mean Rank	Rank Sum	z	p
Negative Ranks	6	9.67	58.00	-2.234	.025*
Positive Ranks	16	12.19	195.00		
Ties	2				
Developmental Appropriateness	N	Mean Rank	Rank Sum	z	p
Negative Ranks	3	3.00	9.00	-3.471	.001**
Positive Ranks	16	11.31	181.00		
Ties	5				

*p<.05, ** p<.01, *** based on negative ranks

Participants' mean TSAS posttest score ($M_{posttest}$=66.87, $Mdn_{(posttest)}$=68.50) was significantly higher than their mean TSAS pretest score ($M_{pretest}$=59.20, $Mdn_{(pretest)}$=61.50) [W=246.00, z= -3.288, p<.01, r=0.67]. These result showed that the workshop significantly improved participants' attitudes towards science teaching (Pallant, 2011). The repeated measures showed that their TSAS posttest comfort-discomfort ($M_{pretest}$=14.29, $M_{posttest}$=15.87; $Mdn_{(pretest)}$=14.00, $Mdn_{(posttest)}$=16.00; W=179.00, z= -2.220, p<.05, r=0.45), hands-on science activities ($M_{pretest}$=14.29, $M_{posttest}$=16.04; $Mdn_{(pretest)}$=15.00, $Mdn_{(posttest)}$=16.00; W=195.00, z= -2.234, p<.05, r=0.46), and developmental appropriateness ($M_{pretest}$=16.70, $M_{posttest}$=19.95; $Mdn_{(pretest)}$=16.00, $Mdn_{(posttest)}$=20.50; W=181.00, z= -3.471, p<.01, r=0.71) subscale scores were significantly higher than their mean TSAS pretest subscale scores. This results showed that the workshop resulted in a moderate or above moderate increase in participants' comfort-discomfort, hands-on science activities, and developmental appropriateness subscale scores. However, the repeated measures showed no significant difference between mean TSAS pretest ($Mdn_{(pretest)}$=15.00, $Mdn_{(pretest)}$=13.91) and posttest ($Mdn_{(posttest)}$=16.00, $Mdn_{(posttest)}$=15.00) classroom preparation subscale scores [W=131.50, z= -1.474, p>.05].

The Effect of Shadow Play on Participants' Self-Efficacy Beliefs in Science Teaching

A dependent samples t-test used to determine significant differences between participants' STEBI pretest and posttest scores. Table 4 shows the results.

Table 4. T-test Results for Mean STEBI Pretest and Posttest Scores

	N	$\bar{X}$	s	sd	t	p
Total Pretest	24	84.00	9.44	23	-2.696	.013*
Total Posttest	24	89.20	12.78			
Subscale	N	$\bar{X}$	s	sd	t	P
PSTE Pretest	24	45.41	6.98	23	-2.148	.042*
PSTE Posttest	24	49.25	9.72			
Subscale	N	$\bar{X}$	s	sd	t	p
STOE Pretest	24	38.58	5.46	23	-1.412	.171
STOE Posttest	24	39.95	5.51			

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

Participants' mean STEBI posttest score ($M_{posttest}$=89.20, S.E=2.60) was significantly higher than their mean STEBI pretest score ($M_{pretest}$=84.00, S.E=1.92) [t(23)= -2.696, p<.05, r=.49]. Their mean STEBI PSTE posttest scores ($M_{posttest}$=49.25, S.E=1.98) were significantly higher than their mean STEBI pretest scores ($M_{pretest}$=45.41, S.E=1.42) [t(23)= -2.148, p<.05, r=.41]. These results indicated that the workshop moderately increased participants' STEBI and PSTE scores (Field, 2009). However, there was no significant difference between mean STOE pretest ($M_{pretest}$=38.58, S.E=1.12) and posttest ($M_{posttest}$=39.95, S.E=1.13) scores [t(23)= -1.412, p>.05]. Although participants' mean STOE posttest score was higher than their mean STOE pretest score, the difference was statistically insignificant (p> 0.05).

Qualitative Results

This section presented the themes, subthemes, categories, codes, and sample quotations in Tables. The comments section addressed observation details to provide an accurate and coherent picture of participants' views and to allow readers to easily analyze and interpret the findings.

Participants' Experiences of Shadow Puppet-Making

This section focused on participants' experiences of shadow puppet-making. They were asked the question "How did you feel about making figures for a Turkish shadow puppet show (Karagöz and Hacivat)? What was your experience like?" Their responses were categorized and presented in Table 5.

Table 5. Participants' Experiences of Shadow Puppet-Making

Theme	Subtheme	Category	Codes	Quotations
Positive	Social-affective domain	Entertained	Enjoying (N=3)	I really enjoyed it. It was so much fun, I really had fun doing it. (P4)
		Happy	Doing something important (N=2)	I was happy because I felt like we were doing something important. (P5)
			Experiencing something productive (N=1)	I think it was very a productive class, and the topic was also very productive, so it made me happy. (P6)
			Making the effort worthwhile (N=1)	When I saw the end result, I felt like it was worth the effort, I mean, it was very nice, and I was happy about it. (P1)
		Proud	Preserving traditional culture (N=3)	It made me realize how easily we forget our traditions and how important it is to preserve them. I was proud because now I can preserve this beautiful tradition. (P4)
			Learning traditional culture (N=2)	We were proud that we got to learn, also with your help, about this tradition, which is sadly dying out. It meant more to us. (P1)
			Passing traditional culture down to next generations (N=1)	I was feeling important towards the end because I was going to be one of those who could hand this tradition down to the future generations. When you learn something, you turn into someone who is responsible for transmitting it to the next generations. It feels nice, I feel proud. (P3)
		Improved Self-Confidence	Achieving despite believing the contrary (N=2)	At first I had some doubts because I wasn't sure I could do it. I didn't think I had the manual skills for it, but as I got into it, my skills got better and after a certain point I was doing it easily, and so I was more confident. (P6)
		Lucky	Having this opportunity (N=2)	First of all, I wouldn't imagine the Alparslan University would offer such a workshop. It's good that it did. First of all, I would like to thank the teachers and then to the council of higher education. I feel lucky that that workshop was held here at this university. (P2)

	Psychomotor domain	Making Figures	Improving dexterity(N=5)	You know, we are going to be preschool teachers. We will teach a lot of things to kids, and so we have to be good with our hands. Making figures for the shadow play taught us to use our hands better. (P3)
Negative	Social-affective domain	Having Difficulty	Piercing the leather (N=4)	I had a hard time piercing the leather because I had never done it before. We had never had to pierce calf leather to make figures, so it was hard. (P2)
			Making mistakes in dyeing (N=1)	I painted some parts wrong, which was a hurdle. (P6)
			Choosing the wrong color (N=1)	I chose the wrong colors, which put me in a difficult situation. (P1)
		Upset	The cracking of the leather (N=2)	My figures broke, and I was sad. (P5)
			Failure to meet expectations (N=1)	I couldn't meet the expectations, so my teacher was upset, and I felt sorry that I made her upset. (P5)
		Regretful	Not caring enough (N=1)	To be honest, I could have cared more, I think it would have been better if I had cared more, so I was a bit regretful and I'm sure most of us were. (P5)
			Not paying attention (N=1)	I should have pierced the leather and painted it more carefully, so I wish I had done it that way. (P3)
	Psychomotor domain	Having Difficulty	Piercing the leather (N=6)	I have a degree from a vocational school for girls, so I trust my dexterity, but I also had a hard time piercing the leather. (P5)
			Painting process (Adjusting colors) (N=1)	We just couldn't pick the right colors. (P3)

All participants had positive and negative feelings about puppet-making. Most of them addressed social, affective, and motor skills under the themes of positive and negative. They stated that they enjoyed making puppets and that it made them feel happy, proud, self-confident, and lucky, and taught them how to use their hands better (Table 5).

Participants mostly reported positive developments in the social-affective domain. Those who were happy about making puppets felt like they were doing something important and believed that the activity was very productive and worth the effort. They found it important that they had the opportunity to work on and learn about a tradition and to preserve it by handing it down to the future generations. They were proud of the figures they made and felt more self-confident. Some participants held certain prejudices against the activity but felt more confident as they tried it out. Participants stated that they had prejudices because the activity required manual skills and also because they had never partaken in such an activity before, but that the activity proved them wrong as time went on. We can, therefore, state that participants devoted a lot of time and effort to make their puppets and developed new motor skills and became versed in it thanks to new experiences throughout the activity.

Participants had difficulty piercing the leather and painting it. Some stated that they were upset because the pieces of leather they worked on cracked or because they felt that they disappointed their teachers. Most participants stated that they had difficulty piercing the leather and executing some motor skills and were regretful and wished that they had been more careful.

Participants' Experiences of Shadow Play and Script-Writing

This section addressed participants' experiences of writing shadow play scripts about early childhood science education topics and putting on puppet shows. To that end, they were asked the question, "How did you feel about writing a shadow play script and putting on a puppet show (Karagöz and Hacivat)? What was your experience like?" Their responses were categorized and presented in Table 6.

Table 6. Participants' Experiences of Shadow Play and Script-Writing

Theme	Subtheme	Category	Codes	Quotations
Positive	Cognitive Domain	Learning	Tool (N=4)	Hard topics have two challenges; learning it and teaching it. It is very hard to teach something you don't know well enough, so shadow play is a good way of doing it, I mean, both for you and for those you teach to. It can be used in education, that's what I think. (P4)
	Social-affective domain	Group communication	Getting to know each other(N=3)	This is our first year in college and we got to meet everybody. We got to know each other better with that fun teamwork, I'm glad we did it. I think we feel like classmates now. (P4)
			Improving friendship (N=2)	We had so much fun writing the script. I believe this workshop has improved my relationships with my classmates. (P5)
			Becoming more sociable (N=1)	Some of our classmates used to be shy, but now they are not. I was also very social and active in the group at the writing stage (P6)
			Becoming friends(N=1)	This is our first year in college, so the workshop's helped us get to know each other better (P3)
		Improved sense of humor	Doing jokes (N=2)	The teammates were coming up with jokes at the script-writing stage, we all came up with jokes, so I think we have a better sense of humor now. (P4)
		Having fun	Script-writing (N=2)	When I adjust my tone of voice, I, like, make a high-pitched sound and then a low-pitched sound, so when I do that as a woman, I mean, when I make a low-pitched sound, I feel like laughing. We did that kind of things while writing the script and we had so much fun (P1)
		Team work	Collaboration (N=1)	It's a great teamwork, you get to work together with others, I mean, you realize that you can work with others. (P3)
			Discovering things in common (N=1)	It's made us realize that we have so much in common, like sense of humor and whatnot, and we also started to get to know each other better. (P3)
	Psychomotor domain	Shadow Play performance	Improving professional skills(N=1)	I was adjusting my tone of voice during the show, so I realized that my professional skills were getting better. (P1)

			Exploring talent for acting (N=1)	I realized during the show that I have a talent for acting. (P1)
Negative	Social/Affective Domain	Having Difficulty	Coming up with a plot (N=4)	We sometimes forgot our lines, so we kind of choked. It was the month of Ramadan when we worked on the script, so it may be that, we didn't mean to do that. (P2) Script-writing was too hard for us, we just couldn't do it, I mean, we couldn't think of anything. (P6)
			Disagreements (N=2)	We had some disagreements at the preparation stage, I mean, there was just too many opinions and that led to conflicts, but we got over it when we started writing the script though. (P3)
			Group conflicts (N=2)	We couldn't agree on whether to focus on the topic or on jokes. There were too many disagreements within the group. Another thing was that we had to write the script during the exam week, and I was kind of annoyed at my teammates' demands, so we had a little bit of an argument about that. (P4)
			Confusion (N=1)	We sometimes got confused while writing the script, which put us in a bit of a jam, but we figured it out. (P2)
			Putting the script on a word document (N=1)	One of us was responsible for putting the script on a word document, but there were just too many typos in it, and I was embarrassed to see that, so we had a bit of a problem about that. (P5)
			Inexperience (N=1)	It was the first time we came up with a Karagöz and Hacivat script, so we were completely inexperienced and so had to deal with some problems (P4)
		Upset	Jokes considered bad (N=1)	My teammates did not like my jokes, which was upsetting (P3)
			Ideas considered inappropriate for student level (N=1)	My teammates found some of the things I said inappropriate for the students' level and so refused to put them in the script, which was kind of upsetting. (P2)

All participants had positive and negative feelings about writing Karagöz and Hacivat scripts about early childhood science education topics and putting on puppet shows. Participants' views were grouped under the themes of positive and negative. Participants mostly addressed cognitive, social/affective, and motor skills. Most participants expressed positive views under the subthemes of cognitive, social/affective, and psychomotor domains regarding writing shadow play scripts and putting on puppet shows. Participants stated that shadow play could be used as a means of learning, that they communicated effectively, had fun, did teamwork, discovered that they had a talent for acting, and improved their sense of humor and professional skills during the workshop.

Those who stated that shadow puppet show and script-writing helped them communicate effectively with their teammates also stated that they got to know each other better, made new friends, and became more sociable. This shows that shadow play activities help preservice teachers get to know themselves and others better. Moreover, those who stated that the workshop helped them

develop teamwork skills also stated that they made great effort to accomplish the tasks they were assigned to. This shows that shadow play activities make preservice teachers push themselves to develop self-discipline. Participants' statements also showed that writing scripts and putting on shadow puppet shows made them more willing to cooperate and respect differences.

Participants expressed some negative opinions about the workshop as well. Some participants who reported challenges especially on the social/affective domain stated that they had encountered disagreements and group conflicts while writing scripts. We think that participants had difficulty coming up with storylines due to the lack of experience. Some participants were upset by the fact that their teammates did not find their jokes funny or appropriate.

Participants' Positive Views of the Use of Shadow Play in Early Childhood Science Education

This section investigated participants' views of the use of shadow play in early childhood science education. To that end, they were asked the questions, "In what way do you think the Turkish shadow play (Karagöz and Hacivat) might positively affect early childhood education? and "In what way do you think shadow play might positively affect early childhood education? Their responses were categorized and presented in Table 7.

Table 7. Positive Effects of Shadow Play on Early Childhood Science Education

Category	Codes	Quotations
Teacher	Fun education (N=5)	You know, we are going to be preschool teachers. We are going to teach kids a lot of things but we can't do that all at once. We should make it fun, and I think that we can use the things we've learned from the workshop. (P3)
	Alternative method (N=4)	How can I explain a topic? What can I do to make it more effective? The workshop gave me a solution, Karagöz and Hacivat is a new way, a new method. (P3)
	Turning abstract into concrete (N=3)	Science topics are a bit hard to understand, and using Karagöz and Hacivat is important to ensure learning retention, because there are abstract concepts, so Karagöz and Hacivat can be used to turn abstract concepts into concrete forms and help students keep them in mind. (P2)
	Drawing attention (N=3)	Today, children live in the digital age, so they have short attention span, be it a game or a class, but we can use this handicraft, that is, Karagöz and Hacivat, to draw their attention to class, we can use visuals and sounds to do that. (P5)
	Discovering a talent (N=3)	It is very important for discovering kids with related skills. For example, acting, I mean, maybe the parents or the teacher can't notice it, but the kids can discover their or each other's talent for acting, and the teacher can notice that and tell that to parents, and the kid gets a chance to maybe go in that direction in life. (P3)
	Easy teaching (N=3)	It allows us to teach topics much more easily, and so the kids can comprehend them much more quickly and put them in practice. Karagöz and Hacivat works miracles, so I think it's a promising method. (P4)
	Learning retention (N=2)	I used Karagöz and Hacivat to teach my 5-year-old niece about rain. In another setting, he described the rain with the voice of Karagöz, so I saw that it helps with learning retention. (P6)

	Effective learning (N=2)	There's this thing in Karagöz and Hacivat, it makes a topic fun, which helps with learning. You can't teach kids something at all once, you should make them laugh and make sure that they enjoy it; when you do that, they will learn without even knowing that they do. I think this is the greatest perk of Karagöz and Hacivat. (P4)
	Pointing out errors (N=2)	I had a story about a smoker ruining his lungs, like messed up lungs and whatnot, you know, to explain the health risks of smoking, I think we can use Karagöz and Hacivat characters to teach the kids what's right and what's wrong. (P5)
	Solution to lack of material (N=1)	When we think of science education, we think of experiments and a laboratory etc. Not everybody can do experiments, I mean, maybe they don't have an appropriate setting or materials, but we saw that, with Karagöz and Hacivat, we can teach science even in schools in villages with no materials to be used. (P5)
	Explaining class rules effectively (N=1)	We can also use Karagöz and Hacivat to teach children class rules. (P2)
	Getting down to students' level (N=1)	Karagöz and Hacivat brings down a topic to the simplest level, I mean, to the level of children, so they get more enthusiastic about learning and take firm steps forward and learn easily. (P1)
	Discovering theatrical skills (N=1)	I personally had never thought that I had a talent for theater, I mean, acting and doing voices etc. But when we put on our puppet show, I realized that I'm really good at it, and I think I may consider a career in theatre, I mean, I think I can participate in different activities. (P1)
	Gamification (N=1)	Children love playing games, and Karagöz and Hacivat is like a game, and when they play it, they do voices and actually improve their skills. (P6)
	Making communication stronger (N=1)	When the puppeteer makes the figures talk and when it's all fun and funny, the teacher and kids bond and communicate better. (P2)
Child	Development of dexterity (N=4)	We can use Karagöz and Hacivat to help preschoolers develop manual skills, especially while making puppet figures. (P4)
	Development of theatrical skills (N=3)	Kids watching a shadow puppetry show would also like to make the characters talk, and when doing that, they'll improve their theatrical as well as some other skills. (P2)
	Being active (N=3)	Karagöz and Hacivat makes the kids more active, they answer questions more quickly. (P3) We can use Karagöz and Hacivat to engage students more in class. (P5)
	Increased attention span (N=3)	I think that Karagöz and Hacivat increases the kids' attention span because if it's a long story animation, then the kids have a hard time keeping focused, but they will get more focused if it's a Karagöz and Hacivat show. They will want to see the whole thing, so I believe it can increase their attention span. (P2)
	Learning with one's own materials (N=2)	Kids can learn how to use their hands better when preparing a Karagöz and Hacivat show, and then they'll get to learn the topic because they will be putting on a show about it. (P1)
	Being more social (N=2)	Today kids live in the digital age, Karagöz and Hacivat can help them socialize and develop theatrical skills. (P5)
	Overcoming technology addiction (N=2)	Today, children are addicted to technology, but, with Karagöz and Hacivat, they can learn how to use their hands better and overcome that addiction. (P2)
	Easy learning (N=2)	We've realized that we learned better using this method, so since it helps us learn faster, I think that it would work miracles for secondary school or primary school students or even for preschoolers. (P2)
	Willingness for engagement in activities (N=1)	Students at that age see their teacher as god and want to do what she does, so a teacher putting on a Karagöz and Hacivat show would definitely make her students enthusiastic about taking part in it. (P2)

Social-Cultural	Handing culture down to future generations (N=4)	I will use Karagöz and Hacivat in professional life and help it be known better and handed down to the future generations. (P3) An important thing that we've learned from the workshop is that Karagöz and Hacivat are not only for the month of Ramadan but that it can be performed anytime of the year. We can let that be known by the public as well. (P2)
	Integrating culture and education (N=1)	Karagöz and Hacivat combines culture and education. This is actually very important because we should know about our own past to be able to take firm steps into the future, I mean, we can blend culture with education because it's a very different thing. (P6)
	A component of culture in values education (N=1)	I think it has a very important place as a cultural element in values education. (P2)

Participants' views of the integration of early childhood science education with shadow play were grouped under the categories of "teacher," "child," and "social-cultural." They agreed that shadow play could be used by teachers because it was a child-centered education approach that helped them make teaching easier and more fun and effective. According to them, it is hard to keep preschoolers focused because they are addicted to technology, and therefore, teachers can use shadow play to keep them focused, to help them discover their potential and to ensure learning retention. They were of the opinion that shadow play could be used to turn abstract concepts into concrete forms, to overcome the lack of teaching materials, to explain class rules, to make communication stronger, and to bring science topics down to the level of children. They also maintained that shadow play could result in increased motivation and easier learning. They thought that children learned and developed skills by playing games and that shadow play was on the same page as learning by playing and gamification.

Participants remarked that science education with shadow play resulted in active learning and that students participating in shadow play activities, such as puppet-making, were likely to have a longer attention span and learn more easily. They also noted that puppet-making could help children develop manual skills, overcome technology addiction, and socialize more.

The contributions of shadow play to social-cultural domain were grouped under the codes of "handing culture down to future generations," "integrating culture and education," and "a component of culture in values education." Participants were of the opinion that shadow play could provide fun teaching and learning opportunities and turn children into people who respect and protect their traditions. Participants asserted that shadow play was an important component of culture in values education, and therefore, could be a bridge between culture and education.

Participants' Negative Views of the Use of Shadow Play in Early Childhood Science Education

This section investigated participants' negative views of the use of shadow play in early childhood science education. To that end, they were asked the questions, "In what way do you think

the Turkish shadow play (Karagöz and Hacivat) might negatively affect early childhood education? and "In what way do you think shadow play might negatively affect early childhood education? Their responses were categorized and presented in Table 8.

Table 8. Negative Effects of Shadow Play on Early Childhood Science Education

Category	Codes	Quotations
Practicality	Not appropriate for every science activity (N=5)	For example, we can't use Karagöz and Hacivat to teach science topics that require experiments. It might be a little hard to adapt it to every science topic. (P1) We have to take children out and allow them to observe so that they can learn some topics (e.g. adaptation of plants and animals). We can't use Karagöz and Hacivat to teach such topics. (P4)
	Knowing the topic very well (N=4)	You need to know a topic very well or do some research on it before you write a script about it. (P3) Well, hard topics have two challenges; learning it and teaching it. A teacher should know a topic well to teach it well to her students, so you should know a lot about a topic before you can come up with a Karagöz and Hacivat story about it. (P4)
	Having stories appropriate to the level of children (N=1)	You should know about the characteristics of the age group you work with and the topic you want to teach to be able to come up with a storyline (P5)
	Doing some research (N=1)	The teacher should know a topic before writing a script about it, I mean, we checked three different resources to come up with a story, so you have to do a lot of research. (P6)
	Effort and time intensive (N=1)	I don't think shadow play is very practical because it's too inconvenient, I mean, you have to put so much effort on it both to make puppet figures and to come up with a story, and you also have to think of a way of conveying it to students. Maybe teachers can be a bit reserved about that, but I will definitely use Karagöz and Hacivat activities and teach science topics to my students that way. (P1)
	Limited time (N=1)	Time is also crucial, I mean, making puppets, coming up with a story and putting on a show...I mean, if it takes two hours of class to teach a topic, it will not take longer than that with a conventional method, but if you use Karagöz and Hacivat, then I think it might take longer than that, so, it's a bit of a drag. (P6)
Characters	Inappropriate characters for preschoolers (N=3)	Some characters are bad influence, for example, the character Tiryaki, he is a smoker. I wonder if it would confuse the kids, I mean, I have some doubts about that because whatever you teach the kids at that age, it sticks with them. Maybe we don't have to portray Tiryaki as an addict, I mean, we could portray him in a different way. We can talk about how he quit smoking, like what kind of treatment he received or how regretful he is that he's smoked for years. (P1)
	Knowing all the characters (N=1)	You should also know about what kind of characters they are; you should definitely have some idea about it because you'll write a story with those characters. (P3)
	Inappropriate behaviors (N=1)	Hacivat and Karagöz kick and punch each other, which set bad examples for kids (P2)

Participants stated that shadow play might have some disadvantages for early childhood science education, such as impracticality and characters who might be a bad influence. Under the category of practicality, they argued that shadow play might not be appropriate for every science activity and that it might be hard to come up with storylines appropriate for students' level. They pointed out that teachers should do a lot of research and know science topics very well, and devote a

lot of time and effort to make puppets and come up with storylines before they could use shadow play in early childhood science education (Table 8).

Under the category of characters, participants maintained that some characters in Karagöz and Hacivat might be a bad influence on preschoolers. The participant P3 approached the matter from a different perspective and highlighted that teachers should know the characters in Karagöz and Hacivat very well to be able to come up with storylines. These statements show that preservice teachers should be trained on shadow play during undergraduate years before they can use it effectively in early childhood science education.

Participants' Views of Early Childhood Science Education Topics for Shadow Play

This section investigated for what early childhood science education topics participants thought shadow play could be used. To that end, they were asked the question "In what areas or disciplines of preschool education can the Turkish shadow play (Karagöz-Hacivat) be used?" Their responses were categorized and presented in Table 9.

Table 9. Participants' Views of Early Childhood Science Education Topics for Shadow Play

Discipline	Area	Quotations
Art	Making figures (N=3)	Making figures is an art activity in itself. It's hard to make figures from leather, but kids can use acetate paper. It'll help them develop manual skills and get involved in an art activity. (P1)
	Shadow puppet show (N=2)	Shadow puppet shows are a visual feast for children, so it can be used in the visual arts lesson. (P5)
	Visual activities (N=2)	The characters in Karagöz and Hacivat are visually appealing to kids. (P2) Karagöz and Hacivat is like a painting, so it can be used in such activities. (P4)
	Teaching colors (N=1)	Kids can paint the figures in different colors, it'll improve their manual skills. It can also be used in visual arts lessons to teach the kids the colors. (P4)
Turkish	Pronunciation (N=2)	Teachers can use shadow play in Turkish lessons. Let's say, one character pronounces some words wrong and another character corrects him, so it can be used to teach kids how to pronounce words right. (P2)
	Elocution (N=2)	I think that teachers can use Karagöz and Hacivat activities to help kids speak Turkish well and properly because the character, Karagöz, for example, pronounces a lot of words wrong, and Hacivat corrects them, so you get the chance to teach kids how to pronounce words right. (P3)
	Coming up with a plot (N=1)	Writing scripts is also a good Turkish activity for kids. I mean, they want to use the new words they learn and can use them in scripts. (P4)
	Coming up with new words and using them (N=1)	Kids can also come up with new words while writing scripts and use them in their stories. My niece also participated in the workshop and then used the words she learned when she was playing with her friends and came up with new words by herself. (P6)
	Teaching new words (N=1)	We can use Karagöz and Hacivat to teach new words. For example, we can write down a script and use the words we want to teach kids in it, and after the puppet show, we can talk to them about those words, and this way, we can help them learn those words by heart. (P3)

Science	Providing information (N=3)	We are going to teach kids about science, so we can use Karagöz and Hacivat to do that; we can use the Karagöz and Hacivat characters to do it. I mean, when we teach students science topics, we can come up with creative activities and stories with Karagöz and Hacivat. (P2)
	Making hard topics easy to understand (N=1)	It's really hard to teach some science concepts, I mean, it's hard and sometimes boring, so, I think we can use Karagöz and Hacivat to make hard topics easy to understand . (P1)
	Learning retention (N=1)	We can perform science activities with Karagöz and Hacivat to teach students science concepts, I think that that kind of activities result in learning retention. (P3)
Music	Improving rhythm and timing (N=3)	Karagöz and Hacivat is a visual feast for kids, when it comes to puppet shows and dubbing characters, and music etc. The dialogues between Karagöz and Hacivat and other characters are in harmony with music, so I believe Karagöz and Hacivat shows can help kids learn to get rhythm. (P5)
	Teaching songs (N=3)	Karagöz and Hacivat has auditory elements, so it can be used in science education. Every character in it has his own music, so it can even be used to teach kids songs. We can integrate in Karagöz and Hacivat shows the songs we want to teach. (P2)
	Recognizing different sounds (N=1)	Every character in Karagöz and Hacivat has his own voice and music, and there are many other characters with different voice and music. Teachers can use Karagöz and Hacivat to help kids recognize different sounds. (P4)
	Playing musical instruments (N=1)	Musical instruments, such as def and nareke (some sort of a flute) are used in Karagöz and Hacivat shows, so kids who see that may become interested in musical instruments, so I think that Karagöz and Hacivat can be used in music education as well. (P5)

Participants stated that shadow play could be used in early childhood art, Turkish, science, and music activities because it involved visual and auditory elements and allowed children to make figures, learn colors, and put on puppet shows. They remarked that shadow play could also be used for Turkish education because children participating in shadow play could come up with storylines and new words and use them in their scripts and learn new words and how to pronounce them correctly and how to speak eloquently (Table 9).

Participants noted that shadow play could be used in preschool science activities because it provided information, ensured learning retention, made hard topics easy to understand and could also be used in early childhood music activities because it helped children develop musical skills, recognize different sounds, learn songs, and play musical instruments.

Discussion

Preschool science teachers generally use the question and answer and analogy methods as well as trip-observation and plant activities (Akyol & Birinci Konur, 2018; Karamustafaoğlu & Kandaz, 2006). However, these methods and activities are mostly teacher-centered. To our knowledge, there is no research on the effect of shadow play, which is a traditional art form, on early childhood science education. This study revealed important results regarding the effect of shadow play on early childhood preservice teachers' self-efficacy beliefs and attitudes towards science teaching and their views of the usability of shadow play in early childhood science education in general.

The shadow play workshop helped participants interact more, recognize simple scientific facts, and develop social and academic skills and positive attitudes towards science and art, and made them more interested in learning, more motivated to do research, and more curious about scientific issues. They found the workshop productive and enjoyed taking part in it. They took pride in their work and felt more confident and luckier. The workshop also helped them develop manual skills, made them more sociable and enabled them to express themselves more easily than before. The workshop provided them with the opportunity to recognize the relationship between everyday life and science and to raise questions about it. They sought answers to those questions by making shadow puppet figures, writing scripts, and putting on puppet shows on a white screen.

Participants' Self-Efficacy Beliefs and Attitudes towards Early Childhood Science Education

The workshop improved participants' self-efficacy beliefs and attitudes towards early childhood science teaching and also taught them how to use different materials in preschool education, helped them develop different perspectives of art and communication skills, and made them more interested in learning, more motivated to do research, and more curious about scientific issues.

Research shows that preschool teachers' perspectives and attitudes towards science teaching affect science teaching processes (Orkunoğlu, 2016; Osborne et al., 2003). Moreover, teachers with high self-efficacy beliefs are likely to be more active and suffer less from stress (Chan, 2003; Henson, 2001).

However, some studies show that some preschool teachers do not like or are not interested in science teaching (Babaroğlu & Okur Metwalley, 2018; Can & Şahin, 2015; Tu, 2006; Tu & Hsiao, 2008). Can and Şahin (2015) reported that early childhood preservice teachers had lower science attitude scores than science teaching attitude scores and concluded that this might be because preservice teachers might have thought that they were supposed to teach science even if they did not like or were not interested in it, however, the researchers also stated that it was uncertain how a teacher who was not interested in science could teach it to students and make it appealing to them. However, as noted by Orkunoğlu (2016), preschool teachers' attitudes towards science teaching affect how well they perform science activities and how much their students enjoy those activities. Therefore, what undergraduate education should first focus on is addressing preservice teachers' negative attitudes towards science teaching and turning them into positive before teaching them science topics.

Integration of Shadow Play with Early Childhood Science Education

Increased interest in programs that focus on putting knowledge into practice, new findings on how the brain functions during learning, and teachers who support progressive educational ideas are factors that contribute to integrated curricula (Smar, 2000).

Play is a fun activity that appeals to children and makes them more creative and sociable and ensures learning retention in early childhood (Bose & Seetso, 2016). Play is one of the most effective methods that can be used in science education because it can easily be integrated with other methods and promotes intrinsic motivation in children (Özgül et al., 2017). Teachers should be able to use play and involve children in science activities and scientific research to enable them to learn science topics through experience (Hamlin & Wisneski, 2012). Shadow play, which is a form of art, helped our participants develop interdisciplinary perspectives and provided them with the opportunity to have science-related experiences and develop skills that they will use in their professional lives.

Previous studies have investigated the effects of science education integrated with different art forms on students' attitudes towards science (Abed, 2016; Archilla, 2017; Braund, 2015; Gurnon et al., 2013; Hartwig, 2014; Kallunki et al., 2017; Verhoeff, 2017). However, what Öztürk (2010) found was that preschool science teachers first presented science activities and then art activities. However, they could integrate science with art and drama and play and come up with large group or integrated small group activities. In conclusion, early childhood science education can be easily integrated with different art forms, such as shadow play.

Materials in Early Childhood Science Education

Research shows that preschool teachers cannot apply science activities in the curriculum due to the lack of materials (Çınar, 2013; Karademir et al., 2020; Karamustafaoğlu & Kandaz, 2006; Saçkes et. al., 2010; Sağlam & Aral, 2015; Simsar et al., 2017; Trnova & Trna, 2015). Trnova and Trna (2015) argue that preschool science teachers can actually use simple toys and everyday materials to teach science concepts.

Our participants stressed that shadow play could provide teachers with different teaching methods and help them create different educational settings and also help students develop social/affective and communication skills. Shadow play scripts and shows can be used as a basic tool in education (Demir & Özdemir, 2013). Shadow play dialogues are good educational materials that provide effective learning and enable children to participate in activities (Öcal, 2014). Puppets can be used as supportive materials to improve teacher-student and student-student interaction (Anagün et al., 2010; Öcal et al., 2021)

© 2021 INASED

The Effect of Shadow Play on Children

Activities integrated with drama and puppetry have long-term positive effects on children's social and emotional skills (Aydoğdu & Halim, 2017). Puppets become role models for children and present them with different situations in which they can develop thinking, cognitive, and social skills (Bai et al., 2015). Puppets help children develop thinking, learning, creativity (Causa et al., 2015) and interaction and independence skills (Bulut, 2014; Causa et al., 2015; Öcal et al., 2021). Shadow play scripts can also help children develop linguistic skills (Bulut, 2014; Demir & Özdemir, 2013; Yılmaz & Taşkın, 2014). Using shadow puppet figures to teach early childhood science topics encourages children to engage in learning, to express their thoughts about science activities, and to develop alternative perspectives about them.

Children should be actively involved in science learning while teachers should turn abstract science concepts into concrete forms (Brunton & Thornton, 2010; Skamp, 2011). Our participants noted that shadow play was a child-centered method that helped preschool science teachers to attract children's attention to activities and to turn abstract science concepts into concrete forms.

Our participants maintained that shadow play allowed students to come up with science-related stories and have fun while learning. They also stated that shadow play could teach children the importance of preserving cultural traditions. Fleer (2013) highlights that storylines are culturally and emotionally important in early childhood science activities because they support science education and help children develop a common scientific awareness. Research also shows that Karagöz and Hacivat serves as a means of transmitting culture to the next generation (Bulut, 2014; Demir & Özdemir, 2013; Yılmaz & Taşkın, 2014). Our participants also emphasized that shadow play could help children overcome technology addiction and positively affect their future learning.

Limitations and Future Research

This is the first study to investigate the effect of the integration of shadow play with early childhood science education. Therefore, it has some limitations: ambient light, the size of the white screen, and the location of the white screen. The ambient light should be as dim as possible for shadow play. However, we had difficulty adjusting the light in the workshop, especially during the first couple of shows. The white screen was not wide and high enough for all participants to view the shows, which was therefore distracting for some. We tried to fix these problems as soon as we noticed them. Therefore, teachers should arrange their classrooms and check the ambient light and the size and height of the white screen and students' position to make sure that they all can view the shadow puppet shows.

Another limitation was about early childhood science topics. Participants were allowed to write a script about any science topic because they did not know what topics could be taught through

shadow play. However, this caused them to choose the topics with which they were familiar. Therefore, further research is warranted to determine shadow play can be used to teach what early childhood science topics.

The third limitation was that the sample consisted only of 24 first-year early childhood preservice teachers. It is, therefore, necessary to conduct further studies with larger sample sizes to provide more insight into the contribution of shadow play to early childhood science education. Early childhood preservice teachers should be trained on shadow play during pedagogical education so that they can use it in their professional lives. A number of recommendations were made for future research on the use of shadow play for education and early childhood science education:

This study investigated the effect of shadow play on early childhood science teaching. Future studies should integrate shadow play with different active learning approaches and examine its effect on early childhood science teaching. Future studies should also identify the early childhood science topics for which shadow play can be used and how it helps students develop positive attitudes towards those topics. For example, studies should be conducted to determine whether shadow play activities help children develop cognitive, language, moral, psychomotor, and self-care skills.

Conclusion and Implications

This study determined the effect of shadow play, which is a cultural and artistic form of puppet theatre, on early childhood preservice teachers' self-efficacy beliefs and attitudes towards science teaching. It also addressed their views of early childhood science education integrated with shadow play. Early childhood science education helps children develop positive attitudes towards science in the future (Güvenir, 2018). But for this, it is first the teachers who should possess positive attitudes towards science. Our results show that shadow play is an effective, engaging, and fun method that preschool science teachers can use to turn abstract science concepts into concrete forms. It also improves their attitudes and self-efficacy towards science teaching. Our participants shared with each other what they learned in the workshop, and thus, developed an awareness of science. Shadow play provided them with knowledge and experience about how scientific environments should be like. Preschool science teachers can use shadow play to spark their students' curiosity and motivate them to learn.

Preservice teachers actively participating in science education classes in education faculties, using methods and techniques to improve themselves personally and professionally, and receiving support and guidance from their professors are likely to have more positive attitudes and self-efficacy beliefs towards science teaching. Undergraduate science courses should teach early childhood preservice teachers how to develop materials for science activities, and thus, make them more equipped for teaching science. Preschool teachers' gap in their knowledge of planning and

implementing shadow play science activities should be identified, and in-service training should be offered accordingly. Moreover, notes and guidebooks should be prepared, and meetings, workshops, projects, and symposiums should be organized to teach teachers and preservice teachers shadow play and make sure that they have shadow play-related experience and to make it easier for them to use it easily in their professional lives.

Our results show that shadow play helps children actively engage in activities, express their feelings and thoughts openly, put themselves in someone else's shoes, build social relationships, and develop basic social/affective skills. Shadow play is an interesting and motivating play-like method that contains fun characters and allows participants to come up with different stories. Therefore, shadow play dialogues can promote classroom interaction and child-child and teacher-child communication and engagement in activities in early childhood science education. In a nutshell, shadow play activities can be structured in line with learning outcomes and indicators and used in early childhood science education. For example, children can choose an appropriate science topic and come up with a plot about it and put on a shadow puppet show so that they can learn it easily and enjoy learning it.

Shadow play can be performed in early childhood classrooms. The white screen can be placed in a way they all children can view the shadow puppet shows. Even a permanent stage can be set up in the classroom and can be referred to as "dream scene." Children learn easily through play. Therefore, parents should also support their children to perform shadow play activities to develop collaboration skills, and to learn to take responsibility and follow rules.

Acknowledgments

This study was conducted by the Scientific Research Projects (SRP) unit of the Muş Alparslan University within the scope of the project "Science Education through Turkish Shadow Play and Puppets" (Project no: BAP-18-EMF-4901-04).

References

Abed, O. H. (2016). Drama-based science teaching and its effect on students' understanding of scientific concepts and their attitudes towards science learning. *International Education Studies, 9*(10), 163-173. http://dx.doi.org/10.5539/ies.v9n10p163

Akcanca, N., Aktemur Güler, S. & Alkan, H. (2017) Examination of pre-school teachers' views on science education practices. *Caucasian Journal of Science,* 1-19.

Akyol, N. & Birinci Konur, K. (2018). Investigation of teachers and administrators' views on the applicability of science education in preschool period. *Kastamonu Education Journal,* 26(2), 547-557. https://doi.org/10.24106/kefdergi.389823

Ampartzaki, M. & Kalogiannakis, M. (2016). Astronomy in early childhood education: A concept-based approach. *Early Childhood Education Journal,* 44(2), 169-179. http://doi.org/10.1007/s10643-015-0706-5

Anagün, Ş. S., Bayrak, E. & Yeşilkaya, E. (2010). Students' participation in science and technology lessons of puppets and effect on learning. *E-Journal of New World Sciences Academy,* 5(4), 1984-1992.

And, M. (1977). *Shadow Play in the World and in Us.* Turkey Business Bank Publications.

Archila, P. A. (2017). Using drama to promote argumentation in science education. *Science & Education, 26*(3-4), 345-375. https://doi.org/10.1007/s11191-017-9901-7

Atkın, Ö. (2010). *Shadow theater in Turkey an Example "Orhan Kurt." (Unpublished master thesis).* Haliç University Social Sciences University Theater Department, Istanbul.

Aydoğdu, F., Halim Ulaş, A. (2017). The effect of integrated puppet and drama activities on the social emotional development of children attending pre-school education. *Academic View Journal,* 59, 346-354. https://doi.org/10.3844/ajassp.2008.876.880

Babaroğlu, A. & Okur-Metwalley, E. (2018). Opinions of preschool teachers on science education in early childhood. *Hitit University Journal of Social Sciences Institute,* 11(1), 125-148. https://doi.org/10.17218/hititsosbil.389149

Bahçeci Sansar, S. (2010). *Investigation of the Relationship Between Preschool Teachers' Attitudes Towards Science Teaching and the Methods They Use in Science Activities. (Unpublished master thesis).* Abant İzzet Baysal University, Institute of Social Sciences, Bolu.

Bai, Z., Blackwell, A.F. & Coulouris, G. (2015). Exploring expressive augmented reality: The fingar puppet system for social pretend play, *Proceedings of the ACM CHI'15 Conference on Human Factors in Computing Systems,* 1, 1035-1044. https://doi.org/10.1145/2702123.2702250

Bayav, D. (2009). Art, science and interaction in Leonardo Da Vinci. *Trakya University Journal of Social Sciences,*11(2), 123-142.

Bolotta, A. (2017). *Exploring art and science integration in an afterschool program* (Order No. 10253851). Available from ProQuest Dissertations&Theses Global. (1931360822).

Bose, K. & Seetso, G. (2016). Science and mathematics teaching through local games in preschools of Botswana. *South African Journal of Childhood Education,* 6(2), 1-9. https://doi.org/10.4102/sajce.v6i2.453

Bose, K., Tsamaase, M. & Seetso, G. (2013). Teaching of science and mathematics in pre-schools of Botswana: The existing practices. *Creative Education,* 4(7A1), 43-51. https://doi.org/10.4236/ce.2013.47A1006

Braund, M. (2015). Drama and learning science: an empty space? *British Educational Research Journal, 41*(1), 102-121 https://doi.org/10.1002/berj.3130

Brunton, P. & Thornton, L. (2010). *Science in the early years: Building firm foundations from birth to five.* Sage Publications.

Buldu, E. & Olgan, R. (2018). Investigation points of differentiation between science literacy skills in terms of some indicators: the PISA findings-Turkey. *International Journal of Human Sciences,* 15(3), 1453-1465. https://doi.org/10.14687/jhs.v15i3.5279

Bulut, M. (2014). An evaluation on the functional use of karagöz / shadow play in gaining language and cultural values in Turkish education. *International Journal of Languages' Education and Teaching,* 2(3), 88-100.

Butler, S., Guterman, J. & Rudes, J. (2009). Using puppets with children in narrative therapy to externalize the problem. *Journal of Mental Health Counseling, 31*(3), 225-233. https://doi.org/10.17744/mehc.31.3.f255m86472577522

Büyüktaşkapu, S., Çeliköz, N. & Akman, B. (2012). The effect of the constructivist science education program on the scientific process skills of 6 year old children. *Education and Science,* 37(165), 275-292.

Can, M. & Şahin,Ç. (2015). Investigation of pre-school teachers' attitudes towards science and science teaching. *Journal of Abant İzzet Baysal University Education Faculty,* 15(2), 13-26.

Causa A., Vo, G. T., Toh, E., Chen, I. M., Yeo, S. H. & Tzuo, P. W. (2015). Developing and benchmarking show & tell robotic puppet for preschool education. *Proceedings - IEEE International Conference on Robotics and Automation, 2015-June*. Institute of Electrical and Electronics Engineers Inc., 6114-6119. https://doi.org/10.1109/ICRA.2015.7140057

Chaille, C. & Britain, L. (2003). *The young child as scientist. A constructivist approach to early childhood science education.* (3 rd edition). Pearson Education.

Chan, D. W. (2003). Multiple intelligences and perceived self-efficacy among chineese secondary school teachers in Hong Kong. *Educational Psychology,* 23(5), 521-533. https://doi.org/10.1080/0144341032000123778

Charlesworth, R. & Lind, K. K. (2013). *Math and science for young children. (7th edition).* Cengage Learning.

Cho, H., Kim, J. & Choi, D. H. (2003). Early childhood teachers' attitudes toward science teaching: A scale validation study. *Educational Research Quarterly,* 27 (2), 33-42.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences (Second ed.).* Lawrence Erlbaum Associates.

Conezio, K. & French, L. (2002). Science in the preschool classroom: Capitalizing on children's fascination with the everyday world to foster language and literacy development. *Young Children*, 12-18.

Corbin, J. & Strauss, A. (2008). Strategies for qualitative data analysis. *Basics of Qualitative Research. Techniques and procedures for developing grounded theory*. Sage.

Creswell, J. W. & Plano Clark V. L. (2015). *Designing and conducting mixed methods research.* (Trans. Dede, Y. & Demir, S. B.). Anı Publishing.

Creswell, J. W., Plano Clark V. L., Gutmann, M. & Hanson, W. (2003). *Advanced mixed methods research designs.* In A. Tashakkori & C. Teddlie (Eds.) Handbook of mixed methods in social & behavioral research (p. 209-240). Sage.

Çamlıbel Çakmak, Ö. (2006). *Investigation of the Relationship Between Preschool Teachers' Attitudes Towards Science and Science Teaching and Understanding Levels of Some Science Concepts. (Unpublished master's thesis).* Abant İzzet Baysal University, Institute of Social Sciences, Bolu.

Çınar, S. (2013). Determining the activities that preschool teachers use in teaching science and nature subjects. *Journal of Education and Training Research,* 2(1), 364-371.

Demir T. & Özdemir B. (2013). Value teaching with Karagöz / shadow plays in Turkish education. *Journal of Values Education,*11(25), 57-89.

Dhanapal, S., Kanapathy, R. & Mastan, J. (2014). A study to understand the role of visual arts in the teaching and learning of science. *Asia-Pacific Forum on Science Learning and Teaching,* 15(2), 1-25.

Diamond, B. S., Maerten-Rivera, J., Rohrer, R. E. & Lee, O. (2014). Effectiveness of a curricular and professional development intervention at improving elementary teachers' science content knowledge and student achievement outcomes: Year 1 Results. *Journal of Research in Science Teaching,* 51 (5), 635–658. https://doi.org/10.1002/tea.21148

Diğler, M. (2012). *Painting Education in Early Childhood. (Edition 1).* Pegem Academy.

Enochs, L. G., & Riggs, I. M. (1990). Further development of an elementary science teaching efficacy belief instrument: A preservice elementary scale. *School Science and Mathematics,* 90(8), 694-706. https://doi.org/10.1111/j.1949-8594.1990.tb12048.x

Ersan, I. (2011). *Figure and Turkish Shadow Play in Shadow Play Aesthetics: Karagöz. (Unpublished master thesis).* Dokuz Eylul University, Fine Arts Institute, Izmir.

Eshach,H. & Fried, M. N. (2005). Should science be taught in early childhood? *Journal of Science Education and Technology,* 14(3), 315-336. https://doi.org/10.1007/s10956-005-7198-9

Fettahlıoğlu, P., Matyar, F. & Ekici, G. (2015). Analysis of pre-service teachers' science teaching self-efficacy beliefs and attitudes according to learning styles. *National Education,* 205, 125-149.

Field, A. (2009). *Discovering statistics using SPSS (and sex and drugs and rock 'n' roll) (Third edition).* Sage.

Fleer, M. (2013). Affective imagination in science education: Determining the emotional natüre of scientific and technological learning of young children. *Research in Science Education,* 43(5), 2085-2106. https://doi.org/10.1007/s11165-012-9344-8

French, L. (2004). Science as the center of a coherent, integrated early childhood curriculum. *Early Childhood Research Quarterly, 19*(1), 138–149. https://doi.org/10.1016/j.ecresq.2004.01.004

Gallegos-Cazares, L., Flores-Camacho, F. & Caldero'n-Canales, E. (2009). Preschool science learning: The construction of representations and explanations about color, shadows, light and images. *Review of Science, Mathematics and ICT Education, 3*(1), 49-73. https://doi.org/10.26220/rev.121

Genç Kumtepe, E. (2011). Science in Preschool Education. A. Özdaş (Ed.). *Science Education in Early Childhood (p.132-158).* Eskişehir: Anadolu University Open Education Faculty Publications.

Gençer, A. A. (2016). Examine the effect of drama method on the formation of children's ideas about scientists and inventions. *Elementary Education Online,* 15(1), 160-171.

George, D. & Mallery, P. (2019). *IBM SPSS statistics 25 step by step: A simple guide and reference (fifteenth ed.).* Taylor & Francis.

Greenfield, D. B., Jirout, J., Dominguez, X., Greenberg, A., Maier, M. & Fuccilo, J. (2009). Science in the preschool classroom: A programmatic research agenda to improve science readiness. *Early Education and Development,* 20(2), 238–264. https://doi.org/10.1080/10409280802595441

Gurnon, D., Voss-Andreae, J. & Stanley, J. (2013). Integrating art and science in undergraduate education. *PLOS Biology*, 11(2), 1–4. https://doi.org/10.1371/journal.pbio.1001491

Güvenir, Z. (2018). *Preschool Teachers' Attitudes Towards Science Teaching and Their Status of Practicing Science Activities in Preschool Education Program. (Unpublished master thesis).* Uşak University, Institute of Science, Uşak.

Hamlin, M. & Wisneski, D. B. (2012). Supporting the scientific thinking and inquiry of toddlers and preschoolers through play. *YC Young Children,* 67(3), 82.

Hartwig, E. K. (2014). Puppets in the playroom: Utilizing puppets and child-centered facilitative skills as a metaphor for healing. *International Journal of Play Therapy*, *23*(4), 204. https://doi.org/10.1037/a0038054

Hendrix, R., Eick, C. & Shannon, D. (2012). The integration of creative drama in an inquirybased elementary program: The effect on student attitude and conceptual learning. *Journal of Science Teacher Education, 23*(7), 823-846. https://doi.org/10.1007/s10972-012-9292-1

Henson, R. K. (2001). "Teacher self-efficacy: substantive implications and measurement dilemmas", *Educational Research Exchange Conference, Texas.* January 26. EDSR No: ED 452208.

Howell, D. C. (2013). *Statistical methods for Psychology (Eighth ed.).* Wadsworth Cengage Learning.

Inan, H. Z., Trundle, K. C. & Kantor, R. (2010). Understanding natural sciences education in a reggio emilia-inspired preschool. *Journal of Research in Science Teaching,* 47(10), 1186-1208. https://doi.org/10.1002/tea.20375

Jones, I., Lake, V. E. & Lin, M. (2008). Early Childhood Science Process Skills: Social and Developmental Considerations. In O. N. Saracho & B. Spodek (Eds.), *Contemporary perspectives on Science and Technology in Early Childhood Education*. (pp. 17-40). Information Age Publishing Inc.

Kallery, M., & Psillos, D. (2001). Pre-school teachers' content knowledge in science: Their understanding of elementary science concepts and of ıssues raised by children's questions. *International Journal of Early Years Education, 9*(3), 165-177. https://doi.org/10.1080/09669760120086929

Kallunki, V., Karppinen, S., & Komulainen, K. (2017). Becoming animated when teaching physics, crafts and drama together: A multidisciplinary course for student-teachers. *Journal of Education for Teaching, 43*(1), 32-47. https://doi.org/10.1080/02607476.2016.1182373

Karademir, A., Kartal, A., & Turk, C. (2020). Science education activities in Turkey: A Qualitative comparison study in preschool classrooms. *Early Childhood Education Journal*, *48*(3), 285–304. https://doi.org/10.1007/s10643-019-00981-1

Karaer, H. & Kösterilioğlu, M. (2005). Determining the methods used by preschool teachers working in Amasya and Sinop provinces in teaching science concept. *Kastamonu Education Journal,*13 (2), 447-454.

Karamustafaoğlu, S. & Kandaz, U. (2006). Teaching methods and difficulties encountered in science activities in preschool education. *Journal of Gazi Education Faculty,* 26(1), 65-81.

Koç, C. (2016). Teaching Methods. B. Doğan & V. Alkan (Ed.). *Teaching Principles and Methods,* 45-86. (2nd Edition). Educating Book.

Krueger, R. A. & Casey, M. A. (2000). *Focus groups: A practical guide for applied research (3 rd. Ed.).* Sage, 4-5.

Kudret, C. (1992). *Karagoz.* (2nd Edition). Information Publications.

Küçükturan, G. (2017). Theory to Practice Science Education in Pre School. H. Ş. Ayvacı & S. Ünal (Ed.) *The role of science education and teacher in preschool period.* Pegem Academy Publications, 55-69.

Loxley, P., Dawes, L., Nicholls, L. & Dore, B. (2016). *Science education that entertains and improves understanding in primary education.* (Translated by H. Türkmen, M. Sağlam & E. Şahin Pekmez). Nobel Academic Publishing.

McKillup, S. (2012). *Statistics explained: An introductory guide for life scientists (Second ed.).* Cambridge University Press.

Mırzaie, R. A., Hamidi, F. & Anaraki, A. (2009). A study on the effect of science activities on fostering creativity in preschool children. *Turkish Science Education,* 6(3), 81-90.

Miles, M. B., Huberman, A. M. & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook. (3rd. Ed).* Sage.

Nitko, A. J. & Brookhart, S. M. (2010). *Educational Assessmenty of Students (Sixth ed.).* Pearson Education, Inc.

Olgan, R., Güner-Alpaslan, Z. & Oztekin, C. (2014). Factors affecting pre-service teachers' expectation beliefs about science teaching. *Education and Science, 39*(173), 288-300.

Orhan, A. T. (2018). Science Education in Early Childhood. A. T. Orhan (Ed.), *Materials frequently used in early childhood science education.* Educating Book Publications.

Orkunoğlu, Y. M. (2016). *Investigation of the Relationship Between Preschool Teachers' Attitudes Towards Science Teaching and Self-Efficacy Levels. (Unpublished master thesis).* Yeditepe University, Institute of Educational Sciences, Istanbul.

Osborne, J. F., Erduran, S. & Simon, S. (2004). Enhancing the quality of argumentation in school science. *Journal of Research in Science Teaching,* 41, 994-1020. https://doi.org/10.1002/tea.20035

Osborne, J., Simon, S., & Collins, S. (2003). Attitudes towards science: A review of the literatüre and its implications. *International Journal of Science Education, 25*(9), 1049-1079. https://doi.org/10.1080/0950069032000032199

Öcal, E. (2014). *The impact of drama method and puppet / Karagöz applications in teaching the topic of our body systems on student success and attitude*. Unpublished Doctoral Dissertation. Gazi University, Ankara.

Öcal, E., Karademir, A., Saatcioglu, O., & Demirel, B. (2021). Preschool teachers' preparation programs: The use of puppetry for early childhood science education. *International Journal of Educational Methodology, 7*(2), 305-318. https://doi.org/10.12973/ijem.7.2.305

Özbek, S. & Sığırtmaç, A. (2011). Examination of pre-school teachers' views and practices about science education. *E- journal of new world sciences Academy,* 6:1.

Özdemir, N. (2006). Advertising industry and Karagöz. *Intangible cultural heritage: living Karagöz international symposium papers.* Gazi University, Ankara. THBMER Publications.

Özgül, S. G., Saçkes, M. & Akman, B. (2017). Children's mental models for the shape of the Earth and the concepts of day and night. *Journal of E-International Educational Research,* 9(1), 66-88.

Öztürk, E. (2010). *Exploring the change in preschool teachers' views about and practices of integration of visual art into science activities: a case study. (Unpublished doctorate thesis).* Middle East Technical University, The Graduate School of Social Sciences, Ankara.

Pallant, J. (2011). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS (fourth ed.)*. Allen & Unwin.

Ravanis, K., Christidou, V. & Hatzinikita, V. (2013). Enhancing conceptual change in preschool children's representations of light: a sociocognitive approach. *Research in Science Education, 43,* 2257–2276. https://doi.org/10.1007/s11165-013-9356-z

Saçkes, M., Akman, B. & Trundle, C. K. (2012). A science methods course for early childhood teachers: a model for undergraduate pre-service teacher education. *Necatibey Faculty of Education Journal of Electronic Science and Mathematics Education (EFMED),* 6(2), 1-26.

Saçkes, M., Trundle, K. C., Bell R. L. & O'Connell, A. A. (2010). The influence of early science experience in kindergarten on children's immediate and later science achievement: Evidence from the early childhood longitudinal study. *Journal of Research in Science Teaching,* 48 (2), 217–235. https://doi.org/10.1002/tea.20395

Sağlam, M. & Aral, N. (2015). The study of determine pre-school teachers' ideas about science education. *Inönü University Journal of the Faculty of Education,* 16(3), 87-102. . https://doi.org/10.17679/iuefd.16308213

Sevilen, M. (1969). *Karagoz (1000 Basic Works).* National Education Press.

Simsar, A., Doğan, Y. & Yalçın, V. (2017). Examination of science centers and their use cases in preschool classes-Kilis example. *Journal of Social Sciences,*7 (14), 147-164. https://doi.org/10.31834/kilissbd.354745

Skamp, K. (2011). Teaching primary science constructively. Scamp,K (Ed.). *Teaching primary science constructively inside* (1-54). Cengage Learning.

Smar, B. J. (2000). *Integrating art and science: A case study of middle school reform. (Unpublished doctorate thesis).* The University of Toledo, USA.

Sullivan, G. M. & Feinn, R. (2012). Using Effect Size – or Why the P Value Is Not Enough. *Journal of Graduate Medical Education,* 4(3), 279-282. https://doi.org/10.4300/JGME-D-12-00156.1

Şişman, B. (2009). Updating the topics and images of the Turkish shadow play. *International Journal of Social Research,* 2, 611-616.

Taber, K. S. (2018). The use of cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education,* 48(6), 1273-1296. https://doi.org/10.1007/s11165-016-9602-2

Taha, F. & İvrendi, A. (2010). *Science Learning and Teaching in Preschool Education. (2nd Edition).* Root Publishing.

Takaoglu, Z. B. & Demir, V. (2018). Evaluation of science activities applied in preschool education. *Mediterranean Journal of Educational Research,* 12(25), 76-101.

Tekkaya, C., Çakıroğlu, J. & Özkan, Ö. (2002). A case study on science teacher trainees. *Education and Science,* 27(126), 15-21.

Tekkaya, C., Olgan, R. & Güner, Z. (2010). Epistemological beliefs, attitudes and self-efficacy towards pre-service teachers. *IX. National Science and Mathematics Education Congress.* Izmir Turkey.

Temuçin, E. (2007). *Puppet as an Artistic Expression Tool in the Children's Theater. (Unpublished master thesis).* Ankara University, Institute of Social Sciences, Ankara.

Tepe Yılmaz, S. (2014). Science and art as a human activity. *Anadolu University Art and Design Journal,* 6(6), 90-99. https://doi.org/10.20488/austd.68237

Thompson, C. L. & Shrigley, R. L. (1986). What research says: Revising the science attitude scale. *School Science and Mathematics,* 86(4), 331-343.

Thompson, K. (1995). Maintaining artistic integrity in an interdisciplinary setting. *Art Education,* 48(6), 38-45.

Thorndike, R. M. & Thorndike-Christ, T. (2010). *Measurement and Evaluation in Psychology and Education (Eighth edition).* Pearson Education.

Trnova, E. & Tyrna, J. (2015). Formation of science concepts in pre-school science education. *Procedia-Social and Behavioral Sciences,* 197 (2015), 2339-2346. https://doi.org/10.1016/j.sbspro.2015.03.464

Trundle, K. C. (2010*). Best practices in science education:Teaching science during the early childhood years.* National Geographic Learning.

Tu, T. (2006). Preschool science environment: What is available in a preschool classroom? *Early Childhood Education Journal,* 33(4), 245-251. https://doi.org/10.1007/s10643-005-0049-8

Tu, T. & Hsiao, W. (2008). Preschool teacher-child verbal interactions in science teaching. *Electronic Journal of Science Education,* 12(2), 1-23.

Türkoğuz, S. & Yayla, Z. (2011). Development of attitude scale for the integration of science and art subjects. *National Education,*190, 256-268.

Ünal, M. & Akman, B. (2006). Attitudes of preschool teachers towards science education. *Hacettepe University Faculty of Education Journal*, 30, 251-257.

Verhoeff, R. P. (2017). The use of drama in socio-scientific inquiry-based learning. *Cognitive and Affective Aspects in Science Education Research*, 117-126. https://doi.org/10.1007/978-3-319-58685-4_9

Worth, K. & Grollman, S. (2003). *Worms, shadow and whirlpools: Science in early childhood classroom*, NH: Heinemann.

Yıldırım, A. & Şimşek, H. (2016). *Qualitative research methods in the social sciences* (10th Edition, ss. 157-170). Seçkin Publications.

Yılmaz, F. & Taşkın, M. (2014). Teaching of Turkish as a foreign language and culture transfer with Hacivat Karagoz plays. *The Journal of Academic Social Science*, 2 (5), 270-288.

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Investigating Relationship Between Democratic Attitudes and Social Justice Beliefs of Pre-Service Teachers[1]

Gökhan KILIÇOĞLU[2]
Eskişehir Osmangazi University

İlknur ŞENTÜRK[3]
Eskişehir Osmangazi University

Abstract

The number of studies that evaluate and discuss the concepts of democracy and social justice in Turkey from the perspective teacher training, education policies and practices is extremely limited. Thus, the present study attempts to determine democratic attitudes and social justice beliefs of pre-service teachers and whether these variables differ based on gender, age, family income level, and parental education level variables. The present study also aims to test the relation between the democratic attitudes and social justice beliefs of pre-service teachers using structural equation model. 483 pre-service teachers were included in the study sample. According to the study findings, it was concluded that democratic attitudes and social justice beliefs of pre-service teachers are medium level and these variables does not differ based on demographic variables. It was also identified that the democratic attitudes of pre-service teachers are significant determinant of their social justice beliefs. The concepts of democracy and social justice were discussed in depth as regards teacher education policies, programs and practices, and recommendations are provided for future implications.

Keywords: Democratic Attitudes, Social Justice Beliefs, Teacher Training, Teacher Education, Pre-Service Teachers

DOI: 10.29329/epasr.2021.373.13

[1] A part of this research was presented at the Annual Meeting of European Educational Research Association in 2016

[2] Assoc. Prof. Dr., Eskişehir Osmangazi University, Faculty of Education,Department of Educational Sciences, Eskişehir, Turkey. ORCID: 0000-0002-6322-228X

Correspondence: gkilicoglu@outlook.com

[3] Assoc. Prof. Dr., Eskişehir Osmangazi University, Faculty of Education,Department of Educational Sciences, Eskişehir, Turkey. ORCID**:** 0000-0002-2096-614X Email:ilknurkokcu@gmail.com

© 2021 INASED

Introduction

In Turkish education system, social justice and democracy are emerging as important political priorities. To establish an educational organization that promotes democratic, equalizing and fair social and political order, initially, teacher training curriculum and practices, principles, qualification fields, knowledge and skills must be structured based on the above-mentioned concepts. It is conceived that democracy and social justice studies have a critical role in educational research and policies, especially during the recent years. It is necessary to mention that some factors (such as increasing migration, economic inequalities, difficulties regarding the right of access to education, the disadvantaged' individuals or groups' inability to fully benefit from the human rights, increasing rate of school dropouts, etc.) affecting social, economic and political structure of Turkey make social justice discussions more important. In addition, theory and practices including social justice and democracy issues in the programs of teacher training institutions in Turkey are very limited (Akın & Özdemir, 2009; Karatekin, Merey & Kuş, 2013; Saracaloğlu, Evin & Varol, 2004; Özdaş, Ekinci & Bindak, 2014). However, the number of studies that emphasize the concept of social justice and democracy in Turkey within the context of educational policies and practices is limited. In this study democratic attitudes and social justice beliefs of pre-service teachers were determined and the theoretical model between the democratic attitudes and social justice beliefs of the pre-service teachers was tested.

Conceptual Framework of Democracy

Democracy historically is an ancient Greek concept and defines a way of life and a political and sociological order that refers to the people, freedom, government, equality, participation, and social contract (Williams, 2011). Its origin is the Latin *democratia* and the roots of the term are Greek *demos* (people) and *kratos* (state) (Çiftyürek, 2007). Historically, democracy is a concept which has been the focus of criticisms. For example, Aristotle stated that "democracy is a state where the government of the state is given to free men and the poor because they are the majority." Plato, on the other hand, explained that "democracy would come into existence when the poor defeat their opponents, kill some or exile others, and live with the rest by giving them equal freedom and power". Aquinas described democracy as the government of people, where the ordinary people govern and oppress the rich with the power of their numbers, behaving like tyrants (Williams, 2011).

The concept of democracy was mentioned in a political constitution in 1641 in the constitution of Island of Rhodes for the first time, and reflected the government of the people. Legislation of the people and the authority of the selection of those who would supervise the enforcement of the law among the people are specifically the focus. In addition to the general definition of democracy as the rule of the majority, representative democracy, where legislative,

executive and judiciary powers are transferred to the elite, has a different meaning and practice (Çiftyürek, 2007; Holden, 2008).

Until the beginning of the nineteenth century, democracy was perceived more as the right to vote than popular government, and it became even more valuable with the French Revolution. Afterwards, it became possible for democracy to be perceived a revolutionary term, not an uncontrolled power of majority utilized to suppress or oppress minorities. In the socialist tradition, democracy continues to refer to the government of the people. Social democracy represents a structure where the people exercise the power to monitor rights, justice, equality and political practice (Çiftyürek, 2007). In the second half of the 20th century, democracy theories take into account the complexity of modern political systems and the limited political capacity of the masses have begun to replace passive role of the people. Specifically, pluralistic theory has become prominent by criticizing the elitist theory. Pluralistic democracy theoreticians argued that an elitist system cannot be regarded as a real democracy, and that real democracy can be achieved through broad participation of the people (Holden, 2008). Today, large and complex structures that the governments acquired created a necessity for indirect democracy or which is also called representative democracy rather than a direct democracy where citizens themselves vote for specific proposals or laws. By *representative democracy*, political decision-making rights are given to the representatives who are selected in elections (Birch, 2007; Güçyetmez, 2017). In the modern sense, however, democracy can serve the legitimization of different initiatives through a policy created by capitalist production relationships, and thus, lay the groundwork for new forms of exploitation where the global actors of the world today (Williams, 2011).

As a political system in which public policies are shaped by the will of the people, democracy remains the basic political thought in structuring and execution of educational policies, which are an extension of public policies (Williams, 2011). Chomsky (2007) explained the relationship between education and democracy through an educational system that trains individuals who could communicate and collaborate with one another. By questioning the dominant ideologies and conducting a critical analysis of social norms and judgments, he identifies the liberation of cognitive development, intellectual and moral comprehension of knowledge in individuals with democratic education. When democracy and democratic values are addressed in teacher education, principles such as focusing on social phenomena and events, creating awareness and effort towards minority rights, introducing multiculturalism, fighting for rights, favouring democratic values in decision making processes, achieving susceptibility for humanity, existence and humanism, avoiding discriminatory and racial discourse, thoughts, processes and actions, facilitating existence of several thoughts, and promoting participative experiences should be realized (Apple & Bean, 2007; Mathews, Spearman & Che 2013; Sleeter, 2008).

© 2021 INASED

Social justice and democracy are believed as interconnected concepts (Glasius & Pleyers, 2013). Democracy and social justice are also universal concepts of political thought, and these concepts are related to the distribution of power in the society. Indeed, democracy and justice are the basis of arguments such as active citizenship, democratic institutionalization, political participation, pluralistic thinking and modes of existence, public space based on partnership, public interest, representation of different groups and multiculturalism. In a democratic society, it is imperative to think of the concept of social justice within the context of educational organizations and policies.

Social Justice

Social justice has been debated within the political, economic, social and legal context in the global order (Craig, 2007). It has become a key concept in discussion of the worldwide effects of capitalism, neoliberalism and globalization, and explanation of the concepts of democracy and pluralism (Power & Taylor, 2013). More specifically, social justice has economic, cultural and political dimensions. Economic justice is related to equal distribution of goods and resources while cultural justice requires recognition of cultural elements that are beyond the dominant culture. Political justice is explained by the capacity of individuals to engage in civil and political actions via economic and cultural equality (Power & Taylor, 2013). Concurrently, social justice symbolizes equality in economic, cultural, political and social spheres. Social justice is structured as a very operational and distributed process, rather than a state-oriented quality and operates with the distribution of rights, wealth, resources, public benefits, private benefits and institutional capacities (Touraine, 2000; 2002).

According to the liberal justice theory, social justice focuses on the prevention of the inequalities that could be created by market processes (Dowding, Goodin & Patemon, 2004). From Marxist point of view, social justice aims to maintain the balance of power in the society in favour of oppressed social classes, and to eliminate the imbalance in income distribution and to improve living standards. Miller (1999) attempted to explain social justice with the protection of rights, providing for the basic needs and expectations of the members of the society, security of life and fair distribution, and accessibility of resources. Furthermore, the definition of equal citizenship without compromising cultural, racial, ethnic, economic, linguistic and religious freedom and the legal safeguard for this citizenship model, equal access of all citizens to all means, and a fair distribution of resources are fundamental principles of the social justice (Miller, 2004).

Social Justice in Education

Educational organizations, as actors at the heart of social and political change, are primarily influenced by the debate on social justice and social justice practices (Birkenmaier, 2003). Social justice in education could be explained by the role of schools in fair distribution of resources, and

their institutional and democratic struggle for the recognition of rights, freedom and demands, identities and cultures (Apple & Beane, 2007; Bates, 2005). Specifically, social justice in education is a movement to strengthen the oppressed groups that are left out of the prevailing production and power relations, to remove the conditions that reproduce inequality through schools, and to equalize advantageous groups with the disadvantaged.

Social justice aims to embody hope of renewal in society by promoting social rights and providing a good education system as well as strengthening financial conditions and having political influence (Apple & Beane, 2007; Bates, 2005). Social justice enables students from different social classes to socialize within educational setting, and prepares them to live together and reduces the differences among them. The students not only learn from the curriculum, but they also benefit from learning the functions of schooling that help them to internalizing the social norms, knowledge and skills. Schools provide students multiple affordances by social interactions and interpersonal relationships embedded in the educational processes (Wentzel & Looney, 2007). Thus, school leaders and teachers have serious duties in implementation of social justice practices at schools. First, school leaders should start by identifying the reasons behind existing inequalities in the school. Teachers are also significant part of the political strategy that would be carried out in schools to remove social and economic inequalities. Particularly at the micro level, rendering justice is related to the leadership competency of teachers. Therefore, it is expected teachers to develop strategies that can manage social justice in the classroom. Thus, the role of pre-service training in development of these strategies is a critical issue.

Social Justice and Teacher Education

Topics such as democratic citizenship, race, ethnicity, language, identity, gender, diversity, and disability yield research and implementations in educational organizations (Ayers, Quinn & Stovall, 2009; Banks, 2015; Connor, Gabel, Gallagher & Morton, 2008; Gurin, Nagda & Lopez, 2004; Mitchell, 2001; Nussbaum, 2011; Vincent, 2003). In academic field of teacher training, issues related to social justice and social responsibility, freedom and democracy, equal opportunities and processes are addressed, while in the ethical dimension, humanitarian development, disadvantaged individuals and groups, individual autonomies, rights, laws, and common good are mentioned in teachers' education programs (Chubbuck & Zembylas, 2016; Clarke & Drudy, 2006; Wallace, 2000; Osler & Starkey, 2017; Sleeter, 2008; Zalaquett et al., 2011; Townsend & Bates, 2007; Zeichner, 2016; 2017). Furthermore, collective learning that diversifies learning opportunities and resources, authentic learning, which includes concepts of integrity, creativity and responsibility, and awareness about being part of the world culture could create pedagogical experiences by introducing social justice approach to teacher education (Starrat, 2014). Indeed, academic structure in teacher training

should be constructed on the foundation of social integration, perception of citizenship and loyalty, effort for intellectual change, academic effort and social capital (Lopez, Naidorf & Teodoro, 2014).

In teacher education process, pre-service teachers need to know the bureaucratic culture in educational organizations that limits individual freedom and areas of autonomy in school. Besides, pre-service teachers need to understand the power structures at school and analyze dimensions and indicators of social justice. The teacher, who can be an agent of change in her or his classroom, can spread her/his justice and equality efforts to immediate neighborhood of the school and then to larger social areas. Thus, it is a prerequisite to train pre-service teachers as democracy and justice advocates within the framework of critical pedagogy (Picower, 2015). Furthermore, the definition of principles and practices of social justice and active citizenship which is based on cooperation, dialogue, transfer of power, comprehension of the content of the social theory, and experiences should be emphasized during the training of pre-service teachers in order to strengthen the perception of social justice. Besides, teachers need to have significant qualifications such as diversity, human rights and social justice awareness. Specifically, there is a need for teachers who would be able to analyse the social structure that s/he lives in, and organize their knowledge, skills and methods based on this analysis. Therefore, it is important to remember that teaching is not only a profession that could be professed with field and vocational knowledge, but also that teachers are activists, intellectuals, professional political entities and agents of social change (Pantic & Florian, 2015). Furthermore, teachers need to have a perspective on justice in celebrating diversity and being aware of structural inequalities. Thus, prospective teachers need to be prepared for the future with the goal of engaging in efforts of justice, addressing the inequalities of the education system, and improving the living conditions and life opportunities of for many students from different colour, low income or languages (McDonald & Zeichner, 2009). For this purpose, educators and researchers in teacher training institutions should be empowered in the context of social justice and democracy (O'Neill, 2005; Warring & Warring, 2006; Zeicher, 2016). To make social justice as a main notion in teacher education, the following elements such as active citizenship and democratic processes, public service responsibility, diversity in learning environment, in-depth critical inquiry, multicultural education, critical pedagogy, dialogue-based active learning, and pluralist classroom environment should be designed and implemented within academic and scientific context (Christopher & Taylor, 2011; Erbaş, 2019; Forde & Torrance, 2016; Nagda, Gurin & Lopez, 2003). In this context, it is obvious that teacher education programs should facilitate teachers' understanding of their beliefs about race, class, culture, other human diversities and social justice (Clarke & Drudy, 2006).

Democracy and Social Justice

It is inevitable to explain social justice in education with the existence of democracy. Social justice at schools is a struggle for democracy struggle at the same time, and social justice could only

survive in a democratic atmosphere. Democracy is about transforming the power areas in favour of the society at large and public interest and providing participation in decision-making mechanisms. Democracy is also about creating an active model of citizenship that equips individuals with problem-solving skills on equality and justice.

The democratic attitude and the belief in social justice should be strengthened in teacher education (Hyten, 2015) since democracy facilitates access to social rights and social justice, and social justice is a concept about access to democratic rights (Arnould, 2015; Matravers & Meyer, 2010; Toens, 2007). It is important to support social integration and responsibility, civil society, distribution of power, decision-making and social skills of pre-service teachers (Christopher & Taylor, 2011; Gunzenhauser, 2015). Adoption of social justice in the society and educational organizations is only possible with a democratic atmosphere and the presence of individuals who have internalized this atmosphere. Thus, it is important for pre-service teachers to experience cooperation by supporting responsibility of strengthening social justice in the school, to learn in a group, to form continuous development strategies, and to experience multiculturalism and differences (Karakaş & Erbaş, 2018; Juarez & Hayes, 2010; Ritchie, 2012; Warren, 2002). As noted by Weale (2016), it is necessary to transform democratic justice, equality in the distribution of power and resources and the resulting social contract into the principle of teacher education.

The development of democratic attitudes in the pre-service education of teachers and their comprehension concerning social justice, and pre-service teachers taking an active role in this process are in the focus of today's education policies. When this is considered within the context of pre-service teachers, it could be argued that democratic attitudes and social justice perceptions of pre-service teachers could be closely related. Besides, if teachers adopt a democratic attitude and expand this attitude throughout the classroom, the school culture considering social justice may be internalized. Thus, it could be argued that social justice can be the consequence of democratic understanding and environment.

Aim of the Study

The aim of the present study was to determine the democratic attitudes and social justice beliefs of pre-service teachers in Turkey and to identify whether these perceptions differed according to some demographic variables. Considering the democratic attitudes and social justice beliefs may change due to different roles attributed to the gender in Turkish society and culture, gender was selected as one of the variables. Based on the belief that democratic attitudes and social justice beliefs may increase as the age and life experiences of the participants increase, age was set as one demographic variable. Besides, variables such as family income level, mother and father education levels were chosen considering that these demographic variables may make a difference in pre-service teachers' democratic attitude and social justice perceptions (Manstead, 2018). Furthermore, there are

some studies focusing on democratic attitudes and social justice beliefs of pre-service teachers separately (Akın & Özdemir, 2009; Karatekin, Merey & Kuş, 2013; Saracaloğlu, Evin & Varol, 2004; Özdaş, Ekinci & Bindak, 2014). However, there are limited research conducted regarding these two concepts, which are complimentary to each other, in the same study and that democratic attitude is an important trigger for social justice. Accordingly, the study also aimed to test the theoretical model that the democratic attitudes of pre-service teachers are associated with the social justice beliefs of pre-service teachers.

Methodology

Due to the fact that the current study examined the relationship between pre-service teachers' democratic attitudes and social justice beliefs, *correlational research design* was used.

Sample

Study population included pre-service teachers attending the faculty of education at a university in Central Anatolia, which is located in the central part of Turkey. Cluster and criterion sampling were utilized as sampling strategies in the present study. All departments with senior students were determined as a cluster since it was thought that pre-service teachers' democratic attitudes and social justice perceptions can mature with taking more courses and having school experiences compared to other classes. The data of the study was collected in the Spring Semester of 2015-2016 Academic Year. Data collection was attempted to reach all 4th grade students, but 521 prospective teachers were invited to participate in. 38 of the participants answered only some of the questions in the data collection tool; thus, 38 participants were excluded from the research as these answers could produce meaningless results. Overall sample of the study included 483 pre-service teachers attending six different college departments. 165 (%34.1) participant pre-service teachers were attending the guidance and psychological counseling department, 111 participants (%23) were attending special education, 43 pre-service teachers (%8.9) were attending computer education, 19 participants (%3.9) were attending science education, 70 pre-service teachers (%14.5) were attending mathematics education, and 75 participants (%15.5) were attending the primary education department. Respondent pre-service teachers ranged between the ages of 17 and 38 ($\bar{X}$=20.38, *SD*=1.98). Majority of the sample (*n*=288, %59.6) was female while the minority was male (*n*=195, %40.4). Necessary legal permissions were obtained from the faculty for the implementation of the data collection tools. The tools were applied for the participants in course or lesson breaks by the researchers themselves or in the appropriate times for the participants. In data collection process, the volunteerism of pre-service teachers was essential; they informed about having the right to withdraw from the research at any time. Their rights to withdraw was told by the researchers during data collection process and indicated in the data collection tool as well.

Data Collection Tools

The study data were collected using two scales. The first was The Teacher Opinionaire on Democracy Scale (TODS), which was used to determine the democratic attitudes of pre-service teachers, and the second was Learning to Teach for Social Justice Beliefs (LTSJB) scale, which was used to determine social justice perceptions.

Teacher Opinionaire on Democracy Scale

Teacher Opinionaire on Democracy Scale developed by the Attitude Research Laboratory (Gozutok, 1995) was utilized to measure pre-service teachers' democratic attitudes. Scale reliability and validity studies and its adaptation into Turkish language were conducted by Gozutok (1995). The scale consists of one dimension including 50 items, 32 of which are positive, while the rest involve negative statements. The scale was completed by responding with 1 (*I agree*) for positive answers and 0 (*I disagree*) for negative answers. Thus, a maximum of 50 points could be scored in the scale. Confirmatory Factor Analysis (CFA) was used to determine the construct validity of the scale and Cronbach Alpha coefficient was used to determine internal consistency. Based on the results of the confirmatory factor analysis, the questions were rearranged based on the modification indices, and it was decided to exclude 7 items from the scale. In confirmatory factor analysis, the following goodness of fit indices were used on the theoretical model; Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Standardized Root Mean Square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Chi-square ($\Delta\chi^2$) and degrees of freedom (Δdf) ratio. First, Chi-square ($\Delta\chi^2$) value and statistical significance levels were determined ($\Delta\chi^2$ = 2029.41, Δdf = 819). The lower Chi-square ($\Delta\chi^2$) value and the ratio of this value to the degrees of freedom ($\Delta\chi^2 / \Delta df$ = 2.47), indicate that the scale items fit the collected data. Other goodness of fit indices (RMSEA = .05, AGFI = .86, GFI = .88, SRMR = 0.06) suggested that the proposed model was fit for the scale (Hu & Bentler, 1998; Jöreskog & Sörbom, 2001; MacCallum, Browne & Sugawara, 1996). Furthermore, internal consistency coefficient provided an acceptable value (α = .79) in reliability analysis (see Table 1 for each scale).

Learning to Teach for Social Justice Beliefs (LTSJB)

Learning to Teach for Social Justice Beliefs (LTSJB) developed by Boston College (BC) Evidence Team (2008) was used as a data collection instrument, to represent beliefs and perspectives of pre-service teachers on social justice in the classroom and school atmosphere (Ludlow, Enterline & Cochran-Smith, 2008). LTSJB is a five-point (1= *strongly disagree*, 5= *strongly agree*) Likert scale that includes 12 items. After adaptation of the LTSJB into Turkish language, confirmatory factor analysis and Cronbach alpha were utilized to examine construct validity and internal consistency of the scale. As a result of confirmatory factor analysis and reliability analysis, goodness of fit indices

($\Delta\chi^2$=218.06, Δdf =51, $\Delta\chi^2/\Delta df$ = 4.27, RMSEA=.08, AGFI=.88, GFI=.92, SRMR=0.06) and internal consistency coefficient (α= .72) showed that LTSJB has acceptable goodness of fit statistics (Hu & Bentler, 1998; Jöreskog & Sörbom, 2001; MacCallum, Browne & Sugawara, 1996).

Table 1. Fit Statistics For Confirmatory Factor Analysis and Cronbach Alpha Values

Model	χ^2	*df*	χ^2/df	GFI	AGFI	SRMR	RMSEA	α
TODS	2029.41	819	2.47	.88	.86	0.06	.05	.79
LTSJB	218.06	51	4.27	.92	.88	0.06	.08	.72

* TODS: The Teacher Opinionnaire on Democracy Scale; LTSJB: Learning to Teach for Social Justice Beliefs

Data Analysis

Mean, standard deviation, and range values as descriptive statistics were used to determine the democratic attitudes and social justice beliefs of pre-service teachers in the study and Multivariate Analysis of Variance (MANOVA) was used to determine whether these two variables differentiated based on demographic variables. Besides, Cohen's (1988) eta-square value was used to determine the effect value. Skewness-Kurtosis values, Mahalonobis distance, *Box M* tests were used to test the assumptions of MANOVA. The path analysis was used to test the independent theoretical model which was developed to determine the relationship between the democratic attitudes and the social justice beliefs of pre-service teachers. Both researchers took part in the analysis of the data obtained from the participants. IBM SPSS Statistics 20 and LISREL 8.7 software were used for statistical analysis in the study.

Results

The mean, standard deviations, range values, and correlation coefficients between democratic attitudes and social justice beliefs are presented in Table 2. When democratic attitudes and social justice mean scores of pre-service teachers are examined, it was determined that they have moderate level democratic attitudes (*M* = 31.93, *SD* = 6.108) and social justice beliefs (*M* = 3.45, *SD* = .466). Pearson correlation analysis was conducted to determine the correlation between the democratic attitudes and social justice beliefs scores of pre-service teachers. The results showed that there is a positive relationship (.46) between democratic attitudes and social justice perceptions of pre-service teachers.

Table 2. Means, Standard Deviations, Ranges, and Correlation Between Democratic Attitude and Social Justice Beliefs

	M	*SD*	*Range*	*Skewness*	*Kurtosis*	1	2
1.DA	31.93	6.108	5.0-45.0	-.672	1.046	-	
2.SJB	3.45	. 466	2.0-4.6	-.034	-.229	.465*	-

* Correlation is significant (p< .01); DA: Democratic attitude; SJB: Social justice beliefs

The Effect of Demographic Variables on Democratic Attitude and Social Justice Beliefs

MANOVA analysis was conducted to determine whether the democratic attitudes and the beliefs of social justice of pre-service teachers that participated in the study differed based on demographic variables such as gender, age, family income level, and parental education level. Firstly, it is necessary to test certain assumptions such as normality, outliers, linearity, and homogeneity of the variance-covariance matrix in order to use MANOVA (Field, 2009; Pallant, 2005). Specifically, Skewness-Kurtosiss values were considered for the normality hypothesis. Skewness and kurtosis values between -2 and +2 are considered acceptable in order to prove normal univariate distribution (George & Mallery, 2010). As seen in Table 4, skewness and kurtosis values ranged between -2 and +2 which indicate univariate normality. Mahalanobis distance values were examined to determine the outliers in the study data. The analysis results demonstrated that three of the obtained Mahalanobis values (14.34, 16.94, 19.75) were higher than the required critical value (Di^2 = 11.00) (Field, 2009; Pallant, 2005). The outliers that could affect the analysis were removed from the data set, leaving the date for 480 pre-service teachers in the dataset.

The linearity assumption in the study was tested by considering whether there is a linear correlation between the dependent variables. The scatterplots that reflected the correlation between the variables confirmed the assumption that all binary combinations of dependent variables have a linear relationship (Pallant, 2005). The final assumption required for MANOVA was homogeneity of the covariance matrices. The equality of covariance matrices of dependent variables was tested by using *Box M* test. The results indicated that equality of covariance matrices are not equal for gender [*Box M* = .339, $F(12, 4191) = .112$, $p > .05$], age [*Box M* = 1.439, $F(6, 1058) = .220$, $p > .05$], parent income level [*Box M* = 8.608, $F(9, 349) = 8.608$, $p > .05$], mother education level [*Box M* = 9.444, $F > .05$], and father education level [*Box M* = 8.505, $F(12, 656) = .607$, $p > .05$] variables.

The Wilks' Lambda test is recommended to determine the significance of the independent variable on the dependent variable (Field, 2009; Tabachnick & Fidell, 2001). Therefore, these test values were utilized in the study. According to MANOVA results, it was determined that there are no significant differences between democratic attitudes and social justice beliefs of the pre-service teachers and demographical variables such as gender [$\lambda = .993$, $F(2, 307) = 1.008$, $p > .05$], age [$\lambda = .992$, $F(6, 602) = 379$, $p >$], parent income level [$\lambda = .984$, $F(8, 604) = .612$, $p > .05$], mother education level [$\lambda = .983$, $F(8, 606) = 653$, $p > .05$], and father education level [$\lambda = .996$, $F(8, 604) =. 140$, $p > .05$] (see Table 3). Furthermore, when eta square values (η^2) were examined (See Table 3.), it was observed that demographic variables have no significant effect on democratic attitudes and beliefs of social justice (Cohen, 1988).

Table 3. Multivariate and Univariate Analyses of Variance for Democratic Attitude and Social Justice Beliefs

					Univariate							
	Multivarite				Democratic attitude				Social justice beliefs			
	F^a	*df*	*p*	η^2	F^b	*df*	*p*	η^2	F^b	*df*	*p*	n^2
Gender	1.0	2-307	.36	.00	.23	1-308	.62	.00	.91	1-308	.34	.00
Age	.37	6-602	.89	.00	.20	3-302	.89	.00	.42	3-302	.73	.00
Parent income	.61	8-604	.76	.00	.32	4-303	.86	.00	.97	4-303	.42	.01
Mother education level	.65	8-606	.73	.00	.87	4-304	.48	.01	.90	4-304	.46	.01
Father education level	.14	8-604	.99	.00	.22	4-303	.92	.00	.11	4-303	.97	.00

Goodness of Fit Index Findings

A model based on the structural equation model was designed in the study to determine the correlation between the democratic attitudes and social justice beliefs of pre-service teachers. Based on the theoretical model, the democratic attitudes of pre-service teachers are positively correlated to their social justice beliefs. Prior to testing the theoretical model, correlation analysis was performed to determine the correlations between the variables, followed by path analysis to determine the correlations between the variables by calculating the goodness of fit indices for the theoretical model.

For the theoretical models designed in the present study related to the correlation between democratic attitudes and social justice, the goodness of fit indices for the concurrent contribution of all observed and latent variables to the theoretical model are presented in Table 4. The goodness of fit of the developed theoretical model was determined with GFI, AGFI, SRMR, RMSEA, $\Delta\chi^2$ and $\Delta\chi^2$ / Δdf ratio statistics. In the theoretical model, it was determined that the GFI value was .88 and AGFI value was .86. As a result, the GFI and AGFI goodness of fit values were considered as the indication that the theoretical model is suitable for the obtained data (Hoyle, 2012; Kline, 2005; Schumacker & Lomax, 1996). On the other hand, RMSEA includes the mean of variance and covariance that cannot be explained by the model, and in practice, the RMSEA value for the model was found as .058 and was sufficient for fitness (MacCallum et al., 1996).

SRMR, another goodness of fit index value, was calculated as .066 in the study. The arrows that indicate unexplained variance in each latent variable, namely the errors, are also included in the structural model. The variance explained by each latent variable in the model can be determined through its correlation with other latent variables. Thus, the variance explained by each latent variable and the resulting unexplained variance, namely error values, can be regarded as part of the structural model rather than the measurement model. The $\Delta\chi^2$ / Δdf ratio was 2.62 for the study model. This means that there is a good fitness between the observed and covariance matrices (Hair et al., 2010; Jöreskog & Sörbom, 2001).

Table 4. Goodness of Fit Statistics for the Theoretical Model

Model	χ^2	*df*	χ^2/df	GFI	AGFI	SRMR	RMSEA
1	3607.76	1376	2.62	.88	.86	.066	.058

The results of the path analysis conducted on the theoretical model to determine the correlation between democratic attitude and social justice in the study are presented in Figure 1. The independent variable of the model which was about democratic attitudes included 43 observed variables. Among these variables, 44(λ_{441} = .21), 12(λ_{121} = .19) and 33(λ_{331} = .19) items were the most significant determinants of democratic attitude. The dependent variable of the structural equation model was social justice belief which is a one-dimensional scale. In the theoretical model, all scale items were set as observed variables while social justice items were included as latent variable. Among these items, 8(λ_{81} = .64), 7(λ_{71} = .58) and 4(λ_{41} = .54) were the most significant determinant of social justice beliefs. In the constructed structural equation model to determine the correlation between democratic attitudes and social justice beliefs, democratic attitudes explained .61 standard deviation variance of social justice variable.

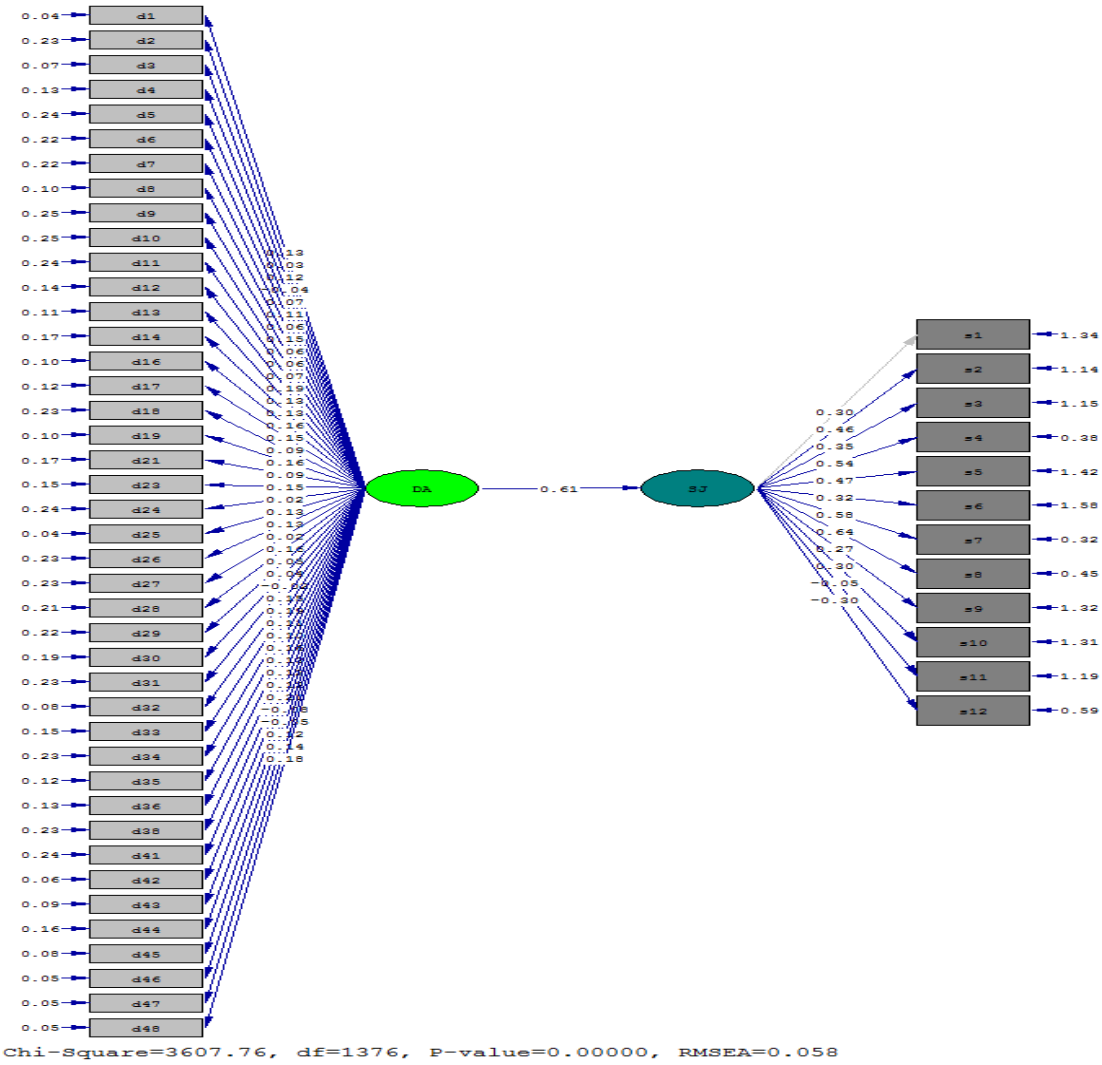

Figure 1. Model for democratic attitudes and social justice beliefs of pre-service teachers

© 2021 INASED

Conclusion and Discussion

The study findings revealed that the democratic attitudes and social justice beliefs of pre-service teachers are correlated with each other. Another significant finding in the study was that democratic values and social justice beliefs of pre-service teachers are medium level and do not differ based on demographic variables. Age, gender or their families' socio-economic background (parent income level, mother and father education level) did not differentiate democratic values and social justice beliefs of pre-service teachers. Research findings support other research conducted in Turkey. Although democratic attitudes (Arslan & Çalmaşur, 2017; Özbey & Sarıçam, 2018) and social justice beliefs (Cırık, 2015) of pre-service teachers are high level in some studies, other research results have been reached medium and lower levels (Gürgen, 2017; Polat, 2015; Tomul, Çelik & Tas, 2012).

Social justice and democracy are theoretically associated concepts. The study results substantially confirmed the theoretical relationship based on the views of pre-service teachers. The factors such as cooperation, collaborative learning and decision making processes, effective communication, environment based on autonomy, encouraging and supportive attitude, awareness of responsibility, promoting freedoms, original and critical thinking, scientific processes in learning that determine democratic attitudes in educational organizations are also effective in formation of a culture and structure that is based on social justice.

In a metaphor study examining pre-service teachers' perceptions about democracy in Turkey (Yağan Güder & Yildirim, 2014) revealed that democracy were mostly associated with metaphors regarding equality and justice. As in the current study concluded that as democratic attitudes of pre-service teachers increase, their social justice beliefs increase. Indeed, democracy is both a condition and an element of social justice (Enslin, 2006). In addition, democracy and social justice are very close to each other or intertwined concepts that carry values such as equity, justice, respect and equality (Cochran-Smith, 2010). Since democracy and social justice are inherently a part of a democratic way of life, it is asserted that democratic citizens support social justice (Apple & Beane, 2007; Hytten & Bettex, 2011). Thus, educators who support social justice through a vision of democracy maintain a very active, participatory and critical notion of citizenship. Similarly, the results of the current study revealed that democracy and democratic attitudes in teacher education show how important it is for pre-service teachers equipped with social justice beliefs and skills.

The way of transforming social structures to democratic structures or building democratic citizenship and social justice centred society or growing generations who embody democratic culture and values is based on educational institutions. Teacher education passes from the strand on these key issues. Therefore, there is a need for teachers who internalize democracy and social justice in ideas and practice, implement in-class and out-of-class practices effectively, and have democratic and social justic leadership skills (McGee & Hostetler, 2014; Kılıçoğlu, 2018; Subba, 2014). However, some

research concluded that teachers perceive democracy in schools as parent participation in monetary issues and stakeholder participation in asking the ideas (Polat, 2015).

In other studies on democracy and social justice (Bursa, 2015; Gürgen, 2017; Tomul, Çelik & Tas, 2012), it is criticized that some teachers do not make effort for the adaptation and academic achievement of disadvantaged students such as Syrian and Iraqi refugees, perform various activities to students with high academic achievement unlike other students. It is also mentioned that teachers and students may have some problems in the freedom of thought and expressing themselves. Besides, there are some criticized issues such as disregarding the views of female teachers, discrimination of students regarding their beliefs, nepotism or discrimination of teachers regarding their political views, unions or beliefs. In addition, teachers often respect differences while addressing global and religious differences whereas they lack of addressing local differences. Teachers are asserted as using only verbal expressions of social justice and democracy, they are lacking in doing activities or using different strategies regarding democracy and social justice (Bursa, 2015; Gürgen, 2017; Tomul, Çelik & Tas, 2012). However, teachers should develop students' skills, attitudes and values concerning seeking information, communicating, thinking, expressing their emotions, listening actively, and making or participating in decisions. Teachers need to provide an environment students for identifying, expressing themselves and revealing their potential (Botha, Joubert & Hugo, 2016). In order to provide such a service, teachers need to know the basic concepts of democracy and social justice, as well as transforming the culture of democracy and social justice into a lifestyle and have a positive understanding or perception about these concepts. It is a fact that pre-service teachers' democratic attitudes and social justice beliefs shaped in their family and the environment in which they live. Likewise, teacher education has important role in developing the perception of democracy and belief in social justice. Indeed, a teacher training program that develops democratic attitudes and values of pre-service teachers prepares them for a democratic and fair society, and makes them to be ready for a social change. Moreover, teacher education enables pre-service teachers to become better acquainted with the school atmosphere and environment, to be familiar with their values, to acquire different perspectives in decision-making skills, and to develop their attitudes, beliefs and skills related to democracy and social justice (Apple, 2008; Zeichner, Payne & Brayko, 2015). Furthermore, teacher education gives pre-service teachers opportunity to be the agents of change and equipped with knowledge, behaviour and skills for transformation (Westheimer & Suurtamn, 2008)

Research conducted outside of Turkey (Leonard & Moore, 2014; Littenberg-Tobias, 2014; Tinkler, Hannah, Tinkler & Miller, 2015; Torres-Harding, Diaz, Schamberger & Carollo, 2015) showed that education of pre-service teachers on democracy and social justice positively affects their perceptions, awareness, practices and actions of respect, equality and justice. These researchers also revealed that teacher education reduces stereotypical beliefs, prejudices and negative thoughts against differences. Moreover, teacher education encourages teachers to develop their critical thinking, self-

reflection and self-efficacy. At this point, it is significant for pre-service teachers to have democratic attitudes, skills and practices for their social justice beliefs. Thus, it is important for Turkey and other countries considering teacher training programs developing with a sense of social justice and democracy. However, a course named "human rights and democracy education" that focuses on democracy and social justice education in teacher training is only set as mandatory course for social studies teaching program in Turkey, while it is elective for other teaching programs (YÖK, 2019). In a study conducted by Ersoy (2014), it was detected that since teachers do not have adequate knowledge and experience concerning effective and democratic citizenship education, primary students belonging to lower socio-economic levels cannot exercise their rights adequately compared to those who come from higher socio-economic levels. However, generality and equality, equality of opportunity and democracy education are the basic principles of Turkish Education System according to No. 1739 Basic Law of the Ministry of National Education.

In international context, social justice is a constantly changing phenomenon and can never be assumed to be complete in teacher education programs. However, there is an inconsistency in conceptualization of social justice teacher education programs. There is also inadequacy, multiple instantiations and uncertainty regarding social justice concept. Nevertheless, it is democracy that is the common theme in teacher education programs or courses for social justice (Cochran-Smith 2010; Reynolds and Brown 2010). The studies that carried outside of Turkey on the concepts of democracy and social justice in teacher education (Carr, 2010; Hytten, 2015; Kaur, 2012; Kelly, Brandes & Orlowski, 2004; Storms, 2012; Subba, 2014) concluded that the two concepts are closely associated. It was stressed that social justice based on equality would be implemented more effectively by pre-service teachers who have adopted and internalized democratic values. Furthermore, the studies indicated egalitarian and collaborative practices, literacy in social justice, systematic analysis of learning processes, dialogue-based learning, supportive classroom environment, democratic citizenship responsibility, libertarian and critical thinking, asking critical and original questions, active learning and participation, identification of cultural, national, and global identity factors, and analysis of social structures and relationships as the components of democratic values and social justice on teacher training (Banks, 2004; Kelly, Brandes, & Orlowski, 2004). At this point, both in Turkey and internationally sense, these components should be emphasized in the content of courses, curriculum of teacher training program and policies in teacher training institutions. Furthermore, these institutions should integrate the democratic approach and social justice to allow the courses, studies and activities of the faculty members that support democratic attitudes and should structure a democratic organizational culture (Carr, 2010; Carr, Pluim & Thesee, 2014; Kaur, 2012).

The efforts and contributions of teachers are important for the establishment of a democratic administrative process and structure based on social justice in educational organizations. It is especially important to train teachers based on democratic values and their ability to administer social

justice. To strengthen social justice perceptions of pre-service teachers, it is necessary to support their democratic values and attitudes with curricular and implementation processes. Hytten (2015) defined social justice and democratic attitudes as an important area of competence in the future professional life of pre-service teachers to fairly manage micro-social area within the classroom, and discussed democratic attitude of an activist professional identity as a critical variable in the establishment of social justice. Similarly, Nagda, Gurin and Lopez (2003) stated that democracy and social justice are mutually supporting theoretical concepts in critical pedagogy and the critical pedagogy education strengthens democratic and social justice perceptions of pre-service teachers.

Limitations

Democratic attitude and social justice are multidimensional concepts, and the attempt to measure these concepts only with the questions in the abovementioned scales constitute one of the limitation of the study. The fact that findings of the study were not supported by interviews and lacked in terms of qualitative methodology is another limitation. We were able to evaluate and discuss pre-service teachers' democracy and social justice perceptions, the relationship between the two concepts, the status of these two concepts in terms of teacher training and what can be done for pre-service teachers through scale items. This may be the other limitation of the study. Furthermore, the inclusion of only a single university' faculty of education in the study sample may be considered as another limitations. Furthermore, the fact that the 7 items in the democratic attitude scale produced a very high modification index values and exclusion of certain items due to their similarities with other items could be considered as the other limitation.

Future Implications for Teacher Education

Democracy and social justice in Turkey demonstrated in social, political, economic and institutional spheres as significant issues, as well as in the education. In conclusion, within the context of the literature that supports the findings of the current study, it was also confirmed that acquiring democratic attitude promotes social justice. Based on the study findings, it could be recommended that teacher training institutions could consider social justice and democratic attitudes when admitting pre-service teachers and design professional and intellectual development action plans. Curriculum should be structured with instructional practices and roles that enforce equal access, program, climate, shared leadership, a sense of working for the common interest, problem solving skills, communication and representation skills, collaborative culture, continuous dialogue and the new ways of understanding to render democracy and social justice an educational experience (Rawe, Urban & Middleton 2016).

In Turkey, it is important for teacher training policies and programs to focus on the concepts of equality and social justice in the field of classroom management (Pinto et al., 2012) and to

introduce pre-service teachers to the subject areas that would determine their future social justice efforts in the school and classroom in the professional life. Focusing on non-authoritative learning experiences, classroom learning experiences that reinforce the belongingness to teaching profession (Florian, Young & Rouse, 2010) and engaging in critical pedagogical practices that would enable the acquisition of democratic responsibilities would be beneficial. Creating a pedagogical environment that could analyse the social structure, creating a subsequent cohesive interaction climate, spending efforts to reduce the impact of distribution and sharing dynamics that create inequalities in the classroom should be defined as the responsibility and duty of each teacher. Furthermore, teachers should be aware of some significant variables such as economic, social and cultural capital differences among students, equal access of students to the school, instruction and learning materials, academic achievement categorization, physical or mental disabilities and differences, and discrimination based on gender. But what is important is to equip teachers with the skills, perception and pedagogical competence to deal with these dynamics during the training.

Pre-service teachers should have an understanding of fair society where there is a participatory democracy, as Dewey (1932) mentioned. This can be achieved through the creation of new hybrid spaces in university teacher education where academic, school-based, and community-based knowledge come together in less hierarchical ways (Jeffery & Polleck, 2013; Reynolds & Brown 2010; Zeichner, Payne & Brayko 2015). This should be based on an epistemology that in itself is democratic and includes a respect for and interaction among practitioner, academic, and community-based knowledge. Pre-service teachers should experience democracy in the academia and in their school experiences, and they should practice democracy during the relationships with students, their families and school-society. Because pre-service teachers need to be able to more than just “talk” about social justice by making learning meaningful to their lives, noticing and challenging inequities and injustices that prevail in education and society, understanding and interrogating teachers’ own positioning. Pre-service teachers’ beliefs and attitudes and their role in sustaining the status quo, and at individual and/or collective levels working with and for diverse learners to advocate for a more just and more equitable life chances for all students, to imagine and work for a more just society could be the other steps taken (Bieler & Burns, 2017; Eryaman, 2007; Kaur, 2012; Ratnam, 2015; Reynolds & Brown 2010; Rust, 2019).

Social justice programs should offer the knowledge of democracy, the practice of democracy in the classroom, and use a methodology that improves the democratic attitudes of pre-service teachers. In this context, social justice education need to focus on how to bridge the gap between what is espoused in theory lessons about social justice and what happens in reality in schools and communities (Westheimer & Suurtamm, 2008), but not only for poor, historically disadvantaged, and differentiating from many aspects of the dominant society, it should also address teaching for all students, for the advantaged students in the system as well. In addition, democratic attitudes of pre-

service teachers can be improved through storytelling, autobiography, dialogue journals, literature, films, portfolios and case studies with giving place these methodologies in teacher education curriculum (Cochran-Smith 2010; Reynolds & Brown, 2010). Therefore, a social justice education that practices democracy and increases the belief and attitude of democracy can be integrated into teacher training process. At the same time, it is very important that teacher training institutions and teacher educators exhibit democratic skills, attitudes and behaviours in order to increase these skills of pre-service teachers. When a pre-service teacher does not experience a democratic teacher training process, the teacher cannot be expected to practice democracy in the classroom and cannot show any sensitivity to social justice.

In terms of pedagogical competences and skills that support democracy and social justice, pre-service teachers should be able to synthesize their instructional skills with new and exciting forms of constantly evolving ideas for innovation in art, science, and pedagogy (Ladson-Billings, 2014; Rust, 2019). In addition, pre-service teachers should enable students to take an active role in their own education and create empowering, critical and democratic educational environments. Marshall and Gerstl-Pepin (2005) suggest five leadership perspectives help to support social justice advocacy in schools. They claim that leaders must be critically pluralist and democratic, transformative, moral and ethical, feminist/caring, and spiritually/culturally responsive. In this context, pre-service teachers should consider social justice related subjects of the curriculum in the class by recognizing and respecting the differences of all students with a democratic attitude, creating equal learning opportunities for all students, creating a participatory atmosphere and coping with the tensions that may arise in the class.

References

Akın, U., & Özdemir, M. (2009). The examination of teacher candidates' democratic values in terms of various variables: The case of faculty of educational sciences. *Ankara University Journal of Faculty of Educational Sciences, 42*(2), 183-198.

Apple, M. (2008). Is deliberative democracy enough in teacher education? In M. Cochran-Smith, S. Feiman-Nemser, & D. J. McIntyre (Eds), *Handbook of research on teacher education* (3rd. ed., pp.105-110). New York, NY: Routledge.

Apple, M. W., & Beane, J. A. (2007). *Democratic schools: Lessons in powerful education.* Portsmouth, NH: Heinemann.

Arnould, V. (2015). Transitional justice and democracy in Uganda: Between impetus and instrumentalisation. *Journal of Eastern African Studies, 9*(3), 354-374.

Arslan, A., & Çalmaşur, H. (2017). Analysis of multiculturalism and democratic attitude of elementary and secondary grade teachers in the sense of various variables. *Journal of Atatürk Üniversitesi Kazım Karabekir Faculty of Education,* (34), 90-109.

Ayers, W., Quinn, T. M., & Stovall, D. (2009). *Handbook of social justice in education*. New York: Routledge.

Banks, J. A. (2004). Teaching for social justice, diversity and citizenship in a global world. *The Educational Forum*, *68*(4), 296-305. https://doi.org/10.1080/00131720408984645

Banks, J. A. (2015). *Cultural diversity and education: foundations curriculum, and teaching*. New York: Routledge.

Bates, R. (2005). *Educational administration and social justice*. Annual Conference of the Australian Association for Research in Education, Australia.

Benhabib, Ş. (1999). *Modernizm, evrensellik ve birey: Çağdaş ahlak felsefesine katkılar.* İstanbul: Ayrıntı Yayınları.

Bieler, D., & Burns, L. D. (2017). The critical centrality of social justice in English teacher education. In H. L. Hallman (Ed.), *Innovations in English language arts teacher education advances in research on teaching*, (pp.147–183). London: Emerald.

Birch, A. H. (2007). *Concepts and theories of modern democracy*. Routledge. London. 3rd. Edition.

Birkenmaier, J. (2003). On becoming a social justice practitioner. *Journal of Religion & Spirituality in Social Work*, *22*(2-3), 41-54.

Botha, A., I. Joubert, & Hugo, A. (2016). Children's perceptions of democratic values: implications for democratic citizen education. *South African Journal of Childhood Education*, *6*(1), 1-8. doi:10.4102/sajce.v6i1.343

Bursa, S. (2015). *Sosyal bilgiler öğretmenlerinin sosyal adalet algı ve deneyimleri* [Unpublished Master dissertation], Anadolu University.

Carr, P.R. (2010). *Does your vote count? Critical pedagogy and democracy*. New York, NY: Peter Lang.

Carr, P.R., G. Pluim, & Thesee. G. (2014). The role of education for democracy in linking social justice to the 'built' environment: The case of post-earthquake Haiti. *Policy Futures in Education*, *12*(7), 933-944. https://doi.org/10.2304/pfie.2014.12.7.933

Chomsky, N. (2007). *Democracy and education.* (E., Abaoğlu, Trans.). İstanbul: Bgst Yayınları.

Christopher, D.H., & Taylor, M. J. (2011). Social justice and critical peace education: common ideals guiding student teacher transformation. *Journal of Peace Education*, *8*(3), 295-313.

Chubbuck, S. M., & Zembylas, M. (2016). Social justice and teacher education: Context, theory and practice. In E. Loughran and J. Hamilton, & M. Lyn (Eds.), *International handbook of teacher education* (pp.463-501). Singapore: Springer Science + Business Media.

Çiftyürek, S. (2007). Demokrasi. In F. Başkaya (Ed.). *Kavram sözlüğü, söylem ve gerçek* (pp.127-133). Ankara: Maki Basın-Yayın.

Cırık, İ. (2015). psychometric characteristics of the social justice scale's Turkish form and a structural equation modelling. *Eurasian Journal of Educational Research*, *61*, 23-44. http://dx.doi.org/10.14689/ejer.2015.61.2

Clarke, M., & Drudy, S. (2006).Teaching for diversity, social justice and global awareness. *European Journal of Teacher Education*, *29*(3), 371-386**.** https://doi.org/10.1080/02619760600795239

Cochran-Smith, M. (2010). Toward a theory of teacher education for social justice. In A. Hargreaves et al. (Eds.), *Second international handbook of educational change* (pp. 445). Springer Science + Business Media.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition). Hillsdale, NJ: Lawrence Erlbaum Associates.

Connor, D. J., Gabel, S. L., Gallagher, D. J., & Morton, M. (2008).Disability studies and inclusive education: Implications for theory, research, and practice. *International Journal of Inclusive Education, 12*(5-6), 441-457. https://doi.org/10.1080/13603110802377482

Council of Higher Education, (2019). Teacher education programs. Retrieved September 17, 2019 from https://www.yok.gov.tr/kurumsal/idari-birimler/egitim-ogretim-dairesi/yeni-ogretmen-yetistirme-lisans-programlari

Craig, G. (2007). Social justice in a multicultural society: Experience from the UK. *Studies in Social Justice, 1*(2), 93-108.

Dewey, J. 1932. *Philosophy and civilization*. New York: Minton, Balch.

Dowding, K., R.E. Goodin, & Patemon. C. (2004). *Justice and democracy*. Cambridge: Cambridge University Press.

Enslin, P. (2006). Democracy, social justice and education: Feminist strategies in a globalising world. *Educational Philosophy and Theory, 38*(1), 57-67. https://doi.org/10.1111/j.1469-5812.2006.00174.x

Erbaş, Y. H. (2019). A qualitative case study of multicultural education in Turkey: Definitions of multiculturalism and multicultural education. *International Journal of Progressive Education, 15*(1), 23-43.

Ersoy, A. F. (2014). Active and democratic citizenship education and its challenges in social studies classrooms. *Eurasian Journal of Educational Research, 55*, 1-20.

Eryaman, M. Y. (2007). From reflective practice to practical wisdom: Toward a post-foundational teacher education. International Journal of Progressive Education, 3(1), 87-107

Field, A. (2009). *Discovering statistics using SPSS*. London, England: SAGE.

Florian, L., K. Young, & Rouse. M. (2010). Preparing teachers for inclusive and diverse educational environments: studying curricular reform in an initial teacher education course. *International Journal of Inclusive Education, 14*(7), 709-722. https://doi.org/10.1080/13603111003778536

Forde, C., & Torrance, D. (2016). Social justice and leadership development. *Professional Development in Education, 43*(1), 106-120**.** https://doi.org/10.1080/19415257.2015.1131733

Fraser, N. (2001). Social justice in the knowledge society: Redistribution, recognition, and participation. Invited Keynote Lecture at the Conference of the Knowledge Society. Heinrich Böll Stiftung: Berlin, Germany.

Gardner, M., & Crockwell. A. (2006). Engaging Democracy and Social Justice in Creating Educational Alternatives: An Account of Voice and Agency for Marginalized Youth and The Community. *The Innovation Journal: The Public Sector Innovation Journal 11*(3), 1–19.

George, D., & Mallery, P. (2010). *SPSS for windows step by step: A simple guide and reference 17.0 update* (10th Edition). Boston: Pearson.

Glasius, M., & Pleyers, G. (2013). The global moment of 2011: Democracy, social justice and dignity. *Development and Change* 44(3): 547-567.

Gökçe, F. (2014). Hak, özgürlük ve sorumluluk parametrelerinde demokrasi değerleri. *Eğitim ve Bilim, 39*(173), 129-139.

Gözütok, D. (1995). *Öğretmenlerin demokratik tutumları*. Ankara: Türk Demokrasi Vakfı Yayınları.

Gurin, P., Nagda, B. A., & Lopez, G. E. (2004). The benefits of diversity in education for democratic citizenship. *Journal of Social Issues*, *60*(1), 17-34.

Griffiths, M. (1998). Towards a theoretical framework for understanding social justice in educational practice. *Educational Philosophy and Theory, 30*(2), 177-192.

Güçyetmez, M. (2017). Karşılaştırmalı demokrasi modelleri ve hükümet sistemleri *Hacettepe Hukuk Fakültesi Dergisi*, *7*(1), 479-496.

Gunzenhauser, M. G. (2015). Enacting Social justice ethically: Individual and communal habits. A response to ethics in teaching for democracy and social justice. *Democracy & Education*, *23*(2), 1-7.

Gurin, P., Nagda, B. R. A., & Lopez, G. E. (2004). The benefits of diversity in education for democratic citizenship. *Journal of Social Issues*, *60*(1), 17-34.

Gürgen, B. (2017). *Okullarda sosyal adalet algısının incelenmesi* [Unpublished Master dissertation], Eskisehir Osmangazi University.

Habermas, J. (2002). *Öteki olmak, "öteki"yle yaşamak*. (İ. Aka, Trans.). İstanbul: Yapı Kredi Yayınları.

Hair, J. F., W. C. Black, B. J. Balin, & Anderson, R. E. (2010). *Multivariate data analysis*. New York: Maxwell Macmillan International Editions.

Hançerlioğlu, O. (1996). *Felfese sözlüğü*. İstanbul: Remzi Kitabevi.

Holden, B. (2008). Demokrasi. In W. Outwaite (Ed.), *Modern toplumsal düşünce sözlüğü* (pp.154-157). İstanbul: İletişim Yayınları.

Hoyle, R. H. (2012). *Handbook of structural equation modeling*. New York: Guilford Press.

Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure analysis: Sensitivity to underparameterized model misspecification. *Psychological Methods*, *3*(4), 424-453.

Hytten, K. (2015). Ethics in teaching for democracy and social justice. *Democracy & Education*, *23*(2), 1-11.

Hytten, K., & Bettez, S. C. (2011). Understanding education for social justice. *Educational Foundations* Winter-Spring, 7-24.

Jeffery, J. V., & Polleck, J. (2013). Transformations in site-based teacher preparation courses: The benefits and challenges. In J. Noel (Ed.) *Moving teacher education into urban schools and communities* (pp. 105-119). New York, NY: Routledge.

Jöreskog, K. G., & Sörbom, D. (2001). *LISREL 8.51*. Mooresvile: Scientific Software.

Juárez B. G., & Hayes, C. (2010). Social justice is not spoken here: Considering the nexus of knowledge, power and the education of future teachers in the United States. *Power and Education, 2*(3), 233-252**.** https://doi.org/10.2304/power.2010.2.3.233

Karakaş, H., & Erbaş, Y. H. (2018). Öğretmen adaylarının çokkültürlü deneyimleri ve (Türkiye'deki) kültürel ve sosyal gruplara yönelik düşünceleri. *Uluslararası Sosyal ve Eğitim Bilimleri Dergisi, 5*(9), 59-81.

Karateskin, K., Merey, Z., & Kuş, Z. (2013). Analysis of the democratic attitudes of pre-service teachers and teachers in terms of some variables. *Kastamonu Üniversitesi Kastamonu Eğitim Fakültesi Dergisi, 21*(2), 561-574.

Kaur, B. (2012)**.** Equity and social justice in teaching and teaching education. *Teaching and Teacher Education, 28*(7), 485-492.

Kelly, D. M., G. M. Brandes, & Orlowski, P. (2004). Teaching for social justice: Veteran high school teachers' perspectives. *Scholar Practitioner Quarterly, 2*(2), 39-57.

Kilicoglu, D. (2018). Understanding democratic and distributed leadership: How democratic leadership of school principals related to distributed leadership in schools?. *Educational Policy Analysis and Strategic Research, 13*(3), 6-23. doi: 10.29329/epasr.2018.150.1

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. New York: Guilford Press.

Ladson-Billings, G. (2014). Culturally relevant pedagogy 2.0: A.k.a. the remix. *Harvard Educational Review, 84*, 74-84. doi:10.17763/haer.84.1.p2rj131485484751.

Leonard, J., & Moore, C.M. (2014). Learning to enact social justice pedagogy in mathematics classrooms. *Action in Teacher Education, 36*, 76-95.

Littenberg-Tobias, J. (2014). Does how students serve matter? What characteristics of service programs predict students' social justice attitudes? *Journal of College & Character, 15*(4), 219-233.

Lopez, M.A., J. Naidorf, & Teodoro, A. (2014). Social and cognitive justice: The social relevance of higher education in Latin America. In I. Bogotch, & C.M. Shields (Eds.), *International handbook of educational leadership and social (in)justice* (pp. 81-96). Springer.

Ludlow, L. H., S. Enterline, & Cochran-Smith, M. (2008). Learning to teach for social justice-beliefs scale: An application of rasch measurement principles. *Measurement and Evaluation in Counseling and Development, 20*, 194-214. https://doi.org/10.1080/07481756.2008.11909815

MacCallum, R. C., Michael W. B., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*(2), 130-149.

Manstead, A. S. R. (2018). The psychology of social class: How socioeconomic status impacts thought, feelings, and behaviour. *British Journal of Social Psychology, 57*(2), 267-291.

Marshall, C., & Gerstl-Pepin, C. (2005). *Reframing educational politics for social justice*. Boston: Pearson.

Mathews S. A., M. J. Spearman, & Che, S. M. (2013). Contradictions of democratic education: International teachers' perspectives on democracy in American Schools. *The Journal of Social Studies Research*, *37*, 185-193.

Matravers, M., & Meyer, M. (2010). Introduction: Democracy, equality, and justice.'' *Critical Review of International Social and Political Philosophy*, *13*(1), 1-15.

McDonald, M., & Zeichner, K. M. (2009). Social justice teacher education. In W. Ayers, T. Quinn, & D. Stovall (Eds.), *Handbook of social justice in education* (pp.595-610). New York: Routledge.

McGee, E. O., & Hostetler, A. L. (2014). Historicizing mathematics and mathematizing social studies for social justice: A call for integration. *Equity & Excellence in Education*, *33*(1), 28-34.

Miller, D. (1999). *Principles of social justice*. Cambridge, MA: Harvard University Press.

Miller, D. (2004). Are they *my* poor: The problem of altruism in a world of strangers. In J. Seglow (Ed.), *The ethics of altruism*. London: Frank Cass.

Ministry of Education, (2019). The Basic Law of National Education numbered 1739. Retrieved September 17 2019. http://www.mevzuat.gov.tr/MevzuatMetin/1.5.1739.pdf

Mitchell, K. (2001). Education for democratic citizenship: Transnationalism, multiculturalism, and the limits of liberalism. *Harvard Education Review*, *71*(1), 51-79.

Nagda, B.R.A., P. Gurin, & Lopez, G. E. (2003). Transformative pedagogy for democracy and social justice. *Race Ethnicity and Education*, *6*(2), 165-191. Doi: 10.1080/1361332032000076463

Nussbaum, M. C. (2011). Education and democratic citizenship: Capabilities and quality education. *Journal of Human Development*, *7*(3), 385-395.

O'Neill, S. (2005). Critical theory, democratic justice and globalisation, critical horizons. *A Journal of Philosophy and Social Theory*, *6*(1), 19-136.

Ogley, R.C. (2008). Hak. In W. Outwaite (Ed.), *Modern toplumsal düşünce sözlüğü* (pp. 325-327). İstanbul: İletişim Yayınları.

Osler, A., & Starkey, H. (2017). *Teacher education and human rights*. London: Routledge.

Özbey, A., & Sarıçam, H. (2018). Ortaokul öğrencilerinde demokrasi algısı, deontik adalet, toplumsal değerler algısı arasındaki ilişki. *Ege Eğitim Dergisi / Ege Journal of Education*, *19*(1), 161-181. doi: 10.12984/egeefd.349907

Özdaş, F., Ekinci A., & Bindak, R. (2014). Analysing teachers' attitudes towards democracy in terms of some variables. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, *15*(3), 65-82.

Özdemir, G. (2013). Farklılıkların kesiştiği coğrafyalar için bir öneri: Radikal demokrasi. *Yönetim ve Ekonomi Dergisi*, *20*(1), 73-93.

Pallant, J. 2005. *SPSS survival guide: A Step by step guide to data analysis using SPSS for Windows* (3rd Edition). New York: Open University Press.

Pantic, N., & Florian, L. (2015). Developing teachers as agents of inclusion and social justice. *Education Inquiry*, *6*(3), 333-351.

Picower, B. (2015). Nothing about us without us: teacher-driven critical professional development**.** *Radical Pedagogy*, *12*(1), 1-26.

Pinto, L.E., J. P., Portelli, C. Rottmann, K. Pashby, & Barrett, S. E. (2012). Social justice: The missing link in school administrators' perspectives on teacher induction. *Canadian Journal of Educational Administration and Policy*, *129*(13), 1-22.

Polat, S. (2015). School administrators' and teachers' opinions on the results of education policies regarding social justice. *Education Science Society Journal, 13*(49), 61-83.

Power, S., & Taylor, C. (2013). Social justice and education in the public and private spheres. *Oxford Review of Education*, *39*(4), 464-479**.** https://doi.org/10.1080/03054985.2013.821854

Ratnam, T. (2015). Pedagogies of social justice: An Indian case. In L. Orland-Barak, & C. J. Craig(Eds.), *International teacher education: Promising pedagogies (part b)* advances in research on teaching (pp.253-282). Howard House, UK: Emerald Group.

Reynolds, R. & Brown, J. (2010). Social justice and school linkages in teacher education programmes. *European Journal of Teacher Education*, *33*(4), 405-419.

Ritchie, S. (2012). Incubating and sustaining: How teacher networks enable and support social justice education. *Journal of Teacher Education, 63*(2), 120-131.

Rowe, K., E. Urban, & Middleton, A. (2016). A pds narrative: Fostering renewall, democracy and social justice in education. *Kappa Delta Pi Record, 52*(4), 178-181.

Rust F. O. C. (2019). Redesign in teacher education: The roles of teacher educators. *European Journal of Teacher Education*. Doi:: 10.1080/02619768.2019.1628215

Saracaloğlu, A. S., Evin, İ., & Varol, S. R. (2004). A comparative research on the democratic attitudes of the teachers and the prospective teachers. *Educational Sciences: Theory and Practice*, *4*(2), 356-364.

Schumacker, R. E., & Lomax, R. G. (1996). *A beginners' guide to structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum.

Sleeter, C. (2008). Equity, democracy, and neoliberal assaults on teacher education. *Teaching and Teacher Education, 24*, 1947-1957**.** https://doi.org/10.1016/j.tate.2008.04.003

Starrat, R. (2014). Ethics and social justice: Strangers passing in the night. In I. Bogotch, & C.M. Shields (Eds.), International handbook of educational leadership and social (in)justice (pp. 67-80). Springer.

Storms, S.B. (2012). Preparing students for social action in a social justice education course: What works? *Equity & Excellence in Education, 45*(4), 547-560.

Subba, D. (2014). Democratic values and democratic approach in teaching: A Perspective. *American Journal of Educational Research, 2*(12A), 37-40.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th Edition). New York : Allyn & Bacon.

Tinkler, B., C. Hannah, A. Tinkler, & Miller, E. (2015). The impact of a social justice service-learning field experience in a social foundations course. *Critical Questions in Education*, *6*(1), 16-29.

Toens, K. (2007). The dilemma of regress social justice and democracy in recent critical theory. *European Journal of Political Theory*, *6*(2), 160-179.

Tomul, E., K. Celik, & Tas, A. (2012). Justice in the classroom: Evaluation of teacher behaviours according to students' perceptions. *Eurasian Journal of Educational Research, 48*, 59-72.

Torres-Harding, S.R., E. Diaz, A. Schamberger, & Carollo. O. (2015). Psychological sense of community and university mission as predictors of student social justice engagement. *Journal of Higher Education Outreach and Engagement, 19*(3), 89-112.

Touraine, A. (2000). *Eşitliklerimiz ve farklılıklarımızla birlikte yaşayabilecek miyiz?* (O. Kunal, Trans.). İstanbul: Yapı Kredi Yayınları.

Touraine, A. (2002). *Demokrasi nedir*? (O. Kunal, Trans.). İstanbul: Yapı Kredi Yayınları.

Townsend, T., & Bates, R. (2007). *Handbook of teacher education*. Dordrecht: Springer.

Turner, B. (1997). *Eşitlik.* (B. S. Şener, Trans.). Ankara: Dost Yayınları.

Vincent, C. (2003). *Social justice, education and identity*. London: RoutledgeFalmer.

Wallace, B. (2000). A call for change in multicultural training at graduate schools of education: educating to end opression and for social justice. *Teachers College Record, 102*(6), 1086-1111.

Warren, K. (2002). Preparing the next generation: social justice in outdoor leadership education and training. *The Journal of Experiential Education*, *25*(1), 231-238.

Warring, T.H., & Warring, D.F. (2006). Are you teaching for democracy? Developing dispositions, promoting democratic practice, and embracing social justice and diversity. *Action in Teacher Education, 28*(2), 38-52.

Weale, A. (2016). Democratic justice and the social contract: An overview. *Critical Review of International Social and Political Philosophy*, *20*(2), 207-210.

Wentzel, K. R. & Looney, L. (2007). Socialization in school settings. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (382-403). New York: Guilford Press.

Westheimer, J., & Suurtamm, K. (2008). The politics of social justice meets practice: Teacher education and school change. In W. Ayers, T. Quinn, & D. Stovall (Eds.), *Handbook of social justice in education* (pp.589–93). New York: Routledge, Hoboken.

Williams, R. (2011). *Anahtar sözcükler: Kültür ve toplumun sözvarlığı.* (S. Kılıç, Trans.).İstanbul: İletişim Yayınları.

Yağan Güder, S., & Yıldırım, A. (2014). Okul öncesi öğretmeni adaylarının demokrasiye ilişkin metaforları. *Adıyaman Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 7*(16), 151-170.

Yavuz, B. (2009). Çoğulcu demokrasi ve insan hakları. *Gazi Üniversitesi Hukuk Fakültesi Dergisi*, *1*(2), 283-302.

Zalaquett, C. P., Foley P. F., Tillotson, K, Dinsmore, J. A., & Hof, D. (2011). Multicultural and social justice training for counselor education programs and colleges of education: Rewards and challenges. *Journal of Counseling and Development*, *86*(3), 323-329.

© 2021 INASED

Zeichner, K. (2016). Advancing social justice and democracy in teacher education: teacher preparation 1.0, 2.0, and 3.0. *Kappa Delta Pi Record*, *52*(4), 150-155.

Zeichner, K. (2017). *The struggle for the soul of teacher education*. New York: Routledge.

Zeichner K., K. A. Payne, & Brayko, K. **(**2015). Democratizing teacher education. *Journal of Teacher Education*, *66*(2), 122–135.

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

STEM-Based NOS Teaching on 7th Grade Students' NOS Views

Günkut MESCİ[1]
Giresun University
Eda ERDAŞ-KARTAL[2]
Kastamonu University

Abstract

The aim of the study is to improve students' nature of science understandings while integrating nature of science aspects into appropriate science-technology-engineering-mathematics (STEM) activities. In this study, four STEM-based contextualized nature of science activities are developed during the 4 weeks study. The sample of this study consists of eighteen 7th grade students. The data are collected the views of nature of science questionnaires (VNOS-D), follow-up interviews, and classroom observations. All data are analyzed holistically to create a profile of students' views for the targeted aspects of nature of science with using content analysis. The analysis showed that 7th grade students have generally naive views of the targeted nature of science aspects before participating in the 4-week study. After STEM-based nature of science teaching, all students improved their views of nature of science. STEM-based explicit-reflective nature of science teaching may be an alternative approach to improve students' nature of science views, and it is recommended to use this approach in the future studies.

Keywords: Science Education, Nature of Science, Scientific Literacy, STEM-Based Teaching

DOI: 10.29329/epasr.2021.373.14

[1]Dr., Education Faculty, Giresun University, Giresun, Turkey, ORCID: 0000-0003-0319-5993, Email: gunkutmesci@gmail.com

[2] Assist. Prof. Dr., Education Faculty, Kastamonu University, Kastamonu, Turkey, ORCID: 0000-0002-1568-827X **Correspondence**: erdaseda@gmail.com

© 2021 INASED

Introduction

Nature of science (NOS) has been considered a critical component of scientific literacy in reform documents all around the world (e.g., AAAS, 1993; MoNE, 2013; 2018; NGSS Lead States, 2013). Although there is no single definition of NOS (Lederman and Lederman, 2012), NOS has been defined as the epistemology of science, the role of scientists in a scientific research, and the improvement of scientific knowledge (Lederman, 2007). Clough (2006) defined NOS as understanding of how scientific knowledge is produced, what science is, the basic elements of science, the interaction between science and society, and the role of the scientists.

Recent studies have recommended that NOS should be a part of all science courses (Mesci, 2016; Lederman and Lederman, 2014; Olson, 2018), and emphasized the importance of NOS teaching for all students (Akerson, Elcan-Kaynak and Avsar-Erumit, 2019; Murphy, Smith and Broderick, 2019). However, teaching of NOS is quite difficult. There are mainly two approaches (implicit and explicit/reflective) that have been used for teaching NOS (Abd-El-Khalick and Lederman, 2000a; Lederman, 2007; Lederman and Lederman, 2014). In the implicit approach, it is assumed that students can learn NOS aspects by themselves during the activities or laboratory applications without emphasis (Schwartz, Lederman and Crawford, 2004). On the other hand, in the explicit/reflective approach, NOS aspects are explicitly and reflectively associated with the scientific practices (Khishfe and Abd-El-Khalick, 2002). Explicit/reflective NOS teaching is not just about directly telling the students the NOS aspects that are intended to be taught. It involves explicitly linking the activity with the NOS objectives to be taught, making connections with students' previous experiences, reflecting their learning on NOS aspects, and assessing their understandings of NOS aspects. Research reveals that the explicit/reflective approach is more effective than the implicit approach in teaching NOS aspects (Khishfe and Abd-El-Khalick, 2002; Lederman and Stefanich, 2006; Schwartz et al., 2004). There are some different ways for conducting explicit/reflective NOS teaching (i.e., argumentation-based, inquiry-based, PCK-based etc.) (Mesci, 2020; Cofre et al., 2019; McDonald and McRobbie, 2012). The explicit/reflective approach in NOS teaching can be used through activities and discussions embedded in science content (contextualized) or not embedded in science content (decontextualized) (Akerson et al., 2019).

Although the importance of teaching NOS and improving students' NOS views have been reported more than 50 years, it has been demonstrated that students' NOS views are still limited and insufficient (Cofre et al. 2019; Karakaş, 2017; Lederman and Lederman, 2014; Park, Nielsen and Woodruff, 2014). Research reveals that NOS teaching still does not provide place in many science classes, and even where it is given, it is often attempted to be taught ineffectively through an implicit approach or implicit examples from history of science (Capps and Crawford, 2013; Kruse, Kent-Schneider, Zacharski, and Rockefeller, 2019). Even if explicit/reflective instruction has been

performed, it has been shown that it still does not have complete success, or has limited success in some cases (Mesci and Schwartz, 2017; Cofre et al., 2019). Thus, it has been recommended to explore how NOS teaching aligns with and supports other inquiry-based science teaching practices (e.g., Bell, Mulvey, and Maeng, 2016; Clough, 2018), and to conduct empirical research of alternative NOS teaching models in order to improve NOS views of students at all ages (Lederman and Lederman, 2014).

Theoretical Framework

Science, Technology, Engineering, and Mathematics (STEM) educational approach theoretically leads to this study. STEM is aimed at high-level skills such as science literacy, technology literacy, communication, flexibility, adaptability, creativity, critical thinking, collaborative work, and problem-solving skills that are called 21st century science skills. STEM has met with great interest and support in many countries along with the United States (Akerson et al., 2018; Yager and Brunkhorst, 2014). This intense interest in STEM is also reflected in academic studies (Breiner, Harkness, Johnson and Koehler, 2012; Derin, Aydin and Kirkic, 2017). As a result of the studies based on STEM approach, it is revealed that students found STEM applications to be fun and motivating (Canbazoğlu-Bilici and Ünal, 2015; Gökbayrak and Karışan, 2017), these applications developed students' attitudes towards science (Keçeci, Alan and Zengin, 2017; Ricks, 2006; Tseng, Chang, Lou, and Chen, 2013), increased students' participation in scientific inquiry activities and course (Bransford, Brown, and Cocking, 2000), and developed students' scientific process skills (Yamak, Bulut and Dündar, 2014). Thus, the NOS teaching in the current study has been designed with STEM-based NOS approach. This approach requires that the targeted NOS aspects needs to be integrated into appropriate STEM activities and emphasized the relationship between NOS aspects and the STEM disciplines explicitly/reflectively. The STEM-based NOS teaching is based on the "NOS Teaching Cycle" model (Akerson et al., 2010), which has been recommended for teaching NOS to young children (Akerson et al., 2010). The NOS Teaching Cycle consists of three main activities (introductory, inquiry, and debrief activities). During the teaching cycle model, the students should be first introduced to the concepts of NOS by associating them with their prior knowledge, and in the next stage, the students should make inquiries to associate their research with NOS, and in the final stage, the indented NOS aspects through debrief activities should be given in an explicit/reflective manner (Akerson et al., 2010). The relationship between NOS and all the disciplines of STEM has been expressed as understanding the ways and the philosophy underlying the processes of doing science (Akerson et al., 2018). It is great importance to understand the ways of scientists that they use mathematical theorems to do science by integrating technology into engineering applications for raising scientifically literate individuals. In order to understand this potential impact, it is valuable to examine the effectiveness of STEM-based approach for learning and teaching of NOS.

Although there is still ongoing debate about listing of NOS (Abd-El-Khalick and Lederman, 2000b; Allchin, 2011; Irzik and Nola, 2011; Erduran and Dagher, 2014), science educators have been a consensus on some aspects of NOS (Lederman, Abd-El-Khalick, Bell and Schwartz, 2002). Considering the grade level of the students who involved in this study, it was focused on some targeted NOS aspects, which are; (a) scientific knowledge is tentative; (b) scientific knowledge is based on observations and inferences; (c) scientific knowledge is subjective and theory-laden; (d) scientific knowledge is empirical based; and (e) creativity and imagination plays an important role of all stages of producing scientific knowledge (Lederman, 2007).

Purpose of the Study

The aim of this study is certainly not to make students understand all STEM disciplines or to train students who are an engineer, a mathematician, or students who use technology wonderfully. In this study, it was aimed to investigate how the STEM-based NOS teaching effect the 7th grades students' NOS views. In this regard, the research questions as follow:

1. How do 7th grade students' NOS views change after the intervention of STEM-based NOS teaching?
2. What are the most influencing parts of STEM-based NOS teaching on students' NOS views?

Method

The development of 7th grade middle school students' NOS views was qualitatively examined during a 4-week STEM-based NOS intervention. Each participant's views of NOS and changes were investigated throughout open-ended questionnaire and follow-up interviews as a multiple comparative case study (Creswell, 2007). Students' views on the effectiveness of STEM-based NOS teaching were examined qualitatively through interviews.

Participants

The sample of this study consists of eighteen (10 male, 8 female) 7th grade students (age: 12), who are located in an Anatolian city in Turkey. Turkish science education system is based on inquiry-based learning, so students are generally taught science with inquiry (MoNE, 2018). However, the students have not received any specific study or training about STEM or NOS. The students generally have an average success in science. After obtaining the necessary permissions from the school district, the students voluntarily participated in the study with the permission of their science teacher.

© 2021 INASED

Context of the Study

In this study, four STEM-based contextualized NOS activities were developed and implemented by the researchers to increase students' NOS views during the 4 weeks intervention (once a week for 4 hours each). Each activity is summarized below and one of them is detailed in the appendix. In general, STEM-based contextualized NOS activities consist of three main stages: "introductory", "inquiry", and "reflection" (An example of how each stage was implemented in STEM-based NOS activities is provided in Appendix). The following guidelines for each stage were implemented to each activity. In the introductory stage, it was firstly aimed to reveal students' prior knowledge about the science subject and NOS aspects. Then, the students' interest towards science was attracted by asking provocative questions for making them ready to inquiry activities. In the inquiry stage, the students were engaged in the activity with using "activity papers" (see Appendix for an example). In line with the instructions in the activity paper, the students designed and made their own models through. The activity papers enabled students to grasp the relationship between science, engineering, technology, and mathematics by making them feel like scientists, engineers, or inventors. It also helped students learn in a meaningful way the targeted NOS aspect by engaging the activities. The level of inquiry in these activities was chosen as guided inquiry, where the research question was given by the teacher, but the method and results were determined and put forward by the student (Bell, Smetana, and Binns, 2005). In the last stage, reflection activities were carried out in order to reinforce the students' learning and understand how much they understood the NOS and its relation to STEM disciplines throughout formative assessment and reflection papers in each day (see Appendix for an example). The formative assessment papers were used to evaluate the students' understanding of science content, NOS, and STEM relation. In the formative assessment, the students' learning and misunderstandings were determined and then in the next lesson, they were provided feedback during the process, which helped also researchers to make the necessary adaptations for the success of teaching on time (Guskey, 2000). In the reflection essays, students were asked to write at least two paragraphs, which include a summary of what is done in the lesson and the relationship between STEM disciplines and NOS aspects.

Activity 1: Make Your Own Telescope

In this activity, the students were expected to explain the structure of the telescope, to establish a relationship between technology and space research, and to design a simple telescope model. In addition, the students were expected to understand that scientific knowledge can change through new data and developing technology, to realize the role of imagination and creativity in science, to understand the subjectivity, and to figure out that science is based on observations and inferences. In this activity, the students like a scientist and engineer, drew their own telescope

designs, and made them real with appropriate mathematical measurements on the lens of telescope (see Appendix for details of this activity).

Activity 2: Young Histologists

In this activity, students were expected to compare the tasks of animal and plant cells and to discuss the development of cell structure from past to present with the development of technology. In this context, the students were expected to realize that scientific knowledge is tentative in the light of new data, to understand the subjective structure of scientific knowledge, to realize that they use their imagination and creativity when designing cell models, and to understand that observations and inferences plays an important role of producing scientific knowledge. The development of cell theory was broken up into pieces and given to students in envelopes in stages, and the students renewed and changed their drawings of the cell model they would design each time, limited to the information they were provided. After, the students examined and compared animal and plant cells in the microscope. Then, they designed and implemented cell models that would simply represent the cell structure similar to those observed.

Activity 3: My Electric Circuit

In this lesson, the students were expected to observe the series and parallel electrical circuit, and to identify the electrical current, and explain that electrical energy is transferred to the circuits by current. In addition, by designing an authentic lighting tool, they were expected to understand the subjective structure of scientific knowledge, to realize the development of electricity over the years, and so that scientific knowledge is tentative, and to explain the difference between observations and inferences with using a computer-based simulation. In this activity, the students designed original lightening devices and tested in the laboratory and in the computers via simulations by designing an electrical circuit in the light of their own existing knowledge and their creativity, like an engineer. By testing the circuits designed in the laboratory and in simulation, they realized the effect of technology on scientific developments and will be able to comprehend the empirical structure of science. In this lesson, the contribution of different scientists who are not only scientist but also engineers/inventors (e.g. B. Franklin, N. Tesla, and T. Edison) to electricity was explicitly discussed. This lesson was specifically developed to show the impact of students' creativity, imagination, authentic thinking, experiences, and theoretical assumptions on the lightening devices that they designed, and concluded that scientific knowledge, thus technology and engineering is influenced by scientists' creativity, previous experiences, and theoretical assumptions. Also, throughout this activity, it was aimed that students recognized the importance of and differences between observation and inference by detecting conductive and insulating materials in the electrical circuit when testing their own circuits in simulation.

© 2021 INASED

Activity 4: Conservation of Energy

In this lesson, the students were expected to draw the conclusion that energy is conserved by transforming kinetic and potential energy types into each other. In addition, by designing different models, the students were expected to understand scientific knowledge is subjective and based on observations and inferences. Also, they were expected to figure out the importance of creativity, and to understand the experimental structure of scientific knowledge. In this activity, the students realized how much the technological tools made by conservation and transformation of energy have benefited mankind by designing a model in the light of existing knowledge like engineers. In this lesson, students watched some videos about different skate parks. They drew pictures and then develop their own skate parks based on their observations. Then they tested these skate parks in a computer simulation. During the simulation, they changed the measurements of and revise their skate parks. Then, they shared their ideas to other students. In particular, they recognized that it has been developed to produce new technologies such as cars, airplanes, solar panels throughout the mathematical calculations and efficient energy transformations become more accurate. In this way, technology has been changed and developed, just as scientific knowledge may change in the light of new data and evidence. They also discussed how the technologies are produced especially the impact of the creativity of scientists and their authentic ideas, past experiences and theoretical assumptions.

Data Collection and Data Sources

The data were collected throughout pre and post format of the views of nature of science questionnaires (VNOS-D) (Lederman and Khishfe, 2002), semi-structured interviews (Lederman, Abd-El-Khalick, Bell and Schwartz, 2002), in-class audio recordings, and classroom observations. The original VNOS-D questionnaire consists of 10 questions, but it was implemented as 7 questions as used in Özer, Doğan, Yalaki and Cakmakci (2019) when considering the age of the participants. Validation of the questions has been provided by the method of re-translation. In this process, a language specialist translated the questions selected from the questionnaire from English into Turkish, and another language specialist translated it back into English. Two English versions of questionnaires were compared side by side and no meaning loss was observed in the questions.

The semi-structured interviews were conducted to make students clear about their responses, give examples, or explain what they meant on the questionnaire. The interview protocol, which was recommended by Lederman, et al. (2002) for the VNOS questionnaire, was used. Each interview took about 20 minutes. In addition to survey and interview, each STEM based NOS teaching session was audio recorded. All interviews and classroom audio recordings were transcribed for further analysis.

© 2021 INASED

Data Analysis

All responses in questionnaire and interview transcripts were considered holistically to create a profile of the participants' understanding along the targeted aspects of NOS. A profile was developed for each student, representing their views, from naive "-" to mixed "(+)" to increased "+, ++, +++" informed levels. The NOS continuum scale allows researchers to understand students' views and changes in a spectrum (Schwartz, 2007). When students have opposite understandings to the currently accepted NOS views in the literature, they are coded in the "-" range of views. If the students have an inconsistency and conflict in their NOS views, they are coded in the "(+)" range of view. If the students gave answers stating that they agree with the accepted NOS views, they are coded in the "+" range of view. If they also explain their responds with an authentic expression with their own words, they are coded in the "++" range of view. If they support their authentic expressions with appropriate examples, they are coded in the "+++" range of view (Lederman et al., 2002). NOS continuity scale represents a series of views within a sample display (Mesci, 2016). The remaining data including classroom audio records' transcriptions were analyzed by using content analysis for supporting the data from the questionnaires and interviews. The content analysis consists of coding data, creating categories and themes from codes, and visualizing data (McMillan and Schumacher, 2010). 20% of the data were reviewed by researchers and two independent experts. After completing their analysis, the researchers and experts discussed the results until at least 90% agreement was reached. Then the researchers analyzed the rest of the data based on the initial analyzes obtained.

Results

According to the analyses, 7th grade students had generally naive views of the targeted NOS aspects before participating to the study. After STEM-based NOS teaching was performed, an improvement was observed in their NOS views. Almost all students have improved their NOS views, and no student left in the naive range (Figure 1).

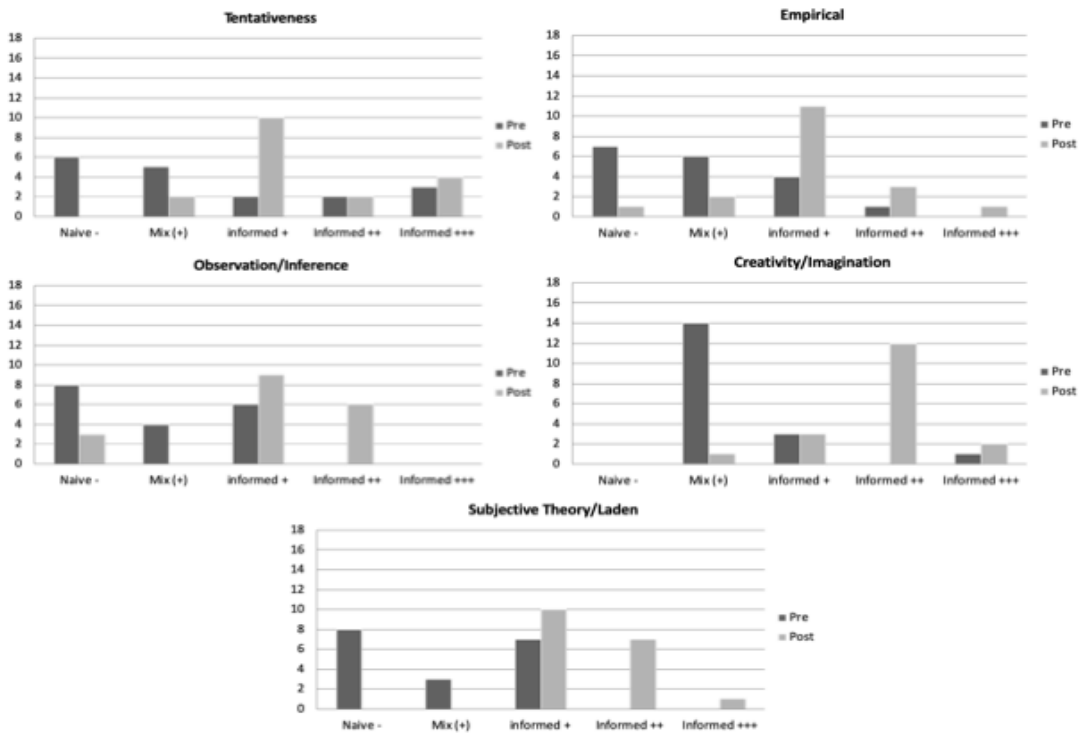

Figure 1. The Changes of Students' Views in Relation to NOS Aspects

Table 1 shows the improvement of the views of each student for each NOS aspect throughout the study, and Table 2 represents the students' views of targeted NOS aspects before and after the intervention. The development and change of students NOS views, and impact of STEM-based NOS teaching in each NOS aspect are detailed below.

Table 1. Alignments of 7th Grade Students' Views of NOS with Current Reforms

	Tentativeness		Empirical Based		Observation/ Inferences		Creativity/ Imagination		Subjectivity	
Participants	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
S1	-	+++	-	+	-	-	+	++	(+)	++
S2	+++	+++	+	+	-	+	(+)	(+)	(+)	+
S3	+++	+++	+	++	+	++	(+)	+++	+	++
S4	++	++	-	++	+	++	(+)	++	-	++
S5	+++	+++	++	+++	+	++	+++	+++	+	++
S6	++	++	(+)	+	(+)	++	(+)	++	+	+
S7	(+)	(+)	(+)	++	(+)	++	(+)	++	+	++
S8	(+)	+	-	-	-	-	(+)	+	-	+
S9	(+)	+	(+)	+	+	+	+	++	+	+
S10	+	+	(+)	+	-	+	(+)	++	(+)	+
S11	(+)	+	+	+	(+)	+	(+)	++	+	+
S12	(+)	+	+	+	+	+	(+)	++	+	+++
S13	-	+	(+)	+	+	++	(+)	++	-	++
S14	-	+	(+)	+	-	+	(+)	+	-	+
S15	-	+	-	+	-	+	(+)	++	-	+
S16	+	+	-	+	(+)	+	(+)	++	-	+
S17	-	(+)	-	(+)	-	-	(+)	+	-	+
S18	-	+	-	(+)	-	+	+	++	-	++

© 2021 INASED

Tentativeness

The students (n: 11) had naive or mixed views related to tentativeness at the beginning of the study. They mostly believed that scientific knowledge is absolute and not subject to change. In the first activity where the tentativeness of science is emphasized, a dialogue between researcher and student in the introductory stage is shown students' naive views about tentativeness.

Researcher: (Black hole figure is shown) "Anyone have any idea what this photo is?"

S18: "It is Black hole, I saw on the news."

Researcher: "Can we see the black holes with our eyes? How could they have taken this picture?"

S18: "No, we can't. They could've taken with a telescope."

Researcher: "How did the telescope contribute to the development of scientific knowledge about astronomy?"

S18: (No answer)

Researcher: "So, do you think that with a more advanced telescope, what we know about space today, can change in the future?"

S18: "It doesn't change anymore; I think they've seen everything."

After STEM-based NOS instruction, most of the students (n: 16) were in the range of informed views. They thought that scientific knowledge is tentative and might revise or change with the new evidence and development of technology. The dialogue related to this theme between the researcher and a student in the same activities' reflection stage is as follows. Students created their own telescopes with using mathematics and engineering designs, and they successfully found the connection between tentativeness and STEM disciplines.

Researcher: Is there anyone who can tell us how you used engineering and mathematics skills to design your own telescope?

S1: "First we draw, then we combined the materials. I think this was an engineering job. After, we measured the distance between the lenses to make the design, we made some trials, so we used mathematics. Then, we designed our model."

Researcher: "So, was the design you originally drew and the you created in the final different from each other?"

S1: “Yes, we had a very different design when we first drew it. First, we had an inverted and blurry image. Then we measured it again, cut it, changed a lens, and so on. We made our telescope to a flat and clearer image.”

Researcher: “Is there anything about astronomy might be different from what we know today? Can you claim that what we know about the sky is definite and unchangeable?”

S1: “No, I don’t think so, maybe if we look through a more advanced telescope, we can see that everything is different in the future.”

S4: “Like we did in the activity. Our design has changed, so everything might be change.”

Researcher: “How can technology, engineering, and mathematics affect the development and change of scientific knowledge about astronomy?”

S1: “Telescopes made with advanced technologies allow us to make better observations, enabling us to gain new information and perhaps change what we know. Engineering skills and some calculations are required to make these telescopes.”

Empirical Basis

At the beginning of the study, most of the students had (n: 13) naive view of the empirical basis of scientific knowledge. They thought that scientific knowledge is only based on experiments. Also, they believed that everything might be science if a scientist does it.

After STEM-based NOS instruction, most of the students (n: 15) realized that science is based on empirical evidence, and it is also based on observations (direct or indirect) and inferences. They expressed scientific knowledge is supported by empirical evidence, but never proven 100%. The dialogue between the researcher and the students related to the empirical basis of science and its relation to other STEM disciplines during the teaching of conservation of energy activity’s reflection stage is as follows.

Researcher: “Why did the marbles you use on the skateboard you designed stop moving after a while?”

S5: “Due to friction. All the energy in the marble turned into heat energy at the end.”

Researcher: “Can we see the energy transformation that you're talking about with naked eyes?”

S5: “No, it's an indirect observation. We're experimenting and observing. We cannot see that the energy is transforming, but we say it based on the effects”

Researcher: “What kind of effects?”

S5: “For example, when the marble slides from the top down, it does not stop, but it continues to enter on a flat surface for a while. So, its potential energy is transformed into motion energy. By the way it was super cool, I definitely enjoyed it!”

Researcher: “It is good to hear that… Well, what can be done to maximize energy use? Do engineers use this knowledge of energy conversion to make various designs?”

S7: “Of course. Engineers, for example, use this information when making roller coasters.”

Researcher: “Do they need to make mathematical calculations in this process?”

S7: “Yes. There are certain formulas of potential and kinetic energy. We tried to adjust the heights at the points where the marble changed direction so that the marble would go for a long time. It is all about math.”

Researcher: “Well, how do activity you did today and scientist do their investigations relate to each other?”

S5: “We designed skateboards, and then we did some trails, there are some numbers that we observed during the activity, based on these numbers we concluded and stated our claim about the transformation of energy. We did not get rid of anything, we always talked about our data and supported our claims with evidence. That is how science work.”

Observation/Inferences

Students (n: 12) mostly had inconsistent and naive views related to importance of and difference between observation and inference at the beginning of the study. They often express their personal interpretations as an observation.

After STEM-based NOS instruction, most of the students (n: 15) developed their understanding of observation and inferences. They realized the difference between observation and inferences. They stated that observations are process that can be accessed directly with senses and describe natural phenomena, and inferences are propositions that cannot be reached directly with our senses. Related to the observation/inferences and its relation to STEM disciplines in the circuit activity’s reflection stage is shown in the below dialogue between the Researcher and students:

Researcher: “Is there anyone see directly whether the electric current passes through matter?

S13: No, we did not, we observed them indirectly.”

Researcher: “What do you mean?”

S13: “In the circuit we designed, we understood that the current passed through the wire and reached the bulb by the lighting of the bulb.”

S3: “We did experiment with the circuit in which we designed whether various materials are conducting or non-conducting.”

Researcher: “Is the eraser conducting or non-conducting?”

S3: “Eraser is a non-conducting material.”

Researcher: “Is this an observation or inference?”

S3: “This is my inference. We made observations, like when I put the eraser just middle of the wires, the bulb didn't light so we inferenced that it is non-conductive.”

Creativity/Imagination

At the beginning of the study, unlike the other aspects of NOS, there was no student in the naïve range. However, most of the students (n: 14) had inconsistent view about the role of creativity and imagination in scientific research. They mostly believed that scientists limited when they use creativity and imagination in some parts of a scientific study. In the young histologists activity where the creativity/imagination aspect is emphasized, a dialogue between Researcher and a student in the introductory stage is presented below:

Researcher: “Can we see the cells with our eyes?”

S16: “No, we can't.”

Researcher: “How could scientific knowledge about the structure of the cell be obtained?”

S16: “Scientists see the cells by using a microscope.”

Researcher: “So, can we say that technology is effective in the development of scientific knowledge about the cell?

S16: Sure. With microscope technology improves more, clear images have been obtained and new information has been revealed about the cell.”

Researcher: “Do scientists use their imagination and creativity in the process of presenting scientific information about the cell?”

S16: “I think they can use, but they might have used it only in the beginning of the investigation.”

After STEM-based NOS instruction, almost all students (n: 17) improved their views of creativity and imagination in science. They stated that scientists use their imagination and creativity at all stages of their research, and that scientific explanations are more invented than discovery and require considerable imagination and creativity. The dialogue between the Researcher and a student related to the creativity/imagination in the reflection stage of the "young histologists" activity is shown as follows.

Researcher: "I see that the cell models you designed are different from each other. You made different designs with the same information, why are these all different?"

S16: "Everyone use the imagination/creativity, that's why these are different."

Researcher: "Do scientists use their imagination and creativity when they are doing their research about the cell?

S16: They used it; even Robert Hook used his creativity to give his name to the cell. He likened the mushroom pores to the chambers' rooms."

Researcher: "Do you think that scientists also use their imagination and creativity in interpreting observations made with a microscope?"

S16: "Yes definitely, creativity and imagination play a crucial role in every scientific research and investigation like we used in designing our own cell model."

Subjectivity/Theory-Laden

Students (n: 11) had mostly naive and mix views related to subjectivity and theory-laden aspect of NOS at the beginning of the study. They thought that scientific knowledge was objective and that scientists could not be subjective. They considered that the differences of opinion among scientists who researched the same subject were due to lack of sufficient data. After STEM-based NOS instruction, all students (n: 18) improved their understanding of subjectivity. They stated that scientific knowledge is influenced by scientists' other experiences, socio-cultural background, beliefs, and theoretical acceptance. The dialogue between the Researcher and a student related to the subjectivity/theory-laden NOS aspect in the reflection stage of circuit activity is shown as follows.

Researcher: "We learned that Edison and Tesla had different ideas about the transport of electric current. Why do you think they had so much conflict on the same subject? What could be the reason for having different scientific knowledge on the same subject?"

S12: "There may be different opinions, there are still different opinions on how to transport electric current wirelessly in the most efficient way and discussions are continuing."

S7: "Every scientist has a different background, education and view. Everyone is looking from his own point of view. As we mentioned in the activity, Edison apparently didn't want to accept anything that contradicted his own work. That was his character."

Researcher: "Does this change the fact that they do scientific research?"

S12: "No, there are different opinions, but that does not mean that they are not scientific. He has his own evidence."

Researcher: "Is the fact that the lightening tools you created differ from each other in relation to your previous experience or knowledge?"

S12: "Yes, there is. We all have different imaginations and background knowledge. Scientists are always influenced by their previous experiences and knowledge as they produce information; like we did…with this, engineers design something new, or produce new technology."

Table 2. 7th Grade Students' Representative Views of Targeted NOS Aspects

NOS Aspects	Naive or Mix Views	Informed Views
Tentativeness	The information in the science books doesn't change, because they found it once, and they proved it." (Pre-Interview_S1) "Only some scientific knowledge may change, but not all." (Pre-VNOS_S12)	"Scientific knowledge may change in the future with the new data and evidence. For example, studies on the structure of the cell has developed and previously known information has changed with the development of new microscopes; such as, the atom has first been likened to a sphere, then defined as a cloud, and has become the current one." (Post-Interview_S1).
Empirical based	"Astrology is a scientific field because many people believe in it. I think scientists have made up theories about the extinction of dinosaurs." (Pre-Interview_S6)	"Science is based on experiments, observations and inferences. Thus, astrology is not a scientific endeavor." (Post-VNOS_S4)
Observation/ Inferences	"Observations are the interpretations obtained as a result of experiments." (Pre-Interview_S8)	"Observations are data that collected with our sensory organs without making any inferences. Inferences are the interpretations based on these observations. In our lesson we created the atom model, we made observations about the atom models created in the past and then we created our own model." (Post Interview_S6)
Creativity/ Imagination	"Researchers should not use their imagination and creativity to produce scientific knowledge. Otherwise it is not scientific. Science is a serious thing." (Pre-VNOS_S2)	"Scientists may have put what the dinosaurs look like by first joining their bones and then adding the appearance of the skin in the computer, with their imagination. They use their imagination and creativity at every stage of an investigation." (Post-Interview_S7)

Subjectivity/Theory-laden	"Researchers have a different opinion about the dinosaurs because there is no evidence of. If there were evidence, they would be completely agreed about the extinction of dinosaurs. It's impossible for scientists to come up with different things by looking at the same things" (Pre-VNOS_S2)	"It is possible for scientists to say different things by looking at the same things, because their backgrounds or study fields might be different, or they might look at the things from different angles. They have different educational, cultural or religion background." (Post Interview_S13)

It is possible to see the effectiveness of STEM-based NOS teaching in students' interviews as well as the development of their NOS views. During the post interviews, when the students were asked which part of the course, they liked the most and in which part they learned more, they mostly stated that they learned at all stages of the lesson but they were quite entertained and learned in STEM based NOS activities (inquiry stage).

> *"The whole lessons were really fun. I wish all our lessons were like this. We produced new things, like a scientist, or an engineer, we designed and created our models. I was a bit scared of science, but after this lesson, I saw that science was nothing to be afraid of, and it was very enjoyable." (Post-Interview_S11)*

> *"I mostly enjoyed in the activity time when I did. In fact, the very beginning of the lesson was also interesting, but I was very excited when I produced the models, especially when I made telescopes." (Post-Interview S3)*

In addition, the students expressed that they were especially curious about where mathematics would be used in daily life, and that they liked to see examples to answer it. Also, some students emphasized the importance of formative assessment, and stated that they learned quite a lot in the reflection stage.

> *"We always ask our math teacher why we are learning the math? Where will we use it? For the first time in my life, I produced something by using mathematics. For example, in the telescope model, the groups who could not do right math in locating the lenses, they did not approach objects as much as ours." (Post-Interview_S5)*

> *"I mostly learned at the end of lesson. The assessment questions that we respond together gave us a better understanding of what we learned." (Post-Interview_S4)*

> *"In the questions you gave us at the end of the lesson, we saw the summary of all the things we did and understood better why we did it." (Post-Interview_S9)*

Discussion, Conclusion and Recommendations

This study was planned to examine the influence of STEM-based NOS teaching on 7th grade students' NOS views. Although we agree that the explicit/reflective approach is effective for teaching

NOS (e.g., Khishfe and Abd-El-Khalick, 2002; Lederman and Stefanich, 2006; Schwartz, Lederman and Crawford 2004), our mind is still blurred as to whether the standard explicit/reflective approach can improve students' views to the desired level. Therefore, this study aimed to teach the targeted NOS aspects in an explicit/reflective manner by using STEM-based contextualized NOS activities. In particular, it is aimed for students to find a connection between STEM disciplines and targeted NOS aspects and to realize activities by feeling themselves like scientists, engineers, mathematicians or technologists and to understand NOS from their point of view. In this sense, this study differs from the other NOS teaching studies.

The meaning of the STEM teaching for a science educator and science teacher should be to teach science while making connections with other STEM disciplines (Akerson et al., 2018). Unfortunately, in the current STEM movement, STEM is considered as a separate discipline, and science educators are expected to provide STEM education to science teachers and science teachers to students. This situation causes NOS teaching and its importance to remain in the background according to STEM education (Akerson et al., 2018). In order to avoid NOS teaching in the background of the popular STEM movement in the literature, science educators and teachers should understand the STEM-NOS relation well. NOS discipline is already very suitable for teaching when establishing STEM connections. The fact that The Next Generation of Science Standards' Science and Engineering Practices and Crosscutting Concepts section contains the various NOS aspects that students are expected to conceptualize also supports the fact that the two are closely intertwined (Akerson et al., 2018).

According to results of this study, it can be said that this study is quite effective considering that no student is left within the naive range at the end of STEM-based NOS teaching and all improve their views dramatically. Throughout the NOS teaching cycle (Akerson et al., 2010) that enables us to make more conscious and planned progress during the teaching, we taught targeted NOS aspects explicitly/reflectively by associating science with other STEM disciplines. There are some possible factors, which may affect this success. First, it was seen that students had a lot of fun in STEM activities as stated in recent studies (e.g., Canbazoğlu-Bilici and Ünal, 2015; Gökbayrak and Karışan, 2017). In particular, students were entertainingly able to design and develop new products such as an engineer using their existing knowledge, and to establish a better understanding of targeted NOS aspects by relating other STEM disciplines. They had so much fun doing it. Second, the motivation and interest of students to participate in our teaching of NOS may have an impact on the significant development of students' NOS views although a few activities we offer them. The students pretty much liked these STEM-based NOS activities, and showed high participation. Another factor might be the importance that we gave to the reflection part in this STEM based NOS teaching with the help of instant feedbacks, which reinforced the students' learning and helped them understand how much they understood. In parallel to the studies that show that formative assessment is effective in teaching

NOS (Bennett, 2011; Özer, Doğan, Yalaki, and Cakmakci, 2019), we can say that the formative assessment is one of the factors that have the potential to effect of the success in developing students' NOS views.

As Akerson and her colleagues (2018) stated, we think that STEM is not a separate discipline and there should be no development of students' STEM views. Students may develop and progress separately in the disciplines constituting STEM. If students are expected to learn STEM as a separate discipline, they need to be educated about the nature and interconnection of each of the STEM disciplines (Akerson et al., 2018). Obviously, it may not be right to expect this to be done with science teachers who have had limited mathematics and technology education during their undergraduate education and have never received engineering education (Akerson et al., 2018). Therefore, as in this study, it should be considered STEM as an effective approach in science education and to revise the expectations for teachers in terms of using STEM effectively as an educational approach.

Teaching NOS aspects are very suitable when establishing STEM connections and the creativity, critical thinking and problem-solving skills targeted in STEM applications are closely related to the NOS aspects. These skills are possible for individuals who are aware of the fact that scientific knowledge can be changed and that scientific knowledge is subjectively put forward and influenced by the socio-cultural context. Also, individuals who are aware of the fact that scientific knowledge includes the imagination and creativity of scientists and that the same scientific knowledge can be obtained in different ways are likely to adopt more creative ways when using this knowledge in a scientific research. For these reasons, STEM-based NOS teaching may provide successful results in NOS teaching. We also think that using STEM approach in NOS teaching can increase students' interest and participation in NOS activities and thus the development of NOS views. In this sense, it is recommended that STEM-based NOS activities are necessary to be expanded and investigate in the future studies. It is also recommended to examine the permanence of NOS views of students in the long term when using this approach because recent literature showed one course is not enough for developing students' NOS views even using explicit/reflective NOS instruction (Akerson et al., 2005).

In general, in NOS teaching, there is a need to talk about different things and try different methods from new perspectives (Akerson, Buck, Donnelly, Nargund-Joshi and Weiland, 2011; Clough, 2018). In this research, it was presented a new and different perspective to science educators and teachers that they can use in NOS teaching. As a popular research area, the STEM approach does not require to put NOS teaching in the backseat. STEM and NOS can be handled together in science classes in a way to feed each other. As shown in this study, the STEM approach can be used as an effective tool in NOS teaching. This study might give teachers an idea of how these two can be

handled together in science classes without putting NOS in the backseat. In this study, it was presented an example to guide science teachers, who are expected to include both the NOS aspects and STEM in their courses by various authorities, on how they can teach the NOS aspects while teaching science content in relation to other STEM disciplines in an explicit/reflective way. Thus, teachers and science educators are invited to try STEM approach in their classrooms for developing students' NOS views.

References

Abd-El-Khalick, F., & Lederman, N. G. (2000a). Improving science teachers' conceptions of nature of science: A critical review of the literature. *International Journal of Science Education, 22*(7), 665-701.

Abd-El Khalick, F., & Lederman, N. G. (2000b). The influence of history of science courses on students' views of nature of science. *Journal of Research in Science Teaching, 37*(10), 295-317.

Akerson, V. L., Burgess, A., Gerber, A., Guo, M., Khan, T. A., & Newman, S. (2018). Disentangling the meaning of STEM: implications for science education and science teacher education. *Journal of Science Teacher Education, 29*(1), 1-8.

Akerson, V.L., Elcan Kaynak, N., & Avsar Erumit, B. (2019) Preparing preservice early childhood teachers to teach nature of science: Writing children's books. *Innovations in Science Teacher Education, 4(*1). Retrieved from https://innovations.theaste.org/preparing-preservice-early-childhood-teachers-to-teach-nature-of-science-writing-childrens-books

Akerson, V. L., Morrison, J., & McDuffie, A. R. (2005). One course is not enough: pre-service elementary teachers' retention of improved views of nature of science. *Journal of Research in Science Teaching, 43*(2),194–213.

Akerson, V. L., Weiland, I. S., Pongsanon, K., & Nargund, V. (2010). Evidence-based strategies for teaching nature of science to young children. *Journal of Kırsehir Education, 11*(4), 61-78.

Allchin, D. (2011). Evaluating knowledge of the nature of (whole) science. Science Education, 95(3), 518–542.

American Association for the Advancement of Science (1993). Benchmarks for science literacy: A Project 2061 report. New York: Oxford University Press.

Mesci, G. (2016). Preservice science teachers' pedagogical content knowledge for nature of science and nature of scientific inquiry: A successful case study. PhD dissertation, Western Michigan University, USA. http://scholarworks.wmich.edu/dissertations/1606

Mesci, G., & Schwartz, R. S. (2017). Changing preservice science teachers' views of nature of science: why some conceptions may be more easily altered than others. Research in Science Education. 47(2), 329-351., Doi: 10.1007/s11165-015-9503-9

Mesci, G. (2020). The influence of PCK based NOS teaching on pre-service science teachers' NOS views. Science & Education. Doi: 10.1007/s11191-020-00117-7

Bell R. L., Mulvey, B. K., & Maeng, J. L. (2016). Outcomes of nature of science instruction along a context continuum: preservice secondary science teachers' conceptions and instructional intentions. *International Journal of Science Education, 38*(3), 493-520.

Bell, R. L., Smetana, L., & Binns, I. (2005). Simplifying inquiry instruction. *The Science Teacher, 72*(7), 30-33.

Bennett, R.E. (2011). Formative assessment: A critical review. *Assessment in Education: Principles, Policy & Practice, 18*(1), 5-25.

Breiner, J., Harkness, S., Johnson, C. C., & Koehler, C. M. (2012). What is STEM? A discussion about conceptions of STEM in education and partnerships. *School Science and Mathematics, 112*(1), 3-11.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How people learn.* Washington, DC: National academy press.

Canbazoglu-Bilici, S. & Unal, A. (2015). Integration of media design processes in science, technology, engineering, and mathematics (STEM) education. *Eurasian Journal of Educational Research, 15*(60), 221-240.

Capps, D., & Crawford, B.A. (2013). Inquiry-based Instruction and Teaching about Nature of Science: Are They Happening? *Journal of Science Teacher Education,* 24, 497-526.

Clough, M. P. (2006). Learners' responses to the demands of conceptual change: Considerations for effective nature of science instruction. *Science & Education, 15*(5), 463-494.

Clough, M. P. (2018). Teaching and learning about the nature of science. *Science & Education,* 27, 1-5.

Creswell, J.W. (2007). *Qualitative inquiry & research design: Choosing among five approaches.* Thousand Oaks, CA: Sage Publications.

Çorlu, M. S., Capraro, R. M. & Capraro, M. M. (2014). Introducing STEM education: implications for educating our teachers for the age of innovation. *Education and Science, 39* (171), 74-85.

Derin, G., Aydın, E., & Kırkıç, K. A. (2017). A scale on the attitudes towards STEM education. *El-Cezeri Journal of Science and Engineering, 4*(3), 547-559.

Erduran, S., & Dagher, Z. R. (2014). *Reconceptualizing Nature of Science for Science Education* (pp. 1-18). Springer Netherlands.

Gökbayrak, S., & Karışan, D. (2017). Exploration of sixth grade students' views on STEM based activities. *Journal of Field Education Researches, 3*(1), 25-40.

Guskey, T. R. (2000). *Evaluating professional development.* Thousand Oaks, CA: Corwin Press.

Irzik, G., & Nola, R. (2011). A family resemblance approach to the nature of science for science education. *Science & Education, 20*(7-8), 591-607.

Karakaş, M. (2017). Turkish students' views on nature of science. *European Journal of Education Studies, 3(*10), 176-183.

Keçeci, G., Alan, B., & Kırbağ-Zengin, F. (2017). STEM education practices with 5th grade students. *Journal of Kirsehir Education Faculty, 18*(1), 1-17.

Khishfe, R., & Abd-El-Khalick, F. (2002). Influence of explicit and reflective versus implicit inquiry-oriented instruction on sixth graders' views of nature of science. *Journal of Research in Science Teaching, 39*(7), 551-578.

Khishfe, R., & Lederman, N. (2006). Teaching nature of science within a controversial topic: Integrated versus nonintegrated. *Journal of Research in Science Teaching, 43*(4) 395-418.

Kruse, J., Kent-Schneider, İ., Zacharski, K., & Rockefeller, M. (2019). Investigating the effect of NOS question type on students' not responses. *Paper Presented at the 2019 Annual Conference of the Association for Science Teacher Education (ASTE) in Savannah, GA.*

Lederman, N. G. (2007). *Nature of science: Past, present, and future.* In S. K. Abel & N. G. Lederman (Eds.). Handbook of research on science education, (pp. 831– 879). Mahwah, NJ: Erlbaum.

Lederman, N.G., Abd-El-Khalick, F., Bell, R.L., & Schwartz, R. (2002). Views of nature of science questionnaire (VNOS): Toward valid and meaningful assessment of learners' conceptions of nature of science. *Journal of Research in Science Teaching,* 39, 497-521.

Lederman, J. S., & Khishfe, R. (2002). Views of nature of science, Form D. Unpublished paper. Illinois Institute of Technology, Chicago, IL.

Lederman, N. G., & Lederman, J. S. (2012). *Nature of scientific knowledge and scientific inquiry: Building instructional capacity through professional development.* In Fraser, B. J., Tobin, K. G., & McRobbie, C. J. (Eds.). Second International Handbook of Science Education, (p. 335) Springer International Handbooks of Education 24, DOI 10.1007/978-1-4020-9041-7_24, © Springer Science+Business Media B.V. 2012

Lederman, N., & Lederman, J. (2014). *Research on teaching and learning of nature of science.* In N. Lederman and S. Abell (Eds.). Handbook of Research on Science Education, (pp. 600-620). New York: Routledge.

Lederman, J. S., & Stefanich, G. P. (2006). *Addressing disabilities in the context of inquiry and nature of science instruction.* In L.B. Flick & N.G. Lederman (Eds.), Scientific inquiry and nature of science (pp. 55-74). Springer, Dordrecht.

McDonald, C. V., & McRobbie, C. J. (2012). *Utilising argumentation to teach nature of science.* In B. Fraser, K. Tobin, & C. McRobbie (Eds.), Second international handbook of science education (pp. 969–986). Dordrecht: Springer.

McMillan, J. H., & Schumacher, S. (2010). *Research in Education: Evidence-Based Inquiry,* My Education Lab Series. Pearson.

Ministry of National Education [MoNE] (2013; 2018). *İlköğretim kurumları fen bilimleri dersi öğretim programı [Primary education institutions' science instruction program].* Ankara, Turkey: Talim Terbiye Kurulu Başkanlığı.

Murphy, C., Smith, G., & Broderick, N. (2019). A Starting Point: Provide Children Opportunities to Engage with Scientific Inquiry and Nature of Science. *Research in Science Education,* 1-35. https://doi.org/10.1007/s11165-019-9825-0

NGSS Lead States. (2013). *Next generation science standards: for states, by states.* Washington, DC: National Academies. http://www.nextgenscience.org/next-generation-science-standards. Accessed 21 October 2013.

Olson, J.K. (2018). The inclusion of the nature of science in nine recent international science education standards documents. *Science & Education,* 27, 637. https://doi.org/10.1007/s11191-018-9993-8

Özer, F., Doğan, N., Yalaki, Y., Irez, S., & Çakmakci, G. (2019). The ultimate beneficiaries of continuing professional development programs: Middle school students' nature of science views. *Research in Science Education,* 1-26. https://doi.org/10.1007/s11165-019-9824-1

Park, H., Nielsen, W., & Woodruff, E. (2014). Students' conceptions of the nature of science: perspectives from Canadian and Korean middle school students. *Science & Education, 23* (5), 1169-1196.

Ricks, M. M. (2006). *A study of the impact of an informal science education program on middle school students' science knowledge, science attitude, STEM high school and college course selections, and career decisions.* [Doctoral Thesis. The University of Texas].

Schwartz, R. S. (2007). Beyond evolution: a thematic approach to teaching NOS in an undergraduate biology course. *Proceedings of the international conference of the National Association for Research in Science Teaching, New Orleans, LA. April 15–18.*

Schwartz, R. S., Lederman, N. G., & Crawford, B. A. (2004). Developing views of nature of science in an authentic context: An explicit approach to bridging the gap between nature of science and scientific inquiry. *Science Education, 88*(4), 610-645.

Tseng, K. H., Chang, C. C, Lou, Ş. J. & Chen W. P. (2013). Attitudes towards science, technology, engineering and mathematics (STEM) in a project-based learning (PjBL) environment. *International Journal Technology Design Education,* 23, 87-102.

Yamak, H., Bulut, N., & Dündar, S. (2014). The impact of STEM activities on 5th grade students' scientific process skills and their attitudes towards science. *Journal of Gazi Educational Faculty,* 34(2), 249- 265.

Yager, R.E., & Brunkhorst, H. (2014). *Exemplary STEM programs: Designs for success.* Virginia USA: NSTA Press, National Science Teachers Association.

© 2021 INASED

Appendix

STEM-based NOS activity: Make your own Telescope

Space Research Unit of 7th grade science lesson objectives:

- F.7.1.1.3. Explain the relationship between technology and space research,
- F.7.1.1.4. Explain the structure of telescope and what it does,
- F.7.1.1.5. Make inferences about the importance of telescope in the development of astronomy, and
- F.7.1.1.6. Prepare and present a simple telescope model (MoNE, 2018, p.39).

The NOS goals:

- Comprehend that scientific knowledge may change in the light of new data and technology by seeing that their models change during telescope design and creation.
- Realize that they use their imagination and creativity in the design and creation of the telescope.
- Comprehend the subjective and theory-laden structure of scientific knowledge by seeing and applying different types and designs of telescopes.
- Understand that science is based on direct /indirect observations and inferences obtained from the observers by examining the relations between telescope and space research and comprehends the evidence-based empirical structure of science.
- Comprehend that different inferences about black holes can be made with the same observations.

Stages	Instruction	
Introductory Stage	A color printout of the black hole photograph (as depicted in the first image released by the event horizon telescope in April 2019) was shown to the students and a classroom discussion was initiated with the following questions. • Has anyone seen this photograph before? • How do you think this photo was taken? • How do we see objects at a distance that is impossible to *see* with the naked eye? After the discussion about the above questions, the researchers handed out a note about two important theories of "Albert Einstein" and "Stephen Hawking" about black holes.	**Information Note / Black Holes** *Albert Einstein's Black Hole Theory* According to Einstein's theory of relativity, anything that enters the black hole is destroyed and lost. However, Einstein's theory contradicts the "quantum theory", which asserts that information in the universe will never be lost. Scientists have described this situation as a "paradox of loss of information", which they have not been able to combine since the 1970s. *Stephen Hawking's Black Hole Theory* Hawking, in his statement about black holes in August 2015, stated that there is no "black hole" that destroys the things. If it returns, he said that it surely provided a transition to a different universe, but that there was no return from this universe. Hawking's statement contradicts Einstein's statement. Although Hawking's statement that the object entering the black hole does not disappear, it contradicts what Einstein said. Hawking presented a solution by stating that the paradox about the loss of information that the quantum theory and the relativity theory contradicts does not pass through the black hole and that it is hidden in the event horizon.
Inquiry Stage	After revealing students' prior knowledge and made them to think about different theories, the "student activity paper" was handed out to the students. The students were reminded that they are a scientist today and they were asked to design a telescope model that they would use during their sky research.	

	The instructions in the activity paper were explained to the students and they were asked to draw the telescope model they would design on the activity paper and then compare and discuss their models with the group friends. The materials that can be used in the design of the model were provided by the Researchers before the course and placed on a suitable table for the students to select.
	Student Activity Paper
	Instruction 1: Dear little scientist; you are required by the Space Research Unit to design a telescope model to detect the motion of planets and stars in space. This model will help scientists to understand space better. Now draw a picture of the telescope you intend to design in the space below. **Drawing 1:**
	Instruction 2: Now, come together with other scientists in your group and compare the telescope design you have drawn.
	Instruction 3: Now, in agreement with your group friends, draw a picture of the telescope you will make with the materials that provided. **Drawing 2:**
	Instruction 4: Now, you can start to make your own telescope. If you make any changes to the design you made while making the model, make a note of these changes in the field below.
	After deciding on the final form of the telescope, the students started to design the telescope models. Students were asked to take notes of their measurements while designing their models. In particular, the importance of the distance between the lenses (focal length) is emphasized. After the models were designed, each group was allowed to present their models and explain the measurement they did.
Reflection Stage	During the inquiry stage, students were asked to make inquiries that would enable them to associate their research with the targeted aspects of the NOS and other STEM disciplines. In this process, it is aimed that the students understand the relationship between the NOS aspects and STEM disciplines. *Associating the NOS with STEM Disciplines:* • The difference between the individual designs and the final designs and the changes of the models were emphasized and how the scientific knowledge changed and developed in the line with the new data and ideas. • Similarly, it was emphasized the importance of observations and inferences in science and that students design this model with observation, experience and inferences. • Different views about black holes were mentioned through the black hole image presented during the introductory stage of the activity and it was emphasized that different inferences could be made with the same data. Here, it is emphasized that the individual and socio-cultural differences of scientists, and their fields of study affect their research, and that scientific knowledge is subjective in this respect. • As a result of the emergence of different designs, it was emphasized that the students' own imagination and creativity plays an important role in the formation of these designs and that they might have the effect of having different experiences or

	adopting different theories. Also, it was argued that science is based on direct or indirect observations and inferences by examining the relations between telescope and space research and understands the empirical structure of scientific knowledge. • Specifically, it is stated that mathematics is important in revealing telescope models and that different measurements or mathematical differences make a difference in the products and this directly affects the technological product. *Researcher: Is there anyone who can tell us how you used engineering and mathematics skills to design your own telescope?* *Student: First we draw, then we combined the materials. I think this was an engineering job. After, we measured the distance between the lenses to make the design, we made many trials, so we used mathematics. Then, we designed our model.* *Researcher: So, was the design you originally drew and the you created in the final different from each other?* *Student: Yes, we had a very different design when we first drew it. First, we had an inverted and blurry image. Then we measured it again, cut it, changed a lens, and so on. We made our telescope to a flat and clearer image.* *Researcher: Is there anything about astronomy might be different from what we know today? Can you claim that what we know about the sky is definite and unchangeable?* *Student: No, I don't think so, maybe if we look through a more advanced telescope, we can see that everything is different in the future.* *Students: Like we did in the activity. Our design has changed, so everything might be change (Tentativeness of scientific knowledge-informed)* *Researcher: How can technology, engineering, and mathematics affect the development and change of scientific knowledge about astronomy?* *Student: Telescopes made with advanced technologies allow us to make better observations, enabling us to gain new information and perhaps change what we know. Engineering skills and some calculations are required to make these telescopes.* *Researcher: Did you make experiment with this activity?* *Student: No, we have made observations, we have brought together what we have already known and what we have learned and formed our model. (Observation and Inference - informed)* *Researcher: Did you use your imagination?* *Student: Yes, we all have different models. I think our imagination affected our model because we are different from each other, we have produced different products. (Imagination and creativity-informed)* *Researcher: So, as we mentioned at the beginning of the lesson, could you tell us what might influence Einstein and Hawkings to have different findings?* *Student: They made observations. They made inferences from their observations. (Observation and inference-infromed)* *Student: They are also different people. Their imaginations are different, their backgrounds are different. It's normal for them to think differently. (Subjectivity-informed)*

Student assessment papers were distributed to the students whether they have learned the subject of science, NOS aspects, and the relationship between the subject and other STEM disciplines.

Student Assessment Paper

Q1. In ancient times, many scientists believed that the Earth was the center of the universe a that the Sun, Moon and stars revolved around the Earth. This model is called the Earth-cente universe model. After the 16th century, with the invention of the telescope and its use in s observation research, scientists such as Copernicus, Galilei, and Kepler have demonstrated w various evidence that the Earth and other planets rotate in orbits around the Sun, and this moc which scientists reveal, is called the Sun-centered universe model. Towards the end of the 1 century, when William Herschel researched the Milky Way Galaxy, which included the Sc System, they found that the pale light gas and dust clouds they observed were other galax beyond the Milky Way. Towards the middle of the 19th century, astronomers adopted the idea a vast universe with infinite dimensions.

Accordingly, which of the following statements are true (T) and which are false (F)?

(…) Scientific knowledge does not change.

(…) Scientific information is based on direct / indirect observations and inferences derived fr observations.

(…) Scientific knowledge may change with the development of technology or the emergence new evidence.

(…) Scientific knowledge is objective, which means it is not influenced by scienti imagination and creativity.

(…) Different inferences can be made using the same data.

Q2. Which of the following are direct observations, which are indirect observations and wh are inferences?

	Direct Observation	Indirect Observation	Inference
Going on the roof in the evening to look at the stars.			
The telescope has lenses of different sizes.			
I think the telescope is very important for sky research.			
As a sailboat moves away from the sea, it first leaves the field of view of the hull, then shrinks out of sight.			
When the sailboat moves away from the sea, the hull and then the sail shrinks out of our field of view, indicating that the world is not			

	flat.			
	An object caught in a black hole must be disintegrating and disappearing.			
	My friend used colored cartons to design his telescope.			
	Q3. What are the contributions of the telescope and other space observation technologies astronomy research? Q4. How would it affect your activity if you did not use certain technologies (lenses, rule meters, etc.) in your activity today? Q5. How did you use mathematics in your research? Q6. Is engineering skills necessary to design a technological telescope? How does the design space observation tools relate to engineering?			
	After the assessment activity was made by the students individually, each question was answered together with the students in the classroom and they were provided with immediate feedback.			
Assignment	Please write a daily reflection essay which should include what you have learned today!			

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Turkish Adaptation of Online Teaching Effectiveness Scale

Metin AŞÇI[1]
Manisa Celal Bayar University
Remzi YILDIRIM[2]
Manisa Celal Bayar University

Abstract

With this study, it is aimed to adapt the Online Teaching Effectiveness Scale into Turkish Language. The adaptation process has been done within four study groups. The first group took part in the study after having the Turkish form of the scale as required according to the translation steps. The study has been done with the MCBU Faculty of Education during the 2021 Spring Term. With the first study group, language validity was ensured with 30 participants by applying the Turkish and English versions of the scale in an interval of two weeks. According to language validity findings the Spearman's Rank Order Correlation value has been found above .70. Then pilot study has been done with second group with 62 participants. The total correlation values of the items are between .55 and .80. The third group consisted of 436 participants and after second run the CFA results are found like that; χ^2 / df = 3.582, RMSEA = .80, SRMR = .35; CFI = .95; TLI = .94, NNFI = .95. With the third study group the validation study has been finished and continued to reliability study. The fourth and the last group which consisted of 96 participants and the applications has been done in an interval of three weeks. According to the Cronbach's Alpha values each of the dimensions and the total of the scale have points between .70 and .97. The test – retest values are between .72 and .94. Based on the findings the Turkish version of the scale is valid and reliable for usage.

Keywords: Online Teaching, Distance Learning, Evaluation of Teaching Effectiveness, Instructor Effectiveness

DOI: 10.29329/epasr.2021.373.15

[1]Assist. Prof. Dr., Faculty of Education, Manisa Celal Bayar University, Manisa, Turkey, ORCID: 0000-0002-2526-0437
Correspondence: okan_metin@hotmail.com

[2] Lecturer Dr., Faculty of Education, Manisa Celal Bayar University, Manisa, Turkey, ORCID: 0000-0002-6918-5416, Email: yildirimremzi@hotmail.com

© 2021 INASED

Introduction

The concept of distance learning can be defined as a flexible, contemporary, and effective learning style that largely removes time and space limitations and allows the use of different technologies in educational environments. Looking at the historical background of the concept, three main phases can be given. According to Jones (1996), the first of these is the traditional phase where student – teacher communication is achieved through correspondence. The second phase is known as industrialized multimedia education and has a sound and video predominant structure. The last phase is the period when computers and modem are used in education.

At the point where technology has come to an end, it is seen that it has two important values such as computer and internet in teaching environments. When these two important values are brought together, they make many approaches that can be an alternative to physical space – oriented education such as school and classroom meaningful (Tuncer & Taşpınar, 2008). The basic starting point of online education, which comes to life because of bringing the internet and computer together, is the phenomenon of interaction. In short, the fact that the source is the receiver, and the receiver is the source is the essence of the concept of interaction. The interactive teaching of the lessons between the teacher and the student has created interactive teaching technologies and therefore the internet-based distance education model has become an important service that is widely used today (Rovai & Barnum, 2003).

While these changes in online education create changes in many aspects of the teaching process, especially the design and implementation stages of educational programs are also greatly affected by these changes. Considering the dimensions of the curricula, it can be said that these changes affect the teaching process dimension of the curricula, but also on other dimensions (objectives, content, instructional methods, and assessment) that are connected to each other with a dynamic structure.

The requirements of online education in terms of the teaching processes of the curricula clearly reveal itself and identification of users is one of these requirements. Web – based distance education broadcasting over wide area networks, local networks, or the internet, being open to general access, determining and transferring the course contents to the web environment, conducting special programs for students, creating interactive learning environments direct the teaching processes of the curricula (Al & Madran, 2004; O'neill, Singh & O'donoghue, 2004).

On the other hand, although online education has many benefits in social, economic, individual and education system, it also has some difficulties and limitations (Eygü & Karaman, 2013). These limitations cause discussions on the effectiveness of this online teaching service. According to Shifflet, & Weilbacher (2015), Wexler (2003) and Dinçer (2006); in particular, applied

courses are not suitable for online education, feedback and corrections are not done efficiently during lessons, interaction problems and technological infrastructure problems in groups with many students.

In addition to these problems in online education, one of the issues that should be addressed in the process is the evaluation of online education practices. At the end of the teaching – learning process, whether the targeted behaviors are achieved or not, in other words, revealing the effectiveness of the programs implemented, corresponds with the evaluation processes. As a result of these evaluations, the negative and positive aspects of the implemented program are revealed, and necessary corrections and improvement studies are made on the defective directives of the program. The main purpose of the evaluation activities is to reveal whether the planned and applied desired level is successful or not. Since online education consists of a process where students and teachers do not share the same environment, evaluation activities should be carried out considering this disadvantage.

Since the presentation of testing tools and receiving the expected feedback is different from that of face – to – face training, it is necessary to anticipate some negative consequences that may arise in the evaluation of online training and to flow the necessary precautions. Especially the fact that the testing tools used in the evaluation of the process consist of modern tools (projects, portfolios, performance assignments, etc.) rather than traditional tools will provide more realistic data for determining the effectiveness of the curricula.

Whether you train online or face to face, one of the variables that greatly affects the effectiveness and quality of teaching activities is the competence of teachers in this area. Especially the knowledge, skills and experience of the teacher who teaches the course in online education regarding distance education applications are of great importance not only for a successful classroom management but also for the effectiveness of the education provided (Seufert, Guggemos ve Sailer, 2021). The self – efficacy perceptions of teachers participating in online education regarding the process and themselves can also be shown among the factors that greatly affect the effectiveness of the process. Studies in this field by Ottenbreit – Leftwich, Glazewski, Newby & Ertmer (2010); Türel & Johnson (2012); Cabı (2018); Vangrieken, Packer & Kynd (2017) reveals that teachers do not consider themselves competent in online education, so this situation poses a problem in terms of the quality of the education provided. Undoubtedly, teachers' belief in their own competences is closely related to their ability to use online teaching environments and to achieve the goals of the course. Teachers' involvement in the online education process in an active and motivating way for the students, guiding them in the process. expected. Their responsiveness to these expectations is related to the communication skills of teachers, their different teaching methods and technical knowledge, and their competencies in their fields. Teachers' efforts to increase their knowledge, skills and

attitudes in these areas will have a positive effect on their professional development, their self – efficacy perceptions, and thus on the effectiveness of online education practices.

The competencies of teachers in evaluating the quality of online education can be discussed under some headings. These titles can be listed as teacher presence, teacher expertise, facilitation, and engagement. On the other hand, considering the areas of competence that teachers should have in the online education process, the presence of the teacher in the field and in the classroom is important. The term presence here; teachers' sharing of their knowledge and experiences in their field of expertise with their students and using their creativity to give original and striking examples related to the subject can be defined as the skills to arouse curiosity and interest in the course in students thanks to their high motivation. With the mentioned teacher presence, it can be ensured that some limitations in the natural structure of online education are minimized and the course objectives are achieved at the desired level.

One of the competences that affect the quality of online education and should be found in teachers is expertise. Specialization here includes the teacher's expertise in his subject area, as well as classroom management and information technology use skills. It is useful if they can plan the teaching process, express what they want from the students, and establish a relationship based on respect and love with the students in the process, as well as their command of the subject areas. Competencies such as the ability to use information technologies, which are one of the requirements of online education, sharing course materials on the web, associating visual and auditory course materials with acquisitions, and providing multiple learning environments, can be shown among the behaviors that teachers should have at the level of expertise in online education.

The success of the teaching process, in other words, one of the most important conditions for achieving the course objectives is the planning of the process. The ability of online education teachers to plan and apply the process is important in eliminating some of the problems encountered in distance education. Continuing the process effectively and efficiently requires a good planning skill to save both material and moral. Teachers' displaying a facilitating attitude to the process, clearly revealing what they want from their students and guiding them in the process can be shown among the skills that teachers should demonstrate in online education.

In online education, student – teacher interaction is one of the issues that should be emphasized. The fact that students and teachers do not physically share the same environment in the learning process increases the importance of the concept of interaction. In cases where there is not enough interaction, students may face the situation of losing their motivation for the lesson. For this reason, the interaction of online education teachers with their students in the process is of vital importance in terms of achieving the goals of the course. It is one of the qualifications that teachers

who provide online education should have to answer their students' questions simultaneously or synchronously and offer them the process of reflection and correction.

Reyes – Fournier, Cumella, Blackman, March & Pedersen (2020) based the theoretical foundations of the scale of the effectiveness of online education on the seven basic principles of undergraduate education stated in Chickering & Gamson, (1987) and the work of Thomas & Graham (2017). It is seen that the scale of effectiveness of online education consists of presence, expertise, facilitation, and interaction sub – dimensions. While the items related to the existence sub – dimension of the scale indicate that teachers who teach online have high interest, good presentation, meaningful examples, and high motivation, it is seen that the items related to the field of expertise include their field dominance and respect for the student. In the facilitation sub – dimension of the scale, it is seen that it consists of items related to teacher planning and explicitly presenting what is desired, while the interaction sub – dimension consists of items for providing offline or online interaction and providing instant feedback processes.

Among the reasons for choosing the scale (Reyes – Fournier, Cumella, Blackman, March & Pedersen, 2020) of effectiveness of online education and adapting it to Turkish, some features of the scale mentioned were determinant. The first of these features is that the scale is user – friendly. With the term user – friendly, it indicates what a user can easily find under which dimension, as the scale is in an easy and understandable format. Another feature that affects the selection of the scale is that the scale allows to evaluate the quality of education online without containing too many items and dimensions. Possible problems in the application of scales consisting of too many items and statistical analysis are minimized in this scale.

Just as not planning education and training activities is very important, it is also important to implement the planned process effectively, in other words, to reach the goals of the course. For this reason, studies aimed at eliminating the limitations caused by determining the factors that have a negative impact on the effectiveness of online education are considered valuable in terms of both the effectiveness of the process, the degree to which the education reaches its goals, and all the economic and labor expenditures made for the process.

The aim of the study is to adapt the “Online Teaching Effectiveness Scale” developed by Reyes – Fournier, Cumella, Blackman, March & Pedersen (2020) into Turkish Language. In this meaning adapting the original scale into Turkish language has been occurred as the problem situation while these statements below have been determined as sub – problem statements of the study:

According to the “Online Teaching Effective Scale”

1. What is its Turkish Language translated form?

© 2021 INASED

2. What are the language validity study findings of its Turkish version?

3. What are the pilot study findings of its Turkish version?

4. What are the validation study findings of its Turkish version?

5. What are the reliability study findings of its Turkish version?

By the guidance of these sub – problem statements, the adaptation study has been done as explained in the methodology part.

Method

With this part the information about the original scale has been given, the process of adapting the scale has been explained, the study groups have been expressed, and the analyzing processes applied during the adaptation process has been explained.

Online Teaching Effectiveness

Online Teaching Effectiveness Scale (Reyes – Fournier, Cumella, Blackman, March & Pedersen, 2020) has been developed by reviewing the previous one which is related with this scale and which is named as Online Teaching Effectiveness (Blackman, Pedersen, March, Reyes – Fournier, & Cumella, 2019). The researchers have realized some deficiencies about OTE somewhat like; psychometric fussiness, highness of costing, and being depending on the construct of traditional teaching effectiveness. So, a new version of online teaching effectiveness scaling has been developed by the help of the literature review of the previous scale development study and by the help of the researchers' experiences about online teaching processes. The new version of online teaching effectiveness scale has been named as OTES. OTES has been developed with the joining of 213 students from Purdue University Global as the study group of scale development process. The participants of the study have rated their online teaching staff within the scale items. Four clear OTE factors, which were named as presence, expertise, facilitation, engagement, have been found by the help of Exploratory Factor Analysis. The resulting measure has demonstrated good internal consistency and high correlations with an established OTE measure; good test – retest reliability; and predictive validity in relation to student achievement. Confirmatory Factor Analysis has revealed a good fit of the data and has yielded a final 12 – Item OTE measure.

The Kaiser – Meyer – Olkin (KMO) sampling adequacy measure was .936. and having KMO values between 0.8 and 1.0 means adequacy. With the factor analysis to four factors, which were named as Presence (21 items), Expertise (7 items), Facilitation (7 items) and Engagement (5 items), have been reached. The analysis has showed that four – component solution had explained 75.47% of the variance. But before CFA the researchers found the scale long within 40 items. As the researchers

pointed out according to Saleh & Bista (2017) an effective scale requires being short, being concise and being user – friendly for high rated responses. And they conducted the scale purification as Wieland, Durach, Kembro, & Treiblmaier (2017) mentioned. They decided to reorganize four factors of the scale with minimum 2 items. So, they have achieved a 12 – item scale where the factor Presence has 6 items and others have 2 items.

The CFA results of the four factored and 12 – item scale indicated that the four – factor model fit the data well, $\chi 2$ (48) = 255.41, p = .0001, RMSEA = 0.143, TLI = 0.857, CFI = .912. For the reliability of the scale, the results of the Cronbach's alphas they have found for the four OTES factors and total scale were: Presence, .95; Expertise, .68; Facilitation, .81; Engagement, .82; Total, .95. Test / retest reliability coefficients they have pointed out for the four factors and total OTES scale ranged from r = .74 to .89; all were significant at p < .001, one – tailed. They have reported Coefficients as: 1. Presence, r = .85; Expertise, r = .74; Facilitation, r = .74; Engagement, r = .87; Total, r = .89. Validity results shows that the OTES total and all four factor scores correlated significantly, p < .001, with the overall teaching effectiveness item, with coefficients ranging from r = .50 to .72. OTES total and factor score intercorrelations were reported as all significant at p < .001, with coefficients between factors ranging from r = .49 to .71 and all factors have showed greater correlations with the total score than with other factors. According to the researchers it can be said that OTES total and factor scores also had correlated significantly, p < .001, with all four SEOTE scale scores, with coefficients ranging from r = .38 to .69. The lowest correlations with OTES scores have occurred for the SEOTE Active Learning and Student Cooperation factors. According to the developers of the scale, all four OTES factors have somewhat interrelated via CFA and have together provided a complete representation of the OTE construct. Thus, the total OTES score has consisted of the sum of the four factors and should have succinctly and accurately indicate overall OTE.

Process of Adapting the Scale

The process of adapting the scale has begun with the current developments. As it is known, because of the pandemic in the world, the need for distance education has increased and the need for a measurement tool to evaluate the effectiveness of the distance education process has been felt by researchers. Researchers have focused on a scale which is actual, effective, short, user friendly and developed by the experts from this area. Focusing on this direction has carried the researchers to a scale called OTES (Reyes – Fournier, Cumella, Blackman, March & Pedersen, 2020) as introduced in the related topic above. First, permission to use the scale was obtained from the developers via email. Then the permission process had been completed by getting permission from the MCBU Faculty of Education and MCBU Social Sciences Ethics Commission and adapting scale process has been continued with technical issues. During the adaptation of the scale into Turkish language five main steps has been fallowed as Erkuş (2012), Karakoç & Dönmez (2014) and Seçer (2015) had offered.

The steps can be called as translation study, language validity study, pilot study, validation study and reliability study. Scale adaptation process has been started with translation study. Translation study has been applied as Beaton, Bombardier, Guillemin, & Ferraz (2000) guided. For a cross – cultural adaptation process Beaton, Bombardier, Guillemin, & Ferraz (2000) has offered the steps as translation, synthesis, back translation, expert committee review and presenting as the translation steps. The collected data after translation study has been analyzed with SPSS 25 and Amos 24 packet programs. The adaptation process of the scale has been applied in this meaning and four study groups had been formed for this process.

Study Groups

Turkish language adaptation process of the scale was carried with four main study groups. Groups were formed with the attendance of MCBU Faculty of Education undergraduates in 2021 spring term. According to Seçer (2015) 30 participants are enough for the language validity studies. With the first group which had 30 participants language validity was ensured. Second group, which had 62 participants, contributed the pilot application. Confirmatory factor analysis was conducted to test the construct validity with the third group of 436 participants. The test – retest study was conducted with an interval of three weeks with the fourth group consisting of 96 participants formed to test the reliability. The 30 participants of language validity application were from Guidance and Psychological Counselling Department (73,3% female, 26,7% male – 53,3% first class, 10% second class, 36,7% third class). The 62 participants of pilot application were from Science Teaching Department and Psychological Counselling Department (74,1% female, 25,9% male - 41,9% first class, 22,6% second class, 11,3% third class, 24,2% fourth class). The 436 participants of confirmatory factor analysis application were from all departments, which were included as Science Teaching Department, Mathematics at Primary School Level Teaching Department, Guidance and Psychological Counselling Department, Primary School Level Teaching Department, Social Studies Teaching Department and Turkish Language Teaching Department (74,6% female, 25,4 male – 34,4% first class, 24,4% second class, 22,9% third class, 18,3% fourth class). The 96 participants of reliability test application were from Social Studies Teaching Department (75% female, 25% male – 35,0% first class, 25,2% second class, 18,8% third class, 21% fourth class).

Analysis

The analysis of the data set during the adaptation process has been applied with in four main steps after language translation study. Before beginning the analysis of the data, the translation process had been done, which was named as translation study, and the Turkish translated form had been reached in this way. Then the collecting of the data set had been carried out by the help of Turkish version of the original scale and the analysis of the data had been done with the participant answers of that form.

In the first step language validity had been tested to see the linguistic equivalence. As mentioned under the sub – title, where the study groups had been explained, first study group had been formed for testing the language validity. With this study group Turkish and English forms of the scale had been applied with an interval of two weeks. Firstly, the collected data from these applications was tested if they had been distributed normally or not. It was seen that the data wasn't distributed normally, and Spearman's Rank Order Correlation Test was used, as a nonparametric test, to see if there was a correlation between Turkish form and English form of the scale. Tabachnick & Fidell (1996); Byrne (2010) have told that for mentioning existence of a correlation between groups, there must be above .70 correlation between groups. With the results of the test, it was seen that there was high correlation between the groups as shown at the findings part of the study.

The second step of the analysis was applied with the second study group which had 62 participants. In the second step, the pilot scheme was conducted with the Turkish form of the scale which is tried adapting here. The pilot scheme had helped to observe the values of total correlation of the scale items and the Cronbach alpha internal consistency value. It was told that the values of total correlation of the scale items should have been above .30 and the Cronbach alpha value should have been above .70 according by Büyüköztürk (2012) and Seçer (2015). This situation has been observed as shown at the related part of findings.

The third step is about the confirmatory factor analysis. With the data obtained from the third study group, which had 436 participants, the confirmatory factor analysis has been done after the outliers and extreme values of the data set had been removed. After removing the extreme values from the data set, the analysis was made with the data of the remaining 406 participants. The data of thirty participants had been removed for that issue. Confirmatory factor analysis had helped to observe confirming the construct validity of 12 items and 4 factors as in the original scale and the confirmatory factor analysis results has been shown at findings part.

In the fourth and the last step of the analysis reliability studies have been done. With an interval of three weeks the test – retest study had been conducted. The data obtained from the fourth group, which had 96 participants, was analyzed, and was tried to see the Cronbach alpha internal consistency coefficients of the sub – dimensions and the whole of the scale.

So, in four steps the analysis has been applied and the results have been explained in the following part by the help of these four analysis steps.

Results

In this part the findings of translation study, the findings of language validity study, the findings of pilot study, the findings of confirmatory factor analysis study and the findings of reliability study has been shared.

© 2021 INASED

Translation Study

For the first step of translation study, the process has been started by the help of three experts from the field of educational sciences who are good at English language. According to Savaşır (1994) the translation studies should be done with the experts who are good at both two languages and are aware the subject of the study. Later, experts came together, compared their translations, and combined their individual translations into a single form. Then, the translated version of the scale as a single form was sent to five academicians, who were experts in the field, and opinions were taken on the comprehensibility and scope of the translation. In line with the opinions of five academicians, arrangements were made on the translation. For the second step, thirty students who were good in English were put into practice with this version of the translation. The Turkish and English forms of the scale were applied with an interval of two weeks and the correlation between them was examined. With this application, it was checked whether there was a semantic problem in this state of the scale. For the third step, back translation was done with two professional translators individually. Then a meeting was organized, they compared their translations and put their translations into one form. With two native speakers of English language the back translated form and original form were compared, and the translation phase was ended. For the fourth and fifth step, the opinions of three academics, who have mastered the English language and the related methodology, were taken about all the stages and reports up to this moment and the final version of the form was decided and presented.

Language Validity Study

Language validity study has been done with 30 participants who were good at English as a foreign language. Seçer (2015) has said that 30 participants are enough for language validity studies. So, this discourse has been supplied with the number of participants in this part of the study. The application of English and Turkish forms has been done with an interval of two weeks and because of not showing normal distribution of the data, the correlation test has done according to Spearman's Rank Order Correlation Test which is known as nonparametric one of Pearson Test. The findings of the data according to Spearman's Rank Order Correlation are $r = .724$, $p < .05$ which means above .70 as a necessity. According to the findings of the language validity analyzes it can be said that both Turkish and English forms of the scale are equivalent.

Pilot Study

After supplying language validity pilot study has applicated as the next step. For a pilot study the participant number should be two or three times of the scale items. We have twelve items, and the participant number is sixty – two at this step of the study. According to the findings of the pilot study, the data is shown in Table 1.

Table 1. The Total Correlation Values of The OTES Turkish Form Items

Item	Total Correlation Value	Item	Total Correlation Value
Item 1	.640	Item 7	.646
Item 2	.555	Item 8	.806
Item 3	.735	Item 9	.774
Item 4	.701	Item 10	.665
Item 5	.700	Item 11	.698
Item 6	.737	Item 12	.665

As seen in Table 1 all values are above .30 as required by Büyüköztürk (2012) and Seçer (2015). All values are between at least .55 and .80 and it can be said that the items of the scale are sufficient to distinguish the feature of the scale and are compatible with the scale completely. The Cronbach Alpha coefficient for the overall scale is .928. It is a good value because the value of .70 and above indicates that the scale has internal consistency. And, if the value is above .95, it also points a problematic situation. With the findings of pilot study, it can be said that both total correlation values of the items and the Cronbach Alpha coefficient for overall scale are near ideal values.

Validation Study

During the cross – cultural adaptation of a scale doing Confirmatory Factor Analysis instead of Exploratory Factor Analysis is a common approach. With the CFA a current scheme can be tested. By the help of CFA researchers try to confirm the existence structure of a scale in its adapted version. CFA tries to test a prediction that variables will take place on predetermined factors based on a certain theory. While Büyüköztürk (2012) and Seçer (2015) offering CFA for adaptation studies, they also say at least above 300 participants would only be enough for the validation of the adapted scale. In this step of the study four hundred and thirty – six participants had joined to data collecting process but thirty of the total data were deleted because of being outliers and having extreme values. So, the analyzes had been done with the data of four hundred and six participants. As Meydan and Şeşen (2015) offered CFA should be done at least in two levels during a process of a scale adaptation study, two times CFA has been done and the findings of each of the steps have been shown in Figure 1 and Figure 2. Figure 1 gives the findings of the first level while Figure 2 is giving the findings of second level.

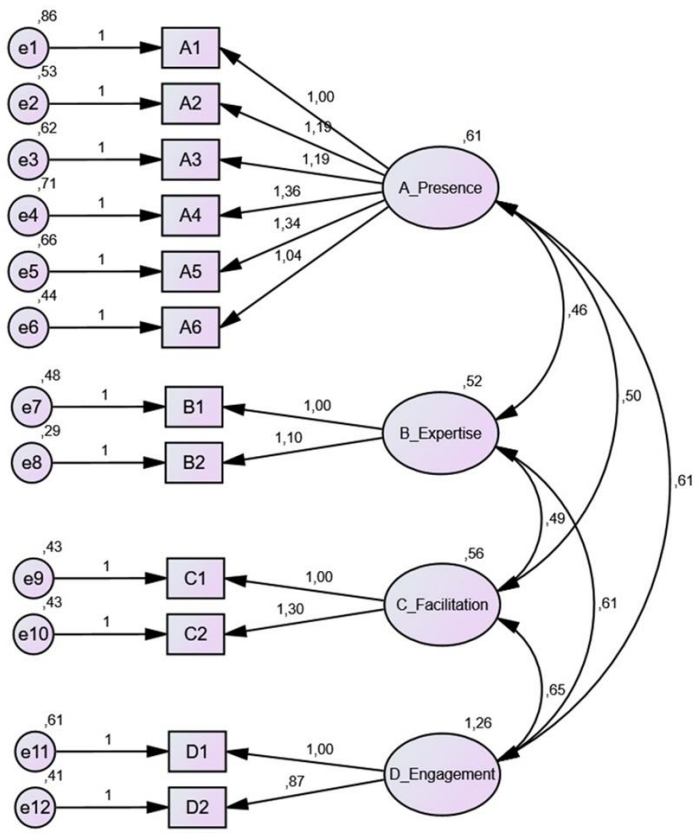

Figure 1. The First Level CFA Findings of OTES Turkish Language Adaptation Version

In Figure 1, the first level CFA shows the structure of the Turkish Language adaptation version as same as the original study with in 12 items and 4 four factors. According to Kline (2005) and Brown (2006) chi – square, RMSEA, CFI, SRMR measures are the most important points while reporting the findings of CFA. The first level CFA model fit values are as shown in Table 2.

Table 2. The First Level CFA Fit Indices of OTES Turkish Language Adaptation Version

χ^2/df	RMSEA	SRMR	CFI	TLI	NNFI
192800 / 48 = 4.017	.086	.039	.949	.930	.934

With the first level CFA study the measurements were mostly obtained as accepted (Kenny, 2020). The values have been found as offered; χ^2/df is under 5.00, SRMR is between 0 and .08, CFI and NNFI are above .90, but RMSEA has been above .80 in the first level analyses. Then the good fit indices have been reached as shown at Figure 2.

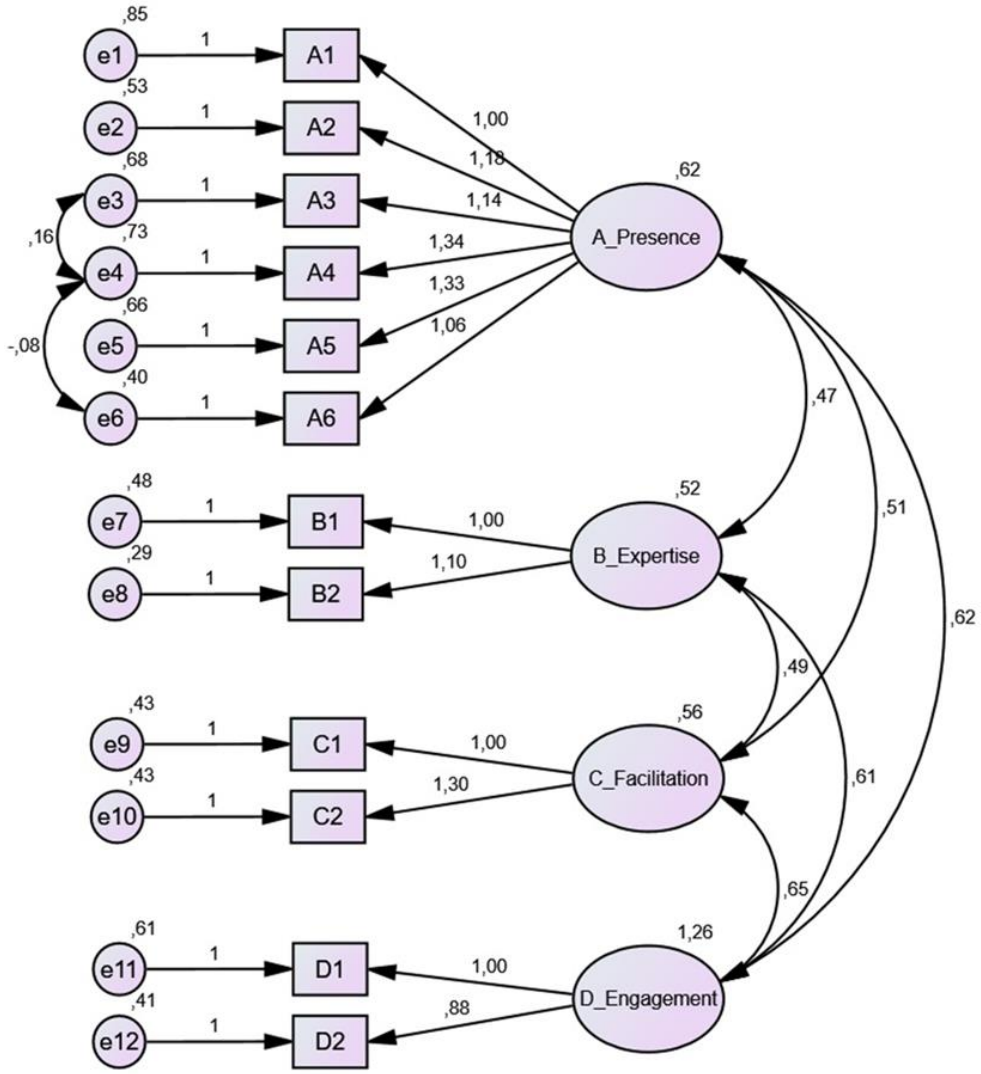

Figure 2. The Second Level CFA Findings of OTES Turkish Language Adaptation Version

In Figure 2, the second level CFA shows the structure of the Turkish Language adaptation version as same as the original study with in 12 items and 4 four factors. At the second level by drawing just two covariances between item 3 and 4 / item 4 and 6, the good fit values were preserved and RMSEA value has been reduced at .80 as Hu & Bentler (1999) had pointed out. The second level CFA model fit values are as shown in Table 3.

Table 3. The Second Level CFA Fit Indices of OTES Turkish Language Adaptation Version

χ^2/df	RMSEA	SRMR	CFI	TLI	NNFI
164762 / 46 = 3.582	.080	.035	.958	.940	.943

Looking at the findings in Table 3, it can be said that good fit indices were achieved with the two – stage intervention performed within the scope of the CFA stage of the study. The findings in

Table 3 show that the scale adaptation has sufficient fit indexes at this level and the validation has been supplied.

Reliability Study

For the reliability of OTES Turkish language adaptation form, the test – retest has been done, Cronbach alpha internal consistency coefficients has been reached for the scale sub – dimensions and the whole scale. The reliability study was conducted with the fourth study group which had 96 participants which was eight times the number of the items. The study was conducted three weeks apart and the findings shown in Table 4 were achieved.

Table 4. The Cronbach Alpha and Test – Retest Values of OTES Turkish Language Adaptation Version

Dimension	Cronbach's Alpha (α)	Test – Retest (r_s)
Presence	.96	.91
Expertise	.70	.72
Facilitation	.84	.74
Engagement	.97	.94
Whole Scale	.92	.79

As seen in Table 4, the Cronbach's alpha values of the general and sub – dimensions of the OTES Turkish language adaptation version show that the items of the scale have sufficient internal consistency. The Turkish language form had been applied to the same study group with an interval of three weeks and it has been seen that the correlation values between the scores obtained from both applications are above .70 for the whole scale and sub – dimensions of the scale. Having above .70 values in Cronbach's alpha and Test – Retest findings shows the reliability of the OTES Turkish language adapted scale.

Discussion, Conclusion and Recommendations

The form of education known as distance education or online education is gaining increasing importance in today's world with today's experiences. This study aimed to adapt the "Online Teaching Effectiveness Scale" (Reyes – Fournier, Cumella, Blackman, March & Pedersen, 2020) into Turkish. In the adaptation process, five main steps, which are stated as translation study, language validity study, pilot study, validation study and reliability study, were followed. During the translation study Beaton, Bombardier, Guillemin, & Ferraz's (2000) views has been taken as the guide. Following the completion of the translation study, the other stages of the study were started and as can be seen in the findings, a valid and reliable measurement tool has been introduced into Turkish language for evaluating the distance education process.

Considering the results of the first level analysis conducted within the scope of CFA in the study, it was seen that the study met all the criteria except the RMSEA value at the expected level (χ^2/df = 4.017, RMSEA = .086, SRMR = .039, CFI = .949, TLI = 930, NNFI = .934). With the second

level CFA, putting just two covariances between item 3 and 4 / item 4 and 6 has given the good fit indices (χ^2/df = 3.582, RMSEA = .080, SRMR = .035, CFI = .958, TLI = .940, NNFI = .943).

As the last step, the reliability study was carried out with 96 participants, who were eight times the number of the items in the scale, within interval three weeks. According to reliability study the values of Cronbach's Alpha and Test – Retest are above .70 for all sub – dimensions and for whole of the scale.

So, as a conclusion the adaptation study resulted in obtaining a valid and reliable scale. The Turkish version of OTES has four sub – dimensions as same as been in the original one. The twelve items of the scale can evaluate online education in a fast, simple, user friendly and effective way as the developers of the original scale has claimed. The adaptation version of OTES has been named as "*Online Öğretim Etkililiği Ölçeği*" into Turkish.

References

Al, U. & Madran O. (2004). Web tabanlı uzaktan eğitim sistemleri: sahip olması gereken özellikler ve standartlar. *Bilgi Dünyası Dergisi*, 5 (2), 259 – 271. https://bd.org.tr/index.php/bd/article/view/491/487 (24.03.2021).

Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross – cultural adaptation of self – report measures. *Spine*, 25 (24), 3186 – 3191. https://doi.org/10.1097/00007632-200012150-00014 (12.03.2021).

Blackman, G., Pedersen, J., March, M., Reyes – Fournier, E., & Cumella, E. J. (2019). *A comprehensive literature review of online teaching effectiveness: Reconstructing the conceptual framework [Unpublished manuscript]*.

Brown, T., A. (2006). *Confirmatory Factor Analysis for Applied Research*. New York: The Guilford Press.

Büyüköztürk, Ş. (2012). Sosyal Bilimler için Veri Analiz El Kitabı. Ankara: *Pegem Akedemi Yayıncılık*.

Byrne, B. M. (2010). *Structural Equation Modeling with Amos: Basic Concepts, Applications, and Programming* (2nd Edition). New York: Routledge.

Cabı, E. (2018). Teaching computer literacy via distance education: Experiences of the instructors. *Başkent University Journal of Education*, 5 (1), 61 – 68. http://webcache.googleusercontent.com/search?q=cache:HcBb9w4ZqUMJ:buje.baskent.edu.tr/index.php/buje/article/download/93/90/+&cd=3&hl=tr&ct=clnk&gl=tr (23.03.2021).

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 3, 7. https://files.eric.ed.gov/fulltext/ED282491.pdf (20.03.2021).

Dinçer, S. (2006). Bilgisayar destekli eğitim ve uzaktan eğitime genel bir bakış. *Akademik Bilişim Konferansı 2006*, Denizli. https://www.researchgate.net/publication/298192658_Bilgisayar_destekli_egitim_ve_uzaktan_egitime_genel_bir_bakis (20.03.2021).

Erkuş, A. (2012). *Psikolojide Ölçme ve Ölçek Geliştirme*. Ankara: Pegem Akademi Yayınları.

Eygü, H., & Karaman, S. (2013). A study on the satisfaction perceptions of the distance education students. *Kırıkkale University Journal of Social Sciences*, 3 (1), 36 – 59. https://dergipark.org.tr/tr/download/article-file/181058 (19.03.2021).

Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6 (1), 1 – 55. https://doi.org/10.1080/10705519909540118

Jones, D. (1996). Computing by distance education: Problems and solutions. *ACM SIGCSE Bulletin*, 28 (SI), 139 – 146. https://doi.org/10.1145/237477.237616 (03.03.2021).

Karakoç, F.Y., ve Dönmez, L. (2014). Ölçek geliştirme çalışmalarında temel ilkeler. *Tıp Eğitimi Dünyası*, 13 (40), 39 – 49. https://dergipark.org.tr/tr/download/article-file/199275 (22.05.2021).

Kline, T., J., B. (2005). *Psychological testing: A practical approach to design and evaluation*. London: Sage Publications.

Kenny, D., A. (2020). *Measuring Model Fit*. http://davidakenny.net/cm/fit.htm (22.03.2021).

Meydan, C.H. ve Şeşen H. (2015). *Yapısal Eşitlik Modellemesi AMOS Uygulamaları*. Ankara: Detay Yayıncılık.

O'neill, K., Singh, G., & O'donoghue, J. (2004). Implementing eLearning programmes for higher education: A review of the literature. *Journal of Information Technology Education: Research*, 3 (1), 313 – 323. https://www.learntechlib.org/p/111456/ (18.03.2021)

Ottenbreit – Leftwich, A. T., Glazewski, K. D., Newby, T. J., & Ertmer, P. A. (2010). Teacher value beliefs associated with using technology: Addressing professional and student needs. *Computers & Education*, 55 (3), 1321 – 1335. https://www.sciencedirect.com/science/article/abs/pii/S0360131510001612 (12.03.2021).

Reyes – Fournier, E., Cumella, E. J., Blackman, G., March, M., & Pedersen, J. (2020). Development and validation of the online teaching effectiveness scale. *Online Learning*, 24 (2), 111 – 127. https://files.eric.ed.gov/fulltext/EJ1260360.pdf (01.02.2021).

Rovai, A. P., & Barnum, K. T. (2003). On – line course effectiveness: An analysis of student interactions and perceptions of learning. *International Journal of E-Learning & Distance Education / Revue internationale du e-learning et la formation à distance*, 18 (1), 57 – 73. http://www.ijede.ca/index.php/jde/article/view/121/102 (04.04.2021).

Saleh, A., & Bista, K. (2017). Examining factors impacting online survey response rates in educational research: Perceptions of graduate students. *Journal of Multidisciplinary Evaluation*, 13 (29), 63 – 74. https://files.eric.ed.gov/fulltext/ED596616.pdf (12.03.2021).

Savaşır, I. (1994). Ölçek uyarlamasındaki bazı sorunlar ve çözüm yolları. *Türk Psikoloji Dergisi*, 33 (9), 27 – 32. https://www.psikolog.org.tr/tr/yayinlar/dergiler/1031828/tpd1300443319940000m000295.pdf (11.03.2021).

Seçer, İ. (2015). Psikolojik Test Geliştirme ve Uyarlama Süreci: *SPSS ve LISREL Uygulamaları*. Ankara: Anı Yayıncılık.

Seufert, S., Guggemos, J. & Sailer, M. (2021). Technology – related knowledge, skills, and attitudes of pre – and in – service teachers: The current situation and emerging trends. *Computers in Human Behavior*, 115 (2021), 1 – 7. https://doi.org/10.1016/j.chb.2020.106552 (11.03.2021).

Shifflet, R., & Weilbacher, G. (2015). Teacher beliefs and their influence on technology use: A case study. *Contemporary Issues in Technology and Teacher Education*, 15 (3), 368 – 394. https://www.learntechlib.org/p/147400/ (11.03.2021).

Tabachnick, B. G., & Fidell, L. S. (1996). *Using Multivariate Statistics* (3rd Edition). New York: Harper Collins College Publishers.

Thomas, J. E. & Graham, C. R. (2017). Common practices for evaluating post – secondary online instructors. *Online Journal of Distance Learning Administration*, 20 (4). https://www.learntechlib.org/p/188473/ (15.03.2021).

Tuncer, M., & Taspinar, M. (2008). The future of education and training in virtual environments and possible problems. *Afyon Kocatepe University Journal of Social Science*, 10 (1), 125 – 144. https://sbd.aku.edu.tr/Say%C4%B1lar/Cilt%20X%20Say%C4%B1%201%20Haziran%202008/B.6%20%20makale%20M.%20Tuncer,%20M.Ta%C5%9Fp%C4%B1nar.pdf (03.03.2021).

Türel, Y. K., & Johnson, T. E. (2012). Teachers' belief and use of interactive whiteboards for teaching and learning. *Journal of Educational Technology & Society*, 15 (1), 381 – 394. https://www.jstor.org/stable/pdf/jeductechsoci.15.1.381.pdf (20.03.2021).

Vangrieken, K., Meredith, C., Packer, T., & Kyndt, E. (2017). Teacher communities as a context for professional development: A systematic review. *Teaching and Teacher Education*, 61, 47 – 59. https://www.sciencedirect.com/science/article/abs/pii/S0742051X16304681 (16.03.2021).

Wexler, D. H. (2003). *Shifting pedagogies: Intersections of computer-supported technologies, education, and power* (Ph.D. Thesis). The Graduate School, Syracuse University. https://www.learntechlib.org/p/127957/ (17.03.2021).

Wieland, A., Durach, C. F., Kembro, J., & Treiblmaier, H. (2017). Statistical and judgmental criteria for scale purification. *Supply Chain Management: An International Journal*, 22 (4), 321 – 328. https://doi.org/10.1108/SCM-07-2016-0230 (12.03.2021).

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

An Analysis of the Content Knowledge Elective Courses of the ELT Departments: A Suggested Syllabus*

Melis ŞENOL[1]
Canakkale Onsekiz Mart University

Kürşat CESUR[2]
Canakkale Onsekiz Mart University

Abstract

This research study took its sprouts from the reform implemented by the Council of Higher Education (CoHE), Turkey in 2018. The recent update has focused not only on the deficiencies of the existing programme but also enhancing the number of the elective courses up to 25 per cent. Correspondingly, CoHe suggested thirteen "Content Knowledge" electives along with granting authorization to universities to add six more electives on demand. Originated with these decision-making exigencies, this two-phased study was planned to disclose the favoured elective of 1093 EFL teachers in the first phase while the focus on the second phase changed direction to a syllabus design on the relevant elective with the guidance of teacher educators. The first phase of the research exploits a mixed method sequential exploratory design involving qualitative and quantitative research paradigms revealing "Current Trends in ELT" as the most favoured elective course, consequently. In the following phase, a further step was taken, and 62 teacher educators were consulted regarding the content of the course. Having analysed the responses by open-coding technique, the theme 'technology integration' was found out to be teacher educators' main concern. Based on this data, the targeted topic-based syllabus was designed around the suggested sub themes of technology integration and ultimately fine-tuned through the lenses of two experts. The study also presented a compilation of teacher educators' responses which should carefully be scrutinized and utilized by the policy makers and decision-making parties.

Keywords: Current Trends In ELT, Elective Courses, Content Knowledge Courses, Syllabus Design.

DOI: 10.29329/epasr.2021.373.16

---

*The article is based on a MA thesis supervised by the second and written by the first author.

[1] Lecturer, School of Foreign Languages, Canakkale Onsekiz Mart University, Canakkale, Turkey, ORCID: 0000-0003-2726-3786

Correspondence: mel@comu.edu.tr

[2] Assoc. Prof. Dr., Faculty of Education, Canakkale Onsekiz Mart University, Canakkale, Turkey, ORCID: 0000-0001-5091-9793, Email: kursatcesur@comu.edu.tr

© 2021 INASED

Introduction

Elective courses in ELT enable students to receive more versatile content focusing on global awareness, critical thinking skills, communication skills, or else those electives contribute to their personal development by cultivating their interests. These courses provide invaluable understanding in many areas and give way to knowledge in a specialized area while developing personal skills. Without serving a specific purpose, they could even just satisfy a curiosity about a certain topic. In 2018, CoHe increased the percentage of the elective courses in the degree programs up to 25 per cent along with overviewing and revising the defective points in the system. In addition to suggesting an elective course list, they granted authorization to universities to be able to determine almost 25 percent of the courses except for the obligatory ones (Akbay & Cesur, 2019). As a consequence of this flexibility, English Language Teaching Departments have now been facing a decision-making process in terms of determining which electives to be added into their curriculum. Derived from the reality, this study is in an endeavour to throw light upon students' choices of content knowledge electives. In addition to pointing at the most preferred elective, it gains another dimension by suggesting a new syllabus.

Literature Review

Globalization has become one of the greatest identifiers of the twenty-first century by influencing the changing face of communication, media, international commerce, social life, and networks with the increasing demand for international travelling. In this comprehensive framework, the appropriateness of situational and contextual communication skills in English has become more crucial. As a modern lingua franca, the new role of English has become more of an issue in terms of applied linguistics and English Language Teaching. In this regard, since the effectiveness of the teaching programmes has a consistent relevance with language teaching, these programmes are recommended to be armed with the essential qualities meeting the demands of the nations, and they need to be updated by monitoring the contemporary changes in the world (Coşkun- Ögeyik, 2009). In the light of these perspectives, language policy in Turkey has gone through many changes and innovations along with the process of adaptation to the European Union and in association with the Bologna process. Under the coordination of Higher Education Council, English Language Programmes were updated in 1997, 2006 and more recently in 2018 (Akbay & Cesur, 2019). While overviewing these regulations, it should be noted that each has become a focus of interest for many scientific studies in terms of their procedural evaluations, educational analysis, and implementation.

Before 1997, aggregating all academies and teacher training institutions into the universities by following an incorporated model of higher education happened to be the most outstanding reform by that time (Güven, 2008). As an extension of this incorporated model, CoHE was authorized as the core of the decision-making procedure responsible for financial, administrative, and educational

issues of Turkish universities. Teacher education programmes, their staff, logistics, alterations, and the curricula were inclusively united under CoHE so that there were no contradictions related to teacher education policies (Binbaşıoğlu 1995). However, it took more than a decade for four-year teacher training colleges and three-year foreign language high schools to centralize in universities (Altan, 1998). Additionally, Salı (2008) drew attention to the discrepancy among the content and practices of the first ELT programmes by pursuing their curricula. In 1997 Reform, following the collaboration of MoNE and CoHE in 1997, noticeable changes in English language policy became a current issue in order to revolutionize the ELT practice in Turkey. This led to a major change in the curriculum of the teacher education programmes that more practice time was allotted, and pedagogical knowledge gained more importance (Sağlam & Kürüm, 2005). Regarding this regulation, more hands-on experience for pre-service teachers became possible by adding more methodology courses and by promoting teaching practice time (Kırkgöz, 2005). Another major change was mainly about the introduction of the concept of communicative approach into ELT (Kırkgöz, 2005). Rather than the conventional teacher-centred approach, the communicative curriculum was mainly targeting student-centred learning. New roles and responsibilities were defined for teachers such as encouraging and comforting the use of the target language, cultivating to develop positive attitude towards learning and facilitating students in their learning processes. To be able orientate the prospective teachers to function more efficiently in parallel with the developing world standards, teaching programmes were concentrated on pedagogical grammar, discourse analysis, classroom-based research, curriculum and syllabus design and language testing (Altan, 1998).

With 2006 Reform, since the rapid changes in the world created an unavoidable impulse on education, CoHE restructured the curricula of education faculties considering social and educational needs under the influence of political, local, national, and international facts (Coşkun, 2008). The new curriculum seems to have more emphasis on teaching methodology and practice components (Kırkgöz, 2007; Seferoğlu, 2006) compared to the previous ones used between 1998 and 2006. There were three elective courses equivalent of six credits in the curriculum and all these electives were identified as content knowledge. Sanlı (2009) recommended increasing the number of elective courses so as to create variability and to address prospective teachers' needs in terms of local and national contexts. Other studies underlined the inefficiency of a single program for all levels and suggested that both teachers and students would benefit from a more specialized teacher education resulting in better qualified teachers (Aydoğan & Çilsal, 2007; Salihoğlu, 2012). This suggestion shows that content knowledge was still regarded as the fundamental source for teacher competences (Salihoğlu, 2012).

In 2018, CoHE implemented a new regulation after evaluating the existing programme. Expanding the time dedicated to teaching practice and adjusting the teacher education programs in accordance with the curricula by MoNE constituted the main starting points for this reform. In order

to form a common core curriculum, courses in all teacher education programmes were divided into three major areas having proximate percentage distributions. The courses were grouped and entitled as Content Knowledge (48%), Pedagogical Knowledge (34%), and General Knowledge courses (18%). In addition to the changes intended for the compulsory courses, there were also developments regarding the elective courses. The percentage of elective courses was increased up to 25 percent, and separate elective pools were formed for each category. Throughout the four-year programme, thirteen courses were identified as "Content Knowledge Electives" equivalent of 24 ECTS, which are; (1) Language and Society, (2) World Englishes and Culture, (3) Pragmatics and Language Teaching, (4) English Coursebook Evaluation, (5) Drama in Language Teaching, (6) Current Approaches in Language Teaching, (7) Material Design in English Language Teaching, (8) Teaching English Lexicon, (9) English in Mass Communication, (10) Classroom-based Language Assessment, (11) Sociolinguistics and Language Teaching, (12) Discourse Analysis and Language Teaching, (13) Teaching Integrated Language Skills. Since students are required to pick six courses from "Content Knowledge Electives" throughout their degrees, universities are required to open minimum six different elective courses each term (CoHE, 2018).

Method

To be able to suggest a syllabus as the main output of the study, this research firstly embraced a sequential exploratory design by utilizing both qualitative and quantitative data in the field (Creswell, 2014). Moreover, in the light of the review of literature, the study addresses the following research questions:

RQ1: What are the 6 most preferred content knowledge electives?

RQ2: Which topics should constitute the syllabus of the mostly preferred elective?

First Phase of the Study

The focus of the first phase was to find out the 6 mostly preferred electives. This phase naturally involved an initial phase requiring a document analysis period and followed by a quantitative data collection. Having a multi-phase structure within its body, this phase followed a mixed method sequential exploratory design to understand the phenomenon profoundly. The details are illustrated in Figure 1 which summarizes the first phase with numbers and actions taken.

Table 1. Visual model for mixed methods sequential exploratory design procedures (adapted from Ivankova, Creswell, & Stick, 2006).

Phase	Procedure	Products
QUALITATIVE Data Collection	Document Analysis: ELT Curriculums of State Universities (N:44) Reviewing CoHE's Suggested ELT Curriculum	Elective Courses opened in State Universities 13 Content Electives
QUALITATIVE Data Analysis	Content Analysis Combining similar courses under one title, filtered, and sorted by name in EXCEL Frequency Analysis	The most frequent Elective Courses Frequency Tables
Connecting Qualitative and Quantitative Phases	Analysing the frequency tables, 24 CK Electives were derived from the QUAL phase	A Questionnaire consisting of 28 items with 3 parts
Quantitative Data Collection	Piloting to teacher educators & in-service teachers (N:10) Snowball Sampling: Google forms web-based survey	Nominal (Categorical) item scores
Quantitative Data Analysis	Frequencies and cross tabulations	Descriptive statistics
Integration of the Quantitative and Qualitative Results	Interpretation and explanation of QUAL & QUAN results	Discussions & Implications Further research

Sequential exploratory designs may also function as a procedure of choice when researchers require formulating an instrument due to the lack of compatible or no instruments at all (Creswell & Plano Clark, 2007). It was also stated that when an unexplored topic is to be explored, researchers may have to look through qualitative data and develop an instrument ultimately (Tashakkori & Teddlie, 1998). When a researcher intends to design an instrument compatible with the study, sequential exploratory designs may function incomparably effective using a three-step procedure where the researcher collects qualitative data and analyses it, and benefits from the gathered data to design an instrument that is consequently applied with a sample group (Creswell & Plano Clark, 2007).

Based on this model, the data gathered by reviewing the elective pools of 44 Turkish state universities was stored into a spreadsheet for further analysis. Through a content analysis, similar elective titles were given the same name as a preparation step for the frequency analysis (Berg & Lune, 2017). On the grounds of the effectiveness of Excel as a qualitative data analysis tool, the frequency analysis of the elective courses was conducted with the help of Microsoft Excel 2010 (Meyer & Avery, 2009). This frequency analysis revealed that 32 elective courses frequently existed in the elective pools of the state universities. When these 32 electives were checked against the elective pool suggested by CoHE in 2018, it was seen that 8 of them had been labelled as compulsory

content knowledge courses in the new ELT programme. In the light of the frequency analysis and the new regulations; 24 elective courses, 11 of which were different from the suggested electives, constituted the instrument of the first phase named as "Elective Preference Questionnaire" (See Appendix A).

The first phase of the study was planned to be carried out both with pre-service and in-service teachers to gain insight on the tendencies of both parties. Snowball sampling model, in which sample participants were specified primarily and used as informants to transmit the instrument to other representative samples (Bailey, 1994, p. 438), was adopted. Snowball sampling is seen as an unsystematic process, and finds its way of its own; therefore, researchers are believed to minimize the potential sampling bias which roughly refers to participants' referral errors.

As the last step of the first phase, the online questionnaire was administered to 1093 participants via google-forms. The data obtained from the participants through "Elective Preference Questionnaire". The collected data were coded to Statistical Package for Social Sciences; SPSS.22. Having completed the data entry; the frequencies and the percentages of the items were calculated and converted into tables.

Second Phase of the Study

Based on the findings in the first phase of the study, the second phase focused on designing a syllabus for the most preferred elective by the participants. Krosnick and Fabrigar (2013) argued that the use of explicit response alternatives might not be favourable in general qualitative research. Instead, they recommended "requests with open answer categories", and added they might work the best due to their flexible structures that do not demand participants to respond within the confines of the researcher. On the grounds of this approach, teacher educators were requested to answer a single question that is "What do you think should be included in the undergraduate syllabus of the elective course "Current Trends in ELT?". With this question, the primary objectives were not only gaining insight into teacher educators' perceptions, but also exploring responses that may be less anticipated (Singer & Couper, 2017).

The participants consulted in the second phase of the study were solely teacher educators who work at English Language Departments in Turkey. Altman and Cashin (1992) highlighted the idea of teachers' being the centre of the decision-making procedure in forming a syllabus where their personal aims and opinions along with the school's objectives are reflected. Throughout the study, the question was administered to a random sample of respondents. The online survey was sent to 583 teacher educators, and eventually 62 teacher educators responded to the question.

Since the second phase of the study focused only on the open-ended responses collected from teacher educators, these responses were analysed thematically to classify and understand the

qualitative data in a better way. Thematic analysis is defined as "method of identifying, analysing and reporting patterns within data" and the principles constitute a theme are not firm (Braun & Clarke, 2006, p.79). Therefore, it is accepted to be possible to address the data in various forms (Javadi & Zarea, 2016). However, the first stage of the analysis is usually minimizing the data by either breaking the data down into smaller indicative sections or classifying them by using a coding system (Attride-Stirling, 2001). To this respect, the qualitative data in the second phase was analysed through an open coding technique where some common specific themes were used indicatively to categorize the responses meaningfully. Moreover, in order to enhance validation through triangulation, codes were formed based on the classification of the book "Current Trends in ELT" (Yaman, Ekmekçi, & Şenel, 2016) which is fundamentally a compilation of recent studies in the realm of English Language Teaching. The edited book consists of studies written on recent issues in ELT by distinguished practitioners from Turkish universities.

Results

Results of Research Question 1

The first research question focused on actualizing the main objective of the first phase. The questionnaire was planned to explore "6" most preferred electives in the framework of the current regulations made by CoHE, in 2018 as in the new English Language Teaching Programme, elective courses - six of which are content knowledge courses- constituted 25 per cent of the whole programme within the scope of Bologna process. Moreover, according to these regulations, universities are required to open minimum six different elective courses, and they are also allowed to suggest up to six more courses excluding the electives suggested by CoHE.

Table 2. Frequency distribution of the preferences of the participants

	Course Preferences of the Participant		
Course Title		F	P
Current Trends in Language Teaching	**598**	**54.7**	
Current Approaches to English Teaching	**543**	**49.7**	
Material Design in English Language Teaching	**482**	**44.1**	
Computer Assisted Language Learning	**453**	**41.4**	
Drama in Language Teaching		**451**	**41.2**
World Englishes and Culture		**349**	**31.9**
Teaching English Lexicon	333	30.5	
Critical Thinking in Academic Language Skills		329	30.1
Teaching Turkish as a Foreign Language	297	27.2	
English Language Awareness		291	26.6
English Coursebook Evaluation		282	25.8
Classroom-based Language Assessment		247	22.6
Intercultural Communication		241	22
Language and Society		237	21.7
Semantics		229	21

Pragmatics and Language Teaching		166	15.2
American Literature		154	14.1
Linguistic Philosophy		144	13.2
English in Mass Communication	142	13	
English Poetry		136	12.4
Sociolinguistics and Language Teaching	131	12	
Error Analysis		124	11.3
Teaching Integrated Language Skills		98	9
Discourse Analysis and Language Teaching	66	6	

In this scenery pattern, Current Trends in ELT was ranked highly by the participants (f=598, 54.7%), while the frequencies of Current Approaches to Teaching (f=543, 49.7%), Material Design (f=482, 44.1%), Computer Assisted Language Teaching (f=453, 41.4%), Drama in Language Teaching (f=451, 41.2%), and World Englishes and Culture (f=349, 31.9%) followed each other respectively. Based on the information gathered at the first phase of the study, list of suggested topics for the syllabus of the elective course "Current Trends in ELT" was provided in the second phase.

Results of Research Question 2

This research question was the main concern of the second phase of the study. Based on the frequency analysis carried out in the first phase, the mostly preferred elective course was found to be as "Current Trends in ELT". From this point of start, 62 teacher educators were consulted with a single open-ended question to be able to form a content regarding the current trends in English language teaching. To start with, findings of the initial analysis of the open-ended responses showed that teacher educators taking part in the study responded to the question with 232 topics. At this stage, a thematic analysis was conducted, and the number of the occurrences of the predetermined themes was calculated. Based on the analysis, Table 3 below illustrates the frequency levels of the recurring themes.

Table 3. Frequency distribution of the themes

Themes suggested by the teacher educators	Codes	F	P
Technology Integration	TB	57	24.6
Alternative Approaches	LR	48	20.7
Culture	OT	13	5.6
Skills	TR, LR	10	4.3
ELF	OT	8	3.4
Issues in Linguistics	OT	8	3.4
Professional Development	TR	8	3.4
Research	TR, LR	7	3
Curriculum	CR	6	2.7
Gamification	OT	5	2.1
Assessment	AR	5	2.1
Multimodality	LR	5	2.1
Pedagogy	TR	5	2.1
Post-method	LR	5	2.1

Classroom Management	TR	4	1.7
World Englishes	OT	4	1.7
Autonomy	LR	3	1.3
Communication	LR, TB, OT	3	1.3
Issues in Learning	LR	3	1.3
Materials	LR	3	1.3
Psychology	LR	3	1.3
Affective Factors	LR	2	0.8
Distant Learning	TB	2	0.8
Globalization	OT	2	0.8
Native Language	LR	2	0.8
Pronunciation	TR, TB	2	0.8
Reflective Practice	TR	2	0.8
Accreditation	CR	1	0.4
Critical Thinking	LR	1	0.4
Drama	LR	1	0.4
Educational Models	TR	1	0.4
Future Directions	OT	1	0.4
Leadership	OT	1	0.4
Role of Teachers	TR	1	0.4
Total		232	100

* LR = Learner and Learning Centred Trends, TB = Technology Based Trends, TR = Teacher Related Trends, CR = Curriculum Related Trends, AR = Assessment Related Trends, OT = Other Trends.

Table 3 shows all the themes inferred from teacher educators' responses indicating their categorized main codes and frequencies. According to the findings, integrating technology into language classrooms (f=57, 24.6%) seems to be the biggest concern of the teacher educators. Under this single theme, several topics such as mobile learning, blended learning, flipped classrooms, distant learning, artificial intelligence, and the role of technology in ELT were unified. Following the issues regarding the integration of technology, alternative approaches (f=48, 20.7%) became the second widely suggested topic by teacher educators. Alternative approaches consisted of project-based learning, brain-based learning, individualized learning, diagnostic learning, embodied learning, competency-based learning, content and language integrated learning, context-based learning, cooperative language learning, communicative method, critical pedagogy, approaches to grammar teaching, social constructivism, and eclectic method. Other topics diversified from culture to educational leadership highlighting that language teaching is a complex task for a teacher, and teachers are expected to use effective teaching strategies to boost acquisition together with arousing interest towards learning (Amjah, 2014).

Table 4. Frequency distribution of the topics regarding technology integration.

Technology Integration	F	P
Blended Learning & E-Learning	19	33.4
Computer Assisted Learning	6	10.6
Virtual Exchange: Tele Collaboration, Digital Games and Virtual Reality	5	8.8
Artificial Intelligence in ELT	4	7.1
Web 2.0 and new technologies in language learning: corpus tools, LMS, Web 2.0 tools, infographics, video, graphic novels, digital badges, web quests, concordances.	4	7.1
Designing Flipped Classrooms	3	5.4
Mobile Assisted Learning	3	5.4
The Use of Social Media	2	3.5
Automated Writing Instruction	1	1.7
Awareness Raising in Media-Based Listening and Speaking	1	1.7
Digital Learning: Theory and Practice	1	1.7
Digital Literacies	1	1.7
Generation Gap and IT	1	1.7
Machine Scoring of EFL Students' Essay Writing	1	1.7
Podcasts and Subtitles for Learning and Teaching	1	1.7
Pronunciation in Dehumanized Language Software	1	1.7
Reactions of English Speakers to Robots and Human-Beings	1	1.7
The Use of Podcasts and Subtitles for Learning and Teaching	1	1.7
The Use of Transcription Programmes	1	1.7
Total	57	100

As illustrated in Table 4, teacher educators referred to several topics including the use of technological applications in general (corpus tools, LMS, Web 2.0 tools, infographics, video, graphic novels, digital badges, social platforms) but also e-learning (MOOCs), blended learning, designing flipped learning environments, mobile and computer assisted learning (YouTube & TedEd), artificial intelligence in ELT, Web 2.0 and new technologies in language learning, the use of concordances and transcription programmes in ELT. Teacher educators also suggested the topics of generation and gender gap in IT, awareness rising in media-based listening and speaking, automated writing instruction, virtual exchange, tele collaboration, the use of podcasts and subtitles for learning and teaching, machine scoring of EFL students' essay writing and lastly digital literacies.

Discussion, Conclusion and Recommendations

Research Question 1 tried to find out six most preferred electives offered in ELT departments, and "Current Trends in ELT" with 54.7% was found to be the mostly preferred elective throughout the study. First of all, this finding is significant since this elective was added to the questionnaire as a result of the document analysis of the first phase. In other words, the most preferred course was also an initial output of the study itself and the course was not listed in CoHE's suggested elective pool.

First of all, Şallı-Çopur (2008) investigated early career teachers' teaching efficiency in a case study, and on the basis of the findings of her study, she highlighted the significance of equipping teacher candidates with current trends and developments by shifting the English Language Teacher Training Programme (ELTTP hereafter) in the light of the recent research. Aiming at revealing the defective or developable components of the ELTTP, Coşkun and Daloğlu (2010) asked to what

degree the program is up-to-date, and they received some positive reference regarding elective courses, such as Current Issues in ELT. The course, specifically, was referred as an effective way of remaining up to date in the field and increasing the number of such electives appealing to students' needs and interests was advised to be able to keep ELTTP updated.

Moreover, when the two top rated electives are taken into consideration, it can be stated that participants made their choices in the direction of newer innovations, approaches, and teaching techniques. Highlighting the evolving nature of learning and teaching languages, Karakaş (2012) stated that any program is supposed to be reconsidered and renewed systematically with the aim of embodying the recent perspectives and innovations compatible with the field of teacher education globally. The evergreen nature of ELTTP would also be more attainable and feasible by updating the content of the two above mentioned electives if required.

Yavuz and Zehir-Topkaya (2013) in their study of teacher educators' evaluation of the 2006 ELTTP drew attention to the positive feedback of teacher educators regarding the addition of some courses such as "Instructional Technologies and Material Development" and "Drama Analysis and Teaching". The two lessons which were entitled as "obligatory courses" in 2006 ELTTP were revised and amended as "elective courses" in 2018 by CoHE. The findings of the study signify that those two subjects do matter for both pre-service and in-service teachers notwithstanding the altered condition of the subjects.

Being one of the six mostly preferred electives, "World Englishes and Culture" was referred by Karakas (2012) in his study where he evaluated the 2006 ELTTP in Turkey. According to his findings, the programme was evaluated as outdated, insufficiently practice and culture oriented whilst pedagogically and theoretically satisfactory. He emphasized that the new status of English as an international language is not addressed sufficiently throughout the program which should also be responsible for not only introducing the types of English but also the international use of it. Karakas (2012) took a further step and put emphasis on teaching the target cultures of all English-speaking countries regardless of being native or non-native. Coşkun-Ögeyik (2009) also laid stress on the absence of culture-oriented subjects and advocated the idea that "culture" should be a component of ELTTP.

"Computer Assisted Language Learning" (CALL) was also among the top six electives preferred by the participants of this study. In terms of describing the students of today, Prensky (2001, p.1) highlights the distinction between former and today's students. He describes today's students as Digital Natives, who are "native speakers of the digital language of computers, video games and the Internet". Correspondingly, the teachers who become a part of this digital world by following newer technologies throughout their professional lives are called as Digital Immigrant instructors. By using those definitions, Prensky (2001, p.4) draws attention to a potential disconnect between teachers and

students and suggests that "today's teachers have to learn to communicate in the language and style of their students". Kartal (2005) also claims that technology inclusion is respectively more essential for language teaching in comparison to what degree other disciplines of social sciences need it. Apart from underlining the requirement of technology integration in language classrooms, the lack of technology training in ELTTP was also referred as a concern by several researchers (Egbert, Paulus & Nakamichi, 2002; Hall, Fisher, Musanti & Halquist, 2006; Hubbard, 2008; Kessler, 2006).

Finally, Gürler (2018) indicated some courses to be added to the current ELT program by asking some open-ended questions to his participants consisting of both prospective teachers and teacher trainers. To address a more collective overlap between two studies, it can be stated that 4 out of 6 courses referred in this study were also specified by his participants. 'English and Different Cultures', 'Computer Assisted Language Learning', 'Drama', and 'Material Design' were reported as appropriate, and recommended to be added to the ELT curriculum.

RQ2 attempted to specify a content-based syllabus for the mostly preferred elective course 'Current Trends in ELT'. This part of the study acquired some irreplaceable data by asking the opinions of 62 teacher educators working at ELT departments of Turkish state universities. The data was irreplaceable with great authenticity since the responses were recommendatory relying on the combination of teacher trainers' personal anticipations and appraisements, pre-service teachers' needs and ultimately reflecting recent academic studies in the field. Although numerous recent issues referring different fields of studies were addressed by the teacher educators, the final syllabus was recommended to be focused on the most referred theme to achieve a more consistent and effective syllabus for a short span of time, namely a semester. Therefore, the theme 'technology integration' (f=57, 24.6 %) was agreed to be taken as a basis for the targeted syllabus. (See Appendix B)

As being referred by many teacher educators throughout this study, blended learning constituted an important part of the suggested syllabus. Although BL is not a new concept for language teachers; the changing face of learning and teaching, the innovations in technology, the spread of the Internet have started to have dominance over face-to-face learning environments. It is underlined that there is an ongoing transformation in instructional innovations and language teachers are required to keep up with the recent technological applications.

Although it is impossible to see entirely what the future holds, it is certain that the trend toward blended learning systems will increase. It may even become so ubiquitous that we will eventually drop the word blended and just call it learning. (Graham, 2006, p. 7)

Many studies reveal that language teachers have difficulty in implementing technology into their classrooms due to insufficient training during their teacher preparation programs (Hall et al., 2006; Kirschner & Selinger, 2003). Başal (2015) pointed at a few possible reasons for this

phenomenon such as curriculum, the teacher educator, and the inadequacy of technology courses in general. Promising a more learner-centred classroom, it is known that ICT and CALL stimulate information exchange and communication between students in real time (Padurean & Margan, 2009, p. 98). With the help of web-based learning, students are likely to be more analytical, communicative, and powerful rather than being teacher-dependent. Autonomy in language classrooms also becomes possible if students learn to be self-directed, take responsibility for their own learning, and critically reflect on their learning process. Jones (2001) highlighted the significance of CALL for teachers in enabling learner autonomy provided that teachers learn the integration of technology in educational frameworks.

As stated by Kukulska-Hulme and Shield (2008), the instant shift from Computer Assisted Language Learning (CALL) to Mobile Assisted Language Learning (MALL) also caused an attitude shift towards language learning due to the personal and portable nature of the used devices. Reinforcing cooperative learning skills and reducing anxiety, increasing stimulation and positive attitudes towards learning (Yanguas & Flores, 2014), integration of MALL into school curriculum and syllabus becomes a prominent issue for language teachers. Jarvis (2015) stated that language teachers should understand, explore and formulate pedagogies to be able to benefit from the advantages of those smart devices. According to Chinnery (2006), the productiveness of the devices is determined by an efficient teacher with good pedagogical knowledge. In addition to underlining the significance of technology integration into teacher education and in-service training; Başal, Yılmaz, Tanrıverdi and Sarı (2016) also pinpointed a completely notable notion in terms of teacher education programmes. Based on the dynamic nature of technological applications, trying to implement all the Web 2.0 tools into teacher education programmes is not conceivable. Instead, prospective teachers should be equipped with the pedagogical foundations of learning and teaching to be able to integrate these tools into their teaching. According to Başal et al. (2016), in which ways the new tools should be used for educational purposes is the only question to be discussed.

The findings of the study might provide some insight into the elective course design of the ELTTP on behalf of all the shareholders of the program. Köksal & Ulum (2018) emphasized that teacher education in Turkey is in need of taking profound actions and should consider focusing on more qualitative advancements instead of quantitative adjustments. As an extension of this idea, teacher education programmes were recommended to be consolidated by reviewing the earlier attainments and underperformances.

By looking at the most preferred electives, it was understood that participants were mainly interested in the new developments and innovations in language teaching, material design and technological applications along with communication and culture-based courses. Globalization is the key word of 21st century, and the new status of English has also enhanced the language teaching and

learning environments; therefore, it is so natural that language learners prioritize improving their intercultural awareness and competencies to communicate effectively in this multicultural world.

Since course books cannot resist the transformation of the changing perspective of language teaching and learning anymore, the implementation of technology into language learning draws great attention by teachers. It can be suggested that the use of ICT should not be ignored for instructional purposes and prospective teachers should be encouraged to make use of it in various ways through provided courses at faculties. As stated by Başal et al. (2016), technology integration training should be an integral part of teacher education and in-service training.

Based on the findings, it can be stated that current trends in language teaching should be considered to rank in priority for ELT curriculums. Having an adjustable nature, the course can be redesigned each year to train prospective teachers in accordance with the recent developments and applications in the field. Based on the findings of this study, technology integration was found to be the most recurring theme referred by the teacher educators; however, the compilation specified by the teacher educators should carefully be scrutinized and utilized by the decision-making parties. In this regard, an evergreen dynamic syllabus consisting of newer innovations and techniques would serve a useful purpose in order to keep the future teachers updated.

Although this study ensures the reliability of its findings by relying on a great number of participants, the preferences or the needs of the students may change over time or vary by institution; therefore, universities might embrace a practice of applying a needs analysis for their students before forming new elective course pools. Regarding CoHE's 2018 reform in ELLTP, institutions should administer more research on the perceptions of pre-service teachers and teacher educators. The implementation of the new program, the possible effects of the change on prospective teachers' educational and career objectives, the results of the rise in the number of elective courses, and the reflections of shareholders in the post-implementation of newly opened elective courses might be explored meticulously.

References

Akbay, A., & Cesur, K. (2019). Views on general knowledge elective courses of ELT departments: Suggested syllabus for diction course. *Journal of Language and Linguistic Studies, 15*(4), 1332-1354. https://doi.org/10.17263/jlls.668465

Altan, M. Z. (1998). A call for change and pedagogy: A critical analysis of teacher education in Turkey. *European Journal of Education, 33*(4), 407-417.

Altman, H. B., & Cashin, W. E. (1992). Writing a syllabus. *Idea Paper, 27*, 3-5. Kansas State University Center for Faculty Evaluation and Development, Division of Continuing Education: Manhattan. Retrieved on the 10th March from https://files.eric.ed.gov/fulltext/ED395539.pdf

Amjah, D. Y. P. H. (2014). A study of teachers' strategies to develop students' interest towards learning English as a second language. *Procedia-Social and Behavioral Sciences*, *134*, 188–192. https://doi.org/doi.org/10.1016/j.sbspro.2014.04.238

Attride-Stirling, J. (2001). Thematic networks: An analytic tool for qualitative research. *Qualitative Research*, *1*(3), 385-405.

Aydoğan, İ., & Çilsal, Z. (2007). Yabancı dil öğretmenlerinin yetiştirilme süreci (Türkiye ve diğer ülkeler). *Sosyal Bilimler Enstitüsü Dergisi*, *22*, 179-197.

Bailey, K. D. (1994). *Methods of social research*. New York: Free Press.

Başal, A. (2015). İngilizce öğretmenleri ve teknoloji eğitim. *Eğitimde Kuram ve Uygulama*, *11*(4), 485-507. Retrieved from https://dergipark.org.tr/en/pub/eku/issue/5467/74252

Başal, A., Yılmaz, S., Tanrıverdi, A., & Sarı, L. (2016). Effectiveness of mobile applications in vocabulary teaching. *Contemporary Educational Technology*, *7*(1), 47-59. https://doi.org/10.30935/cedtech/6162

Berg, B. L., & Lune, H. (2017). *Qualitative research methods for the social sciences* (9th ed.). Boston: Pearson.

Binbaşıoğlu, C. (1995). *Türkiye'de eğitim bilimleri tarihi*. İstanbul: Milli Eğitim Bakanlığı Yayınları.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Chinnery, G. M. (2006). Going to the MALL: Mobile assisted language learning. *Language Learning & Technology*, *10*(1), 9-16. Retrieved September 12, 2019 from http://llt.msu.edu/vol10num1/pdf/emerging.pdf

Council of Higher Education (2018). *The undergraduate teacher education programs*. Retrieved November 2, 2018 from https://www.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/Yeni-Ogretmen-Yetistirme-Lisans Programlari/AA_Sunus_%20Onsoz_Uygulama_Yonergesi.pdf.

Coşkun, A., & Daloğlu, A. (2010). Evaluating an English language teacher education program through Peacock's model. *Australian Journal of Teacher Education*, *35*(6), 24-42. http://dx.doi.org/10.14221/ajte.2010v35n6.2

Coşkun, H. (2008). Türkiye ve Almanya'da yabancı dil öğretmeni yetiştirme programlarının karşılaştırılması. C.Ü. *Sosyal Bilimler Dergisi*, *33*(1), 61-73.

Coşgun-Ögeyik, M. (2009). Evaluation of English language teaching education curriculum by student teachers. *Bilim, Eğitim ve Düşünce Dergisi*, *9*(1), 42-57.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications, Inc.

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Egbert, J., Paulus, T. M., & Nakamichi, Y. (2002). The impact of CALL instruction on classroom computer use: A foundation for rethinking technology in teacher education. *Language and Learning & Technology*, *6*(3), 108 – 126.

Graham, C. R. (2006). Blended learning systems definition, current trends, and future directions. In C. J. Bonk, and R. Graham (Eds.) (2006). *The Handbook of blended learning: Global perspectives, local designs*. San Francisco: Pfeiffer.

Gürler, İ. (2018). *Evaluation of the current curriculum in ELT departments from the perspectives of lecturers and students: A needs analysis* (Unpublished doctoral dissertation). Atatürk University, Institute of Educational Sciences, Erzurum, Turkey.

Güven, I. (2008). Teacher education reform and international globalization hegemony: Issues and challenges in Turkish teacher education. *World Academy of Science, Engineering and Technology*, *16*, 625-634.

Hall, L. D., Fisher, C., Musanti, S., & Halquist, D. (2006). Professional development in teacher education: What can we learn from PT3?. *Techtrends: Linking Research and Practice to Improve Learning*, *50*(3), 25-31. http://dx.doi.org/10.1007/s11528-006-7600-3

Hubbard, P. (2008). CALL and the future of language teacher education. *CALICO Journal*, *25*, 175-188.

Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using mixed methods sequential explanatory design: From theory to practice. *Field Methods*, *18*(1), 3–20. https://doi.org/10.1177/1525822X05282260

Jarvis, H. (2015). From PPP and CALL/MALL to a praxis of task-based teaching and mobile assisted language use. *Teaching English as a Second or Foreign Language Electronic Journal*, *19*(1), 1-10.

Javadi, M., & Zarea, M. (2016). Understanding tematic analysis and its pitfalls. *Journal of Client Care*, *1*(1), 33-39. https://doi.org/10.15412/J.JCC.02010107

Jones, J. (2001). CALL and the teacher's role in promoting learner autonomy. *CALL-EJ Online*, *3*(1), 1-15.

Karakaş, A. (2012). Evaluation of the English language teacher education program in Turkey. *ELT Weekly*, *4*(15), 1-16.

Kartal, E. (2005). Bilişim-iletişim teknolojileri ve dil öğretim enstitüsü. *TOJET: The Turkish online Journal of Educational Technology*, *4*(4), 82-87.

Kessler, G. (2006). Assessing CALL teacher training. In P. Hubbard & M. Levy (Eds.), *Teacher education in CALL* (pp. 23–42). Amsterdam, The Netherlands: John Benjamins. http://dx.doi.org/10.1075/lllt.14.05kes

Kırkgöz, Y. (2005). English language teaching in Turkey: Challenges for the 21st century, In G. Braine (Ed.), *Teaching English to the world: History, curriculum, and practice* (pp. 159-175). Mahwah, New Jersey: Lawrence Erlbaum Associates.

Kırkgöz, Y. (2007). English language teaching in Turkey: Policy changes and their implementations. *RELC Journal*, *38*(2), 216-228. http://dx.doi.org/10.1177/0033688207079696

Kirschner, P., & Selinger, M. (2003). The state of affairs of teacher education with respect to information and communication technology. *Technology, Pedagogy and Education, 12*(1), 5-17. http://dx.doi.org/10.1080/14759390300200149

Köksal, D., & Ulum, Ö. G. (2018). The state of EFL teacher education in Turkey: From past to present. *ELT Research Journal, 7*(4), 161-174.

Krosnick, J. A., & Fabrigar, L. R. (2013). *The handbook of questionnaire design*. New York: Oxford University Press.

Kukulska-Hulme, A., & Shield L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL, 20*(3), http://dx.doi.org/271-289. 10.1017/S0958344008000335

Meyer, D. Z., & Avery, L. M. (2009). Excel as a qualitative data analysis tool. *Field Methods, 21*(1), 91-112. https://doi.org/10.1177/1525822X08323985

Padurean, A., & Margan, M. (2009). Foreign language teaching via ICT. *Revista de Informaticã Socialã, 7*(12), 97-101. Retrieved September 13, 2019 from http://www.ris.uvt.ro/wp-content/uploads/2010/01/apadurean.pdf

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1-6. Retrieved October 20, 2019 from http://www.marcprensky.com/writing/default.asp

Sağlam, M., & Kürüm, D. (2005). Türkiye ve Avrupa Birliği ülkelerinde öğretmen eğitiminde yapısal düzenlemeler ve öğretmen adaylarının seçimi. *Milli Eğitim Dergisi, 167*, 53-70.

Salı, P. (2008). *Novice EFL teachers' perceived challenges and support needs in their journey to become effective teachers* (Unpublished doctoral dissertation). Anadolu University, Institute of Educational Sciences, Eskişehir,Turkey.

Salihoğlu, U. M. (2012). Pre-service English language teacher education: The Turkish case. *Contemporary Online Language Education Journal, 2*(1), 151-168.

Sanlı, S. (2009). Comparison of the English language teaching (ELT) departments' curricula in Turkey's education faculties. *Procedia - Social and Behavioral Sciences, 1*(1), 838-843. https://doi.org/10.1016/j.sbspro.2009.01.150

Seferoğlu, G. (2006). Teacher candidates' reflections on some components of a pre-service English teacher education programme in Turkey. *Journal of Education for Teaching, 32*(4), 369-378. https://doi.org/10.1080/02607470600981953

Singer, E., & Couper, M. P. (2017). Some methodological uses of responses to open questions and other verbatim comments in quantitative surveys. *Methods, data, analyses: a journal for quantitative methods and survey methodology* (mda), *11*(2), 115-134. https://doi.org/10.12758/mda.2017.01

Şallı-Çopur, D. S. (2008). *Teacher effectiveness in the initial years of service: A case study on the graduates of METU language education program* (Unpublished doctoral dissertation). Middle East Technical University, Institution of Social Sciences, Ankara, Turkey.

Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.

Yaman, I., Ekmekçi, E., & Şenel, M. (Eds.). (2016). *Current trends in ELT*. Ankara: NÜANS.

Yanguas, I., & Flores, A. (2014). Learners' willingness to communicate in face-to-face versus oral computer-mediated communication. *The JALT CALL Journal*, *10*(2), 83-103. https://doi.org/10.29140/jaltcall.v10n2.169

Yavuz, A. & Zehir-Topkaya, E. (2013) Teacher educators' evaluation of the English language teaching program: A Turkish Case. *Novitas-ROYAL (Research on Youth and Language)*, *7*(1), 64-83.

© 2021 INASED

Appendices

Appendix A: Content Knowledge Elective Course Questionnaire

Dear Participant,

In 2018, the Council of Higher Education made some regulations in English Language Teaching Programmes, and consequently students are required to take 6 "Content Knowledge Electives" as part of their degrees. Considering the recent changes in ELT programmes, this questionnaire was designed to project a view on the preferences of EFL teachers.

Your sincere and volunteer contributions are of great importance for the reliability of the study. Your responses will be kept confidential and never associated with your name.

1. Personal Information

Gender

Female ☐

Male ☐

Service Status

English Teacher / Lecturer ☐

Pre-service English Teacher ☐

2. Please choose 6 "Content Knowledge Electives".

Critical Thinking in Academic Language Skills		☐
American Literature		☐
Semantics		☐
Computer Assisted Language Teaching		☐
English Language Awareness		☐
Linguistic Philosophy		☐
Current Trends in Language Teaching		☐
Language and Society		☐
World Englishes and Culture		☐
Pragmatics and Language Teaching		☐
Error Analysis		☐
English Course Book Evaluation	☐	
Drama in Language Teaching		☐
Material Design in English Language Teaching		☐
Current Approaches to Teaching English	☐	
Teaching English Lexicon	☐	
English in Mass Communication	☐	
Intercultural Communication		☐
Classroom-based Language Assessment		☐
Sociolinguistics and Language Teaching	☐	
Discourse Analysis and Language Teaching	☐	
English Poetry		☐
Teaching Integrated Language Skills		☐
Teaching Turkish as a Foreign Language	☐	
Other		☐

Please indicate: ……

© 2021 INASED

Appendix B: Suggested Syllabus for the Most Preferred Course: Current Trends in ELT

Weeks	Topics
1.	What is Digital Literacy?
2.	Digital Learning: Theory and Practice
3.	The concepts of "Blended Learning" and "E-Learning"
4.	Designing Flipped Learning Environments
5.	Computer-Based Language Learning: Introducing English Learning Apps for EFL.
6.	Web 2.0 and New Technologies in Language Learning: Corpus Tools, LMS, infographics, video, graphic novels, digital badges, web quests, concordances
7.	Mobile-Assisted Language Learning Tools: Youtube, TedEd, Mobile Applications.
8.	Use of Social Media for Learning and Teaching
9.	Midterm
10.	Artificial Intelligence in Education Pronunciation in Dehumanized Language Software English Speakers' Reactions to Robots and Human Beings
11.	Automated Writing Instruction Machine Scoring of EFL Students' Essay Writing
12.	Awareness Raising in Media-Based Listening and Speaking Podcasts and Subtitles for Learning and Teaching The use of Transcription Programs
13.	Virtual Exchange: Tele Collaboration, Digital Games and Virtual Reality
14.	Generation Gap and IT

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Development of the Teacher Report Form of Anxiety in Pre-school Children

Hakan ŞAHİN[1]

Istanbul University-Cerrahpasa

Abstract

This research was aimed to develop the Teacher Report Form of Anxiety in Pre-School children. A descriptive research was conducted with two study groups. The scale is based on teachers' assessment for preschoolers aged 3-6. During the development process of the form, the theoretical structure was examined and expert opinion was take for the prepared draft. The descriptive research model was used in the research. The research has two study groups. Within the scope of the research, there were 250 preschool teachers in the first group and 260 in the second group. The construct validity was determined as well based on AFA and DFA. The corrected item-total correlations and Cronbach's alpha reliability coefficient were calculated in order to determine the reliability of the answers given to the scale items. The KMO and Barlett test have showed that the factor analysis is suitable for the data set. It was determined that the items in the scale has clarified 48% of the total variance. With the data acquired as a result of the analyzes, it was determined that the 21 items showed a one-dimensional structure. The Cronbach 's alpha coefficient for the scale was determined as 0.939. The corrected item-total correlation coefficients of the items in the final form of the scale vary between 0.483 and 0.744. As for the factor loading values of the items it differs between 0.38 and 0.41. Since the T value is found to be significant it showed that there were a significant relationships between the observed and latent variables. As a result of the calculations, a valid, reliable and useful measurement tool that can be used in the literature was developed, based on the teacher's assessment it is hoped that the scale will fill the gap in this field.

Keywords: Preschool, Anxiety, Teachers' Assessment

DOI: 10.29329/epasr.2021.373.17

[1]Hasan Ali Yücel Faculty of Education, Istanbul University-Cerrahpasa, Turkey, ORCID: 0000-0002-2787-6788, Email: hakansahin@iuc.edu.tr

Introduction

Anxiety disorder is one of the most common disorders in childhood. The prevalence in Preschool period is shown between 2.5-5% (Broeren & Muris, 2008; Rapee, Schniering, Hudson, 2009) and this rate is up to 10% in some sources (Egger & Angold, 2006; Mian, Godoy, Briggs-Gowan & Carter, 2012). There is evidence that this rate reaches 20% as the age increase.

Some anxiety and anxiety situations are seemed to be normal at an early age (Broeren & Muris, 2008). It is known that especially children from a young age often experience certain fears at certain ages (Seven, 2008). For example, fear of unrealistic assets such as ghost it is common at the age of 6 (Seven, 2008). Normal and abnormal anxiety should be differentiated during the developmental process. As a matter of fact, anxiety problems were found to affect the continuity of many different disorders at an older age (Muris & Rachman, 2007). Studies show that some pre-school anxiety disorders continue decisively until adolescence or even adulthood (Costello, Mustillo, Erkanli, Keeler & Angold, 2003).

The anxiety issue has been mostly seen in relation to adults in the past. For this reason, it is appeared that most of the researches are related to anxiety disorders in adults. (Egger & Angold, 2006). In the past few decades more research has been undertaken on the anxiety issue in adolescents and younger children. However, research on anxiety disorder in pre-school and early ages has been very limited (Edwards, Rapee, Kennedy, Spence, 2010). The development rate and changing developmental qualities of children at an early age make it difficult to develop appropriate measurement tools in this period. Young children show symptoms such as anxiety based on different developmental and behavioral disabilities. It appears to be risky to diagnose children in this age (Egger & Angold, 2006; Mian et al., 2012). For example, the level of shyness rises to the highest level in children aged 6-7 years (Seven and İnci, 2016). High level of unusual shyness is noticed to cause reactions such as fear and withdrawal in new and unknown situations (Broeren & Muris, 2008; Heiser, Turner, Beidel, Roberson-Nay, 2009).

Anxiety is associated with developmental characteristics and age characteristics. Anxiety is also a form of reaction related to fear. The fact that emotions develop mostly in the first three years shows the importance of developmental qualities and response styles in anxiety (Seven, 2008). This situation makes it difficult to present common symptoms as it is in adults (Mian et al., 2012).

Observation with parent and teacher's reports were also used together to collect information from children at an early age (Broeren & Muris, 2008; Edwards et al., 2010; Mian et al., 2012). In order to determine anxiety for young children and babies, evaluations were made based on parent's reports. In this way, findings indicating anxiety symptoms in infants aged 1-2 years were discorvered (Egger & Angold, 2006). Spence, Rapee, McDonald & Ingram, (2001), on the other hand based on

parent's reports it was determined that children aged 3 years were more anxious than those aged 4 or 5-years.

Despite the periodic difficulties, many studies pointed out the necessity to detect anxiety in preschool years. (Hirshfeld-Becker & Biederman, 2002). The most important reason for this is that anxiety was found to affect the continuity of many different disorders. Anxiety symptoms in preschool and primary school are related to depression and externalization problems during adolescence (Bittner et al., 2007) can show as example to this condition. The importance of identifying anxiety disorder risk by resarch, as well as the difficulty of identifying those showing criteria for anxiety disorder in preschool period was come up here, Based on this point, Broeren and Muris (2008) reported that risk could be reduced by early prevention and intervention programs. It is understood that scales with large screening qualities are required in preschool period, in order to make determinations that will reduce the risk in the following years.

When related literature is examined, it is shown that some scales have been developed to measure anxiety in preschool period. Child behavior assessment scale (Achenbach, 1991) and strength s and difficulties questionnaire (Goodman, 1997), (Children's Moods, Fears & Worries Questionnaire) (Bayer, Sanson & Hemphill, 2006), (Koala Fear Questionnaire)(Muris, Meesters, Van Den Berg, 2003), are some of them.

The Preschool Anxiety Scale was developed by Spence, Rapee, McDonald and Ingram (2001). With this study, they showed that anxiety symptoms in preschool children are clustered in structures that closely match anxiety disorders as+ defined in DSM. The scale they developed with this aspect is one of the rare scales evaluating different anxiety symptoms in children. It was designed extensively based on parent's reports. This scale does not have a teacher form, On the other hand, there are anxiety scales adapted to Turkish to use in preschool. Behavior assessment List (Yurduşen, Erol, Gençöz, 2013), Strenghts and difficulties questionnaire (Güvenir et al., 2008), Preschool Anxiety Scale (Uğraş, Demiray, Mutluer & Coşkun, 2018) and the Revised Preschool Anxiety Scale Turkish form (Güler, 2016).

It make it possible to get reports of teachers, who are a professional observer, together with parent reports in determining anxiety when children start school, in preschool period. It was understood that there was a need for measurement tools that will allow data collection from different sources in response to the difficulties mentioned above, especially in preschool period. No anxiety scale in preschool children which is discussed from a wide perspective based on the teacher's assessment were found in Turkey, for this reason in this study it was aimed especially, to develop an anxiety scale based on teacher assessment in preschool which is from the theoretical structure of the Preschool Anxiety Scale by (Spence et al., 2001).

Method

Information about the model, universe and sample of the research, data collection techniques and analysis of the data are given in this section.

Model of the Research

A descriptive scanning model was conducted in this research the descriptive scanning method is summarized, the topics as it is in the research studies (Büyüköztürk, Kılıç Çakmak, Erkan Akgün, Karadeniz, Demirel, 2017).This model is commonly used in education. The purpose in the screening models is to describe a situation in the current as is it in the past. A descriptive screening model was conducted in this research to develop the teacher Form of the anxiety scale in Preschool Children.

Sampling

The study group of the research consists of preschool teachers working in public and private schools in Ankara in 2018. The research has two study groups. Within the scope of the research, 250 preschool teachers were first reached, teachers were asked to answer the scale items for children attending their classrooms, and in accordance with the opinions of the teachers, the analysis was carried out. It was found that 44.8% (n=112) of the teachers in the first group of the study served in the official independent kindergarten, 30.4% (n=76) in primary/secondary school kindergarten, and 24.8% (n=62) in private kindergarten. All teachers (100% n=250) were found to be women. It was found that the age of the teachers who make up the first working group varies between 21 and 52, and the average age of teachers is 33.00 (±7.32). It was determined that 21.6% (n = 54) of the pre-school teachers are high school graduate, 15.6 (n = 39) associate degree graduates, 71.2% (n = 178) bachelor degree, and 4.8% (n = 12) have a master degree. Distribution of teachers according to their ranking was also examined, and it was found to have 21.6% (n = 54) of 0-5 years, 47.2% (n = 118) of 6-10 years, 18.4% (n = 46) 11-15 years, 3.2% (n = 8) 16-20, 9.6% (n = 24) 21 years ranking and more. An exploratory analyses were conducted with the data obtained in the first study group. Afterwards a new study group was created for confirmatory studies and 260 pre-school teachers were reached.

It was determined that 48.5% (n=126) of the teachers forming the second study group work at official independent kindergarten, 28.8% (n=75 primary/secondary school kindergarten and 22.7% (n=59) at private kindergarten. All of the teachers (100%; 260) in the second study group are women. The preschool teachers' ages differ between 22 and 52 and the average age, was determined to be 33,64. (±7,01). It was determined that 8.8% (N=23) of the teachers who made up the second study group graduated from high school, 10.4% (n=27) graduated from associate degree, 72.7% (N=189) graduated from Bachelor's degree, 8.1% (N=21) graduated from Master's degree. İt was determined that the second study group of the research, 19.2% (n = 50), 0-5 years, 46.2% (n = 120), 6-10 years, 19.6% (n = 51) of 11- 15 years, 8.8% (n = 23) 16-20, and 6.2% (n = 16) 21 years or more working

time was found. A total of 1495 children were observed by the teachers. 9.8% (n = 147) of the children aged 3 years, 27.8% (n = 416) aged 4 years old, 57.9% (n = 866) aged 5 years, and 4.4% (n = 66) are in the age group of 6. 50.4% (n = 754) of the children are girls and 49.6% (n = 741) are boys.

Data Collection

The purpose of this study was to develop a valid, reliable and useful measurement tool Teacher Form of the anxiety scale in preschool student. firstly, the scale items designed to determine the anxiety levels of preschool children developed by (Spence and others 2001) were examined. The scale was created as parent form. Afterward, the items in the Spence Children's Anxiety study, which were translated into 33 different languages, were examined (http://scaswebsite.com). It was determined that the scale items occur with the anxiety literature's theories. It was anticipated that there were 22 items collected in five dimensions based on expert's opinion and child and parent form in the scale. However, the scale structure was not examined with the data set since no pre-application studies were conducted. Accordingly, permissions were obtained first, afterward the scale items were translated into Turkish by experts and necessary corrections were made.

The directive including the purpose of the scale, the number of items in the scale, the way the items were answered, the estimated time to answer the scale, the identity of the person who made the measurement was prepared and the draft of the scale form was created by arranging the items. After that at universities, opinions of 6 faculty members working in the field of preschool education regarding the items were taken. Adjustments were made in the clarity of the items, equability of the coverage in accordance with the opinion of the expert. Three preschool teachers were asked to answer the items scale by voice, and it was found that there were no items that the teachers misunderstand, have difficulty to understand or hesitate to answer. After making the necessary corrections on the items, implementations were made and the results were analyzed.

Data Analysis

In the analysis process of the data at first exploratory factor analysis (EDA) was done to determine the construct validity of the scale in line with the answers obtained from the first study group. Exploratory data analysis (EDA) aims to reach a few definable meaningful structures from a large number of variables, these variables can explain together (Büyüköztürk, 2008). After determining the scale structure with exploratory data analysis (EDA), Cronbach 's alpha reliability coefficients were calculated with the item-total corrected correlation coefficients.

After the scale's structure was determined with the exploratory data analysis (EDA), the scale was applied to the second study group, and the confirmatory factor analysis was calculated with the data of the second study group. EDA is a technique that analyses the number of factors and the indicators related to the factors which are previously determined. And it used to test the accuracy of

the previously determined factor structure as well (Kline, 2011). Accordingly, whether the scale structure determined by EDA was confirmed in another study group it was aimed to reveal the scale structure clearly in the scope of cross validity study.

It is determined that there is no missing and incorrect data in the data related to both study groups. An extreme value analysis was conducted and it was determined that the data were normally distributed. Results were placed in table and interpreted.

Results

In this section, information on the analysis of the data obtained from the first working group and the second working group is included. KMO and Bartlett tests were carried out to determine whether the data of the 250 pre-school teachers who constitute the first study group of the research are suitable for factor analysis. According to the teachers' answers, the value of 0,906 KMO was calculated.

Kaiser it was determined that the value is excellent as it approaches to 1, Unacceptable below 0.50, (Excellent at 0.90s, very good at 0.80s, average at 0.70 and 0.60, bad at 0.50) (Tavşancıl, 2002).

0.906 KMO value; shows that the data set is perfect for factor analysis. 0.906 KMO value calculated according to the teacher' s answers shows that the data set is perfect for factor analysis, as for the Bartlett test, it was found to be significant at the end of the analysis ($p < 0.01$). The high correlation between the variables shows that the data set is suitable for factor analysis (Kalaycı, 2009).

In the first exploratory factor analysis done with the 22 items in the scale, it was determined that there were three factor with an eigenvalue greater than 1. However, when the scree plot in the Figure is examined, it is seen that there is only one factor dominating the variance explained with its eigenvalue. Still, when the scree plot in the Figure 1 is examined, it is shown that there is only one dominant factor form the others, the variance explained with the eigenvalue.

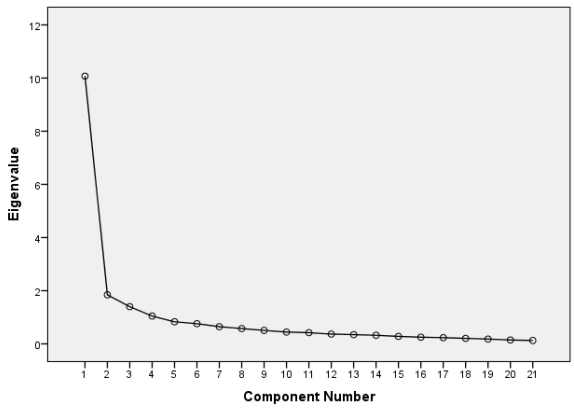

Figure 1. Screen Plot Relating to the Factors of the Eigenvalue

After determining the factor number of the scale, factor analysis was repeated and item -loading values of the single factor structure were examined, Whether an item in the scale is included in a factor to be defined in the exploratory factor analysis depends on the high loading value indicating its relationship with that factor.

Items that give a high loading value with a factor is called items that measure the structure defined by the factor. The loading value of the item factor is desired to be 0.45 and higher (Tabachnick & Fidell, 2012). Accordingly, an item which the factor loading is under (0.45) (item8) was removed from the scale. Calculated factor loading values related to the 21 unique -factor item scale structure are presented in the Table 1.

Table 1. Factor Loading Values of the Scale Items

Items	Factor Loading Value	Items	Factor Loading Value
I11	0.800	I3	0.698
I13	0.787	I18	0.694
I5	0.777	I17	0.689
I21	0.776	I1	0.669
I20	0.749	I16	0.639
I14	0.730	I6	0.620
I2	0.723	I4	0.617
I10	0.721	I7	0.607
I15	0.717	I12	0.542
I19	0.712	I9	0.477
I22	0.703		

As it shown in the Table, the factor loading values of the items in the scale differ between 0.477 and 0.800. In other words, the items on the scale bring a moderate and high level of clarity to the anxiety levels of preschool children. İt was determined that the items in the scale clarified 48% of the total variance. (Büyüköztürk, 2008) expressed that the variance explained in unique factor scales which is 30% and more would be sufficient. In addition, the variance explained in multi-factor patterns between 40% and 60% can be considered to be sufficient (Çokluk et al. 2010). Accordingly it is shown the variance explained by the scale therefore the validity of the structure can be acceptable. Corrected item-total correlation coefficients of the items in the scale were calculated and the results are presented in the Table.

Table 2. Calculated, Corrected Item-Total Correlation Coefficients Related to the Scale Items.

Items	Correlation	Items	Correlation
I1	0.604	I13	0.744
I2	0.682	I14	0.677
I3	0.671	I15	0.704
I4	0.553	I16	0.627
I5	0.721	I17	0.626
I6	0.607	I18	0.635
I7	0.589	I19	0.658
I9	0.483	I20	0.675
I10	0.691	I21	0.715
I11	0.743	I22	0.631
I12	0.537		

The corrected item-total correlation coefficients of the items in the final form of the Teacher Form Anxiety Scale in Preschool Children differ between 0.487 and 0.744. Büyüköztürk (2008) stated that the item-total correlations should be at least 0.30. In this context, the items in the scale are in medium and high level relationship with the anxiety latent variable, It was determined that it brings a meaningful explanation to the scale. In order to determine the reliability of the responses given by preschool teachers to the scale items, The Cronbach's alpha coefficient, which is one of the internal consistency coefficients, was calculated, it was found to be 0,938. (Kalaycı, 2009) specified that the scale is quite reliable when the alpha's coefficient is 0.80 and above.

Findings of the Data from the Second Study Group

The 21-item scale collected in one dimension in the teacher form of anxiety scale in preschool children was reapplied to 260 preschool teachers. Confirmatory factor analysis was performed according to the data of the second study group.

The path diagram created as a result of the analysis is presented in the Figure 2.

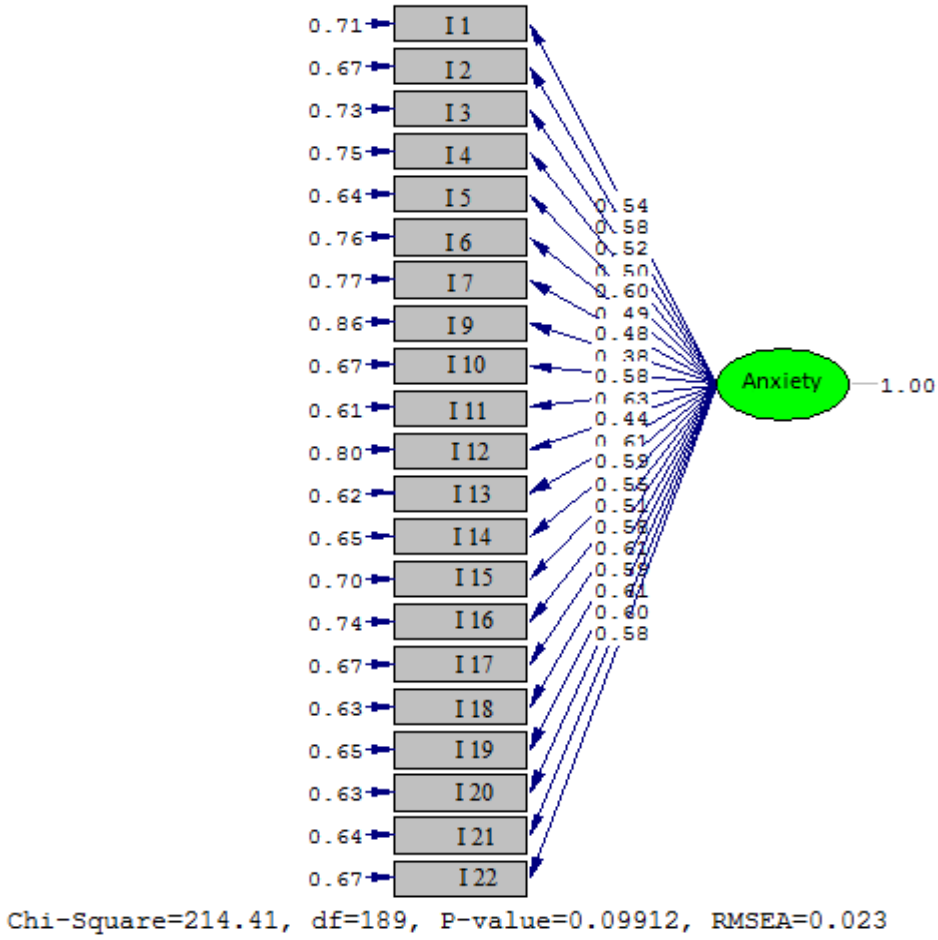

Figure 2. Standardized Coefficients of the Items in the Scale (Factor Loading Values)

As a result of the confirmatory factor analysis (CFA) it was determined that all the items in the Teacher Form of the Anxiety Scale in Preschool are a significant explanatory of the latent variable, and the t value was significant as well.

Coefficient results calculated as a result of the confirmatory factor analysis (CFA) are presented in the Table 3

Table 3. Factor Loading Values of the Items in the Scale, Standardized Regression Coefficient and the t Value.

Items	Standardized regression coefficient (λ)	Regression coefficients (R^2)	t value
I1	0.54	0.29	8.99
I2	0.58	0.33	9.75
I3	0.52	0.27	8.53
I4	0.50	0.25	8.32
I5	0.60	0.36	10.17
I6	0.49	0.24	8.07
I7	0.48	0.23	7.81
I8	0.38	0.14	6.06
I9	0.58	0.33	9.76
I10	0.63	0.39	10.77
I11	0.44	0.20	7.15
I12	0.61	0.38	10.49
I13	0.59	0.35	10.08
I14	0.55	0.30	9.19
I15	0.51	0.26	8.38
I16	0.58	0.33	9.72
I17	0.61	0.38	10.48
I18	0.59	0.35	10.08
I19	0.61	0.37	10.47
I20	0.60	0.36	10.25
I21	0.58	0.33	9.72

Standardized factor loads (λ = Lambda), this value is high since a unit change in the latent variable indicates how much variation it leads to the observed variable and shows a strong relationship between the latent and observed variable. Standardized regression coefficients (R2) values show how much of the explained variance in the observed variable is due to the latent variable. The Factor load values of the items in the scale vary between 0.38 and 0.41.the fact the t value is Significant show that there is significant relationships between the observed and latent variables (Çokluk, Şekercioğlu & Büyüköztürk, 2010). The factor loading values of the items in the scale differ between 0.38 and 0.41 and the Standardized regression coefficients differ between 0.14 and 0.39 as well. Calculated t values for all items are significant. Accordingly, the items included in the Anxiety Scale Teacher Form in Preschool Children explain the anxiety levels of preschool children at medium and high levels.

After the model calculation phase, it was started to evaluate the model-data fit. The calculated model-data fit indices are presented in Table 4.

Table 4. Calculated Fit Indices According to the Scale

Compliance criteria	Excellent compliance	Acceptable compliance	Scale values
X^2/sd	$0 \leq X^2/sd \leq 4$	$0 \leq X^2/sd \leq 5$	1,13
RMSEA	$0 \leq RMSEA \leq .05$	$0.05 < RMSEA \leq 0.08$	0.023
NFI	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI < 0.95$	0.96
NNFI	$0.97 \leq NNFI \leq 1.00$	$0.95 \leq NNFI < 0.97$	0.99
CFI	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI < 0.95$	0.99
GFI	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI < 0.95$	0.93

Source (Schermelleh-Engel, Moosbrugger and Müller, 2003)

In line with the information in the Table, the 21 items in the Anxiety Scale in Preschool Children-Teacher Form show a one-dimensional structure with the data obtained from the second study group.

In order to determine the reliability of the answers given to the scale items of the second study group (n = 260), cronbach's alpha Coefficient was calculated as 0.939. In other words, it was determined that preschool teachers in the second study group answered the scale items at a reliable level.

Discussion, Conclusion and Recommendations

The excellent score in the Kasier's test is 1, Therefore, the value gets closer to excellent as it approaches 1. On the other hand, if a value less than 0.50 is taken, this is considered to be unacceptable (Tavşancıl, 2002).The 0,906 KMO value calculated according to the teachers' answers shows that the data set is perfect for factor the analysis. As for the Bartlett test, it was found to be significant at the end of the analysis ($p < 0.01$). The high correlation between the variables shows that the data set is suitable for the factor analysis (Kalaycı, 2009).

Once the factor number of the scale is determined, the factor analysis was repeated, the item factor loading values related to single factor structure were examined. It is important that the loading value is high in the exploratory factor analysis. Items that give a high loading value with a factor are called items that measure the structure defined by the factor. The item factor loading value is required to be 0.45 and higher (Tabachnick & Fidell, 2012). Accordingly, an item which the factor loading value is under (0.45) was removed from the scale.

It was determined that the items in the scale clarified 48% of the total variance. Büyüköztürk, (2008), takes 30% as a criterion when a scale is accepted as a single factor. However, the variance between 40% and 60% was considered acceptable in the acceptance of a scale with multiple factors (Çokluk and others, 2010). Accordingly, it is shown that the variance explained by the scale and therefore the validity of the structure is acceptable. The corrected item-total correlation coefficients of the items in the final form of the Teacher Form of the anxiety scale in preschool children vary between 0.483 and 0.744.

Büyüköztürk (2008) states that the item-total correlations should be at least 0.30. In this context, it has been determined that the items in the scale have a moderate and high level relationship with anxiety as a latent variable, and bring a meaningful explanation to the scale. In order to determine the reliability of the test, the Cronbach's alpha coefficient was calculated from the internal consistency coefficient and was found to be 0.938. (Kalaycı, 2009) states that the scale is quite reliable when the alpha coefficient is 0.80 and above. In this context, it was determined that the preschool teachers in the first study group answered the scale items at a very reliable level.

The factor loading values of the items in the scale vary between 0.38 and 0.41. The fact that the T value is significant, indicates that there are significant relationships between the observed and latent variables (Çokluk, Şekercioğlu & Büyüköztürk, 2010).

In this research, it was aimed to develop an anxiety scale from the theoretical structure of the Preschool Anxiety Scale by Spence, Rapee, McDonald & Ingram, (2001) based on teacher's assessment. The research has two study groups. Firstly, 250 pre-school teachers and secondly, 260 pre-school teachers were reached within the scope of the research. Teachers were asked to answer the scale items for children attending their classes. Analyses were done in line with the opinions of the teachers. After the analyses conducted in accord with the data obtained from the first and second study groups. It was determined that the 21 items including in teacher form of the Preschool Anxiety Scale- and the items were collected in a unique dimension. The Scope validity was determined based on the expert's opinion of the scale. Construct validity was also determined based on AFA and CFA. This finding shows that the teacher form of the Anxiety Scale in Preschool Children differs from the preschool anxiety scales in terms of structure based on parent reports. As a matter of fact, the Preschool anxiety scale (Spence et al., 2001) shows a 5-factor structure and Revised Preschool Anxiety Scale (Edwards et al., 2010) with a 4-factor structure. With this aspect, it is understood that the scale will generally detect the anxiety tendency in preschool.

On the other hand, corrected item-total correlations and Cronbach's alpha reliability coefficients were calculated in order to determine the reliability of the answers given to the scale items.

As a result of the calculations, a valid, reliable and useful measurement tool has been developed that can be used in the literature. The most important result of the research is the development of a scale based on teacher reports for the first time other than parent reports and child observations in measuring anxiety in preschool period. A new scale based on teacher evaluation has been added to the literature. There are several limitations in parents' observations about anxiety. Some emotional obstacles interfere with the observations of the parents. In this aspect this situation has been described as a limitation in many anxiety-based studies on preschool (Güler, 2016; Uğraş, Demiray, Mutluer, Coşkun, 2018). There is evidence that anxious parents transfer this anxiety to their children.

Therefore, it is understood that a more professional and neutral perspective is needed in the assessment of anxiety. Preschool teachers have educational qualifications to evaluate in a more professionally way. It is considered that this aspect of this scale will contribute to the literature.

There are several limitations in the study. The research was conducted in Ankara province and can adapt to Turkey in general. All of the teachers in the sample are women. The absence of male teachers in the sample is an important limitation of the research. On the other hand, the genders of the children are out of the scope of the research. It is recommended in future research to conduct new studies based on teacher assessment with wider range and different dimensions.

References

Achenbach, T. (1991). *Manual for the Teacher's Report Form and 1991 profile*. Burlington: Department of Psychiatry, University of Vermont.

Bayer, J. K., Sanson, A. V., & Hemphill, S. A. (2006). Children's moods, fears, and worries: Development of an early childhood parent questionnaire. *Journal of Emotional and Behavioral Disorders 14*(1), 41-49. https://doi.org/10.1177/10634266060140010401

Bittner, A., Egger, H. L., Erkanli, A., Jane Costello, E., Foley, D. L., & Angold, A. (2007). What do childhood anxiety disorders predict? *Journal of Child Psychology and Psychiatry,48(*12), 1174-1183. https://doi.org/10.1111/j.1469-7610.2007.01812.x

Broeren, S., & Muris, P. (2008). Psychometric evaluation of two new parent-rating scales for measuring anxiety symptoms in young Dutch children. *Journal of Anxiety Disorders, 22*(6), 949–958. https://doi.org/10.1016/j.janxdis.2007.09.008

Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö.E., Karadeniz, Ş. ve Demirel, F. (2014). *Bilimsel araştırma yöntemleri (Scientific research methods).* Pegem Publications. https://doi.org/10.14527/9789944919289

Çokluk, Ö., Şekercioğlu, G., & Büyüköztürk, Ş. (2010). *SPSS and LISREL applications for multivariate statistics for social sciences.* Pegem Academy.

Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry, 60*(8), 837-44. https://doi.org/10.1001/archpsyc.60.8.837

Edwards, S. L., Rapee, R. M., Kennedy, S. J., & Spence, S. H. (2010). The assessment of anxiety symptoms in preschool-aged children: The revised preschool anxiety scale. *Journal of Clinical Child and Adolescent Psychology, 9*(3), 400-409. https://doi.org/10.1080/15374411003691701

Egger, H. L., & Angold, A. (2006). Common emotional and behavioral disorders in preschool children: Presentation, nosology, and epidemiology. *Journal of Child Psychology Psychiatry, 47*(3), 313–337. https://doi.org/10.1111/j.1469-7610.2006.01618.x

Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*(5), 581-586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Güler, M. (2016). *Revised preschool anxiety scale validity and reliability study of the preschool for 4-6 year olds*. (Publication No: 10128398) [Master's thesis, Adnan Menderes University. http://adudspace.adu.edu.tr:8080/jspui/handle/11607/3094

Güvenir, T., Özbek, A., Baykara, B., Arkar, H., Şentürk, B., & İncekaş, S. (2008). Güçler ve güçlükler anketi'nin (GGA) Türkçe uyarlamasinin psikometrik özellikleri [Psychometric properties of the Turkish version of the Strengths and Difficulties Questionnaire (SDQ)]. Journal of Child and Youth Mental Health, 15(2), 65–74.

Heiser, N. A., Turner, S. M., Beidel, D. C., & Roberson-Nay, R. (2009). Differentiating social phobia from shyness. *Journal of Anxiety Disorders*, 23(4), 469 476. https://doi.org/10.1016/j.janxdis.2008.10.002

Hirshfeld-Becker, D. R., & Biederman, J. (2002). Rationale and principles for early intervention with young children at risk for anxiety disorders. Clinical Child and Family Psychology Review, 5(3), 161–172. https://doi.org/10.1023/A:1019687531040

Kalayci, S. (2009). SPSS Applied Multivariate Statistical Techniques. Ankara: Asil Publication.

Kline, R. B. (2011). Principles and practice of structural equation modeling (3rd Ed.). In *Structural Equation Modeling*. https://doi.org/10.1038/156278a0

Mian, N. D., Godoy, L., Briggs-Gowan, M. J., & Carter, A. S. (2012). Patterns of anxiety symptoms in toddlers and preschool-age children: Evidence of early differentiation. Journal of Anxiety Disorders, 26(1), 102–110. https://doi.org/10.1016/j.janxdis.2011.09.006

Muris, P., Meesters, C., & van den Berg, S. (2003). Internalizing and Externalizing Problems as Correlates of Self-Reported Attachment Style and Perceived Parental Rearing in Normal Adolescents. Journal of Child and Family Studies, 12(2), 171–183. https://doi.org/10.1023/A:1022858715598

Muris, P., & Rachman, S. J. (2007). Normal and Abnormal Fear and Anxiety in Children and Adolescents (1st Edition). In *Normal and Abnormal Fear and Anxiety in Children and Adolescents*. Elsevier Science. https://doi.org/10.1016/B978-0-08-045073-5.X5000-X

Rapee, R. M., Schniering, C. A., & Hudson, J. L. (2009). Anxiety Disorders During Childhood and Adolescence: Origins and Treatment. *Annual Review of Clinical Psychology*, *5*, 311-41. https://doi.org/10.1146/annurev.clinpsy.032408.153628

Seven, S. (2008). *Child mental health.* Pegem Academy.

Seven, S., & Akif İnci, M. (2016). Social Behaviors in Nuclear and Extended families Children Age 6 to 11 – A Longitudinal Study with Turkish Sample. *International Journal of Social Science and Humanity*, *6*(2), 81-86. https://doi.org/10.7763/ijssh.2016.v6.623

Spence, S. H., Rapee, R., McDonald, C., & Ingram, M. (2001). The structure of anxiety symptoms among preschoolers. *Behaviour Research and Therapy*, *39*(11),1293-1316. https://doi.org/10.1016/S0005-7967(00)00098-X

Tabachnick, B. G., & Fidell, L. S. (2012). Using multivariate statistics (6th ed.). In *New York: Harper and Row*. https://doi.org/10.1037/022267

Uğraş, S., Demiray, Ç., Mutluer, T., & Coşkun, M. (2018). Okul Öncesi Çocuklarda Anksiyete Ölçeğinin Türkçe Geçerlik Güvenirlik Çalışması. *Çocuk ve Gençlik Ruh Sağlığı Dergisi*, *25*(1), 63–76.

Tavşancıl, E., (2020). *Tutumların ölçülmesi ve SPSS ile veri analizi.* Nobel Publishing.

Yurduşen, S., Erol, N., & Gençöz, T. (2013). The effects of parental attitudes and mothers' psychological well-being on the emotional and behavioral problems of their preschool children. *Maternal and Child Health Journal, 17*(1):68-75. https://doi.org/10.1007/s10995-012-0946-6

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Understanding De Certeau's Concepts of Strategy and Tactics in Relation to the Educational Policy Analysis[1]

Aznavur DEMİRPOLAT[2]
Çanakkale Onsekiz Mart University

Abstract

Due to the Industrial Revolution in Britain, the spread of production and consumption paved the way for consumption, especially excessive and luxury consumption, ceasing to be the privilege of aristocrats and other upper social classes. With the development of modern capitalism, the bourgeoisie/middle classes, which started to rise in the West, especially in America and Europe alongside the aristocracy in many spaces, began to utilize consumption and objects of consumption as a manifestation of their own class differences and privileges just like the aristocracy did. Many nineteenth century sociologists, notably Weber, Simmel, and Veblen, approached this process "positively" with great hopes. However, by the twentieth century, French sociologists, especially Lefebvre and members of the Frankfurt School, were pessimistic to modern consumer society and consumer culture. This pessimistic approach, as can be seen in the example of the Frankfurt school, described the prevalence of mass production and consumption in the modern era as the "end/death of the individual". Contrary to this pessimistic view, de Certeau proposes that consumers who are considered to be passive spontaneously transform any kind of products and production objects imposed on them by the dominant order and/or capitalist system into artistic forms by means of (different) ways of using and reproducing those objects in everyday life. Certeau elaborates the ways of action and production created by the consumer against the "strategies" of the system in daily life as "tactics" of the user/consumer. Therefore, this study aims to reveal Certeau's original approach to modern consumer society and to try to explore his views on this subject through his two basic concepts, namely "strategy" and "tactics". This study also tries to illustrate that De Certeau's analysis of modern consumption culture and his concepts of strategy and tactics offer new perspectives to those who are working on education policies.

Keywords: De Certeau, Consumption, Strategy, Tactics, Education Policy

DOI: 10.29329/epasr.2021.373.18

---

[1] This study is the revised and expanded version of the section entitled in "Everyday Life, Strategy and Tactics in Michel De Certeau" (pp. 1-24) included the Textbook of *Sociology of Everyday Life* published by the Atatürk University Open Education Faculty in 2015.

[2] Associate Prof., Çanakkale Onsekiz Mart Üniversitesi, Fen-Edebiyat Fakültesi, Sosyoloji Bölümü, Çanakkale/Türkiye, ORCID ID: 0000-0002-9341-0476.

Email: a.demirpolat@comu.edu.tr,

© 2021 INASED

Introduction

In pre-capitalist societies, there was a sharper and more pronounced relationship between consumer culture and social status. Compared to the lower social classes, excessive consumption was the key feature of the upper social strata, especially the aristocracy. In traditional societies, consumption habits and consumption objects, among many other social factors, were the basic dynamics that both revealed and produced differences in social status. It is possible to divide societies into two basic classes based on consumption culture and consumption habits: On the one hand, the aristocracy and their highly exaggerated consumer culture, and on the other hand, lower social classes and their fairly simple and ordinary consumption culture that can be seen as a mere reflection of the understanding of subsistence economy.

Until the Industrial Revolution took place in Britain in the nineteenth century, leading the spread of "mass production", production and trade in many parts of the world were largely aimed at meeting the consumption needs of the upper social status groups, especially the aristocracy. In other words, most of the consumer goods traded and brought from long distances were largely appealing to the tastes and refined likes of these upper social classes rather than meeting common people's daily nutritional and consumption needs. Moreover, these upper social status groups were trying to maintain a sort of class privilege and continue their political positions via the circulation of such expensive and valuable objects only among themselves.

This On the other hand, the lifestyles and consumption habits of the lower social status groups are quite ordinary when compared to those of the upper social status groups. Contrary to the highly refined tastes and likes of the upper classes, the eating habits and diet regimes of these groups are quite ordinary and largely based on agricultural production in the region where they are located. The development of the industrial capitalism and the increase of mass production brought about the spread of consumption. The development of the industrial capitalism and mass production was made possible by the development of transportation facilities to easily transport large quantities of commodities and raw materials from one place to another. With the development of modern capitalism, consumption objects have continued still to be clear manifestations of class differences and privileges:

Consumers, in the early modern period, may be defined as groups for whom patterns of consumption played a central role in their lives, providing them with ways of marking themselves off from other social status groups. This process also helped to provide them with a sense of social identity. Such groups of consumers began to emerge in the late nineteenth century in the United States and in Western Europe as industrial capitalism developed (Bocock, 1993, p. 15).

© 2021 INASED

Approaches to the Consumer Society

The increasing enrichment of the social status groups that Veblen described as private property owned groups in *The Theory of the Leisure Class* (1899) led them to transform into a social status group from "conspicuous leisure" to a social class of "conspicuous consumption". Moreover, Simmel claims that a similar social differentiation emerged in German cities, especially in Berlin in the modern era. In his work "The Metropolis and Mental life", Simmel argues that consumption is used by the newly emerging bourgeoisie to reveal their individuality and differences from other classes (Storey, 1999, p. 36-37). With the development of modern capitalism, the bourgeoisie/middle classes, which started to rise in the West, especially in America and Europe alongside the aristocracy in many spaces, utilized consumption and objects of consumption as a manifestation of their own class differences and privileges just like the aristocracy did before. As a result of the spread of production and consumption among other social status groups in later periods, the consumption culture became dominant everywhere, leading to the emergence of the consumer society. Thus, as Bauman demonstrated, while work was the determinant of people's social positions in the early nineteenth century, as with the spread of consumption culture over time, the position of individuals was determined by the level of consumption and "work ethic" was replaced by "aesthetics of consumption" (Baumann, 2005, p. 32).

Due to the transition from the working-based society to the consumer society since the middle of the nineteenth century, we see that two different approaches emerged in sociology on the relationship between new leisure and consumption patterns and the capitalist industries that make them possible. In the nineteenth century, many sociologists, especially Weber, Simmel, and Veblen, had a very positive attitude towards this new situation as they believed that both leisure and consumption in modern society contributed to the existence of possibilities in terms of "collective expression and creativity." By the twentieth century, however, the positive and optimistic approach seen in Weber, Simmel and Veblen was replaced by a more pessimistic approach. This "pessimistic" approach commenced by and continued with the thoughts of the members of the Frankfurt school and Lefebvre generally "suggested that the apparently more 'civilised' spaces of late capitalist society merely served to veil an advanced, and in many ways more brutal, form of capitalist oppression which exploited new forms of mass leisure and consumption to its own ends" (Bennett, 2013, p. 26).

Likewise, this "pessimistic view" observed in Lefebvre's thought "while recognizing the power of capitalism to manipulate desire, seems to leave little space for human agency" (Storey, 2014, p. 81). As Gardiner expounds, for Lefebvre this 'commodification' which is the result of extensive instrumentalization of all areas of life, has transformed (routinized) the daily life practices of modern society. This situation led to the transformation of daily life in an unfavorable manner and thus, in the modern era, man has been deprived of all kinds of creativity and dialogue possibilities.

Many French intellectuals, especially Lefebvre, believe that the “mass culture”, which started to become widespread all over the world, especially in Europe following the Second World War, caused considerable erosion on the values and beliefs of people and societies. French intellectuals suggested that the mediocre and destructive effect of this “popular culture” under the influence of American domination would be seen in many areas, especially French language and culture (Gardiner, 2000, p. 158-159). These criticisms of modern “mass culture” by Lefebvre and other French intellectuals in many ways overlap with the approach of the members of the Frankfurt school who believed that there was a close relationship between the production process of “forms of mass culture” and large companies and thus developed the concept of the “culture industry" to understand the nature of this relationship. For them, all kinds of cultural spaces are both commercialized and industrialized in capitalist production relations (Kellner, 2011, p. 118). Therefore, according to the Frankfurt school, there is no difference between the products of the culture industry and other industrial products when compared in terms of the very nature and logic of production:

Horkheimer and Adorno, for example, argue that the same commodity logic and instrumental rationality manifest in the sphere of production is noticeable in the sphere of consumption. Leisure time pursuits, the arts and culture in general become filtered through the culture industry; reception becomes dictated by exchange value as the higher purposes and values of culture succumb to the logic of the production process and the market (Featherstone, 2007, p. 14).

Of MacKay (1997, p. 3) summarizes this pessimistic approach which dominates the works of the members of the Frankfurt school and their followers and conceives the existing mass culture as the end of the individual:

The Frankfurt School and their disciples, writing in the inter-war period argued that the expansion of mass production in the twentieth century had led to the commodification of culture, with the rise of culture industries... Consumption served the interests of manufacturers seeking greater profits, and citizens became the passive victims of advertisers Processes of standardization, they argued, were accompanied by the development of a materialistic culture, in which commodities came to lack authenticity and instead merely met “false” needs. These needs were generated by marketing and advertising strategies and, it is argued…increased the capacity for ideological control or domination.

As Godzich (2000, p. VII) shows, Certeau has academic and original works in many areas from Christian mysticism to everyday life practices. The fundamental shift in Certeau's academic studies began with the student movements that emerged in France in 1968. His effort to understand the student movements of 1968 motivated him to study and reflect on more about social issues, particularly the elements that “constitute the culture of society”, rather than his studies on Christian theology and mysticism. To this end, he became interested in many social and cultural issues from

education to language minorities. This shift in academic interest led him to new quests and questions regarding the everyday life. Accordingly, the question ("how do we create?" instead of "how do we exist?") that Certeau tried to answer influenced the essence and development of his academic and intellectual works in the later period (Giard, 2008, p. 14). As a result of his search for answers to this question, which he formed as "how do we create?", he published his work *The Practice of Everyday Life*, in which he presented his analyses of modern everyday life and the nature of consumption society. In this study, he undertakes to reveal the way how consumers as a part of both modern daily life and consumption processes participate in this process, more precisely, how they transform or reproduce the consumption objects presented to them in the market. Therefore, as opposed to the "pessimists" such as the members of the Frankfurt School and Lefebvre, Certeau indisputably expresses that the consumers are not passive agents against the "strategies" produced by the system as they reproduce all kinds of products offered to them by the market through their "tactics" that they have produced; he also shows that this process is quite creative and artistic:

What characterizes the everyday for de Certeau is a creativity that responds to this situation. By 'making do' with a ready-made culture, but also, and crucially, by 'making with' this culture (through acts of appropriation and re-employment), everyday life evidences an 'inventiveness' (Highmore, 2002, p. 148).

De Certeau does not agree with the criticisms and "pessimistic" attitudes of French intellectuals and the members of the Frankfurt school concerning modern consumption and mass culture. On the contrary, he "takes a far more optimistic view regarding the centrality of mass culture in late capitalist society" (Bannett, 2005, p. 55). De Certeau's positive approach is largely due to his belief that people who are considered as passive consumers within all systems actually transform any symbolic and material products offered to them by the system or modern consumer culture by means of the ways they use such products and 'tactics' they use so that they can go beyond all limitations and predictiveness of the system: "De Certeau defines consumption as the realm of the use of an object by those who are not its makers. But even in the realm of use there is a moment of production, of making, doing, or "poiesis," a moment of active re-creation" (Poster, 1997, p. 122). On the other hand, for Gardiner (2000, p. 165), in order to understand how "Certeau actually conceptualize[s] the resistant qualities of everyday life and cultural consumption", one has to "examine Certeau's critical assessment of the work of Michel Foucault, especially the latter's ideas about power, resistance and disciplinary practices." Furthermore, as Gardiner (2000, p. 166) states, Certeau counts Foucault's analysis of modern power very valuable; yet Certeau's most fundamental criticism of Foucault is that while trying to analyze the "strategies" produced by the power, Foucault ignores "tactics" produced within the spaces of the power by those who are characterized as weak or passive (Gardiner, 2000, p. 168). Accordingly, de Certeau's criticisms of both Foucault and Bourdieu are based on the opinion that "they view subjectivity as a reflex of broader structural processes – discourse, habitus – that

determine subject position and generate action independently of the reflexive subject" (Mitchell, 2007, p. 91).

Modern Consumption and Resistance

In his work *The Practice of Everyday Life*, Certeau states that the users who are considered to be passive in the production and consumption processes of the power or the dominant system attempt to demonstrate "modes of operation or schemata of action":

The purpose of this work is to make explicit the systems of operational combination…which also compose a "culture," and to bring to light the models of action characteristic of users whose status as the dominated element in society (a status that does not mean that they are either passive or docile) is concealed by the euphemistic term "consumers." Everyday life invents itself by poaching in countless ways on the property of others. (Certeau, 1988, p. xi-xii).

Contrary to the popular belief of "passive consumers" within the capitalist system, Certeau claims that they are neither passive users nor docile consumers, but they have "models of action" running based on their own operational logic. For him, the consumer, who is thought to be passive within the rational logic of the system, transforms all consumption objects (ranging from commercial production to media production) offered to him by incorporating such objects in his reproduction or manufacturing process with the help of his unique operational logic and models of action. What allows consumers to reproduce any kind of products offered to them in the capitalist system is that they transform such consumer objects by means of their "ways of use". Certeau (1988, p. xiii) explains this reproduction process of the consumer with the example of the South American natives:

For instance, the ambiguity that subverted from within the Spanish colonizers' "success" in imposing their own culture on the indigenous Indians is well known. Submissive, and even consenting to their subjection, the Indians nevertheless often made of the rituals, representations, and laws imposed on them something quite different from what their conquerors had in mind; they subverted them not by rejecting or altering them, but by using them with respect to ends and references foreign to the system they had no choice but to accept. They were other within the very colonization that outwardly assimilated them; their use of the dominant social order deflected its power, which they lacked the means to challenge; they escaped it without leaving it. The strength of their difference lay in procedures of consumption.

In the same way, Certeau describes the logic of this reproduction and the "ways of use/consumption" with other examples. According to him, it is possible to see the transformational power of reproduction and ways of use in symbolic and imaginary cultural fields such as language and works of art. In the French society, for example, the culture tools and products imposed and disseminated by the intellectual classes that produce the language of society are transformed by the

common people by introducing them into the process of reproduction through their own specific ways of use. "To a lesser degree, a similar ambiguity creeps into our societies through the use made by the "common people" of the culture disseminated and imposed by the "elites" producing the language." (Certeau, 1998, p. xiii). For him, the rationality of the capitalist production or system and the logic of producing objects do not have any decisive role on the consumer's "ways of use" of those products offered. Therefore, according to Certeau, the main thing to understand is how these individuals, ranging from people who sit hours in front of television to those consumers shopping in supermarkets and who are considered to be passive in all these processes, reproduce the products or production objects offered to them and what they produce from such objects. However, this very creative reproduction process of the consumer or the user occurs and spreads in a very invisible/secret way in the spaces and areas determined by the dominant system because unlike the dominant production systems, consumers do not have any space of their own to clearly show what they are producing. Therefore, consumers who are considered to be passive must cunningly infiltrate into all areas of the dominant order and economic system, even to the deepest corners in a subtle and unnoticed manner. In this respect, the reproduction of the consumer shows "itself not in its own products…but in an art of using those imposed on it." (Certeau, 1998, p. 30-32).

In addition, for him, it is necessary to understand the "methods of action, practice and production" of consumers in order to understand the ways of use and methods they employ within the capitalist system because he believes that "these 'ways of operating' constitute the innumerable practices by means of which users reappropriate the space organized by techniques of sociocultural production" (Certeau, 1998, p. xiv). Moreover, individuals/users who are thought to be shaped by the dominant structure, culture or production system "make (*bricolent*) innumerable and infinitesimal transformations of and within the dominant cultural economy in order to adapt it to their own interests and their own rules." (Certeau, 1998, p. xiii-xiv). For him, the feature that makes consumers so successful within the system or the dominant cultural economy is their possession of a special form of knowledge that has its origins in ancient Greece, or even earlier. The Greeks called this form of knowledge as 'metis' (Certeau, 1998, p. 82). Thus, understanding tactics and "ruses" and forms of resistance employed by consumers who are thought to be passive in the material and symbolic productions of the power or the dominant economic system "will be of fundamental importance in Michel de Certeau's notion of 'l'invention du quotidien'" (Sheringham, 2006, p. 152). It is also necessary to delve into the two basic concepts employed by Certeau, namely strategy and tactics for further understanding of this situation.

The Concepts of Tactics and Strategy

De Certeau suggests that there is a dual structure in all societies: on the one hand, the dominant order or (economic) system, and on the other, the users who are thought to be passive

within this system. While the system maintains its existence through “strategies” it produces in its own dominant space, individuals who are seen as passive consumers continue their existence through “tactics” they develop, that is, by transforming all production objects presented to them and making new productions and manufactures from them. He defines strategy as “the calculation (or manipulation) of power relationships that becomes possible as soon as a subject with will and power (a business, an army, a city, a scientific institution) can be isolated” (Certeau, 1998, p. 35). Moreover, he maintains that strategy has primarily a precisely defined area of power, or a space, and it continues to exist through this area, and its forms of rationality (political, economic or scientific) can only be realized through this area. He defines tactics as “a calculated action determined by the absence of a proper locus” (Certeau, 1998, p. 35-36). However, the rationality of tactics is entirely different from the rationality of strategies: strategies establish their relations with the power that supports them within the space through objective calculation whereas the rationality of tactics is realized by means of the pleasures attached to the daily life practices of the agent and therefore tactics is artistic (Certeau, 1998, p. 37-38).

Unlike strategy, tactics as the “art of the weak” has neither a power nor a space so consumers perform tactics throughout the space of the other. However, since tactics does not have any center or space, it cannot encompass the entire space of the system; it is included in the space of the other by infiltrating piece by piece. Temporally, strategies are always more advantageous due to the space they have; conversely, since tactics has no space of its own, it is constantly vigilant to capture the possibilities that it can use to its advantage. Tactics cannot have a spatial superiority over strategy as well as any clear and holistic action plan to do this. Rather, tactics only has to take advantage of the opportunities and make successive moves to do so. The only thing that can make tactics advantageous in this situation is its ability of mobility. Therefore, under these conditions, the success of tactics is the result of its ability and art “to make use of the cracks that particular conjunctions open in the surveillance of the proprietary powers.” (Certeau, 1998, p. 37-39). As Buchanan (2000, p. 93) states that “De Certeau defines this ‘making’ as a *poiesis* whose chief characteristic is its lack of visibility.” Besides, tactics cannot keep its gains and for this reason it “must constantly manipulate events in order to turn them into "opportunities…. achieved in the propitious moments when they are able to combine heterogeneous elements” (Certeau, 1998, p. xix). Certeau tries to explain this situation by referring to the example of a woman shopping at the market:

In the supermarket, housewife confronts heterogeneous and mobile data-what she has in the refrigerator, the tastes, appetites, and moods of her guests, the best buys and their possible combinations with what she already has on hand at home, etc. (Certeau, 1998, p. xix).

According to Certeau, another important difference between strategy and tactics regarding the space and extension is their "ways of operating” in the space that belongs to the strategy. Tactics that

do not have any space or spatial domain move in these areas produced by the strategy and use their cunningness to transform the operations of strategies. Certeau explains the different ways of operations of strategies and tactics with the example of the workers at the factory. Workers within the factory system or space "… introduce into it a way of turning it to their advantage that obeys other rules and constitutes something like a second level interwoven into the first… and they create a certain play in the machine through a stratification of different and interfering kinds of functioning." Certeau tries to explain this situation by giving another example, Algerians living in Paris. These people living in cheap housing facilities available for immigrants in Paris cunningly transform their own "ways of dwelling" and "ways of language use" by penetrating them into the system and thus create for themselves "a space in which he can find ways of using the constraining order of the place or of the language" (Certeau, 1998, p. 30).

Act of Reading as a Resistance

Certeau contends that we need to look at the role of "act of reading" common in the modern society in order to understand the ways of daily action/resistance or "tactics" consumers develop for the products offered to them by the (production) system in the modern consumer society. For Pawley, the text-reader relationship is generally explained with reference to the "market model" as seen in Robert Darnton and the act of reading is formulated as a passive action; however, De Certeau, like Roger Chartier, points out that the text-reader relationship is not a relationship in which the reader would be merely seen as completely passive:

Along with Roger Chartier's theory of appropriation, de Certeau's conceptualization of the reader as poacher has been immensely influential, especially among literary scholars eager to emphasize reader agency and at the same time keen to move away from the close textual rigors of the New Criticism and into the expansive world of cultural history…In The Practice of Everyday Life, he describes reading as a process that "transforms another person's property into a space borrowed for a moment by a transient." The reader "insinuates into another person's text the ruses of pleasure and appropriation: he poaches on it, is transported into it, pluralizes himself in it" (Pawley, 2009, p. 78).

For Certeau, what we call the "act of reading" is the "exorbitant focus of contemporary culture and its consumption" and consequently, when the text-reader relationship is understood, it will be possible to understand the nature of the relationship between production and consumption in the modern consumer society too. In this sense, he believes that not only the symbolic products or messages produced by the mass media, but also the economy itself has turned into "semiocracy" in the modern society. Therefore, according to Certeau, production-consumption relations have been replaced by the ever-increasing acts of writing-reading in the modern society. To sum up, Certeau discusses that many people conceive act of reading as the reflection of utmost passivity of the consumer; rather, he perceives it as the main particularity of consumers' mode of production, that is

‘silent production’. For him, the reader in this process “insinuates into another person's text the ruses of pleasure and appropriation: he poaches on it, is transported into it, pluralizes himself in it like the internal rumblings of one's body” (Certeau, 1998, p. xxi).

Tactics and Strategies in Analyzing Education Policy

Although conventional approaches to education policy gave priority to education system and its active subjects such as managers and the role of teachers, they did not pay enough attention to the position of students and their parents in this process. For instance, Brever and Wrets (2017) and Saltmarsh (2014) suggest that one has to consider the position of students and their parents, not as passive consumers of the education process but as the active participant of it to have more appropriate approaches to both the education process and critical evaluation in education policies. Just like Saltmarsh (2014), Braver and Wrets (2017, p. 243) believe that De Certeau’s concepts such as strategy and tactics and his views on consumer culture in modern society, especially his concept of consumption “offer a complementary analytical tool for critical study of policy in education.” As they claim that, in general, the approaches to policies in education make evaluations and criticisms largely through the logic of the system and its strategies; however, they do not seriously examine whether there are areas of resistance within the education system, and they consider both students and their families as the passive side or consumers of the educational system. Therefore, those approaches do give less attention to consumers (students and their parents) or how they produce resistance to the (educational) system by their own tactics and the way they use the products offered to them. Following De Certeau’s views, Saltmarsh (2014) is of the opinion that the practices in everyday life are not shaped only by the strategies produced by the dominant system or structure, but strategies together with or in collaboration with tactics create practices in everyday life. Furthermore, for Saltmarsh, critical studies on education or education policies should understand how the interactions between the system and students and their families work. In other words, the policy studies must pay more attention to recognizing the sides and people involved in the educational process than regulating educational relationships among them. As Brever and Wrets (2017) state that although De Certeau accepts Foucault’s panopticon theory, he rejects Foucault’s views which consider people as passive objects in the face of the power. Unlike Foucault, Certeau believes that the actors, who are considered to be passive, transform the product offered to them with the way they use it and the tactics they apply. According to them, critical approaches to policy studies in education must take into account the system itself and the teachers seen as its active practitioners as well as students and their families who are seen as passive consumers.

Having stated the mutual interaction between the policy and culture in terms of everyday practices, Saltmarsh tries to illustrate what benefits and possibilities Certeau's analysis and concepts such as strategy and tactics will bring to those who study policy in education. Her main argument is

that most of the policy studies on the efficiency of the education system often focus on how educational institutions implement education policies and what should be done to be more efficient and thriving in the educational process. However, as seen in the studies carried out in Australia, she boldly expresses that adopting a holistic approach to the educational process and including shareholders in all these processes, especially the students and their parents, will not solve the problem. In other words, incorporation of both students and their parents into the education system in creating educational policies does not guarantee the possibilities of existence of a far more efficient and trouble-free education in schools. The main reason for this is that against the system and its subjects, especially teachers' strategies, the students and their parents will continue to produce their own tactics. It is possible to see this situation in every area of daily life, from reading texts to students' study activities; instead of studying in the etudes organized for his/her homework, the student can write a letter or a poem to his/her girlfriend/boyfriend. Similarly, whenever there is any problem between the student and the teacher, the student's parent will not have a consistent but different attitude towards the teacher and school administration. Therefore, as stated above, for her, critical studies on policy in education must pay attention to understand what the system's strategies and the consumer's tactics are and how they "work" (Saltmarsh 2014).

Moreover, in relation to teachers' position in the process of education, Saltmarsh (2014) claims that more holistic approaches to education usually ignore or cannot adequately analyze the position of teachers in this process as they often have two different roles, both as parents and as subjects of the system, and thus it is not possible to explain clearly their position in the system: Are they the subject of the system who produce strategies or the parents who produce resistances to the system by means of the tactics in the cracks of the system? On the one hand, teachers, especially school principals, act like a company manager in times of neoliberal policies, on the other hand, they can turn into parents (consumers) who produce tactics against the system within the process of education. Just as the teachers, commentators or analysts who are involved in the policy studies in education structures are not the passive observers; rather they could be, at the same time, among the consumers, which means that the experts who study on policy production in education can also be involved in this process they observe. According to the author, as De Certeau illustrates, in many respects there are many similarities between scientific activities and what is happening in the process of reading and interpreting text. For Saltmarsh (2014, p. 4-5), interpreter/analyst does not have a passive position in the policy processes in education:

the interpreter/analyst is not an innocent bystander in this space of subjectivity. Positioned in multiple ways in relation to such endeavours, the analyst/interpreter's complicity in the regulatory and homogenizing endeavours of political programmes, the production of policy knowledges, their conditions of possibility and the cultures in which they are implicated cannot be overlooked or treated as an irrelevant indulgence… those closely involved in processes of policy formation and

implementation can simultaneously be among its target populations, recipients of its effects and unintended consequences, and everyday makers of its cultures.

Conclusion

It is possible to generalize Certeau's analysis on the relationship of "text- reading" to all other social areas in modern consumer society, especially the economic sphere in order to understand the tactics (ways of use and reproduction) the consumer, who is thought to be passive, employs to differentiate the products offered in the market by the system and makes new productions. The main point that Certeau tries to show in his work *The Practice of Everyday Life* is that contrary to the popular belief, the individual in the modern consumer society is not a passive consumer; the modern individual transforms all “symbolic and material products” offered to him in his daily life practices, from the act of walking in the street to the act of shopping in the market, by means of the tactics he employs (the ways of use and reproduction) and creates new areas of freedom in the modern consumer society (Poster, 1997, p. 9). Therefore, unlike the “pessimists” such as the members of the Frankfurt School and Lefebvre that see the consumer society as completely passive subjects and describe this period as the end of the individual, Certeau firmly pronounces that consumers are not passive subjects to the “strategies” produced by the system as they reproduce all products offered to them by the market through the "tactics" they have produced, and this reproduction process is quite creative and artistic.

Moreover, De Certeau’s analysis of modern consumption culture and his basic concepts of strategy and tactics offer new perspectives to those working on education policy. Traditional approaches in education studies generally explain education processes and policy analyzes in education system by examining education system and its active subjects, namely teachers and students and their parents as consumers who are passive participants of education. However, as shown in this study, the most important contribution of De Certeau’s analysis to studies on education policies is that both students and their parents are not passive consumers in the modern education system; they are consumers producing resistance mechanisms to the system by means of their own tactics and “ways of use”. Therefore, De Certeau’s perspective and his concepts of strategies and tactics can be highly important in understanding the educational process and conducting more consistent policy analyses in education.

References

Bauman, Z. (2005). Work, Consumerism and the New Poor. Open University Press.

Bennett, A. (2005). Culture and Everyday Life. Sage Publications.

Brewer C. A., & Werts A. B. (2017). Utilizing Michel De Certeau in Critical Policy Analysis. In M. Young, & S. Diem (Eds.), *Critical Approaches to Education Policy Analysis. Moving Beyond Tradition* (pp. 243-260). Springer.

Buchanan, I. (2000). Michel de Certeau: Cultural Theorist. Sage Publications.

Certeau, M. de. (2008). Gündelik Hayatın Keşfi, (1st vol.), (L. A. Özcan, Trans.). Dost Kitabevi Yayınları.

Christine Pawley. (2009). Beyond Market Models and Resistance: Organizations as a Middle Layer in the History of Reading. *The Library Quarterly*, *79*(1), 73-93. doi:10.1086/593376.

Dale, F. S. (2015). The Orange Trees of Marrakesh: Ibn Khaldun and the Science of Man. Harvard University Press.

Featherstone, M. (2007). Consumer Culture and Postmodernism (2nd ed.). Sage Publications.

Gardiner, M. E. (2000). Critiques of Everyday Life. Routledge.

Giard, L. (2008). Bir Araştırmanın Hikayesi. In M. de. Carteau, L. Giard, & Mayol, P. (Eds.), *Gündelik Hayatın Keşfi* (1st vol.), (pp. 9-37). Ankara: Dost Kitabevi Yayınları.

Godzich, W. (2000). Foreword: The Future Possibility of Knowledge In *Heterologies*, (B. Massumi, Trans.), (pp. VII-XXI). London: University of Minnesota Press.

Highmore, B. (2002). Everyday Life and Cultural Theory. Routledge.

Kellner D. (2011). Frankfurt Okulu'ndan Postmodernizme Televizyona Dair Eleştirel Perspektifler (S. F. Varol, Trans.). *Erciyes İletişim Dergisi Akademia*, *2*(1), 118-134.

MacKay, H. (1997). Consumption and everyday life. Sage Publications.

Mitchell, J. P. (2007). A fourth critic of the Enlightenment: Michel de Certeau and the ethnography of subjectivity*. *Social Anthropology*, *15*(1), 89-106. doi:https://doi.org/10.1111/j.1469-8676.2007.00001.x.

Poster, M. (1997). Cultural History and Postmodernity. Columbia University Press.

Robert, B. (1993). Consumption. Routledge.

Saltmarsh, S. (2015). Michel de Certeau, everyday life and policy cultures: the case of parent engagement in education policy. *Critical Studies in Education*, *56*(1), 38-54. doi:10.1080/17508487.2015.961166.

Sheringham, M. (2006). Everyday life: Theories and practices from Surrealism to the Present. Oxford University Press

Storey, J. (1999). Cultural Consumption and Everyday Life. Hodder Education.

Storey, J. (2014). From Popular Culture to Everyday Life. Routledge.

Educational Policy Analysis and Strategic Research, V16, N3, 2021
© 2021 INASED

Social Services in the Context of 2018 Social Studies Curriculum and Textbooks

Kenan BAŞ[1]
Ağrı İbrahim Çeçen University

Abstract

The purpose of this study is to investigate and evaluate which subjects related to "Social Services" are covered in the Social Studies textbooks in grades 4th, 5th 6th and 7th according to the Learning Domain / Unit and Subject headings in the Social Studies curriculum revised in 2018. The document analysis method, one of the qualitative research methods, was used in this study. The study was conducted on the 4th, 5th 6th and 7th grade Social Studies textbooks, which were approved to be taught in public schools by the Ministry of National Education in the 2020 and 2021 academic year. The obtained data were analyzed by content analysis technique. When the results of the study were evaluated in general, it was observed that the subjects described were in a clear and understandable way in terms of language and wording appropriate for the students' levels. In the Social Studies curriculum and Social Studies textbooks, while the subject headings related to "Social Services" are mostly included at the 4th grade level in terms of subject diversity, it was observed that children's rights and refugee issues were covered at the four grade level as well (4th, 5th 6th and 7th). It was observed that specifically within the scope of the project works carried out at the 4th grade level in schools, citing the cases of the "Talking Medicine Box" developed by students for disabled citizens, one of the target groups of "Social Services" the "Lifeguard Balloon Bracelet" in the 4th grade textbook, which would minimize the loss of life in drowning incidents constituted an important example to the students in terms of being sensitive and conscious citizens in society within the scope of the Social Studies course. However, it was also observed that "Drug-Substance Addiction and Animal Abuse", that were among the important subject headings of "Social Services" were not included at any class level, and violence against women was rarely addressed. It was recommended that children would start to grow awareness from an early age if the knowledge and information on these issues was taught appropriately considering the development levels of the students.

Keywords: Social Studies, Social Services, Textbook, Child Abuse, Rights

DOI: 10.29329/epasr.2021.373.19

[1]Asst. Prof. Dr., Ağrı İbrahim Çeçen University Patnos School of Social Services, Department of Social Services.. ORCID ID: 0000-0003-4253-2323
E-mail: kenanbas2301@gmail.com

Introduction

It is possible to say that today's world has been gradually evolving into a different route. Especially within the last 10 years, when the events happening in the world and Turkey (The changes experienced in many areas mainly Covid-19 and afterwards especially education, health, and social changes including the economy, wars, racism rhetoric, refugee problems, social life in the digital conversion, etc.) are taken into consideration, it is seen that this situation confirms the existing reality. These changes and transformations experienced have not only changed the habits of societies, but also made it necessary to consider the future from a different perspective. Therefore, this situation paved the way for new areas to be opened to societies and people in many ways. One of these areas where balances are re-established in the new world order is undoubtedly the phenomenon of profession. The political, social and economic structures in the modern world position people at the center of all their projects today, as they did in the past. It is simply because the world gains a meaning with the existence of human beings. Therefore, the main purpose is to increase the well-being of individuals and to include them in a more livable world order.

People in almost every country of the world throughout the history have had to cope with many problems. These problems can be listed as domestic or social violence, rape, poverty, racism, health problems, substance abuse, racism, unemployment, sex discrimination, abortion, children born out of wedlock, disabled individuals in society, hunger and thirst, plague, AIDS, animal massacres, murders etc. (**Web1**: https://cdnacikogretim.istanbul.edu.tr/auzefcontent/19_20_Bahar/dunyada_sosyal_hizmet_uygulamalari/14/index.html). Resolving these problems scientifically and performing it as a profession brought about the science of Social Services.

Social service, which is defined as both art and science, emerges as one of the humanitarian service professions that attempts to provide the necessary support in order to improve the living standards of all people (Duyan, 2003). The legal ground related to social services in Turkey, dated 27/05/1983 and 2828 was defined lawfully by the Social Services and Child Protection Agency Act (Consult, 2017, p.7). If the concept of social services is defined as a discipline and profession, it can be articulated as follows: "Social Services" represents the totality of a systematic and programmatic set of services aimed at eliminating the material, spiritual and social deprivations of individuals and families arising from their own constitution and environmental conditions and meeting their needs, preventing and solving their social problems, and improving and raising their living standards (Web 2: 2828 law of SHÇEK (Turkish Social Service and Children Protection Institution) https://www.mevzuat.gov.tr/MevzuatMetin/1.5.2828.pdf).

According to Kongar (1972), social service is defined as a field that contributes to the solution of human contradictions with the nature and himself/herself, and while doing this, it tries to achieve

this through the method of creating and changing process by considering the situation in the equation of individual, group and society. The idea that the individual and society should develop more constitutes the scientific function of the field of social service to produce information about developmental knowledge, methods and techniques of development (Cılga, 2004). Based on these definitions, social services can be redefined as activities being put flesh on the bones of an organized and professional occupation of thoughts aimed at improving the quality of human life or solving existing problems in society. People who have been trained in this profession and perform it are given the title of social worker. According to Kut (1988), the profession of social work is an individual's awareness of the decisions to be taken for his / her own benefit, his/her ability to adapt to all psycho-social changes of the environment in which s/he was brought up; on the other hand, it is his/her ability to gain skills that can make necessary interventions in order to gain professional knowledge, skills and social functionality that may be necessary and useful for the society.

Social work is a profession that should maintain the production of knowledge constantly dynamic in order to produce services that can meet the needs of the client at micro, mezzo and macro levels, as well as to develop professionally and improve their scientific identity. The continuation of the development of this profession, which has an academic basis and internal discipline, depends on this continuity (Tekindal, Ege, Erim, 2019, p. 797).

Social services, which act on the basis of human and society, develop in parallel with human needs. Events taking place at both national and global levels, by expanding it, make the scope of social service more dynamic (Yıldırım Aykurt, 2017, p. 140). The issues such as poverty, unemployment, cultural erosion, migration, disabled individuals, youth problems, violence against women, child abuse, problems and abuse of elderly people, intergenerational conflict, criminals, people in need of care and protection, animal rights, domestic problems, rape, substance addiction, refugee problems etc. are the issues included in the scope of social work. Generating solutions to these problems both individually and nationally constitutes the main focus of attention of social workers in terms of profession. The main roles of social workers are given below.

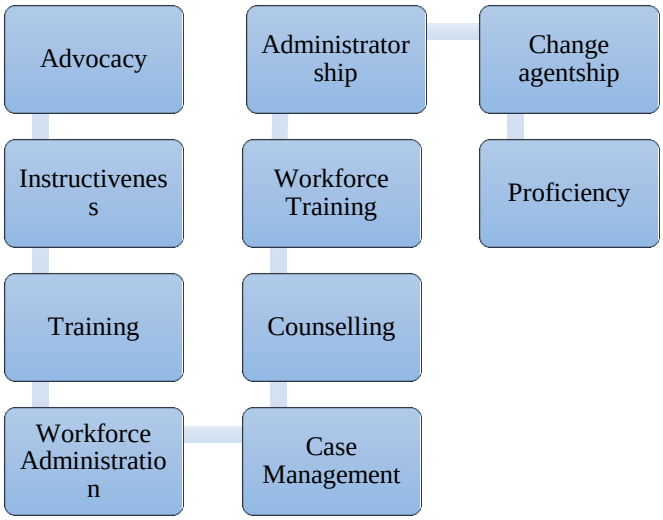

Figure 1: The Roles of Social Worker Professionals

Source: (Ambrosino, Heffernan, Shuttlesworth, Ambrosino, 2001).

Purpose of Social Services

The ultimate aim of the social work profession is to empower people who live in poverty, are despised, oppressed and likely to be hurt, to improve their welfare and help the individuals in meeting the basic needs of all people (Gökçearslan Çifçi, Gönen, 2011, p. 149). Social work aims to respond to the problems and unfulfilled needs of the applicant groups coming from different segments of the society and have various living conditions, as well as to strive to raise the living standards of individuals. Therefore, it benefits from the different knowledge and experience of different disciplines in order to materialize various applications that may be beneficial for the applicants (Korkmaz, Özbesler, 2020, p.1251).

The National Association of Social Workers (NAWS) gathered the objectives of social work practice under 4 main headings:

1) Activating the problem solving process, overcoming problems and improving the development capacities of individuals.

2) Affiliating people with a variety of systems that provide services and opportunities that can source them.

3) Encouraging people for the activities of various systems that provide resources and services for humanitarian work.

4) Encouraging individuals' and society's welfare (Zastrow, 2014).

© 2021 INASED

Social Services and Social Studies

It is commonly known that the Social Studies as a school course emerged in the world as a concept for the first time in the early 19th century in America. In this period, it was observed that people from many countries of the world with different languages, religions, races, cultures, etc. migrated to America. However, this particular situation pushed these people, who had different characteristics, to have to live together. After a certain period of time, with the acceleration of this social change and the spread of socio-cultural conflicts, the Social Studies course started to gain serious importance (Erden, 1998; Tabachnick, 1991).

The main purpose of the Social Studies course is to train healthy and conscious individuals, who adapt to society and the environment within the framework of the state-nation consciousness, are sensitive to the period they live in and social problems and can generate solutions to them. Considering the definition of the concept of social services, on the other hand, the ultimate goal is to improve the welfare and happiness of the individual and produce solutions to many problems experienced in the society. Therefore, when assessed from this perspective, it is possible to state that social services are a field of study that coincides with the Social Studies program or supports the social studies program. Considering the principle of adaptation of the individual to the society that is frequently emphasized in the definition of Social Studies, especially in the process of integrating the disadvantaged groups (the disabled, outcast, person in need of protection, elderly, etc.), it is possible to say that it is a school course that accomplishes an important mission in realization. The Social Studies course pay attention to the interaction of the individual with the living and non-living environment and attaches importance to placing the necessary applications in the program and updating them for the individual to be trained sensitively.

For this, it is supported by many disciplines. Thus, it deals with many issues and facts about society and people. Therefore, it is expected to address many issues within the scope of social services. From this point of view, it is thought that the teaching the issues related to social services to individuals from an early age will generate a serious sensitivity to these issues in children and a positive change in behavior. Therefore, the extent to which social work subjects are included in the Social Studies curriculum and textbooks is significant. Consequently, it is thought that this particular study will contribute to the relevant field and fill a serious gap.

Purpose of the study

The purpose of this study is to reveal the usage of subjects related to Social Services in Social Studies textbooks (4th, 5th 6th and 7th grades) prepared within the scope of Social Studies curriculum. For this purpose, answers were sought for the sub-problems given below.

1) According to the Learning Domain / Unit and Subject headings, which subjects related to Social Services were covered in the **4th** Grade Social Studies textbook?

2) According to the Learning Domain / Unit and Subject headings, which subjects related to Social Services are covered in the **5th** Grade Social Studies textbook?

3) According to the Learning Domain / Unit and Subject headings, which subjects related to Social Services are covered in the **6th** Grade Social Studies textbook?

4) According to the Learning Domain / Unit and Subject headings, which subjects related to Social Services are covered in the **7th** Grade Social Studies textbook?

Method

Research Model

The document analysis method, which is one of the qualitative research methods, was used in the research. Document analysis encompasses the analysis of written materials containing information about the phenomena aimed to be investigated (Yıldırım, Şimşek, 2013). In the document analysis method, different written and visual sources such as archive records, books, journals, biographies, diaries, letters, films, radio and television programs, materials etc., are examined (Balcı, 2001; Creswell, 2013).

Study Group

In this study, since the data have been obtained through documents (books), the researcher, as the only member of the study, constitutes the study group of this research.

Data Collection Tools

In this study, 4th, 5th 6th and 7th grade Social Studies textbooks designated by the Board of Education and taught in public schools in the 2020 and 2021 academic year were used as the data collection tools. The tags of these books, which were used as data collection tools, are given below.

1) Sami Tüysüz (2019). *4th Grade Primary School Social Studies Textbook* (Tuna Publications).

2) Seçil Büket Harut (2019). *5th Grade Secondary School and Imam Hatip (Theology) Secondary School Social Studies Textbook* (Ata Publications).

3) Cengiz Yıldırım, Fatih Kaplan, Hayriye Kuru, Mukaddes Yılmaz (2019). *6th Grade Secondary School and Imam Hatip (Theology) Secondary School Social Studies Textbook* (State Textbooks of the Ministry of National Education, Republic of Turkey Çağlayan Publications).

4) Hikmet Azer (2019). 7th *Grade Secondary School and Imam Hatip (Theology) Secondary School Social Studies Textbook* (EKOYAY Education Publications).

Data Analysis

The data collection process of the study started on September 15, 2020 and was completed on November 20, 2020. During the study period, literature review on the relevant subject was carried out and within this framework, a search list was created that constituted five main headings directly related to social services and its sub-titles, and data sources were evaluated according to these criteria.

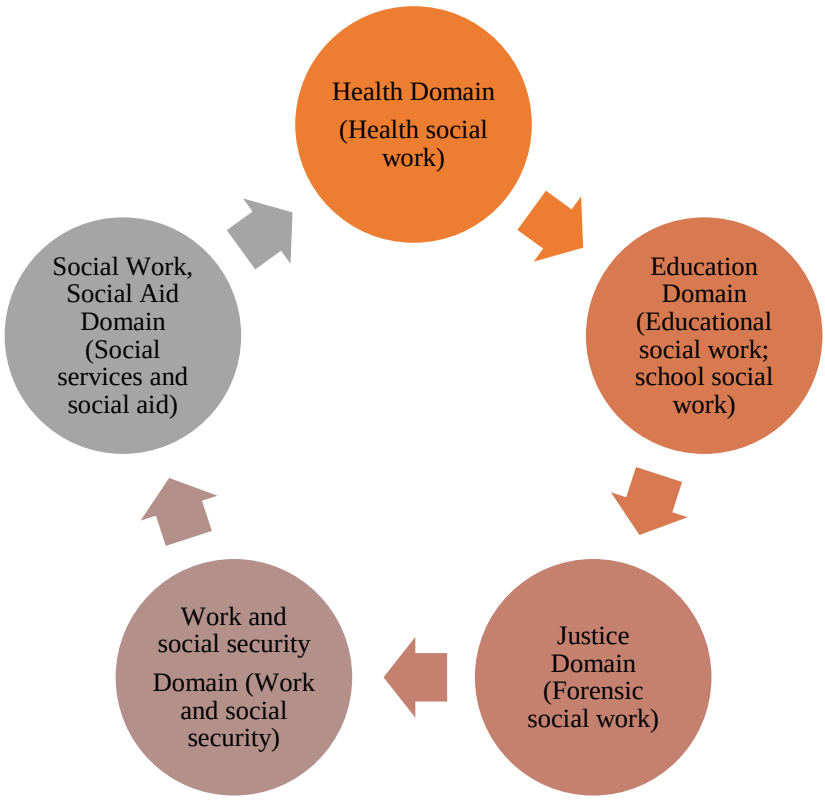

Figure 2: Subject Heading Criteria in the Review List

The data collected in the study were analyzed through content analysis. While content analysis can be defined as the quantification of the uncountable (Aziz, 2011), it can also be presented as data similar in a way that the reader can understand by bringing them together around certain concepts and themes (Yıldırım, Şimşek, 2013). During the analysis of the data, two field experts were consulted by the researcher in order to warrant the reliability of the study. The data were analyzed independently by the experts. In order to appreciate the compatibility between the opinions of the experts involved in the analysis process of the study, the formula (consensus /consensus + disagreement) was used (Miles & Huberman, 1994, p.64). According to the calculation carried out, it was found that the coefficient of agreement between the opinions of the experts was 0.92. Based on this result, it is possible to say that the analysis process of the study was highly reliable in terms of scoring reliability.

Findings

This part of the study includes the data obtained within the scope of this study, sample texts and the relevant comments made.

Findings Related to the First Sub-Problem

According to the Learning Domain / Unit and Subject headings, which subjects related to Social Services were covered in the 4th Grade Social Studies textbook?

Table 1: Topics Related to Social Services in the 4th Grade Social Studies Textbook by the Individual and Society Learning Domain and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
4th Grade	INDIVIDUAL and SOCIETY	Everyone Has an Identity	
		Everyone Has a Story	
		What Do I Like? What Can I Do?	
		If I Were in His/Her Shoes	
		I am Aware, I Respect Differences	

When the 4th grade Social Studies textbook is examined, it is seen that the subject related to social services is covered under many headings in the "Individual and Society" learning domain. When one of these headings, ***"What Do I Like and What Can I Do"***, the problems experienced by stray animals, which is one of the important problems in the field of social services, were presented under this heading, based on the anxious thoughts of a student named Efe regarding the stray animals.

Figure 3: A Photo of a Stray Animal in the 4th Grade Social Studies Textbook
Source: 4th grade Social Studies textbook (Tüysüz, 2019, p.20).

Under the heading of ***"If I Were in His / Her Shoes"***, while the sensitivity a female student expressed in relation to the empathy she experienced about people living alone, the elderly and the people in need of care was highlighted, in relation to the dialogue that another student had with refugee students under the same topic, the problems that refugee students experienced were revealed.

Under the heading of ***"I am Aware, I Respect Differences"***, it was stated that people with different qualities, characters, race, beliefs, physical characteristics etc. living together in the society should acknowledge each other and this situation should be regarded as natural, and that the differences should be perceived as wealth rather than danger. In order to support this view, two sample poems reflecting our differences (*given in Figure 4 below*) were included in the text. Similarly, it was also emphasized that individuals who were physically different in terms of emotions, thoughts and appearance should not be segregated in the society, and this situation of disabled individuals should not be seen as a cause of superiority or deficiency among individuals. It is because it was stated that being physically disabled was not a deficiency, but a difference and diversity. This beautifully laid-out subject, dignified and meaningful manner in the book was crowned by the example of the Turkish National Team's victory in European Champion defeating England 2-1, the European Amputee Football Championship held in Turkey in 2017. The relevant text is given in figure 4.

Differences and Harmony

Of course we all have a different characteristic,
In a world where we live together
Even though we all live in different places
We have a respect for each other.

Thoughts, races, languages
Are the features that distinguish us from each other
We have one thing in common
That we are human

We are safe when we are all together
Our features reveal our differences
If we become powerful together
We can achieve anything together.

Why don't we hold hand in hand
Our differences cannot be the obstacle
Let's get together again
We are always together, let's not forget this.

*According to poem, what are our differences and similarities?
*What does the poet ask of the people?
*What could be the benefits of individuals having different characteristics

Figure 4: The Poems on the Theme of Our Differences in the 4th Grade Social Studies Textbook

Source: 4th grade Social Studies textbook (Tüysüz, 2019, p.28-30).

Osman Çakmak

(Team Captain-Veteran)

He lost his left leg below the knee by stepping on a mine.

Serkan Dereli

Congenially without a left foot.

Barış Telli

When he was 5 years old, his foot was crushed by a car.

Rahmi Özcan

Congenially without a right foot.

Figure 5: The Amputee Football National Team Players under the Theme of Our Differences in the 4th Grade Social Studies Textbook

Source: 4th grade Social Studies textbook (Tüysüz, 2019, p.29).

Table 2: Topics Related to Social Services in the 4th Grade Social Studies Textbook by the Cultural and Heritage Learning Domain and Topics

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
4th Grade	CULTURE and HERITAGE	History of my Family	
		Elements of our National Culture	
		Children's Plays from Past to Present	
		A Heroic Epic: War of Independence	

When the 4th grade Social Studies textbook is examined, it is seen that the subject related to Social Services was given under the title of **"A Heroic Epic: War of Independence"** in the learning domain of "Culture and Heritage". Under this heading, the theme of orphans, one of the fundamental issues in the field of social services, was associated with a sample text presented about Kazım Karabekir, one of the leading commanders of the War of Independence period, and this situation was emphasized.

In the text given, it was mentioned that during the years of the war of independence, nearly two thousand orphan Turkish children between the ages of 4 and 14, whose mother and father were killed in Erzurum and Erzincan regions, were adopted by Kazım Karabekir and their training and education was emphasized. The text on the relevant subject given in the book is presented below.

Kazım Karabekir Pasha adopted two thousand orphans whose parents were killed in Erzurum and Erzincan regions. These were children aged 4-14. Kazım Karabekir raised the children in such a way that they eventually leant an art and a profession. Some of these children learned carpentry very well. They could draw beautifully and carve childishly and artistically. Kazım Pasha abolished the criminal procedure. However, it established a discipline that would enable children to developing their personality freely. He would take the child with bad behavior aside and talk to him/her directly. The kid that the "Pasha Baba" had pulled aside and advised would not have been up to any mischief one again. The most striking thing in children was honesty and straightforwardness. They learnt these characteristics not by advice, but from the environment and atmosphere they lived in.

Figure 6: The Reading Text about Kazım Karabekir in the 4th Grade Social Studies Textbook

Source: 4th grade Social Studies textbook (Tüysüz, 2019, p.51).

Table 3: Topics Related to Social Work in the 4th Grade Social Studies textbook by the People, Places and Environments, Learning Domain and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
4th Grade	PEOPLE PLACES and ENVIRONMENTS	Our directions	
		Let's Give Directions	
		What's Around Us?	
		Weather Forecast	
		Where I live	
		We Should Be Ready for Natural Disasters	

When the 4th grade Social Studies textbook is examined, it was seen that the subject of social services was given under the title of ***"What's Around Us"*** in the "People Places and Environments" learning domain and the subjects of natural beauty and love of animals that had positive effects on human psychology were covered. It was stated that individuals should be sensitive about animal rights issues, as well as internalizing consciousness for nature, which is one of the interest areas of social services in the textbook.

Figure 7: Images about Love of Animals and Natural Beauties in the 4th Grade Social Studies Textbook

Source: 4th grade Social Studies Textbook (Tüysüz, 2019, s. 71 - 72).

When the topic of ***"We Should Be Ready for Natural Disasters"*** is examined, it is seen that the subject of natural disasters, one of the leading topics in the field of social services, was examined in detail. In the textbook, initially, natural disasters were described, and then the types of natural disasters were explained to the readers in an informative monologue style speech through different students. The students explained the natural disasters they experienced according to the geographical conditions of the region they lived in, the devastating situations experienced by the individuals living in those regions, the material and moral losses and the measures to be taken in this regard, respectively.

Figure 8: The Image on Natural Disasters in the 4th Grade Social Studies Textbook

Source: 4th grade Social Studies textbook (Tüysüz, 2019, p.85 - 87)

Table 4: Topics Related to Social Services in the 4th Grade Social Studies Textbook by Science, Technology and Society Learning Domain and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
4th Grade	SCIENCE, TECHNOLOGY and SOCIETY	Technological Products	
		Technology from Past to Present	
		Technology in Time	
		Let's Make an Invention	
		Let's Use it Without Damage	

When the 4th grade Social Studies textbook is examined, it is seen that the subject related to social services was given under the heading of ***"Let's Make an Invention"*** in the "Science, Technology and Society" learning domain. Under this heading, it was observed that the problems of disabled and illiterate individuals, which were one of the important areas of interest in the field of social services and who were considered as disadvantaged groups in society, were emphasized.

Furthermore, in today's technology world, the inventions made to facilitate the lives of these individuals and increase their living comfort were introduced. An invention named "Talking Medicine Box" developed by a student named İlker for visually impaired individuals in a project competition organized within his own school, and the wristband named "Lifeguard Balloon" developed by the student named Dilek in the same project to reduce the death rates against drowning in the summer season, emerged as exemplary products that served the purpose of the Social Services discipline. Relevant sample texts are given below.

Ingredients of the drug and how to use it are explicated in the prospectus available inside the medicine boxes. Pharmacists also write on the boxes when and how the drugs will be used. Thus, pharmacists help patients to use their medicines in the most correct way. However, all these may be insufficient in some cases. It is because the patient may be illiterate or visually impaired. These people cannot read the warnings and explanations on the medicine boxes. As such, they may be harmed by using the drug incorrectly.

I designed a new product thinking that such situations may occur. I participated in the project contest held at our school with this product, which I call the "Talking Medicine Box". According to my design, a flat device with the capacity to record and play the recorded sound is attached to the medicine box. The pharmacist explains how to use the medicine by pressing the button on the medicine box when a visually impaired person comes into the pharmacy. The patient also listens to the pharmacist's warnings and explanations by pressing the same button when s/he will use the drug. Thus, s/he learns whether the medicine s/he has taken is the right medicine and how to use it.

If it were you, how would you find a solution to this problem of visually impaired patients?

Every year in summer, people go for swimming in the seas, pools and lakes to cool off. Unfortunately, many people drown and lose their lives due to inexperience and negligence. I wanted to minimize these sad events with a bracelet I designed. Inside this bracelet, which I call “Lifeguard Balloon”, there is a small gas tube attached to the balloon. When the person in danger of drowning pulls the knob on the wristband, the gas coming out of the tube expands and fills the balloon. The rapidly inflating balloon saves its owner from drowning by quickly bringing him/her to the surface of the water.

Figure 9: The Reading Text on Inventions in the 4th Grade Social Studies Textbook

Source: 4th grade Social Studies textbook (Tüysüz, 2019, p.112).

Table 5: Subjects Related to Social Services in the 4th Grade Social Studies Textbook by Production Distribution and Consumption Learning Domain and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
4th Grade	PRODUCTION DISTRIBUTION and CONSUMPTION	Our Requests, Our Needs	
		Economic Activities in My Family and Circle of Friends	
		Let's Become Conscious Consumers	
		Let's Get Our Document	
		Let's Accommodate ourselves to the existing circumstances	
		Yes to Consumption, No to Waste	

When the 4th grade Social Studies textbook is examined, it is seen that the subject related to social services was covered under the title of ***"Our Requests, Our Needs"*** within the "Production, Distribution and Consumption" learning domain. Under this heading, one of the important areas of interest in the field of social services, the aids that needed to be made to people in need was addressed. In the textbook, the information that the basic needs of people (Nutrition, Dressing, Housing, etc.) were common in general and the assistance provided by the Turkish Red Crescent to the individuals living in different parts of the world and people in need was mentioned in the textbook. Sample text is given below.

The Very First Humanitarian Aid to Mosul comes from the Turkish Red Crescent

The Turkish Red Crescent, which has been helping the needy in Iraq for many years, sent a total of 500 tons of aid material consisting of 20 trucks to be distributed to those in need in Mosul and Tal Afar.

Among the humanitarian aid materials sent to Mosul are clothing, sleeping bags, hygiene items, dry food (flour-pasta), cracked wheat, rice, cake, blankets, tents and beds.

Figure 10: The Reading Text about Turkish Red Crescent in 4th Grade Social Studies Textbook

Source: 4th grade Social Studies textbook (Tüysüz, 2019, p.123).

Table 6: Topics Related to Social Services in the 4th Grade Social Studies Textbook by Active Citizenship Learning Domain and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
4th Grade	ACTIVE CITIZENSHIP	I am a child, I exist through my rights	✓
		I take responsibility	
		I Participate in Educational and Social Activities	
		Freedom and Independence	

When the 4th grade Social Studies textbook is examined, it is seen that the subject related to social services was given under the topic of ***"I am a child, I exist through my rights"*** in the "Active Citizenship" learning domain. Under this heading, it was that the different aspects of the issue of children's rights, which was one of the important areas of interest in the field of social services, were highlighted. Under this heading, it should be made sure that children have the right of a balanced and healthy diet, getting a good education, growing up in a healthy environment, dressing, sheltering, playing games, etc. It was stated that they had rights and these rights were protected by laws both at national and international level. Furthermore, it was stated that the steps that should be taken to ensure that children receive a good education, to protect them from violence, abuse, various dangers and negligence, to prevent children from working, to protect them from wars and to facilitate their lives were among the fundamental duties of the state. Additionally, it was emphasized that children had the right to express their opinions freely and to express their opinions in decision-making processes in families, schools, etc.

Figure 11: Images on Children's Rights in the 4th Grade Social Studies Textbook

Source: 4th grade Social Studies Textbook (Tüysüz, 2019, p. 153 -154 - 155).

Findings Related to the Second Sub-Problem

According to the Learning Domain / Unit and Subject headings, which subjects related to Social Services are covered in the 5th Grade Social Studies textbook?

Table 7: We Are Part of a Whole Unit and Topics Related to Social Services in the 5th Grade Social Studies Textbook by Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
5th Grade	WE ARE PART OF A WHOLE	I am an Active Citizen	
		Multidimensionality of Events	
		We Have Our Roles, Rights and Responsibilities	
		I exist through my rights	

When the 5th grade Social Studies textbook is examined, it is seen that the subject related to social services was given under many headings in the unit "We Are Part of a Whole". When one of these titles, ***"I am an Active Citizen"***, was examined, it is seen that the issue of children's rights, which was one of the important areas of interest in the field of social services, was emphasized. When the text given was examined, a student named Aslı stated that she learned many rights as a child through the Social Studies course. The relevant text is given below.

Hello, I'm Aslı. I learned that we have many rights as children in the Social Studies course. Moreover, the rights we have are protected by both national and international documents. For example, we use our right to education by coming to school, and when we get sick, we use our right to benefit from healthcare institutions by going to the hospital.

Figure 12: Speech Text on Children's Rights in the 5th Grade Social Studies Textbook

Source: 5th grade Social Studies textbook (Harut, 2019, p.12).

When the topic ***"We Have Roles, Rights and Responsibilities"*** is examined, it is seen that the issue of children's rights, which was one of the important areas of interest in the field of social services, was emphasized again. When the given text is examined, it was stated that children had some basic rights as stated below;

- ✓ Being in a safe and healthy school environment
- ✓ Being able to express your thoughts freely

When the topic of ***"I Exist through My Rights"*** is examined, it is seen that the historical process of the child rights issue was covered in detail. However, it was observed that the following points regarding children's rights were addressed.

- ✓ Why was a children's rights convention needed?
- ✓ Legal Formation Process of the existing contracts regarding children's rights
- ✓ 12 June, the World Day Against Child Labor
- ✓ 2015 World Child labor report published by the international labor organization (ILO)
- ✓ Problems of refugee children in the world, especially in Syria
- ✓ The malnutrition problem of many children living in different parts of the world, especially in Africa

Figure 13: Images on Children's Rights in the 5th Grade Social Studies Textbook

Source: 5th grade Social Studies textbook (Harut, 2019, p.25-26-27).

Table 8: The Human and Environment Unit and Subjects Related to Social Services in the 5th Grade Social Studies Textbook by Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
5th Grade	HUMAN and ENVIRONMENT	What Do Maps Say?	
		The Effect of Climate on Our Lives	
		Population and Settlement	
		Why did it happen?	
		Natural Disasters and their Effects	

When the 5th grade Social Studies textbook is examined, it is seen that the subject related to social services was covered under many headings in the unit of "Human and Environment". Under the headings of "Why did it happen?" and "Natural Disasters and Their Effects", students' attention was drawn to the natural disasters and environmental problems in our country and in the world. It was observed that natural disasters especially earthquakes, floods, avalanches, landslides, erosion, tornadoes, and environmental problems such as forest fires, water pollution, soil pollution and noise pollution were the topics that were addressed in detail. Furthermore, the negative effects of natural disasters on humans and the environment (*loss of life, material damage, destroyed nature, perished animals*) were presented to the students from a wide perspective based on the real cases experienced. Additionally, the negative effects of natural disasters were exemplified by the great folk poet Aşık Veysel's poem *"Kızılırmak Seni Seni"*.

Table 9: Topics Related to Social Services in the 5th Grade Social Studies Textbook by Subject Headings with the Unit of I am Active and Responsible

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
5th Grade	I AM ACTIVE and RESPONSIBLE	Those Serving the Community	
		Governance Where We Live	
		Our Basic Rights	
		Symbols That Make Us Who We Are	

When the 5th grade Social Studies textbook is examined, it is seen that the subject related to social services was covered under the title of ***"Our Basic Rights"*** in the unit "I am Active and Responsible". Under this title, by pointing to the 12th article of the Convention on the Rights of the Child, it was stated that the students could express their opinions freely in all matters that concerned them and that they could make demand for the students' opinions to be taken into account.

Findings Related to the Third Sub-Problem

According to the Learning Domain / Unit and Subject headings, which subjects related to Social Services are covered in the 6th Grade Social Studies textbook?

Table 10: Subjects Related to Social Services in the 6th Grade Social Studies Textbook by the Unit Us and Our Values and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
6th Grade	US AND OUR VALUES	My Roles in the Community	
		Those Who Make Us 'Us'	
		We Are Colorful Like Wildflowers	
		Two Heads Are Better Than One	
		Rights, Freedom, Responsibility	
		Let's Play and Learn	

When the 6th grade Social Studies textbook is examined, it is seen that the subject related to social services was covered under the title of ***"Those Who Make Us 'Us'"*** in the unit "Us and Our Values". Under this heading, the sensitivity, predictions and encouragement of the religion of Islam regarding social solidarity and solidarity in the society were included, and the subject was highlighted over the concepts of zakat, neighbor rights, mercy, benevolence, justice, courage and human love.

Figure 14: Photo Related to Neighbor Rights and Solidarity in 6th Grade Social Studies Textbook

Source: 6th grade Social Studies textbook (Yıldırım, Kaplan, Kuru, Yılmaz, 2019, p.19).

Under the title of ***"We Are Colorful like Wildflower"***, the concepts of "Discrimination, Differences, Stereotypes, Prejudices, and Respect" were addressed, and the important sub-headings of the social services field were disabled individuals, children who were deprived of their right to education, people who were victims of prejudice due to their jobs, etc. topics were covered. People who were prejudiced against and found it odd in the child who had to provide for his mother and three siblings by collecting garbage paper from the streets, who later lost his mother, but never lost their love of reading and studying; on the other hand, the story of a mother who reproached that society's attitude and prejudice against children with autism should be changed, the perspective of Yunus

Emre, one of the leading names of Turkish poetry and the world of thought, on our differences, etc. are some of the examples related to social services covered in the book.

Figure 15: The Photo of Children with Autism in the 6th Grade Social Studies Textbook

Source: 6th grade Social Studies textbook (Yıldırım, Kaplan, Kuru, Yılmaz, 2019, p.30).

It is possible say that under the heading of ***"Two Heads Are Better than One"***, many topics ranging from domestic solidarity to social solidarity were covered again here within the framework of social services. Based on the hadith of Islam, "The one who lay full while his/her neighbor is hungry is not one of us", the function of the charitable foundations, the purpose of charitable soup kitchens, zakat and charity, and social aid and solidarity movements such as Sadaka Taşı (Charity Stone) were explicated and addressed. Similarly, the aid campaigns organized in unity and solidarity across the country for the disaster victims after the two major earthquakes that took place in Van on 23 October 2011 and 9 November 2011 constituted another crucial social service issue highlighted in the textbook. Correspondingly, the missions of the of institutions and organizations named General Directorate of Social Assistance and Solidarity (Social Assistance and Solidarity Foundation), Red Crescent, Darülaceze (Poorhouse), Turkish Armed Forces Mehmetçik (Robin) Foundation, and professional support was provided to citizens in need of social assistance through the free phone "144 Social Help Line".

Figure 16: The Photo of the Van Earthquake in the 6th Grade Social Studies Textbook

Source: 6th grade Social Studies Textbook (Yıldırım, Kaplan, Kuru, Yılmaz, 2019, p.36).

Table 11: Subjects Related to Social Services in the 6th Grade Social Studies Textbook by the Unit of Journey to History and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
6th Grade	JOURNEY to HISTORY	Central Asia, Homeland of the Turks	
		The Birth of Islam	
		Turks Meet Islam	
		Anatolia, the New Homeland	
		Historical Routes	
		Let's Play and Learn	
		Measurement and Evaluation	

When the 6th grade Social Studies textbook is examined, in the "Journey to History" unit of the subject related to social services, under the title of “The Birth of Islam", following the Migration (of Prophet Muhammad) incident in 622, the troubles of Muslims who migrated from Mecca to Medina and the attitudes of Medinan Muslims against these people in this situation, and were explicated and covered through the triangle of brotherhood, solidarity and unity. Nonetheless, in the “Farewell Sermon” in which Muhammad (Peace be upon Him) addressed the Muslim people during his last pilgrimage; it was stated that he mentioned about women’s rights and rejected discrimination, racism and the conception of slavery.

Under the title of ***"Anatolia, the New Homeland"***, the topic of the functions of the caravanserais, one of the traditions of that period, established by the Turkish statesmen in order to serve the society, to protect their people and to keep them alive in prosperity, was covered. It was stated that caravanserais were multi-purpose structures (small mosque, public bath, fountain, etc.) and they contained individuals belonging to different occupational groups such as medical doctors,

veterinarians, blacksmiths, and caretakers of animals. It was emphasized that the Turks had a wide understanding of tolerance, hospitality and service, stating that the same service was offered to everyone for free for three days without distinction between rich and poor, free-slave and Muslim-non-Muslim.

Table 12: Topics Related to Social Services in the 6th Grade Social Studies Textbook by Subject Headings of I Produce, I Consume, I Am Aware Unit

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
6the Grade	I PRODUCE, I CONSUME, I AM AWARE	Resources and Economic Activities of Our Country	
		I Use Our Resources Appropriately	
		Investment and Marketing	
		Our Taxes Are Our Incomes	
		Qualified Manpower and Developing Economy	
		I Choose My Profession Consciously	
		Let's Play and Learn	

When the 6th grade Social Studies textbook is examined, in the "I Produce, I Consume, I Am Aware" unit of the subject related to social services, under the title of ***"Investment and Marketing"***, it was stated that the investment projects conducted in rural areas of different regions of Turkey such as Southeastern Anatolia Project (GAP), Konya Plain Project (KOP), Zonguldak, Bartin, Karabük Project (ZBK) materializes changes and sustainability in agricultural strengthening the sectors like manufacturing, trade, transport and energy; furthermore, it made significant contributions in increasing accessibility to education, health, culture and other social services. It was also stated that this situation further contributed significantly to increasing the welfare level of the citizens by reducing the development differences both within and between the regions.

Table 13: Subjects Related to Social Services in the 6th Grade Social Studies Textbook by the Unit of I Take Part in the Administration and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
6th Grade	I TAKE PART IN THE ADMINISTRATION	Administration Styles from Past to Present	
		Democratic State and its Bodies	
		I Am part of the Decision-Making Process	
		Democracy is Everywhere	
		Our Rights and Responsibilities are Safe	
		Turkish Women from Past to Present	
		Let's Play and Learn	

When the 6th grade Social Studies textbook is examined, in the "I Take Part in the Administration" unit of the subject related to social services, under the title of ***"Our Rights and Responsibilities are Safe"***, the exploitation of the right to education of a female student who had to work as a seasonal agricultural worker and therefore could not go to school was debated on the basis of the responsibilities of individuals and the state.

Figure 17: The Photo of Educational Exploitation of Children in the 6th Grade Social Studies Textbook

Source: 6th grade Social Studies textbook (Yıldırım, Kaplan, Kuru, Yılmaz, 2019, p.216).

Under the title of **"Turkish Women from Past to Present"**, the concepts such as "Gender Discrimination and Positive Discrimination" were evaluated from the perspective of historical process from the moment Turks commenced to emerge in the historical stage of the world. It was indicated that women had an important place and role in society in Turkish history; there was no discrimination between men and women, during the years of the War of Independence, Turkish women took an active role and were very self-sacrificing behind the war front, and as examples names of those women cited were mentioned. It was stated that with the adoption of the Civil Code, equality of men and women in social and economic life was achieved.

On the other hand, in addition to these positive developments, it was clearly demonstrated that women in the society were exposed to some negative situations. Violence against women and gender discrimination, oppression of women in society or private life, arbitrary limitation of their freedoms, etc. were stated to be the most crucial points of this situation. It was emphasized that the state made some legal regulations in order to reduce or eliminate these negativities, but this alone would not be sufficient, however, some social responsibility projects that could include all segments of the society were developed and necessary steps were taken in order to solve the problem in a long-term and permanent way. Furthermore, it was stated that with the 183free phone line established, relevant calls from women, children, elderly, disabled, relatives of martyrs and veterans were appraised and consultancy services were provided to these people through this phone line, which was accessible 24 hours a day, 7 days a week.

Table 14: Subjects Related to Social Services in the 6th Grade Social Studies Textbook by Our International Relations Unit and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
6the Grade	OUR INTERNATIONAL RELATIONS	Our National Foreign Policy	
		Import and Export	
		Turkey is Expected	
		Popular Culture and Us	
		Let's Play and Learn	

When the 6th grade Social Studies textbook is examined, it is seen that the subject of "Refugees", one of the important topics of social services, was covered under the title of "Our National Foreign Policy" in the unit of ***"Our International Relations"***. In the related text, due to Turkey's geographical location throughout the historical process, it was stated that Turkey was often a refugees receiving country, and it was emphasized that especially because of the situation that had been going on since 2011 due to the civil war in Syria, more than 3.5 million refugees were accepted into our country and those people were under temporary protection.

Findings Related to the Fourth Sub-Problem

According to the Learning Domain / Unit and Subject headings, which subjects related to Social Services are covered in the 7th Grade Social Studies textbook?

Table 15: Topics Related to Social Services in the 7th Grade Social Studies Textbook by the Journey into the Turkish History Unit and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
7th Grade	JOURNEY INTO THE TURKISH HISTORY	Establishment of the Ottoman Empire	
		The Conquest Policy of the Ottoman Empire	
		Developments in Europe and their Effects on the Ottoman Empire	
		Reform Movements in the Ottoman Empire	
		Ottomans Through the Eyes of the Travelers	

When the 7th grade Social Studies textbook is examined, it is seen that the subject related to social services was given under the title of ***"Developments in Europe and their Effects on the Ottoman Empire"*** in the "Journey into the Turkish History" unit. In the relevant text, it was stated that after the industrial revolution took place, many factories were opened in cities and the demand for workers increased accordingly, and as a result, it was emphasized that especially child workers were employed in factories under severe conditions. Similarly, under the same heading, it was stated that people in the exploited countries were separated from their families by force, either exiled to the war front or sold as slaves. Therefore, within the framework of the Social Studies curriculum, the two bleeding wounds of social services, human trafficking and child abuse, were brought to the agenda in the relevant text.

Under the title of ***"Ottomans through the Eyes of the Travelers"***, the sensitivity of the Turks to animal rights was associated with the approach of Islam towards living beings and the positive practices of Turks to feed stray animals were highlighted.

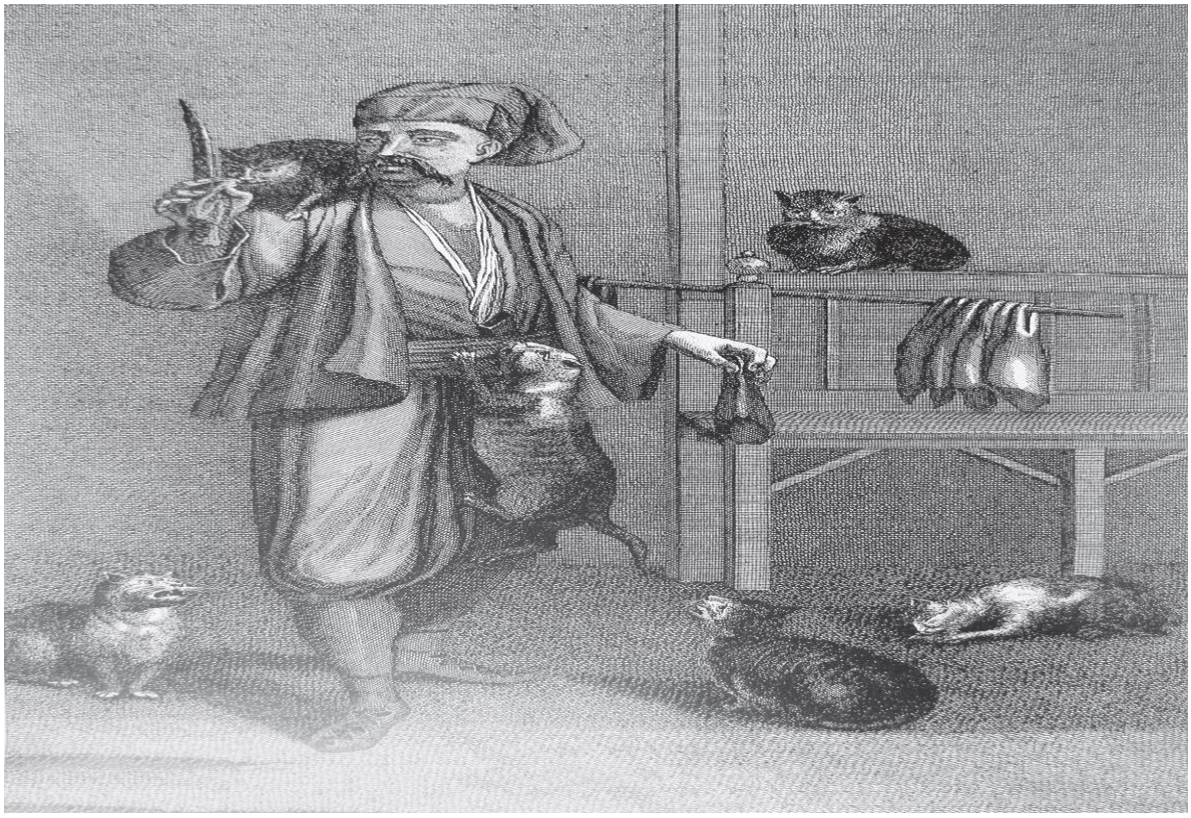

Figure 18: Picture of Animal Love in the Turkish Society in the 7th Grade Social Studies Textbook

Source: 7th grade Social Studies Textbook (Azer, 2019, p.83).

Similarly, when the travel books were examined under the same heading, many examples were given about the assistances were provided to the people in need in the Ottoman Empire; nevertheless, it was mentioned that a spa was built to treat the patients in the Bursa province and the food and beverage needs of the people who came here for treatment were met for 3 days, and the same service was provided for people staying in caravansaries.

Table 16: Topics Related to Social Services in the 7th Grade Social Studies Textbook by the Population in Our Country Unit and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
7th Grade	POPULATION IN OUR COUNTRY	Life on Earth	
		Population in Our Country	
		Migration with Causes and Consequences	
		Settlement and Travel Freedom	
		What Have I Done? What Have I Learned?	

When the 7th grade Social Studies textbook is examined, it is seen that the subject related to social services was given under the topic of ***"Migration with Causes and Consequences"*** within the unit "Population in Our Country". In the relevant texts, the issue of migrations from the Balkans to Anatolia as a result of the migrations from the villages to the cities and the wars waged in the last period of the Ottoman Empire was covered and the problems these people experienced as a result of the migrations were explicated in relation to the refugees who migrated from Syria to our country.

Table 17: Topics Related to Social Services in the 7th Grade Social Studies Textbook by the Economy and Social Life Unit and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
7th Grade	ECONOMY and SOCIAL LIFE	Mother Earth	
		Production Tools From Past to Present	
		Place of Foundations in Social Life	
		Employment Providing Institutions	
		New Jobs	
		Digital World	

When the 7th grade Social Studies textbook is examined, it is seen that the subject related to social services is given under the title of ***"Production Tools from the Past to the Present"*** in the unit "Economy and Social Life". In the relevant text, it was once again emphasized in this unit that the rights of children were violated by being forced to work in hard labor in order to open many factories after the industrial revolution and to meet the increasing demand for workers.

Under the title of ***"The Place of Foundations in Social Life"***, the solidarity culture that the Turkish nation had exhibited in the period from the past to the present was emphasized and this situation was concretized through the example of Sadaka taşları (Charity Stone) applied in the era of Ottoman Empire. Similarly, the same title under Article 5 of the constitution within the framework of the social state, by emphasizing the social state, the activities of institutions, organizations and non-governmental organizations that provide services to improve the citizen's level of prosperity and peace in Turkey, were covered. *"Red Crescent, Green Crescent, Darülaceze and Tema"* were exhibited as the examples of these institutions and organizations.

Table 18: Subjects Related to Social Services in the 7th Grade Social Studies Textbook by the Living Democracy Unit and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
7th Grade	LIVING DEMOCRACY	Adventure of Democracy	
		Atatürk and Democracy	
		Power of the Constitution	
		More Democracy	

When the 7th grade Social Studies textbook is examined, it is seen that the subject related to social services was covered under the title of ***"The Adventure of Democracy"*** in the unit of "Living Democracy". In the relevant text, the adventure of "Democracy" in the historical process was explicated and the issue was highlighted by the anti-racist movements and discourses in America in the 1950s, and the situation was exemplified by Martin Luther King's famous speech on racism in 1963.

Figure 19: A Photo from Martin Luther King's Famous Speech on Racism in 1963 in the 7th Grade Social Studies Textbook

Source: 7th grade Social Studies Textbook (Azer, 2019, p.182).

Under the title of "Power from the Constitution", it was explicated that the Republic of Turkey, since its formation, fulfilled its duties and responsibilities towards its citizens and made the necessary legal arrangements and constantly strived to increase the peace, confidence and happiness of its citizens. In this respect, it was emphasized that the state implemented many supports for people in need of help and care, orphans, the elderly, the disabled and disadvantaged groups. The situation was concretized with examples of activities such as general health insurance and literacy mobilization for illiterate adults across the country.

Under the heading of ***"More Democracy"***, the subject of "Refugees", one of the important sub-headings of social services, was re-addressed and the issue of the situation of Syrian refugees in the country was re-emphasized. Especially the fact that the refugees were stuck between two lifestyles, experienced language problems, and were consequently unable to express basic needs and problems, marginalization and exclusion etc. were the most emphasized problems. Similarly, under the same title, it was explicated that the great majority of employees in Turkey were composed those

working in the private sector; 38.262 people suffered from mobbing and as a result, those people resorted to the free phone line "170" for assistance initiated by the Ministry of Family Labor and Social Services.

Table 19: Subjects Related to Social Services in the 7th Grade Social Studies Textbook by the Bridges between Countries Unit and Subject Headings

Grade Level	Learning Domain	Subject	Topic on Social Services Related Issues
7the Grade	BRIDGES BETWEEN COUNTRIES	Peace at Home, Peace in the World	
		We Are Here Too	
		We Are a Welcoming Nation	
		We Will Save the World	

When the 7th grade Social Studies textbook is examined, it is seen that the subject related to social services was covered under the title of ***"Peace at Home, Peace in the World"*** within the unit of "Bridges between Countries". In the relevant text, the organizations and the founding purposes of these organizations affiliated with United Nations working for the benefit of people and children all over the world such as UNESCO (UN Education, Scientific and Cultural Organization), WHO (World Health Organization), UNICEF (UN Children Aid Fund), FAO (UN Food and Agriculture Organization), etc. were mentioned.

Under the topic of ***"We are a welcoming nation"***, particularly the discriminatory and discriminatory problem that the refugees in the world experienced both in Turkey and in the world were expressed, and was pointed out that culture and art played a vital role in the ability of local people and refugees to live together.

Under the title of ***"We Will Save the World"***, the subject of natural disasters was covered, and the subjects of "Flooding, Global Climate Change, Terror, Starvation and Migration" were addressed, and among these, the problems of people who were at or below the hunger threshold and refugees in the world, which was the focus of attention of social services, were emphasized once again. It was stated that around 11 million people died of starvation every year in the world; nevertheless, it was stated that more than 200 million people around the world left their homes for various reasons and tried to survive in different countries legally or illegally.

Figure 20: Images on Hunger and Migration in the World in the 7th Grade Social Studies Textbook

Source: 7th grade Social Studies Textbook (Azer, 2019, p.220).

Discussion and Conclusion

In the present study, which examined the social services subjects in Social Studies textbooks (4th, 5th, 6th and 7th grades) within the framework of the 2018 Social Studies curriculum, the following results were obtained.

- When the topics covered in the 4th Grade Social Studies textbook were evaluated in general, it is possible to say that the knowledge and information covered was at a cognitively appropriate and understandable for the level of students. When it was examined within the scope of the 2018- 4th grade Social Studies Curriculum Learning Domains / Units, it was observed that many issues such as desolate and homeless people, elderly and needy people, animal rights, students' concerns about animal rights, love of animals among Turks, positive approaches for stray animals in the era of Ottoman Empire were covered in the textbook. Particularly, attitudes and thoughts about human love and human rights were explicated to the students through the issues of people in need of help, the needy, homeless and refugees, and the students were enabled to gain empathy skills. Similarly, under the theme of respect and awareness of differences, it was emphasized that people who lived together in the community and who had different characteristics from each other in many respects (*religion, thought, race, physical and physical characteristics, etc.*) should accept each other as they were, and a perception that this diversity was a richness in social life was generated.

- The results obtained in the studies to be mentioned below overlap with the results of the present study; the Social Studies curriculum and textbook prepared by Mengi (2019) was examined in terms of disability, and it was emphasized that individual differences are a normal situation; the social and economic consequences of natural disasters on society explicated in a study by conducted by Altun were discussed (2018); social studies curriculum conducted by Kalender (2020) was evaluated in terms of the relevant articles of the children's rights; the issue of child abuse (child workers, education exploitation) in a study conducted by Sallan Gül and Türkmen (2019) was discussed in the context of Syrian refugee children; in their study, Karabulut and Bekler (2019) attempted to determine the effects of natural disasters on children and adolescents; In the master's thesis conducted by Uslu (2019), the issues of child rights and child abuse were explicated in detail; Social Studies and Social Studies curriculums carried out by Dündar and Hareket (2016) were evaluated in terms of children's rights; a master's thesis conducted by AKSULU (2013) on the rights of the animals was examined in the historical process in Turkey and social media; a study by Çalışkan, Aydın, Aslanderen (2014) carried out dealt with animal rights in Turkey the through the historical process; a study conducted by Gürdoğan Bayır (2019) on disadvantaged student groups in education (disabled children, child workers, refugee children, etc.) were evaluated from the perspective of teacher candidates; in the study conducted by Güner, Güner, Şahan (2010), it was found that child abuse was evaluated in medical and social aspects; in an study conducted by Karaca and Çam (2019), the social state in Turkey was evaluated in many ways; and in a study conducted by Özer, Komsuoğlu, Ateşok (2016) the education problems Syrian refugee children in Turkey were evaluated from various aspects.

- On the other hand, the skill of "Tolerance", which was one of the important skills of the Social Studies course, was tried to be taught to the students. Similarly, it is possible to say that by means of the project competitions, the secondary school students generated a significant awareness in terms of being sensitive and conscious citizens in the society through the inventions named "Talking Medicine Box" and "Lifeguard Balloon Bracelet" that would minimize the loss of life in drowning incidents developed for visually impaired people. Moreover, this situation is one of the ultimate goals of the Social Studies course. Consequently, in this sense, it is possible claim that the content of the program served the purpose in terms of social services and realized this. Furthermore, child rights, child abuse and the ability to help people in need, which were some of the important topics of social services, were covered within the framework of the principle of "Benevolence", one of the important values of the Social Studies program, which intended to raise the awareness of students on these issues and to create awareness successfully.

- When the topics covered in the 5th grade Social Studies textbook were evaluated in general, it is possible to state that the topics covered at this grade level were taught under fewer headings, but the headings were more detailed. At this grade level, it was seen that especially the issue of children's rights was taught in various aspects and in the texts given in the textbook, students stated that they had learned that they had many rights thanks to the Social Studies course.

- Another issue covered within the scope of social services at the 5th grade level was the issue of natural disasters. In our country, some assessments were made in terms of the type of natural disasters experienced by regions as well as their negative consequences on humans and living things; moreover, the practices that should be performed before and after disasters were specified within the framework of social services. The results of the studies conducted by Altun (2018); Kalender (2020); Karabulut, Bekler (2019), and Uslu (2019) are similar to those of the present study.

- When the topics related to social services in the 6th grade Social Studies textbook were evaluated in general, it was seen that social assistance and solidarity issues were mostly emphasized at this grade level. Various topics related to social solidarity and solidarity (zakat, mercy, neighbor right, justice) were covered and supported from the perspective of Islam. It was aimed that the fact that our individual differences in society were a wealth was re-covered at this class level, reinforcing the skill of "Tolerance" with the new subjects taught at this class level. Social assistance and solidarity skills, which were intensively covered at this class level, were taught through the example of the Van earthquake, and the institutions, organizations and foundations that served the purpose of social services were mentioned and examples were given from the historical process. The caravanserais, which had an important place in the history, especially undertook this mission and this was explained in detail with the applications carried out in that period. Similarly, negative issues such as racism, discrimination, slavery and gender discrimination that caused social segregation at this class level were criticized from the point of view of Islam; it was suggested that such behaviors, attitudes and practices be abandon as soon as possible. It was clearly seen that the issue of children's rights was re-covered at this grade level. The exploitation of children's education rights were assessed within the framework of both the problems experienced in the country and the refugee children in the world. The results of the studies conducted by Gürdoğan Bayır (2019), Sallan Gül, Türkmen (2019), Şahin (2020) also support the result of the present study.

- When the topics related to social services in the 7th Grade Social Studies textbook are evaluated in general, it was seen that, social services indexed subjects such as child abuse, slavery, racism, etc., which emerged due to the industrial revolution, we covered at this class

level. It was stated that after the industrial revolution, children started to be employed in factories in order to meet the increasing demand for workers and this situation created the problem of child abuse. Similarly, at this class level, it was stated that individuals in colonial countries were forcibly removed from their families and sold as slaves in the markets like a commodity; the idea of slavery, which eliminated human dignity and the concept of freedom, was criticized. Therefore, under the same theme, the topics of child abuse and human trafficking, which were within the scope of Social Services, were covered with a critical point of view, and the value of "Independence and Freedom", one of the important values of the Social Studies curriculum, was emphasized. Furthermore, it was aimed that students gained the value of compassion by explaining the love of humans and animals in Turkish society from past to present through various exemplary practices. The situation was made more concrete with the issue of "Refugees", which became a global problem in the world in recent years. It was indicated that the Republic of Turkey was an exemplary state, especially in regard to refugees, that exhibited positive attitude to all world countries, further stating that the Republic of Turkey was also a social state exerting efforts to offer the necessary support for those in need of help and homeless citizens within the country and increase their peace and prosperity by taking the necessary measures. The problem of racism, on the other hand, was associated with Martin Luther King's anti-racist speech in 1963, and the issue of "racism" was criticized. It is possible to say that the results of studies conducted by Seydi (2014) and Tüzün (2017) comply with the general result obtained in this study.

- As far as a general evaluation is concerned, it is possible to state that the subjects within the scope of "Social Services" in the 2018 Social Studies curriculum and textbooks were mostly included at the 4th grade level in terms of subject diversity out of the four grade levels (4th, 5th 6th and 7th grades). However, it has to be noted here that children rights and refugee issues were addressed at all four grades. Nevertheless, on the other hand, the issues such as the violence against women amplified significantly in Turkey in recent years, torturing animals such as fastening a tin can to the tail of cats and dogs, cutting the legs of cats and dogs for religious rituals or spells **(Web 3:** https://haberglobal.com.tr/gundem/patileri-kesilen-kedinin-olumunde-kanli-buyu-iddiasi-81823), seasonal the slaughtering of the animals in the non-hunting activities **(Web 4:** https://bianet.org/bianet/hayvan-haklari/207182-av-turizmi-yuzunden-1-yilda-2-546-hayvan-oldu) were not addressed adequately.

- These issues might not have been included in the textbooks due to the cognitive developmental levels of children. However, a perception that children could understand and acknowledge at an early age that gender discrimination was wrong; however, men should use their physical power superiority over woman in different positive situations rather than in the

form of violence against women, can be created. For that reason, these subjects can also be covered at least at 6th and 7th grade levels. On the other hand, the inclusion of negative issues such as racism, discrimination, slavery, which differentiate societies and people at all grade levels (in this study, it was seen that they were generally covered at the 6th grade level) can generate a serious awareness in terms of understanding the nature of the subject.

As far as the results obtained from the present study is concerned, the following recommendations can be offered.

- ✓ This study is limited to the Social Studies textbooks of the publishers whose tags have been given above, which were taught in public schools within the Ministry of National Education in the 2020 and 2021 academic year. A similar study can be replicated with the Social Studies textbooks of different publishers or with new Social Studies textbooks that will be published in the future.
- ✓ The Social Studies curriculum that was revised in 2018 can be further examined in detail under the distinct headings of the Social Services (*Violence against women, Child abuse, Refugees, Stray Animals, Substance Addiction, etc.*).
- ✓ Negative issues such as racism, discrimination, slavery, and gender discrimination that differentiate societies and people can be included more at different class levels as well.
- ✓ More quantitative studies study can be carried in the future.

References

Aksulu, M. (2013). *Yeni Toplumsal Hareketler: Türkiye'de Hayvan Hakları Savunuculuğu ve Sosyal Medya.* Yayınlanmamış Yüksek Lisans Tezi. Maltepe Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Altun, F. (2018). Afetlerin Ekonomik ve Sosyal Etkileri: Türkiye Örneği Üzerinden Bir Değerlendirme. *Sosyal Çalışma Dergisi*, 2 (1), 1-15.

Ambrosino, R., Ambrosino, R., Heffernan, J., Shuttlesworth, G. (2008). *Social Work and Social Welfare an İntroduction*. USA: Thomson Brooks/Cole.

Azer, H. (2019). *Ortaokul ve İmam Hatip Ortaokulu 7 Sosyal Bilgiler Ders Kitabı*. Ankara: EKOYAY Eğitim Yayıncılık Matbaacılık.

Aziz, A. (2011). *Sosyal Bilimlerde Araştırma Yöntemleri ve Teknikleri.* Ankara: Nobel Yayıncılık

Balcı, A. (2001). *Sosyal Bilimlerde Araştırma Yöntem, Teknik ve İlkeler.* Ankara: Pegem A Yayıncılık.

Cılga, İ. (2004) *Bilim ve Meslek olarak Türkiye'de Sosyal Hizmet*. Ankara: Hacettepe Üniversitesi Sosyal Hizmetler Yüksekokulu Yayınları No:016.

Creswell, J. W. (2013). *Nitel Araştırma Yöntemleri*, Çev. Ed. Mesut Bütün, Selçuk Beşir Demir, 3. Baskıdan Çeviri, Ankara: Siyasal Kitabevi.

Çalışkan, N., Aydın, M., Aslanderen, M. (2014). Empati ve Hayvanlarla İletişim. *Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi.* 1(1), 29-42.

Danış, M. Z. (2017). Sosyal Hizmetin Kavramsal Çerçevesi. Genç, Y. (Ed.) *Sosyal Hizmet Bilimine Giriş* içinde (s.4-26). Erzurum: Atatürk Üniversitesi Açıköğretim Fakültesi Yayını.

Duyan, V. (2003). Sosyal Hizmetin İşlev ve Rolleri. *Toplum ve Sosyal Hizmet Dergisi*, 14 (2): s. 1-22.

Dündar, H., Hareket, E. (2016). Türkiye'de İlköğretim Hayat Bilgisi ve Sosyal Bilgiler Dersi Öğretim Programlarının Çocuk Hakları Açısından İncelenmesi. *Manas Sosyal Araştırmalar Dergisi,* 5(2), 85-103.

Erden, M. (1998). *Sosyal Bilgiler Öğretimi [Teaching Social Studies]*. İstanbul: Alkım Yayınevi.

Gökçearslan Çifçi, E., Gönen, E. (2011). Sosyal Hizmet Uygulamalarında Etik Karar Verme Süreci. *Toplum ve Sosyal Hizmet*, 22 (2), s.149-160.

Güner, Ş. İ., Güner, S., Şahan, M. H. (2010). Çocuklarda Sosyal ve Medikal Bir Problem; İstismar. *Van Tıp Dergisi*, 17 (3), 108-113.

Gürdoğan Bayır, Ö. (2019). Dezavantajlı Gruptaki Çocuklarla Eğitim Süreci: Sınıf Öğretmeni Adaylarının Görüşleri. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi*, 20 (Özel Sayı), 1-14.

Harut, S. B. (2019). *Ortaokul ve İmam Hatip Ortaokulu 5 Sosyal Bilgiler Ders Kitabı*. Ankara: Ata Yayıncılık.

Kalender, B. (2020). Hayat Bilgisi Dersi Öğretim Programlarının Çocuk Hakları Sözleşmesinin Eğitim Hedefleri Maddesi Açısından İncelenmesi: Tarihsel Bir Analiz. *Batı Anadolu Eğitim Bilimleri Dergisi*, 11 (1), 44-70.

Karabulut, D., Bekler, T. (2019). Doğal Afetlerin Çocuklar ve Ergenler Üzerindeki Etkileri. *Doğal Afetler ve Çevre Dergisi,* 5(2), 368-376, DOI: 10.21324/dacd.500356.

Karaca, C., Çam, Y. (2019). Türkiye'de Sosyal Devlet Anlayışının Değerlendirilmesi. *Maliye Dergisi*, 176, 72-97.

Kongar, E. (1972). *Sosyal Çalışma'ya Giriş*. Ankara: Tıpkı Basım, Yayın No: 20, Sosyal Çalışma Dizisi: 16.

Korkmaz, K., Özbesler, C. (2020). Sosyal Hizmet Mesleği ve Eğitimi Çerçevesinde Farklılıklara Saygı ve Toplumsal Cinsiyet. *Uluslararası Sosyal Araştırmalar Dergisi*, 13 (69), s. 1250 – 1258.

Kut S. (1988) *Sosyal Hizmet Mesleği Nitelikleri, Temel Unsurları, Müdahale Yöntemleri*. Ankara.

Mengi, A. (2019). Sosyal Bilgiler Ders Kitabı ve Öğretim Programının Engellilik Açısından İncelenmesi. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi*, 20 (4), 707-736. DOI: 10.21565/ozelegitimdergisi.529379.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative Data Analysis*. London: Sage Publications.

Özer, Y. Y., Komsuoğlu, A., Ateşok, Z. Ö. (2016). Türkiye'deki Suriyeli Çocukların Eğitimi: Sorunlar ve Çözüm Önerileri. *Asos Journal Akademik Sosyal Araştırmalar Dergisi*, 4 (37), 76-110.

Sallan Gül, S., Türkmen, E. (2019). Türkiye'de Eğitimin Dışında Kalan, Hayallerin Uzağına Düşen Suriyeli Mülteci Çocuk Olmak. *Ulisa: Uluslararası Çalışmalar Dergisi*, 3 (2), 114-131.

Seydi, A. R. (2014). Türkiye'nin Suriyeli Sığınmacıların Eğitim Sorununun Çözümüne Yönelik İzlediği Politikalar. *SDÜ Fen Edebiyat Fakültesi Sosyal Bilimler Dergisi*, 31, 267-305.

Şahin, H. (2020). Göç Olgusu, Mülteci Çocukların Eğitimi ve Suriyeli Mülteci Çocukların Türk Eğitim Sistemine Entegrasyonu Süreci. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi*, 9 (1), 377-394.

Tabachnick, B. R. (1991). *Social Studies: Elementary-School Programs*. In A. Lewy (Ed.), International Encyclopedia of Curriculum (pp. 725-731). Oxford: Pergamon.

Tekindal, M., Ege, A., Erim, F. (2019). Sosyal Hizmet Bilgisi Üretimi: Toplum ve Sosyal Hizmet Dergisi İncelemesi (1983-2017). *Toplum ve Sosyal Hizmet*, 30 (3), 796-813.

Tüysüz, S. (2019). *İlkokul 4. Sınıf Sosyal Bilgiler Ders Kitabı*. Ankara: Tuna Matbaacılık.

Tüzün, I. (2017). *Türkiye'de mülteci çocukların eğitim hakkını ve karşılıklı uyumu destekleyen yaklaşımlar, politikalar*. Mülteci Çocukların Eğitim Hakkını ve Karşılıklı Uyumu Destekleyen Eğitim Politikaları ve Uygulamaları Çalıştayı. İstanbul. s.1-34.

Uslu, G. (2019). *Çocuk İhmal ve İstismarı Alanında Çalışan Profesyonellerin Sunulan Hizmetlere İlişkin Değerlendirmeleri.* Yayınlanmamış Yüksek Lisans Tezi. Başkent Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Yıldırım Aykurt, A. (2017). Medyanın Söylemleri Üzerinden Sosyal Hizmet Dilinin Analizi. *Nişantaşı Üniversitesi Sosyal Bilimler Dergisi*, 5 (1), s.138-161.

Yıldırım, A. ve Şimşek, H. (2013). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri*, Ankara: Seçkin Yayınları.

Yıldırım, C., Kaplan, F., Kuru, H., Yılmaz, M. (2019). *Ortaokul ve İmam Hatip Ortaokulu **6**. Sınıf Sosyal Bilgiler Ders Kitabı*. İzmir: Çağlayan Matbaası.

Zastrow, C. (2014). *Sosyal Hizmete Giriş*. Çiftçi, D.B. (Çeviri. Editörü.). Ankara: Nika Yayınevi.

Web1:https://cdnacikogretim.istanbul.edu.tr/auzefcontent/19_20_Bahar/dunyada_sosyal_hizmet_uygulamalari/14/index.html *(Erişim Tarihi: 11.12.2020, Saat: 12:35).*

Web 2: 2828 SHÇEK Kanunu https://www.mevzuat.gov.tr/MevzuatMetin/1.5.2828.pdf *(Erişim Tarihi: 08.12.2020, Saat: 10:15).*

Web 3: https://haberglobal.com.tr/gundem/patileri-kesilen-kedinin-olumunde-kanli-buyu-iddiasi-81823 *(Erişim Tarihi: 20.12.2020, Saat: 13:15).*

Web 4: https://bianet.org/bianet/hayvan-haklari/207182-av-turizmi-yuzunden-1-yilda-2-546-hayvan-oldu. *(Erişim Tarihi: 01.12.2020, Saat: 16:34).*