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Examination on Readiness of Pre-service Social Studies Teachers for Online Learning

Eray Alaca[1], Sema Agbal[2]

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This research aims to examine the readiness of pre-service social studies teachers for online learning. It was investigated whether the readiness of pre-service social studies teachers for online learning varies by gender, grade, way of getting internet access, device used in online learning, and level of computer use. In the academic year 2021–2022, 94 pre-service social studies teachers from a public university in Turkey's Eastern Black Sea region compose the sample for the study. The data were collected using the "Readiness Scale for Online Learning," which had been translated into Turkish. The survey model, one of the quantitative research designs, was employed for the analysis of the data obtained within the scope of the study. The SPSS program was used to analyze the data. The collected data were tabulated and interpreted. As a result, it was observed that the readiness level of pre-service social studies teachers for online learning was above the average.

Keywords: Online-learning, social studies, pre-service teachers.

INTRODUCTION

Access to information has become easier because of the development of communication technologies. This development and convenience have had a positive effect on educational activities, as in many other fields, and have enabled the implementation of new teaching methods. Online learning within distance education, which offers education to the masses regardless of place or time, has developed into a significant teaching method which is widely used with the developing technology (Cakir & Horzum, 2015; Demir Ozturk & Eren, 2021; Khurana, 2016; Saritas, 2013). Thus, using computers, phones, televisions and other electronic devices, teachers and students can carry out a similar teaching process to that which takes place in face-to-face education but at different times and in different places.

Online learning is a technique which can be employed when face-to-face learning cannot be performed, and 80% of the educational activity is now conducted online (Allen & Seaman, 2017). This model allows for location and time flexibility, enabling students who are unable to attend traditional programs to complete their educational activities. In addition, online learning environments contribute to the development of learner-based skills, such as the use of online learning technologies and time management (Joosten & Cusatis, 2020). The success of a student in online learning is dependent on the compatibility and openness of the teacher and learner to instructional technologies. As a result, the readiness of both the learner and the teacher for online learning is critical for the student's success in educational activities (Rozgiene et al., 2008).

The Covid-19 epidemic, which started in China in 2019 and spread throughout the world, has made online learning, which is used as part of distance education in many countries, more important than ever. Technology has been used to its full potential during this time of lockdowns, curfews and quarantine procedures to prevent disruptions to educational activities and new online learning settings have been created. This educational situation started with the suspension of teaching activities in Turkey on 16-30 March 2020. Due to the continued spread of the pandemic, which was thought to be short-lived, it was decided to conduct all teaching activities online (MoNE, 2020). In addition to the common compulsory courses such as Ataturk's Principles and History of the Revolution, Turkish Language and foreign languages, which were already taught online within the scope of distance education in higher education institutions, all courses started to be taught online. Most of the Turkish universities have conducted teaching activities completely online (Dhawan, 2020). As a result, online learning environments have become an essential component of university education (Garavan et al., 2010). Face-to-face instruction resumed in 2022 as the effects of the Covid-19 pandemic began to fade. During this period, some verbal courses were conducted in online teaching settings in associate, undergraduate and graduate programs.

With the decrease in the global impact of the pandemic, the negative effects of the pandemic on society became more obvious. Especially in the education system, the unpreparedness of teachers and students for online

[1] Giresun University, e.alaca@giresun.edu.tr, orcid.org/ 0000-0002-4886-4700
[2] Giresun University, sema.agbal@giresun.edu.tr, orcid.org/ 0000- 0003-3138-7925

learning had caused problems. Studies to identify the problems encountered in the field of education during the pandemic are therefore critical for improving distance education practices (Duman, 2020). As a result, education systems will be able to adapt more easily to potential distance education situations, qualified teachers will be trained for online teaching, and students' needs and deficiencies in distance education will be eliminated.

The most important element of the online learning system is the student. Students have to assume the responsibility for their own education and work to acquire the necessary information and skills. Students need to be prepared to use online technology in their learning activities. Readiness for online learning can be defined as how students will use communication technologies, their willingness to use these technologies (Budzar et al., 2016; Gulbahar, 2022) and their motivation. In addition to these, other qualities which students should possess include being able to control their own learning process and recognizing their weaknesses. Students' participation in online learning is significantly influenced by their ability to communicate with the instructor and other learners in online learning environments (Veletsianos, 2010). For this reason, it is important to examine online learning readiness at the beginning of the teaching process for effective online learning (So & Swatman, 2006). In this way, with readiness assessments which increase the level of success, the risk of failure in online learning can be reduced (Mercado, 2008). The purpose of this study was to examine the readiness of pre-service social studies teachers for online learning. In line with that main purpose, the following research questions were addressed;

1. What is the readiness level of pre-service social studies teachers for online learning and the readiness sub-dimensions for online learning of Computer and Internet use Self-efficacy (CIS), Self-Learning (SL), Learner Control (LC), Learning Motivation (LM) and Online Communication Self-efficacy (OCS)?
2. How do the sub-dimensions of pre-service social studies teachers' readiness for online learning – such as CIS, SL, LC, LM and OCS – correlate with one another?
3. Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the gender variable?
4. Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the grade variable?
5. Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the type of internet access variable?
6. Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the variable of the device which they use in online learning?
7. Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the variable of the level of computer use?

METHOD

The survey design was employed in this research to examine the readiness of pre-service social studies teachers for online learning. One of the quantitative research designs, the survey design gives the researcher a great deal of information about the population making up the sample and, consequently, the characteristics of the population (Buyukozturk et al., 2016).

Research Participants

The population of the study consisted of pre-service teachers studying in the social studies education undergraduate program of higher education institutions. The sample comprised 94 volunteer pre-service social studies teachers studying at an education faculty of a public university, the Department of Social Studies Education in the Eastern Black Sea region of Turkey in the 2021-2022 academic year.

Table 1. Distribution of pre-service social studies teachers constituting the sample by gender

	Frequency (f)	*Percentage (%)*
Female	53	56.4
Male	41	43.6
Total	94	100.0

Table 1 shows that 53 (56.4%) of the pre-service social studies teachers constituting the study sample were female, while 41 (43.6%) are male.

Data Collection Tool

In this study, the Readiness Scale for Online Learning (RSOL) developed by Hung et al. (2010) and adapted into Turkish by Ilhan and Cetin (2013) was used to examine the readiness of the pre-service social studies teachers for online learning. The scale consists of 18 items and five sub-dimensions, CIS, SL, LC, LM and OCS. The Cronbach's Alpha internal consistency coefficient of the scale was calculated to be .95. In this scale, the Cronbach's alpha internal consistency coefficient for the CIS sub-dimension was .87, the coefficient for the SL sub-dimension was .89, the coefficient for the LC sub-dimension was .76, the coefficient for the LM sub-dimension was .89, and the coefficient for the OCS sub-dimension was .84.

Analysis of Data

The data collected were analysed with the SPSS 24.0 program. In the data sets, missing and extreme values were first examined and two participants were consequently excluded from the data set. According to the normality of the distribution of the total scores obtained from the RSOL, the tests which would be applied were determined, and answers were sought for the research questions. The normality of the distribution of scores is presented in Tables 2 and 3.

Table 2. The normality of the distribution of the RSOL's five sub-dimension scores

	CIS	*SL*	*LC*	*LM*	*OCS*
Coefficient of Skewness	-0.299	-0.464	-0.193	-0.845	-0.926
Coefficient of Kurtosis	-0.701	-0.035	-0.295	0.600	0.836

Skewness and kurtosis coefficients are calculated to determine the normality of the total score distribution. When the skewness and kurtosis coefficients are between ±1, the distributions are normally distributed and parametric tests will be used. When the skewness and kurtosis coefficients are outside the limits of ±1, the distributions are not normal and non-parametric tests will be used (Tabachnick & Fidell, 2015). Table 2 shows that the scores were normally distributed so correlations were analysed using the Pearson Product-Moment correlation coefficient.

Table 3. Normality distribution of variable sub-group scores

	Gender		*Grade*				*Internet Access*		*Device*		*Level of Computer Use*		
	Female	Male	1	2	3	4	Wi-Fi	Mobile Data	Computer	Phone	Basic	Intermediate	Advanced
Skewness	-0.107	-0.527	-0.792	0.708	0.192	-0.800	-0.714	-0.048	-0.195	-0.302	0.054	0.016	-0.600
Kurtosis	-0.864	0.716	0.647	2.196	-0.305	0.459	1.393	-0.525	-0.543	0.194	0.009	-0.552	-0.788

Table 3 shows that the scores of the variable sub-groups of gender, device and level of computer use were normally distributed so unrelated samples t-tests and one-way ANOVA tests were applied to these groups. It can also be seen that the scores of the variable sub-groups of grade and internet access were not normally distributed, so the Kruskal Wallis H Test and the Mann Whitney U Test, which are non-parametric tests, were applied to these groups.

The Cronbach's alpha internal consistency coefficients were calculated to determine the reliability of the scores obtained from the data collection tool. The Cronbach's alpha internal consistency coefficient of the scale used in the study was calculated to be .90. The Cronbach's alpha internal consistency coefficients for the scale's sub-dimensions were as follows: .84 for the CIS sub-dimension, .77 for the SL sub-dimension, .60 for the LC sub-dimension, .78 for the LM sub-dimension and .78 for the OCS sub-dimension.

FINDINGS

1. Findings for the first research question

The first research question was 'What is the readiness level of pre-service social studies teachers for online learning and the readiness sub-dimensions for online learning of CIS, SL, LC, LM and OCS?' Table 4 presents the actual total scores and descriptive statistics found for the sub-dimension total scores converted into Likert-type scores (ranging from 1 to 5) to ensure their comparability in order to answer this research question.

Table 4. Descriptive statistics of readiness of the pre-service social studies teachers for online learning and calculated for the five sub-dimension of RSOL

	Actual Score				*Likert Type Score*			
	$\bar{X}$	*S*	*Minimum*	*Maximum*	$\bar{X}$	*S*	*Minimum*	*Maximum*
RSOL	65.75	13.55	21.00	90.00	3.65	.75	1.17	5.00
CIS	10.18	3.49	3.00	15.00	3.39	1.16	1.00	5.00
SL	17.87	4.39	5.00	25.00	3.57	.87	1.00	5.00
LC	9.95	2.82	3.00	15.00	3.31	.94	1.00	5.00
LM	16.03	3.38	5.00	20.00	4.00	.84	1.25	5.00
OCS	11.71	2.87	3.00	15.00	3.90	.95	1.00	5.00

Table 4 shows that the online learning readiness level of the participants was $\bar{X}$= 3.65. When their score average is seen against 5, it can be seen that their readiness was above the average. It was found that the sub-dimension with the highest online learning readiness of the participants was LM ($\bar{X}$= 4.00) and the sub-dimension with the lowest readiness was LC ($\bar{X}$= 3.31).

2. Findings for the second research question

The second research question was 'How do the sub-dimensions of pre-service social studies teachers' readiness for online learning – CIS, SL, LC, LM and OCS – correlate with one another?' Table 5 shows the Pearson Product-Moment correlation coefficients calculated to answer this research question.

Table 5. The correlations among the five sub-dimensions of RSOL

	CIS	*SL*	*LC*	*LM*	*OCS*
CIS	1.00	*.540	*.426	*.330	.581
SL		1.00	*.732	*.552	*.505
LC			1.00	*.616	*.538
LM				1.00	*.623
OCS					1.00

* $0.01 \leq p < 0.05$

Table 5 shows that there was a positive, moderately statistically significant correlation between the participants' readiness for the online learning sub-dimensions; a positive, highly statistically significant correlation was only found between SL and LC ($r=0.732$, $p<0.05$).

3. Findings for the third research question

The third research question was 'Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the gender variable?' In order to find an answer to this research question, the Unrelated Samples t-Test was applied to the total score of RSOL and the results are presented in Table 6.

Table 6. The difference between the readiness of the pre-service social studies teachers for online learning by the gender variable

	Gender	*N*	$\bar{X}$	*Standard Deviation*	*t*	*Sd*	*p*
RSOL total	Female	53	66.47	12.37	.581	92	.563
	Male	41	64.82	15.04			
	Total	94					

Table 6 shows that the online learning readiness of the participants did not show a statistically significant difference by the gender variable ($t_{(92)}$= 0.581, p>0.05).

4. Findings for the fourth research question

The fourth research question was 'Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the grade variable?' The results of the Kruskal Wallis H Test applied to the total score of RSOL to find an answer to this research question are presented in Table 7.

Table 7. The difference between the readiness of the pre-service social studies teachers for online learning by the grade variable

	Grade	*N*	*Rank mean*	*Chi-Square*	*Sd*	*p*
RSOL total	1	19	44.47	7.60	3	.055
	2	14	39.46			
	3	32	42.48			
	4	29	58.90			
	Total	94				

Table 7 shows that the online learning readiness of the participating pre-service social studies teachers did not differ significantly by the grade variable ($H_{(3)}$= 7.60, p>0.05).

5. Findings for the fifth research question

The fifth research question was 'Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the type of internet access variable?' The Mann Whitney U Test was applied to the total score of RSOL to find an answer to this research question and the results are presented in Table 8.

Table 8. The difference between the online learning readiness of the pre-service social studies teachers by the internet access variable

	Internet Access	*N*	*Rank mean*	*Rank sum*	*U*	*p*
RSOL total	Wi-Fi	64	44.72	2862.00	754.00	.896
	Mobile Data	24	43.92	1054.00		
	Total	88				

Table 8 shows that there was no statistically significant difference between the online learning readiness of the participants by the internet access variable (U=754.00, p>0.05). There was no statistically significant difference between those who accessed the internet through Wi-Fi and those who had internet access through mobile data.

6. Findings for the sixth research question

The sixth research question was 'Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the variable of the device they use in online learning?' In order to find an answer to this question, an Unrelated Samples t-Test was applied to the total score of RSOL and the results are shown in Table 9.

Table 9. The difference between the online learning readiness of the pre-service social studies teachers by the variable of device they use

	Device they use	*N*	$\bar{X}$	*Standard Deviation*	*t*	*Sd*	*p*
RSOL total	Computer	36	68.63	11.78	1.683	90	.096
	Mobile Phone	56	63.76	14.55			
	Total	92					

Table 9 shows that the online learning readiness of the participating teachers did not differ statistically by the variable of the device used by them ($t_{(90)}$= 1.683, p>0.05).

7. Findings for the seventh research question

The final research question was 'Does the readiness of pre-service social studies teachers for online learning show a statistically significant difference by the variable of the level of computer use?' To find an answer to

this question, a one-way ANOVA test was performed on the total score of RSOL and the findings are presented in Tables 10 and 11.

Table 10. Descriptive statistics on the level of computer use

	N	Mean	Std. Deviation	Minimum	Maximum
Basic	28	60.64	11.90	36.00	86.00
Intermediate	44	68.45	11.81	45.00	90.00
Advanced	15	74.13	9.58	57.00	90.00
Total	87	66.91	12.34	36.00	90.00

Table 11. The difference between the online learning readiness of the pre-service social studies teachers by the variable of computer use level

	Sum of squares	*sd*	*Mean of squares*	*F*	*p*	*Difference*
Between group	1987.36	2	993.68	7.50	.001	Basic-Intermediate Basic-Advanced
In-group	11117.07	84	132.34			
Total	13104.43	86				

Table 11 shows that the online learning readiness of the participants differed statistically by the computer use level variable ($F_{(2, 84)}$= 7.50, $p<0.05$). Their online learning readiness ($\bar{X}$=68.45) with intermediate computer usage level was statistically significantly higher than those ($\bar{X}$=60.64) whose level of computer use was basic. The online learning readiness of those ($\bar{X}$=74.13) with advanced levels of computer usage was statistically significantly higher than those ($\bar{X}$=60.64) whose level of computer usage was basic.

CONCLUSION and DISCUSSION

In this study, the readiness of pre-service social studies teachers for online learning was examined in terms of gender, grade, internet access, the device they use and their level of computer use. The findings showed that their online learning readiness was above average. This result is similar to those reported by Cakir and Horzum (2015) and Kuleli (2018). Yakin and Tinmaz (2013) and Gunbatar (2017) found that the online learning readiness of pre-service teachers was at a sufficient level, whereas it was found to be high by Demir Ozturk and Eren (2021).

When the correlations between the sub-dimensions of the online readiness scale were examined, it was found that only the self-learning and the learner control sub-dimensions had a high level of correlation. The other correlations were found to be at a moderate level. When the participants' online learning readiness was examined in terms of the five sub-dimensions, it was found that learning motivation had the highest average and that learner control had the lowest. This result is similar to that reported by Cakir and Horzum (2015). However, different results were obtained by Saritas and Barutcu (2020) and by Demir Ozturk and Eren (2021). Saritas and Barutcu (2020) found that, as in the current study, self-directed learning had the highest average and learner control had the lowest, whereas Demir Ozturk and Eren (2021), on the other hand, found that internet self-efficacy had the highest average and that the e-learning motivation sub-dimension had the lowest.

The gender variable had no statistically significant effect on the online learning readiness of the pre-service social studies teachers who participated in this study. The results showed that there was no significant difference between the genders in the online learning scale in general, consistent with the results reported by Cakir and Horzum (2015), Adnan and Boz Yaman (2017), Kuleli (2018) and Demir Ozturk and Eren (2021). On the other hand, Olcay et al. (2018) and Akbal (2021) found that the gender variable led to differences in readiness for online learning, with the readiness of males being higher than that of females.

It was found that the online learning readiness of the participating pre-service social studies teachers did not show a statistically significant difference by the grade variable. This finding is not consistent with the results reported by Kuleli (2018) and Saritas and Barutcu (2020). It can be suggested that readiness for online learning is developed by using online learning environments. Kuleli (2018) found that the readiness for online learning of 4th grade students was higher than that of 1st grade students, whereas Saritas and Barutcu (2020) found that readiness for online learning among 2nd grade students was lower than that of other grades.

As a result of the analysis, it was found that the online learning readiness of the pre-service social studies teachers did not show a statistically significant difference according to the internet access variable. There was no statistically significant difference between those who had Wi-Fi and those who had mobile data; that is, those who had more internet access and those who had less internet access. On the other hand, unlike this result, Demir Ozturk and Eren (2021) found that the students with more internet access had higher readiness for online learning.

Furthermore, it was found that the online learning readiness of the pre-service social studies teachers did not differ statistically significantly by the device they used. Akbal (2021) similarly found that the type of device used in readiness for online learning did not show a significant difference.

Finally, it was found that the online learning readiness of the pre-service social studies teachers differed statistically significantly according to the computer use variable. The findings showed that the online learning readiness of those with advanced computer use levels was higher than that of those with basic and intermediate levels. This result is consistent with that of Akbal (2021). It has therefore been found that the readiness of the students with a high level of computer use was higher than that of the other students.

LIMITATIONS and RECCOMENDATIONS

This study examined online learning readiness in the distance education process but was limited to the perspectives of 94 pre-service social studies teachers studying at a Turkish state university. Some recommendations are made in the light of the findings, comments and discussions which will contribute to future research. In future studies, research could be conducted on topics such as readiness, attitudes, competencies, expectations, academic achievements, self-efficacy perceptions and the problems faced by pre-service teachers and academics in regard to online learning. The relationship between the readiness for the online learning variable and different variables can also be examined. In addition, studies similar to this study conducted using a quantitative research design or a qualitative and mixed design can be conducted. The positive and negative aspects of online learning could also be assessed by comparing data from international studies on readiness for online learning with data from Turkish studies.

Declarations

Conflict of Interest

No potential conflicts of interest were disclosed by the author(s) with respect to the research, authorship, or publication of this article.

Ethics Approval

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Research and Publication Ethics Statement

The study was approved by the Social Sciences, Science and Engineering Research Ethics Committee of Giresun University. (Approval Number/ID: 09/03/2022-20/02) Hereby, we as the authors consciously assure that for the manuscript. "

" The following is fulfilled:

- This material is the authors' own original work, which has not been previously published elsewhere.
- The paper reflects the authors' own research and analysis in a truthful and complete manner.
- The results are appropriately placed in the context of prior and existing research.
- All sources used are properly disclosed.

Contribution Rates of Authors to the Article

The authors provided equal contribution to this work.

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