Okul Öncesi Öğretmen Adaylarının Uzaktan Eğitime Yönelik Tutumlarının İncelenmesi

The Investigation of the Attitudes of Pre-service Pre-School Teachers towards Distance Education

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ÖZ: Okul öncesi öğretmen adaylarının uzaktan eğitime yönelik tutumlarını belirlemek amacıyla yapılan bu araştırma betimsel tarama modelindedir. 2020-2021 eğitim öğretim yılı Sinop Üniversitesi ve Nigde Omer Halisdemir Üniversitesi Okul Öncesi Öğretmenliği Programında eğitim-öğretim gören 181 öğretmen adayının katıldığı bu araştırmada veri toplama aracı olarak "Kişisel Bilgi Formu" ve "Uzaktan Eğitime Yönelik Tutum Ölçeği" kullanılmıştır. Araştırmaya katılan öğretmen adayları uygun örnekleme yöntemi ile belirlenmiştir. Kişisel bilgiler ve okul öncesi öğretmen adaylarının uzaktan eğitime yönelik tutumlarının belirlenmesinde betimsel istatistikler kullanılmıştır. Öğretmen adaylarının uzaktan eğitime yönelik tutumlarının eğitim-öğretim gördükleri üniversiteye, online dersleri hangi araçla takip ettiklerine ve ders takip ortamının uygun olup olmamasına göre farklılaşıp farklılaşmadığını belirlemek için t-testi; cinsiyete, evde internet bağlantısı olma durumuna göre farklılaşıp farklılaşmadığını belirlemek için ise Mann Whitney U testi; sınıf düzeyine göre farklılaşıp farklılaşmadığını belirlemek için ise tek yönlü varyans analizi kullanılmıştır. Bu araştırmanın sonuçlarına genel olarak bakıldığında okul öncesi öğretmen adaylarının uzaktan eğitime yönelik tutumlarının orta düzeyde olduğu tespit edilmiştir. Öğretmen adaylarının uzaktan eğitime yönelik tutumlarını cinsiyete göre anlamlı bir farklılık göstermemiştir. Araştırmanın sonucunda online dersleri takip ettikleri aracın ve ders takip ortamının uygunluğunun öğretmen adaylarının uzaktan eğitime yönelik toplam tutum puanları üzerinde anlamlı bir farklılık gösterdiği bulunurken; eğitim-öğretim gördükleri üniversitenin, cinsiyetin, sınıf düzeyinin ve evde internet bağlantısı olma durumunun anlamlı bir farklılık göstermediği bulunmuştur.

Anahtar sözcükler: Uzaktan eğitim, okul öncesi eğitimi, öğretmen adayları, pandemi

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ABSTRACT: This descriptive survey study was conducted to determine the attitudes of pre-service pre-school teachers towards distance education. 181 pre-service teachers studying at Sinop University and Nigde Omer Halisdemir University Preschool Education Program in the 2020-2021 academic year participated in the study. The Personal Information Form and the Attitudes Towards Distance Education Scale were used as the data collection tools. The pre-service teachers to be included in the study were selected using the convenience sampling method. Descriptive statistics was used to analyze the data on personal characteristics and pre-service pre-school teachers' attitudes towards distance education. The t-test was used to determine whether the attitudes of the pre-service teachers towards distance education differ according to the university they study at, technological tool with which students follow the online lessons, and convenience of the environment in which students follow the online lessons; Mann Whitney U test to determine whether it differs according to gender and having internet connection at home; the ANOVA was used to determine whether it differs according to grade level. The results revealed that the attitudes of the pre-service pre-school teachers towards distance education were at a moderate level. As a result of the research, it was found that the technological tool with which students follow the online lessons, and the convenience of the environment in which students follow the online lessons showed a significant difference in the total attitude scores of the pre-service teachers towards distance education; ıt was found that the university they study at, gender, grade level and having an internet connection at home did not show a significant difference.

Keywords: Distance education, pre-school education, pre-service teachers, pandemic

1. INTRODUCTION

The world has undergone a significant transformation in the delivery and reception of education due to the advent of technology and the rise of global connectivity. As a result, distance education has become an increasingly popular option for learners of all ages and backgrounds. Distance education is a structured and planned learning experience that takes place outside the educational institution and today, ensures student-teacher interaction with the use of various technologies (Demir, 2014; Gunawardena & McIsaac, 2013). Historically, distance education has been implemented since the 1800s and has had an impact on students (Demir, 2014; Gunawardena & McIsaac, 2013). However, the outbreak of coronavirus in December 2019 and its subsequent declaration as an international public health problem by the World Health Organization on January 30, 2020, has caused governments worldwide to implement measures to control the pandemic (WHO, n.d.; OECD, 2020). As part of these measures, distance education has been initiated in over 190 countries, affecting 99% of the student population worldwide (Giannini et al., 2020; Bassett & Arnhold, 2020).

The Covid 19 pandemic inevitably affected Turkey as well. For this reason, as of March 23, 2020, courses in higher education institutions have started to be conducted through distance education (Higher Education Council [YÖK], 2020). A study by Yavuz et al. (2020) examined the distance education practices of 189 universities in Turkey during the pandemic and found that these institutions initiated distance learning within the first three weeks, utilizing synchronous, asynchronous, or a combination of both methods. In addition, students and teachers were provided with technical support and guidance regarding the distance education process. Another study conducted by collecting data from the distance education units of 33 universities in Turkey reported that the number of universities that can conduct all courses synchronously at the time of the study is less than the number of universities that conduct courses asynchronously and both synchronously and asynchronously (Durak et al., 2020). Furthermore, it is known that in most universities, students' attendance has been monitored, and lecture videos, presentation files, lecture notes, and assignments have been sent to students to facilitate their learning (Can, 2020; Durak et al., 2020).

The need for distance education during the pandemic was an unexpected imperative. Many students and educators have experienced and attempted to adapt to this process. During the COVID-19 pandemic, the shift to online learning has presented both challenges and opportunities, as noted by Adedoyin and Soykan (2020). One significant challenge has been the limited access to and use of necessary technological tools, particularly for students from low socioeconomic backgrounds. Additional difficulties have included poor internet connectivity, a lack of digital literacy, and environmental distractions. However, there have also been positive developments, such as an increase in research publications on online learning and digital transformation, and advancements in the technology supporting distance education (Adedoyin & Soykan, 2020). Feldman (n.d.) argued that the validity of the evaluations made in this period is controversial because the health and economic concerns caused by the pandemic affected the learning process of the students in the distance education conducted during COVID 19. Additionally, there have been problems arising from the incompetence of the educators in distance education (Feldman, n.d.).

Considering the advantages and disadvantages mentioned, it is thought that the attitude of the students who have experienced this process is determinative in the evaluation of distance education. Various studies have so far examined student attitudes towards distance education. Yakar and Yıldırım Yakar (2020) investigated the attitudes of education faculty students from various universities towards distance education and their readiness for e-learning. Researchers concluded that the attitudes of students

towards distance education are generally negative and factors like computer, Internet connection, department, and grade of students affect this attitude (Yakar & Yıldırım Yakar, 2020). Similarly, another study aimed at determining the attitudes of the students at the Department of Sociology towards distance education. The study revealed that students' attitudes were unstable, and they had difficulties in communicating with the lecturer due to technical problems. Therefore, they could not be motivated for the online lesson (Birişçi, 2013). In addition, according to the study conducted by Çiftçioğlu (2022) pre-service preschool teachers have a moderate level attitude towards distance education and there is a significant positive relationship between the digital literacy abilities of students with their attitudes. There are other studies in the literature which concluded that students are negative or undecided about distance education (Ural, 2007; Yıldız, 2016). On the other hand, Yenilmez et al. (2017) revealed that attitudes of pre-service teachers from different departments towards distance education are positive. They further revealed that having prior knowledge about distance education, the type of the website used, the department of the student, and gender significantly affect the attitudes of pre-service teachers towards distance education. Another study conducted with the pre-service teachers from the Department of Computer and Instructional Technologies reported that the students exhibited a positive attitude towards distance education and that the positive attitude was directly related to the year of study (Durmus & Kaya, 2011). Other studies with similar findings were also found in the literature (Dikbaş, 2006; Gultekin, 2006; Karavida et al., 2021).

The experiences gained during the COVID 19 pandemic show that the education system before COVID 19 was vulnerable to external threats (Bozkurt & Sharma, 2020). Some studies in the relevant literature predict the continued use of distance education in higher education even after the pandemic subsides (Durak et al., 2020; Yavuz et al., 2020). The assessment of the effectiveness of current and potential future distance education practices can form the basis for improvements that enhance the quality of distance learning applications. One of the most important factors in the success of distance education is the attitude of students towards distance education (Alomyan & Au, 2004).

Alongside the other studies that have examined pre-service teachers' attitudes towards distance education, investigating the attitudes of pre-service pre-school teachers is important as they will be the first teachers of young children. As the world advances with new technologies, teacher education may undergo a transformation process by integrating these technologies, as mentioned earlier. However, few studies have investigated pre-service pre-school teachers' attitudes towards distance education in the literature review. The study conducted by Uysal Bayrak and Tanık Önal (2021) with 52 pre-service pre-school teachers during the pandemic made the SWOT analysis of the distance education process of the Community Service course based on the thoughts of the pre-service teachers. The findings of the study showed that, according to the students, the strengths of the process were being able to attend the online lessons from home, helping each other, and developing self-confidence. The weaknesses were stated as not being able to practice, difficulties in preparing activities, and not getting spiritual satisfaction. Pre-service teachers stated that experiencing the Community Service course which is practice-based, acquiring the ability to prepare activities considering the current difficult conditions, and using information technologies were opportunities. However, problems related to internet connection were seen as threats to the process (Uysal Bayrak & Tanık Önal, 2021). Madsen, and Thorvaldsen (2022) investigated the attitudes of pre-service early childhood teachers towards distance education. They found that digital competence is an important determinant of attitudes towards distance education and emphasized the importance of early childhood teachers' attitudes towards distance education if there will be a transformation in education after the pandemic. Also, based on the study it can be said that digital technology education is essential prior to the distance education process. If distance education is to be

used in the education of pre-school teacher candidates in the future, whether compulsory or not, it is important to examine the attitudes of teacher candidates on this subject considering various variables. Such a study can provide suggestions for solving the problems of pre-school teacher candidates in this regard. Based on the current literature review, it can be concluded that few studies have investigated pre-service pre-school teachers' attitudes towards distance education.

By the way, the present study aimed to investigate the attitudes of pre-service teachers who continue their education in the Preschool Education Program towards distance education in terms of some variables. The variables can be listed as follows: university, gender, grade level, having an internet connection at home, technological tool used to follow online lessons, and convenience of the environment students follow online lessons. Some of these variables have also been addressed in other studies examining students' attitudes towards distance education. In terms of gender, which is one of the most addressed variables in studies in the literature, there are contradictory results. According to the study conducted by Yazgan (2022) female students have a negative attitude towards distance education, due to increased expectations to support household chores and decreased freedom. On the other hand, Takir (2022) and Halitoğlu (2021) found that there is no significant difference for pre-service teachers' attitude towards distance education in terms of gender. The quality of digital tools used in distance education has been found to be a significant factor impacting the attitudes of teacher candidates towards distance education, both prior to (Lloyd, Byrne, & McCoy, 2012) and following (Bahadır, 2021) the Covid-19 pandemic. On the other hand, no study has been encountered in the reviewed literature that directly aims to understand the attitudes of pre-service pre-school teachers based on their grade level. It is thought that revealing the attitudes of pre-service pre-school teachers from different grade levels can help present suggestions based on those specific levels. While the proficiency of students in using technology and their attitudes towards distance education generally increase with grade level (Çiftçioğlu & Işıkoğlu, 2023), the results may differ from previous studies due to the increasing number of practice courses in pre-service pre-school teacher education programs.

It is believed that the results of the present study will reveal the status of pre-school teacher education in distance education conditions according to student attitudes in terms of the aforementioned variables. In this direction, the study results will contribute to making the necessary improvements by determining student needs. In addition, the attitude towards distance education revealed by the findings of this study may shed light on the extent to which pre-service pre-school teachers, who will be the first teachers of the next generation, will use the distance education method in their professional practices and professional development. This study was conducted to determine the attitudes of pre-service pre-school teachers towards distance education. The study addressed the following research questions:

1. What are the attitudes of the pre-service pre-school teachers towards distance education?

2. Do the attitudes of pre-service pre-school teachers towards distance education differ according to the university they study at?

3. Do the attitudes of pre-service pre-school teachers towards distance education differ according to gender?

4. Do the attitudes of pre-service pre-school teachers towards distance education differ according to grade level?

5. Do the attitudes of pre-service pre-school teachers towards distance education differ according to having Internet connection at home?

6. Do the attitudes of pre-service pre-school teachers towards distance education differ according to the type of the technological tool with which they follow the online lessons?

7. Do the attitudes of pre-service pre-school teachers towards distance education differ depending on whether the environment in which they follow the course is convenient or not?

2. METHOD

In this section, the research model, the research sample, the data collection tool, the data collection process, and the data analysis details are given. During the writing process of this study, scientific rules, ethical and citation rules were followed; no falsification has been made on the collected data and this study has not been sent to any other academic media for evaluation. This research was conducted with the permission of the Sinop University Human Research Ethics Committee with the decision dated 09/07/2021 and numbered 2021/94.

2.1. Research Model

This quantitative research is a descriptive study with a survey model. The purpose of the survey model is to describe the characteristics of a group, and it is a study in which researchers are usually interested in the views of a large group of people on a particular topic and ask a variety of relevant questions to find answers (Gall, Gall, & Borg, 2007). The survey model is to determine the attitudes, thoughts and ideas of the people who constitute the study group about any subject (McMillan & Schumacher, 2010). Since this study was conducted to examine the attitudes of pre-service teachers towards distance education, the survey model was used.

2.2. Research Sample

The sample of the study consisted of 181 pre-service teachers studying in the Preschool Education Program of Sinop University and Nigde Omer Halisdemir University in the 2020-2021 academic year. The pre-service teachers to be included in the study were determined using the convenience sampling method. It is a type of sampling in which people who meet certain practical criteria such as easy accessibility, availability at a given time or willingness to participate are included in the study (Dörnyei, 2007). It aims to collect information from the participants that the researcher can easily reach (Palinkas et al., 2015). The necessary permission was obtained from Sinop University Human Research Ethics Committee. Participation in the research was voluntary. The demographic characteristics and the distribution of the pre-service teachers are presented in Table 1.

Table 1: *Demographic Characteristics of Pre-Service Teachers*

Variables		N	%
The name of the university	Sinop University	94	51,9
	Nigde Omer Halisdemir University	87	48.1
Gender	Female	152	84.0
	Male	29	16.0
Grade level	1st grade	52	28.7

Variables		N	%
	2nd grade	46	25.4
	3rd grade	55	30.4
	4th grade	28	15.5
Having internet connection at home	Yes	147	81.2
	No	34	18.8
Technological tool with which students follow the online lessons	Computer	92	50,8
	Mobile phone	89	49.2
Convenience of the environment in which students follow the online lessons	Convenient	81	44.8
	Inconvenient	100	55,2
	Total	181	100.0

When Table 1 is examined, it is seen that 51.9% of the pre-service teachers have been studying in the Sinop University Preschool Education Program, while 48.1% were in the Nigde Omer Halisdemir University Preschool Education Program. 84% of the pre-service teachers are female and 16% are male. 28.7% were 1st grade, while 25.4% were 2nd grade, 30.4% were 3 rd grade, and 15.5% were 4th grade students. 81.2% pre-service teachers reported that they had an internet connection at home. 50.8% followed the online lessons with a computer and 49.2% by mobile phone. 44.8% of the pre-service teachers stated the environment in which they followed the online lessons was convenient, while 55.2% stated that it was inconvenient.

2.3. Data Collection Tools

The Personal Information Form and the Attitudes Towards Distance Education Scale were used as the data collection tools.

Personal Information Form: The form developed by the researchers includes 9 questions aimed at revealing the demographic characteristics of the students such as the university where they study, their gender, grade level, status of having Internet connection at home, technological tool with which students follow the online lessons, convenience of the environment in which students follow the online lessons.

Attitude Towards Distance Education Scale: The scale was developed by Arslan, Bircan, and Eleroğlu (2019) to reveal the opinions of pre-service teachers about teaching online. The scale consists of 21 items and 5 factors. The factors are as follows: Factor 1: Advantages of Distance Education for the Participant, Factor 2: Technical Dimension of Distance Education, Factor 3: Willingness for Distance Education, Factor 4: Efficiency of Distance Education, and Factor 5: Problems Encountered in Distance Education. The opinions of the pre-service teachers about the scale items were determined with a five-point Likert type scale from (1) totally disagree to (5) totally agree. The scale items constituting factor 5 are reverse items and are scored accordingly. In our study, the Cronbach's alpha was found to be .924 for the whole scale and .809, .868, .906, .820, and .602 for the factors, respectively.

2.3.1. Data Collection Procedure

In order to conduct this research, firstly, the necessary permission was obtained from the Sinop University Human Research Ethics Committee (with the decision dated 09/07/2021 and numbered 2021/94). Then, the scale was sent to the pre-service teachers via Google Form. It takes approximately 5-10 minutes to answer the questions in the scale.

2.4. Data Analysis

The data were analyzed using the SPSS 23. Descriptive statistics were used to analyze the personal information of the pre-service teachers in the study and their attitudes towards distance education. In order to decide which tests to use in the research, parametric test assumptions were tested first. The results of descriptive statistics and normality tests were examined to determine whether the data showed normal distribution. The results of descriptive statistics were examined to determine whether the data showed normal distribution. It was revealed that the data showed normal distribution, since the skewness-kurtosis values between -1.5 and +1.5 (Pituch & Stevens, 2016). The t-test was used to determine whether the attitudes of pre-service teachers towards distance education differ according to the university they study at, technological tool with which students follow the online lessons, and convenience of the environment in which students follow the online lessons. The ANOVA was used to determine whether of pre-service teachers' attitudes towards distance education differ according to grade level. Parametric tests were used for the mentioned variables, since sufficient data were provided in the normality assumptions and variable categories.

Due to the small number of data in the two groups whose averages will be compared, a non-parametric comparison test, which is considered an alternative to the t-test, which is a parametric test, instead of the t-test for independent samples, can be used to examine whether there is a difference between the averages of the two groups (Can, 2023). Although the measurements showed a normal distribution, since the number of participants in the groups was not close or equal to each other, parametric tests were not conducted to determine whether the attitudes of pre-service teachers towards distance education differed according to gender and internet connection at home. Therefore, the Mann-Whitney U test was used to determine whether pre-service teachers' attitudes towards distance education differ according to gender and internet connection at home.

3. FINDINGS

The findings of the study are given below in tables based on the research questions.

Table 2: *Arithmetic Mean and Standard Deviation Values for the Attitudes of Pre-service Teachers Towards Distance Education*

Scales and Factors	N	$\bar{x}$	SD
Advantages of Distance Education for the Participant	181	3.41	.95
Technical Dimension of Distance Education	181	3.21	.97
Willingness for Distance Education	181	3.04	1.32
Efficiency of Distance Education	181	3.05	1.10

Problems Encountered in Distance Education	181	2.92	.92
Attitudes Towards Distance Education	181	3.17	.82

When Table 2 is examined, it is seen that the average attitude score of pre-service pre-school teachers towards distance education is at the level of "somewhat agree" ($\bar{x}$=3.17, SD=.82). This finding indicates that the attitudes of the pre-service pre-school teachers towards distance education are at a moderate level.

Table 3: *Comparison of Attitudes of Pre-service Teachers towards Distance Education by University They Attended*

Factors	Variable	N	$\bar{x}$	SD	Sd	t	p	Significant difference
Advantages of Distance Education for the Participant	Sinop University (1)	94	19.79	6.06	179	-1.651	.101	
	Nigde Omer Halisdemir University (2)	87	21.18	5.22				
Technical Dimension of Distance Education	Sinop University (1)	94	15.58	5.06	179	-1.404	.162	
	Nigde Omer Halisdemir University (2)	87	16.59	4.59				
Willingness for Distance Education	Sinop University (1)	94	12.55	5.20	179	.991	.323	
	Nigde Omer Halisdemir University (2)	87	11.77	5.41				
Efficiency of Distance Education	Sinop University (1)	94	8.67	3.45	179	-2.082	.039*	2-1
	Nigde Omer Halisdemir University (2)	87	9.68	3.10				
Problems Encountered in Distance Education	Sinop University (1)	94	8.72	2.95	179	-.253	.801	
	Nigde Omer Halisdemir University (2)	87	8.82	2.55				
Total score	Sinop University (1)	94	65.32	18.95	179	-1.067	.287	
	Nigde Omer Halisdemir University (2)	87	68.06	15.51				

* p<.05

In Table 3, the independent sample t-test was conducted to determine whether there is a significant difference between pre-service teacher attitudes towards distance education according to the university they attend. When Table 3 is examined, it is seen that the general attitudes of pre-service teachers towards distance education do not show a significant difference according to the university they attend at (t(179)=-1.067, p>.05). Whether the attitudes of the pre-service teachers change according to the university they attend across the factors of the scale was examined and a significant difference was found in the factor "Efficiency of Distance Education" (t(179)=-2.082, p<.05). This difference is in favor of the pre-service teachers attending at Nigde Omer Halisdemir University.

Table 4: *Comparison of Attitudes of Pre-service Teachers towards Distance Education by Gender*

Factors	Variable	n	Mean Rank	Sum of Ranks	U	p
Advantages of Distance Education for the Participant	Female	152	88.83	13501.50	1873.500	.200
	Male	29	102.40	2969.50		
Technical Dimension of Distance Education	Female	152	89.29	13572.00	1994.000	.314
	Male	29	99.97	2899.00		
Willingness for Distance Education	Female	152	89.22	13562.00	1934.000	.294
	Male	29	100.31	2909.00		
Efficiency of Distance Education	Female	152	89.24	13564.50	1935.500	.299
	Male	29	100.22	2906.50		
Problems Encountered in Distance Education	Female	152	90.59	13770.00	2142.000	.809
	Male	29	93.14	2701.00		
Total score	Female	152	88.91	13515.00	1887.00	.220
	Male	29	101.93	2956.00		

* p<.05

In Table 4, the Mann-Whitney U test was conducted to determine whether there is a significant difference between pre-service teacher attitudes towards distance education according to the gender. Table 4 shows that the general attitudes of the pre-service teachers towards distance education do not show a significant difference according to gender (U=1887.00, p>.05). It is also seen that the attitudes of pre-service teachers do not change according to gender across the factors of the scale. Therefore, it can be said that gender does not have a significant effect on the attitudes of the pre-service teachers towards distance education.

Table 5: *Comparison of Attitudes of Pre-service Teachers towards Distance Education by Grade Level*

Factors	Source of the Variance	Sum of Squares	Sd	Mean of Squares	F	p	Significant Difference
Advantages of Distance Education for the Participant	Intergroup	77.220	3	25.740	.789	.502	
	Intragroup	5777.796	177	32.643			
	Total	5855.017	180				
Technical Dimension of Distance Education	Intergroup	57.527	3	19.176	.809	.491	
	Intragroup	4196.539	177	23.709			
	Total	4254.066	180				
Willingness for Distance Education	Intergroup	63.085	3	21.028	.742	.528	
	Intragroup	5013.257	177	28.323			
	Total	5076.343	180				
Efficiency of Distance Education	Intergroup	144.740	3	48.247	4.637	.004 **	4th grade-1st grade, 3rd grade-1st grade
	Intragroup	1841.613	177	10.405			
	Total	1986.354	180				
Problems Encountered in Distance Education	Intergroup	15.306	3	5.102	.664	.575	
	Intragroup	1360.407	177	7.686			
	Total						

		1375.713	180				
Total score	Intergroup	904.450	3	301.483	.997	.396	
	Intragroup	53546.921	177	302.525			
	Total	54451.370	180				

* p<.05

In Table 5, the ANOVA test was conducted to determine whether there is a significant difference between pre-service teacher attitudes towards distance education according to the grade level. As can be seen in Table 5, a significant difference was found between the attitudes of pre-service teachers in the factor of "Efficiency of Distance Education" according to grade level (F(3,177)=4.637, p<.05). The Tukey test revealed that in this factor the attitudes of the 4th grade and 3rd grade pre-service teachers were significantly higher than the attitudes of the 1st grade pre-service teachers. It was found that the general attitudes of pre-service teachers towards distance education did not differ significantly according to grade level (F(3,177)=.997, p>.05).

Table 6: *Comparison of Attitudes of Pre-service Teachers towards Distance Education by Having Internet Connection at Home*

Factors	Variable	n	Mean Rank	Sum of Ranks	U	p	Significant difference
Advantages of Distance Education for the Participant	Yes (1)	147	91.55	13458.50	2417.500	.767	
	No (2)	34	88.60	3012.50			
Technical Dimension of Distance Education	Yes (1)	147	94.12	13835.00	2041.000	.095	
	No (2)	34	77.53	2636.00			
Willingness for Distance Education	Yes (1)	147	94.04	13823.50	2052.500	.103	
	No (2)	34	77.87	2647.50			
Efficiency of Distance Education	Yes (1)	147	91.34	13427.50	2448.500	.854	
	No (2)	34	89.51	3043.50			
Problems Encountered in Distance Education	Yes (1)	147	94.87	13946.00	1930.000	.037*	1-2
	No (2)	34	74.26	2525.00			
Total score	Yes (1)	147	93.35	13723.00	2153.000	.209	
	No (2)	34	80.82	2748.00			

* p<.05

In Table 6, the Mann-Whitney U test was conducted to determine whether there is a significant difference between pre-service teacher attitudes towards distance education according to having internet connection at home. When Table 6 is examined, it is observed that the general attitudes of pre-service teachers towards distance education do not show a significant difference according to their having internet connection at home (U=2153.000, p>.05). Whether the attitudes of the pre-service teachers differ according to having internet connection at home was examined across the factors of the scale, and it was found that there was a significant difference in the "Problems Encountered in Distance Education" factor (U=1930.000, p<.05). This difference is in favor of those who have an Internet connection at home.

Table 7: *Comparison of Attitudes of Pre-service Teachers towards Distance Education by Technological Tool with which They Follow the Online Lessons*

Factors	Variable	n	x̄	SD	Sd	t	p	Significant difference
Advantages of Distance Education for the Participant	Computer (1)	92	21.41	5.25	179	2.303	.022*	1-2
	Mobile phone (2)	89	19.48	6.00				
Technical Dimension of Distance Education	Computer (1)	92	17.11	4.52	179	3.013	.003*	1-2
	Mobile phone (2)	89	14.98	4.98				
Willingness for Distance Education	Computer (1)	92	12.88	5.00	179	1.824	.070	
	Mobile phone (2)	89	11.44	5.54				
Efficiency of Distance Education	Computer (1)	92	9.64	3.20	179	1.997	.047*	1-2
	Mobile phone (2)	89	8.66	3.38				
Problems Encountered in Distance Education	Computer (1)	92	9.22	2.88	179	2.276	.024*	1-2
	Mobile phone (2)	89	8.30	2.56				
Total score	Computer (1)	92	70.28	16.35	179	2.919	.004*	1-2
	Mobile phone (2)	89	62.88	17.72				

* $p < .05$

In Table 7, the independent sample t-test was conducted to determine whether there is a significant difference between pre-service teacher attitudes towards distance education according to the type of the technological tool with which they follow the online lessons. When Table 7 is examined, it is observed that the general attitudes of pre-service teachers towards distance education show a significant difference according to the technological tool they followed the online lessons (t(179)=2.919, p<.05). It was examined whether the attitudes of the pre-service teachers differ according to the technological tool they followed the online lessons across the factors of the scale. It was found that, there was a significant difference in the "Advantages of Distance Education for the Participant" factor (t(179)=2.303, p<.05); "Technical Dimension of Distance Education" factor (t(179)=3.013, p<.05); "Efficiency of Distance Education" factor (t(179)=1.997, p<.05); "Problems Encountered in Distance Education" factor (t(179)=2.276, p<.05). These differences are in favor of those who follow the online lessons by computer.

Table 8: *Comparison of Attitudes of Pre-service Teachers towards Distance Education by Convenience of the Environment in which They Follow the Online Lessons*

Factors	Variable	n	x̄	SD	Sd	t	p	Significant difference
Advantages of Distance Education for the Participant	Convenient (1)	81	22.09	5.45	179	3.583	.000*	1-2
	Inconvenient (2)	100	19.14	5.58				
Technical Dimension of Distance Education	Convenient (1)	81	18.32	4.44	179	6.148	.000*	1-2
	Inconvenient (2)	100	14.25	4.41				
Willingness for Distance Education	Convenient (1)	81	13.11	5.47	179	2.152	.033*	1-2
	Inconvenient (2)	100	11.42	5.07				
Efficiency of Distance Education	Convenient (1)	81	10.50	3.04	179	5.256	.000*	1-2
	Inconvenient (2)	100	8.07	3.14				
Problems Encountered in Distance Education	Convenient (1)	81	9.54	2.63	179	3.473	.001*	1-2
	Inconvenient (2)	100	8.15	2.72				
Total score	Convenient (1)	81	73.58	16.69	179	5.159	.000*	1-2
	Inconvenient (2)	100	61.03	15.92				

* $p < .05$

In Table 8, the independent sample t-test was conducted to determine whether there is a significant difference between pre-service teacher attitudes towards distance education according to the convenience of the environment in which they follow the online lessons. As seen in Table 8, a significant difference was found between the attitudes of pre-service teachers according to the convenience of the environment in which they follow the online lessons in the factors of "Advantages of Distance Education for the Participant" (t(179)=3.583, p<.05), "Technical Dimension of Distance Education" (t(179)=6.148, p<.05), "Willingness for Distance Education" (t(179)=2.152, p<.05), "Efficiency of Distance Education" factor (t(179)=5.256, p<.05) and "Problems Encountered in Distance Education" factor (t(179)=3.473, p<.05). A significant difference was found in the general attitudes of pre-service teachers towards distance education according to the convenience of the environment they follow the online lessons (t(179)=5.159, p<.05). These differences are in favor of pre-service teachers who follow the online lessons in a convenient environment. In addition, it is significantly higher than the pre-service teachers who follow the online lessons in an inconvenient environment.

4. DISCUSSION AND CONCLUSION

Distance education has become indispensable worldwide at all levels of education to be able to maintain educational activities during the pandemic. Each teaching method has advantages and disadvantages. None of the teaching methods, including distance education, can be said to be suitable under all conditions (Otal, 2021). Our experiences in the pandemic revealed that in the future, nothing will be the same as before. For this reason, it has become mandatory for the whole world to take the necessary measures in terms of education, health, environment, and the social and cultural aspects of life. As far as the field of education is concerned, distance education has come to the fore during the pandemic. Studies on this subject have been carried out and detailed training programs have been prepared (Ünal, Şanlıer, & Şengil, 2021). Altınpulluk (2021) examined the views of 77 faculty members in Turkey on distance education practices during the COVID-19 pandemic and revealed that faculty members found distance education positive as it helped them acquire technological literacy, ensured the continuity of education, and created an unusual experience. The lack of infrastructure, being caught unprepared for the distance education process, and the inequalities of opportunity in students' access to the system were stated as the disadvantages of distance education. The faculty members in the study made suggestions such as allocating resources to strengthen the distance education infrastructure of institutions, establishing a common single national system, and preparing an action plan for emergencies. When the results of the current research, which was carried out to determine the attitudes of pre-service pre-school teachers towards distance education, were examined, it was seen that the attitudes of the pre-service teachers were moderate.

In our study, the attitudes of the pre-service teachers towards distance education did not differ significantly according to gender. Similarly, the studies of Yağan (2021), Barış (2015), and Bayram, Peker, Aka, and Vural (2019) showed that the attitude towards distance education did not differ according to gender. On the contrary, the study conducted by Başar, Arslan, Günsel, and Akpınar (2019) to examine the perceptions of pre-service teachers on distance education according to various variables revealed that the distance education perceptions of the male students studying at the Faculty of Education of a university were higher than the perceptions of the female students. Furthermore, the study conducted by Savaş (2021) to reveal the evaluations of university students on their distance education experiences during the COVID-19 pandemic indicated that the female students had more difficulty focusing on distance education than the male students. Günel and Güler (2021) examined the distance education

satisfaction levels of university students during the COVID-19 and found a significant difference between the female and male students in the dimensions of distance education effectiveness, materials used, and the evaluation methods employed. It is believed that the gender-related differences among the studies may be due to the ratio of male and female participants to the total number of participants. The participants in our study were the students of the preschool teaching program and the majority of the students in this program were female. For this reason, there may not have been a significant difference between the participants. However, the study of Üstün and Özberk (2021) aimed at determining the concerns of university students regarding their education and the acquirement of professional skills during the pandemic revealed that all the students were more exposed to computer and phone screens due to distance education, including those who did not spend much time in front of the screen before distance education. Although the new generation is at peace with technology and willing to use technology, it has been challenging for them to have all the lessons online. Moreover, online education takes place at home, which is an environment open to attention deficit problems, and this can make it difficult for students to understand the subjects. In addition, the uncertainty of the process and concerns about the future can reduce students' interest in lessons. The stress experienced by students, academic staff, families, and administrators due to the pandemic and the restrictions it has brought can reduce the quality of education. On the other hand, distance education includes some positive aspects such as fostering adaptation to technology and increasing the level of individual research (Bulut, 2021). In this direction, it is believed that instead of offering all the courses online, it may be better to offer some lessons online and some lessons face-to-face considering the conditions may enable students to have a more efficient educational process. In addition to this, strengthening online learning practices during distance education period might provide benefits. According to Vlachopoulos and Makri (2019), incorporating interactive technologies, providing extra support for students in technical and academic areas, and fostering collaboration among students are important components required to conduct a successful distance education. Additionally, developing effective and accessible course materials that consider the individual needs, interests, and learning styles of students might contribute to this process (Vlachopoulos & Makri, 2019). Considering pre-school education in particular, pre-service teachers have practical lessons such as music, community service and practice in schools. According to the study conducted by Yılmaz, Sakarya, Gayretli, and Zahal (2021) despite the fact that the music education course for pre-service preschool teachers is based on practice in nature, during the online teaching it remained on a theoretical basis due to problems like asynchronous voice and difficulties in learning to play a musical instrument which is requiring practice. Similarly, in teaching practice, pre-service preschool teachers experienced difficulties in conducting hands-on activities, attracting children's attention, singing, and playing together (Kim, 2020). Based on these findings, conducting face-to-face lessons for practice-based courses or improving the technological infrastructure may lead to better outcomes.

The general attitudes of the pre-service teachers towards distance education do not show a significant difference according to the university they study at and whether they have an Internet connection at home. A significant difference was found between the students of two universities in the study in the factor of "Efficiency of Distance Education". This difference is in favor of the students studying at Nigde Omer Halisdemir University. Furthermore, as far as the factor of "Problems Encountered in Distance Education" is concerned, a significant difference was observed between the pre-service teachers, in favor of those who have an Internet connection at home. Similarly, the study by Özyürek, Begde, Yavuz, and Özkan (2016) evaluating distance education practices of vocational school students revealed that the most important reason preventing students from following the lessons was

internet disconnection. The study carried out by Güven and Uçar (2021) to evaluate the opinions of pre-service teachers on distance education and teaching practices during the pandemic concluded that the pre-service teachers found distance education insufficient due to the way the lessons were taught and the Internet connection problems. The study conducted by Ünal, Şanlıer and Şengil (2021) to evaluate the online learning readiness levels and distance education experiences of 435 students studying at a foundation university reported that nearly half of the participants had Internet connection problems during the distance education process. It was further revealed that those who had all kinds of technological devices and a stable Internet connection had higher online learning readiness and sub-dimension scores. In addition, Barış's (2015) study showed that the attitude scores of the university students who had mobile devices and who had constant access to computers and the Internet were higher than the scores of the other students in the study. In another study supporting these studies, Akıncı and Pişkin Tunç (2021) examined the problems experienced by the pre-service secondary school mathematics teachers in distance education and the solutions they offered to solve these problems. The researchers found that a strong infrastructure and software are needed to benefit from information-communication technology. From this point of view, our study also confirms that having a stable Internet connection at home and a robust Internet infrastructure is important in distance education. In addition, although there is no significant difference in students' general attitude in terms of grade level, for the "Efficiency of Distance Education" factor, 3rd, and 4th graders had a higher attitude than the 1st graders. A possible interpretation for this result might be that, as students proceed to higher grades, they need less face-to-face support from educators. However, it is interesting that the students in the higher grades experienced teaching practicum from the online platforms have a higher attitude.

Pre-service teachers who follow the online lessons on a computer have significantly higher attitudes than pre-service teachers who follow the online lessons by phone in terms of both overall attitudes and attitudes in "Advantages of Distance Education for the Participant", "Technical Dimension of Distance Education", "Efficiency of Distance Education" and "Problems Encountered in Distance Education" factors. Pre-service teachers who have a convenient environment to follow the online lessons have significantly higher attitudes than pre-service teachers who don't have a convenient environment in terms of both overall attitudes and attitudes in "Advantages of Distance Education for the Participant", "Technical Dimension of Distance Education", "Willingness for Distance Education", "Efficiency of Distance Education" and "Problems Encountered in Distance Education" factors. Karatepe, Küçükgençay, and Peker (2020) conducted their research with pre-service primary school mathematics, science and classroom teachers studying at a state university providing synchronous education, and they found that the pre-service teachers followed the online lessons with their mobile phones, laptop computers, desktop computers, and tablets, respectively. The study by Seyhan (2021) revealed that the pre-service teachers use their smartphones the most and tablets the least to follow the online lessons in distance education. The study further revealed that those who did not have an Internet connection, a computer, or a study room at home had difficulty following the online lessons. In particular, those living in houses where there is more than one student had difficulty finding a place to study within the house and could not benefit from distance education sufficiently. In addition, Tüzün and Yörük Toraman (2021) examined the distance education satisfaction levels of university students during the pandemic, and they found that the satisfaction level of the students who followed the online lessons by phone was considerably lower than those who followed them with a computer or a tablet. However, Günel and Güler (2021) examined the efficiency of tools used to access the online lessons and reported that students found smartphones more convenient and effective in following the online lessons. They also examined the teaching dimension and reported a significant difference in favor of the students who used computers,

phones, and tablets. In the material dimension, they concluded that there was a difference in favor of the students who used computers and phones. These results may be attributed to the fact that phone screens are quite small compared to computer and tablet screens, and their sound levels are much lower. In addition, the messages and notifications coming to the phone during online lessons may distract students. For these reasons, following the online lessons by phone is likely to negatively affect the satisfaction with distance education (Tüzün & Yörük Toraman, 2021). It is crucial for students to have a comfortable and accessible study environment, a reliable internet connection, and access to a computer to ensure equal educational opportunities in the distance learning process.

To sum up, the distance education process in the pandemic period was an imperative and taught various lessons. As one of the crucial results of this study, students who do not have a convenient environment and appropriate technological devices to follow online lessons might not be taking the maximum benefit from this process, so inequal opportunities among students cause differences in terms of efficiency. Similarly, for 1st graders who are not familiar with the early childhood education subjects, the process was not as efficient as for the students in higher grades. Since the attitudes of pre-service pre-school teachers are moderate, it can be said that the results are coherent with each other.

5. RECOMMENDATIONS FOR RESEARCHERS AND PRACTICE

As an inevitable consequence of features of the program, pre-service preschool teachers' education requires provision of training regarding classroom management, play, and effective learning environment practices (Mphahlele & Jikpamu, 2021). For this reason, it may be preferable to conduct courses whose content is generally theoretical by the distance education method, instead of the courses in which the application is essential, such as music education, community service, teaching practice, play, and drama. In addition, increasing the level of interaction via educational applications, supporting collaborative learning among students via discussion forums and group work, providing constant feedback, and supporting students with guidance services in all areas might increase the quality of education in distance learning processes.

Although the present research revealed some quantitative data in terms of attitudes of pre-service preschool teachers on distance education, further studies can investigate experiences, thoughts, and feelings of preschool teacher candidates by conducting interviews. Qualitative data on this subject may help to understand students who directly experienced the process. In this way, teacher trainers can provide appropriate solutions for problems students experience.

As a limitation, this study was conducted with participants from two regional public universities in Turkey. Future studies that collect data from universities located in larger cities or private universities may yield different results, as these institutions may have different practices in the application of distance education. They may provide additional support to their students, which could impact the attitudes of students at these universities. Also, the ways universities in different regions conducted distance education and attitudes of pre-service teachers towards distance education at these universities can be investigated.

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