



## Pre-Service Teachers' Attitudes Towards Distance Education

Zehra Tüfenkçi<sup>1</sup>, Zeliha Demir Kaymak<sup>1</sup>

<sup>1</sup> Sakarya University, Computer Education and Instructional Technologies, Sakarya, Turkey

### ABSTRACT

With the development of technology, it has enabled education to get rid of the traditional structure and to be accessed independently of place and at any time. In this way, individuals have had the opportunity to make their own development in line with their careers and professions. In this respect, the opinions of individuals studying at the faculty of education and pedagogical formation education about this process are very important. The aim of this research is to measure the attitudes of pre-service teachers studying at the faculty of education and pedagogical formation education towards distance education. In this research, 'Attitude Scale towards Distance Education' was used. Survey model, one of the descriptive research methods, was used in the study. The sample of the study consisted of 298 students studying at faculty of education and pedagogical formation education at a state university. The data collected in the study were analyzed with SPSS. After the data were checked whether the data were normally distributed or not and it was seen that the data showed a normal distribution. Considering the sub-problems of the research, the data were analysed by statistical methods such as mean, t-test and standard deviation tests. In the study, it was determined that pre-service teachers' attitudes towards distance education were at a good level. In addition, a statistically significant difference was found between the pre-service teacher at the faculty of education and pedagogical formation education in terms of gender, learning groups and working status.

### ARTICLE INFO

#### Article History:

Received: 01.06.2024

Received in revised form: 28.06.2024

Accepted: 29.06.2024

Available online: 02.07.2024

**Article Type:** Research Article

**Keywords:** Student, Pedagogical Formation, Attitude, Faculty of Education, Pre-Service Teachers'

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### 1. Introduction

In the past, societies used to carry out many activities with traditional tools, but today, with the rapid advancement of technology, they carry out many activities with information technology tools. According to Fidan (2016), advancing technology has been effective in every field and has caused significant changes in education and training processes. The role of the teacher is also changing in order to keep up with the changing age. It is necessary for learners and teachers to create a learning environment compatible with today's technologies. Since the criteria such as place, time and age that provide access to information should be eliminated while creating learning environments, the concept of distance education, which allows the learner to learn lifelong, is becoming widespread. (Kaya, 2002; Fidan, 2016). Distance education is defined as an education and training system in which individuals in different places can access information through technological tools and applications, offering time and space flexibility, communication and interaction (Aydemir, 2018). According to Uşun (2006), the concept of distance education can be defined as an educational technology that offers flexibility in terms of time and place, provides the opportunity to learn individually and independently, and does not require the

<sup>1</sup> Corresponding author's address: Sakarya University, Computer Education and Instructional Technologies, Sakarya, Turkey  
Telephone: 0264 295 54 54  
e-mail: zehra.tufenkci1@ogr.sakarya.edu.tr

necessity of being in the same environment between the source and the receiver. According to Bozkurt & Shamer (2020), learning without time and place restrictions is called distance education.

Distance education has become a method widely used by all kinds of institutions, companies, etc. by bringing a different perspective to the education and training process with the opportunities it offers to learners. Since distance education has become accessible, easy to use, and less costly when the innovations it offers are combined with technological developments, distance education has been enabled to spread rapidly (Simonson et al., 2019). Therefore, distance education has a necessary and important place. Programs to be prepared in distance education, which has gained importance in educational life, need to be well designed and evaluated. For this purpose, the compatibility of the curriculum with the views of the society, the knowledge level of educators, the personal differences of students, the use of educational materials, as well as the needs, attitudes and motivations of educators and students should be taken into account (Boling et al., 2012; Şahin, 2006; Lin & Chiu, 2007). Most importantly, the content to be prepared should be appropriate to the attitudes of individuals (Erden, 1995; Gardner, 1985; Tavşanlı, 2019). According to İnceoğlu (2011), attitude is a combination of behavioral, emotional and cognitive reactions that an individual develops as a result of his/her experiences and motivations about his/her environment. No matter how advanced the technology used in distance education is, it is also important that individuals have positive attitudes towards distance education (Liaw, S.S., Huang, H. & Chen, G., 2007). It is important for teachers' to adapt to technological developments, to have a good command of technology and to be open to changes in their profession, and what their attitudes towards new technologies and distance education are. (Özen & Baran, 2019). For this reason, pre-service teachers' attitudes towards distance education are considered important.

In the literature, there are many examples where attitudes towards distance education are examined. For example; according to Maushak & Ellis (2003), in their research examining the distance education experiences of pre-service teachers, they examined the attitudes towards teaching situations in the learning environment, classroom participation, hardware and software adequacy related to technical issues and determined that pre-service teachers generally had a positive attitude. Similarly, according to Ural (2007), in his study to determine the attitudes of graduate students towards distance education, educational technologies and independent learning, it was concluded that students' views on distance education were negative and that there was a widespread belief that distance education systems would not support independent learning. Current research also emphasizes the effects of the COVID-19 pandemic on distance education. During the pandemic period, distance education has become compulsory all over the world and the attitudes of pre-service teachers have been significantly examined in this process (Dhawan, 2020). Studies have evaluated the effects of distance education on the psychological health of students and teachers and their attitudes towards this educational model (Adnan & Anwar, 2020). Accordingly, it has been emphasized that not only technological infrastructure is not sufficient for distance education to be successful, but it is also critical for students and teachers to have a positive perspective on this model (Hodges et al., 2020).

In this study, the attitudes of faculty of education students and pre-service teachers taking pedagogical formation education towards distance education and how these attitudes change according to different variables were examined. In this study, the effects of gender, learning group and working status on pre-service teachers' attitudes towards distance education were examined. In the research, the variable learning group refers to students studying in the faculty of education and students from other faculties such as chemistry, geography, etc., who are receiving pedagogical formation education in the faculty of education. The variable working status is used to indicate whether students studying in the faculty of education and teacher candidates receiving pedagogical formation education are working in a different job. For this purpose, answers to the following research questions were sought. The effect of pedagogical formation group and pre-service teachers studying at the faculty of education on their attitudes towards distance education;

- How are pre-service teachers' attitudes towards distance education?

- Do pre-service teachers' attitudes towards distance education differ significantly by gender?
- Do pre-service teachers' attitudes towards distance education differ significantly by learning group?
- Do pre-service teachers' attitudes towards distance education differ significantly by working status?

## 2. Method

In this section, the model/design of the study, population and sample, data collection tools, data collection and analysis were emphasized.

### 2.1. Research Model/Design

In this study, the survey model, one of the descriptive research methods, was used. Survey models are a research method that aims to accurately describe a past or existing situation without changing it. The event that is the subject of the research is tried to be described without any intervention or change (Karasar, 2019).

### 2.2. Population and Sample

The population of the study consists of pre-service teachers studying at a state university in Istanbul. Participants were determined using convenience sampling method. The sample of the study consisted of a total of 298 undergraduate students studying at the faculty of education of a state university and taking pedagogical formation courses. 62 of the students were male and 236 were female. The number of pedagogical formation students is 148 and the number of faculty of education students is 150. The table below shows the distribution of pre-service teachers according to gender.

**Table 1.** Data on the distribution of pre-service teachers by gender

		Pedagogical Formation Education	Faculty of Education	Total
Gender	Female	110	126	136
	Male	38	24	62
	Total	148	150	298

### 2.3. Data Collection Tool and Application

The Attitude Toward Distance Education Scale developed by Kışla (2016) was used to reveal pre-service teachers' attitudes towards distance education. The "Attitude Towards Distance Education Scale" developed by Kışla (2016) is one-factor and consists of two parts. The first section includes a group of demographic questions to determine students' gender, department, age and previous participation in distance education, and the second section includes a total of 35 scale items, 8 of which are negative and 27 of which are positive items. The scale was prepared as a 5-point Likert type. The items in the data collection tool called "Attitude Scale Towards Distance Education" prepared by Kışla (2016) in five-point Likert type were scored as "Totally Agree" (1), "Agree" (2), "Undecided" (3), "Disagree" (4), "Totally Disagree" (5).

Items 1, 2, 4, 5, 9, 11, 14, 15, 16, 18, 19, 22, 23, 25, 26, 28, 29, 33 and 34 are as follows;

- Totally Agree 5 score
- Agree 4 score
- Undecided 3 score
- Disagree 2 score
- Totally Disagree 1 score

Items 3, 6, 7, 8, 10, 12, 13, 17, 20, 21, 24, 27, 30, 31, 32 and 35 are;

- Totally Agree 1score
- Agree 2 score
- Undecided 3 score
- Disagree 4 score
- Totally Disagree 5 score

reverse scored.

#### 2.4. Data Collection Tool and Application

The data collection tool was administered to the students online. The data obtained from the data collection tool were transferred to the SPSS program. In order to examine students' attitudes towards distance education in terms of gender, learning group and working status variables, independent samples t-test was applied. For the independent samples t-test conducted to find out whether there is a significant difference between the groups, the assumptions that the averages of the groups to be compared should be independent from each other and the scores of the dependent variable in each of the groups should show a normal distribution were examined (Büyüköztürk, 2018). It was seen that the necessary assumptions were met for the independent samples t-test. When analyzing the results of the analysis, the effect size was taken into account as well as the significance level. An effect size of 0.01 indicates a small effect size, 0.06 indicates a moderate effect size and 0.14 indicates a large effect size (Green & Salkind, 2010). In this study, eta squared ( $\eta^2$ ) values were used to evaluate the effect size.

### 3. Findings

This section presents the findings of the statistical analyses performed on the data obtained with the measurement tool used in the study.

#### 3.1. Findings Related to Pre- Service Teachers' Attitudes Towards Distance Education

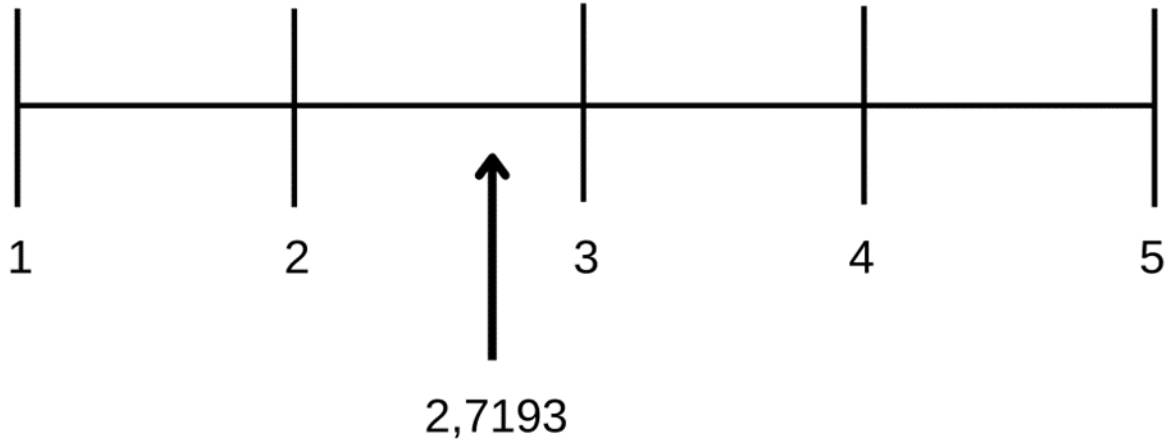
The findings related to the sub-problem "How are pre-service teachers' attitudes towards distance education?" are given below.

**Table 2.** Analysis data of pre-service teachers' opinions regarding attitude scores towards distance education

	N	Ranj	Minimum	Maximum	Mean	Standard Deviation	Variance Analysis
Mean Attitude Score	298	3,66	1,11	4,77	2,7193	,75121	,564

(Median = 2,7429)

As seen in Table 2, the average attitude score of the participants (n=298) is 2.71 out of 5. The fact that the median (2,7429) is close to the arithmetic mean (2,7193) shows that the participants are close to a normal distribution.



**Figure 1.** Displaying the attitude total score average on the scale

Accordingly, it is seen that pre-service teachers' attitudes towards distance education are close to positive.

### 3.2. Findings of Pre- Service Teachers' Attitudes Towards Distance Education by Gender

Independent samples t-test was conducted to examine whether pre-service teachers' attitudes towards distance education showed a significant difference according to gender. The results of the analysis are given in Table 3.

**Table 3.** Independent samples t-test results of pre-service teachers' attitudes towards distance education according to gender

	Gender	N	$\bar{x}$	sd	t	df	p
Attitude Towards Distance Education	Female	236	2,6724	,75741	-2,114	296	,035*
	Male	62	2,8977	,70472			

\* $p < 0,05$

Table 3 shows that pre-service teachers' attitudes towards distance education differ significantly according to gender ( $p < 0.05$ ). Male pre-service teachers' attitude scores towards distance education ( $\bar{x} = 2,89$ ) are significantly higher than the average scores of female pre-service teachers ( $\bar{x} = 2,67$ ). As a result of this analysis, it can be stated that pre-service teachers' attitudes towards distance education differ according to gender. The effect size value calculated as a result of the analysis was found to be 0.01. It can be stated that the effect size is small ( $\eta p^2 < ,01$ ).

### 3.3. Findings of Pre- Service Teachers' Attitudes Towards Distance Education According to Learning Group

Independent samples t-test was conducted to examine whether pre-service teachers' attitudes towards distance education showed a significant difference according to their learning group. The results of the analysis are given in Table 4.

**Table 4.** Independent samples t-test results of pre-service teachers' attitudes towards distance education according to learning group

	Learning Group	N	$\bar{x}$	sd	t	df	p
Attitude Towards Distance Education	Pedagogical Formation	148	2,8780	,76008	3,700	296	,000*
	Faculty of Education	150	2,5627	,71074			

\* $p < 0,05$

According to Table 4, pre-service teachers' attitudes towards distance education differ significantly according to the learning group ( $p < 0.05$ ). Attitude towards distance education scores of pre-service teachers taking pedagogical formation education ( $\bar{x} = 2,87$ ) are significantly higher than the average scores of pre-service teachers studying at the faculty of education ( $\bar{x} = 2,56$ ). As a result of this analysis, it can be stated that pre-service teachers' attitudes towards distance education differ according to their learning group. The effect size value calculated as a result of the analysis was found to be 0.04. It can be stated that the effect size is moderate ( $\eta^2 < 0,06$ ).

### 3.3. Findings of Pre-Service Teachers' Attitudes Towards Distance Education According to Their Working Status

Independent samples t-test was conducted to examine whether pre-service teachers' attitudes towards distance education showed a significant difference according to their working status. The results of the analysis are given in Table 5.

**Table 5.** Independent samples t-test results of pre-service teachers' attitudes towards distance education according to their working status

	Working Status	N	$\bar{x}$	sd	t	df	p
Attitude Towards Distance Education	Not working	226	2,6109	,73011	-4,558	296	,000*
	Working	72	3,0595	,71867			

\* $p < 0,05$

According to Table 5, the attitudes of working and non-working student teachers towards distance education differ significantly ( $p < 0.05$ ). The attitude scores of working pre-service teachers towards distance education ( $\bar{x} = 3.05$ ) are significantly higher than the average scores of non-working students ( $\bar{x} = 2.61$ ). The effect size value calculated as a result of the analysis was found to be 0.065. It can be stated that the effect size is large ( $\eta^2 < 0,14$ ).

## 4. Discussion, Conclusion and Recommendations

### 4.1. Discussion

In this study, pre-service teachers' attitudes towards distance education were examined in terms of variables such as gender, learning group and working status. In line with the findings obtained, a discussion phase was carried out.

In the study examining pre-service teachers' attitudes towards distance education according to gender, it was observed that male pre-service teachers had more positive attitudes than female pre-service teachers. This finding coincides with some studies in the literature on the role of gender in distance education. For example, in a study conducted by Li and Kirkup (2007), it was stated that male students were more interested in technology and more confident in using technology. In the study conducted by Toplu and Gökçearslan (2012), it was stated that male students were more interested in technology and more confident in using technology. This may have contributed to male pre-service teachers' more positive view of distance education technologies. It is also similar to the result of the research conducted by Buluk & Eşitti (2020) on the evaluation of distance education by tourism undergraduate students in the corona virus (covid-19) process. However, the research conducted by Yıldız (2016) to determine the attitudes of students receiving pedagogical formation education towards distance education does not overlap with the result of the gender variable. The reasons for this may include cultural and individual differences.

When analyzed in terms of learning group, it was found that the attitudes towards distance education of students studying at the faculty of education and students receiving pedagogical formation training were positive. This result shows that distance education is embraced by students from different disciplines. Moore and Kearsley (2012) emphasized that flexibility and accessibility are among the most important advantages that distance education offers to students and therefore it is preferred by a wide range of students. Kara and Zorkun (2019) also stated that distance education offers significant advantages to students in terms of flexibility and accessibility and is therefore preferred by a wide range of students. In addition to the students of the faculty of education, the fact that the students receiving pedagogical formation education also have a positive approach to distance education reveals the wide applicability of this education model.

According to their working status (unemployed, student, public, private sector and self-employment), it was determined that pre-service teachers had positive attitudes towards distance education. This finding supports that distance education plays an important role in balancing work and education life. Distance education provides time and space flexibility, especially for working students, allowing the learning process to continue uninterrupted (Guri-Rosenblit, 2018; Demir & Akpınar, 2021). This flexibility helps students manage their workload and academic obligations more effectively.

In the study conducted by Karakuş & Erşen (2021) on the examination of teachers' attitudes towards distance education and covid-19 fears in terms of different variables, it was concluded that they had negative attitudes towards distance education. The results show that attitudes towards distance education express different results in the literature.

### 4.2. Conclusion

A total of 298 pre-service teachers, 236 females and 62 male, participated in the study. In this study, it was examined whether the attitudes of pre-service teachers studying at the faculty of education and taking pedagogical formation education towards distance education differed in terms of gender, learning group and working status variables.

As a result of the analysis, it was seen that the attitudes of pre-service teachers studying at the faculty of education and taking pedagogical formation education towards distance education showed a significant difference according to gender, learning group and working status. According to the results of the analysis, the attitudes of pre-service teachers studying at the faculty of education and taking

pedagogical formation education towards distance education are positive. It was determined in the survey results that both male and female pre-service teachers who participated in the study approached distance education positively and it was seen that the attitudes of males towards distance education were higher than females. In addition, it is seen in the analysis results that pre-service teachers have positive attitudes towards distance education according to their working status (unemployed, student, public, private sector and self-employment).

#### 4.3. Recommendations

Based on the results of the research, the following recommendations can be made:

- As a result of the research, practices and trainings can be organized to positively increase the attitudes of female pre-service teachers, especially those studying at the faculty of education, towards distance education.
- This research was conducted with descriptive research method. By using qualitative research methods, the views and differences of pre-service teachers studying in pedagogical formation education and faculty of education towards distance education can be examined in depth.
- In this study, gender, learning group and working status variables were taken as independent variables. The relationship between different variables and attitudes towards distance education can be examined.
- In this study, the sample consists of 298 people. By increasing the number of samples, the attitudes of more people towards distance education can be examined and different opinions can be revealed.
- This research was applied to university students. From a different perspective, it can be applied to teachers who are actually teaching and their attitudes towards distance education can be examined and different results can be obtained.

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