An investigation of the relationship between digital literacy of social studies teachers and their roles and competencies in distance online education

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Abstract

The aim of this research is to examine the digital literacy of social studies teachers, their roles and competencies in distance online education and to reveal the relationship between these variables. In accordance with this main objective, the study investigated whether there are statistically significant differences between the personal characteristics of social studies teachers such as gender, age, in-service training, and their digital literacy and roles and competencies in online distance education. The study employed a correlational descriptive research design. Data were collected through the "Digital Literacy Scale" and the "Online Teacher Competency Scale" in addition to the personal information form. Due to the pandemic conditions, data were collected from 244 social studies teachers reached through the form created in Google documents. The obtained data were analyzed by transferring them to SPSS 22.0. T-Test and one-way ANOVA were applied to determine whether the variables of gender, age, and in-service training they received caused a statistically significant difference in the participating social studies teachers' roles and competencies in online distance education. The relationship between the effect on the social studies teachers' roles and competencies in online distance education and their digital literacy levels and any significant difference between them were determined using correlation analysis. It has been found that the digital literacy status of social studies teachers differs significantly in favor of men in terms of gender, there is no significant difference in terms of education level, professional seniority, and internet use, and there is a significant difference in favor of those who take courses in a distance education program. The data obtained on the online teacher roles and competencies of social studies teachers indicated no significant difference between female and male teachers. However, online teacher roles and competencies of social studies teachers differed significantly according to their education level and professional seniority, in favor of those who received postgraduate education and those working in the range of 10-15 years, respectively. Their online teacher roles and competencies also had a significant weak relationship with the variables of duration of internet use, taking courses related to distance education program and teaching time in online education.

1.   Introduction

Recently, digital literacy is one of the competencies and skills required for us to adapt to and successfully manage the continuous developments and changes in the fields of science, technology, and communication, and the groundbreaking innovations in almost all sectors, including economy, health, social life and education that greatly affect our lives (Voogt & Roblin, 2012). In particular, during the Pandemic (Covid 19) that emerged in the Wuhan province of China and affected the whole world in a short time, individuals and societies with insufficient communication infrastructure and digital literacy levels in all countries where the virus spread were caught unprepared in ensuring the continuation of education and providing access to education. During the course of the pandemic, digital learning has spread rapidly in online and distance education adopted to reduce the risk of transmission and continue education.

Nowadays, with the developments in communication technologies deeply affecting information sources and information acquisition environments, reaching accurate and reliable information in a structure that requires individuals to establish healthy relationships with information and information sources is possible with digital literacy skills. Digital literacy is the ability to see information from a critical perspective and understand and use it in multiple formats (Gilster, 1997). In the literature, digital literacy is referred to with or used as a synonym for different terms such as information literacy, computer literacy, media literacy, and electronic literacy (Bawden, 2001, p. 219).

1.1 Digital Literacy

Today, with the substantial developments in the field of communication and technology, and the consequent rapid development of digital technologies, affecting our

lives in areas such as education, health, and economy, and also spending a certain part of the day on the Internet requires the individual to have various cognitive competencies in digital environments. These skills fall under the main heading of "digital literacy" (Aviram & Alkalai, 2006, p.1). Today, diversification of literacy gave rise to many types of literacy, such as technology-based new literacy, and digital literacy, where technology and literacy skills are based on cognitive, affective, and psychomotor competencies, as well as computer, information, technology, and communication technology literacy (Leaning, 2019). Digital literacy also includes the ability to read and interpret the media, evaluate the information gained in digital environments among new learning environments and apply the acquired knowledge (Morrison & Garcia, 2011, p. 5-6). Digital literacy is defined as the ability to use technology to access, use and distribute information, to understand and use information accessed from different sources through computers in multiple formats (Gilster, 1997; Bawden, 2001).

With a good digital literacy skill, the individual gains the ability to both benefit from the opportunities associated with digital technology and to use them smoothly and safely in the face of the threats and dangers that may arise with these technologies (Hague & Payton, 2010). In addition, the person will be able to use their digital tools without any problems and benefit from secure access to the internet by ensuring protection against network-based cybercrimes such as secretly installing software on their device by hackers that they may encounter in the virtual world, obtaining data that can harm people through fake websites, and phishing through programs that work against the person's will in their digital tools (Deye, 2015).

While the rate of households with internet access in our country was 90.7% in 2020, it increased to 92% in 2021, and the rate of individuals using the internet became 82.6%. According to internet usage statistics, 80.5% of internet users used the internet regularly (TURKSTAT, 2021). The ever-increasing interaction between technology and people and the use of technology in the field of education necessitate teachers and students to keep up with technology.

The digital literacy competencies of both teachers and students appear to affect their performance in online learning environments where they interact with each other. The ability of teachers and learners to use technology will make it easier for them to adapt to

undesirable negative situations they may encounter in online learning environments. With their competence in using technology, all stakeholders in digital learning platforms can be considered an effective and productive part of the learning process. As another benefit, students can be expected to develop a positive perception and attitude toward online learning and participate in studies willingly, thus increasing their performance and academic success.

In the 21st century, individuals' access to information in their daily lives is closely related to their digital literacy skills. Raising students with different literacy skills is among the targets of the 2023 Turkish Education Vision (MEB 2023 Education Vision, 2018). The greatest duty and responsibility falls on teachers in achieving these goals and raising individuals with the skills and competencies the era necessitates.

The importance of digital literacy skills and teachers with these skills has increased with the compulsory distance education put into practice in order to maintain education during the pandemic. Today's world, which is referred to as the information society due to the knowledge accumulation that increases day by day thanks to the developments in the technology and communication field, makes it the essential goal of education for students to be good, effective and qualified citizens, and for teachers to especially teach how to learn, as well as the ways of reaching the right information. (Yaman & Author, 2015, p.1555).

1.2 Online Learning

Online learning, which has become an important part of our lives with the pandemic, is a structured learning model supporting the distance education process with information and communication technologies (Satrio, 2011). It is possible to define it as a virtual education environment where educators have good planning and technology literacy, ease of access to the internet, and education can be continued without any time and place limitations. Despite the positive features of online learning activities, such as providing flexible and independent learning opportunities and being economical, there are also negative aspects such as lack of infrastructure, educator-student interaction problems, and educators continuing traditional teaching methods. The majority of the students who continue their education are also called Generation Z, born in the millennium and later (Merriam-Webster Online Dictionary, 2022). Due to being born in a period when digital

developments gained great momentum, hence being intertwined with technology, having access to information very quickly, and the continuous increase in the necessity of using information and communication technologies in our social lives, generation Z students are considered digitally literate individuals who can access resources in digital environments, and manage, analyze and evaluate the information they reach (Martin, 2008). Generation Z seems to have a more digital identity than other generations in terms of being connected to the internet, keeping up with the technology, and actively using mobile phones and social media sharing sites (Twenge, Campbell, Hoffman, & Lance, 2010; Kapil, & Roy, 2014).

1.3 Relationships Between Digital Literacy, Online Learning, and Teacher Competencies

With globalization, the widespread use of the Internet in the world and its reach to large masses, technological progress, and differentiation of the circulation, handling, and interpretation of information cause great changes in almost every field (İrge, 2012).

The rapid changes experienced today have also affected the field of education and started the process of building traditional methods and practices on the basis of technology. Technology-based education practices, which have replaced the practices and methods of the past, have become an indispensable part of our lives (Taşkıran, 2016: 97).

While applications such as distance education, letter learning, and open education, which date back to ancient times, have a significant function in social development throughout the world (İşman, 2011: 3-4), the pandemic forced online learning, which is more compatible with technology, to become more common to ensure continuing the teaching process.

Achieving the goals in the education programs and raising students with the quality required by our age by reaching the targeted success is possible with a qualified education offered to the learners. For a qualified education, it is essential to determine the quality standards first and then the fundamental characteristics and competencies that the educators should have to reach these standards (Seferoğlu, 2004).

The concept of competence is "the characteristics that must be possessed in order to perform a job or task effectively. Competence is a concept that expresses the abilities, knowledge, and skills needed to perform a task and fulfill the responsibilities required by

the task" (Şahin, 2004). Equipping digital literacy skills to students is possible by first equipping the teachers, who are the leaders of learning environments, with competencies related to the field of service (Akkoyunlu & Yılmaz Soylu, 2010). The Cambridge dictionary defines competence as "an important skill required to do a job" (Cambridge Dictionary online, 2022).

Teacher competencies are defined by the Ministry of National Education (2008) as "the knowledge, skills, and attitudes that must be possessed in order to fulfill the teaching profession effectively and efficiently", while Şişman (2009) expressed it as "the set of characteristics or qualities that teachers are expected to have in terms of knowledge, skills, attitudes, values, and behaviors". In addition to the qualifications determined by the Ministry of National Education, teachers who will participate in online distance education must have further competencies and skills, such as competencies determined for e-learning. Teacher competencies in e-learning platforms, which are designed differently from traditional classroom environments and whose infrastructure is completely based on technology, are defined as "Online Teacher Competencies" in the literature (Baturay & Türel, 2012).

In the literature, online teacher competencies are classified into different categories also covering each other. Online Teacher Competencies categories are; "Understanding the process, technical and communication skills, online domain expertise, personal characteristics" (Salmon, 2000), and "Pedagogy, technology and communication knowledge, domain expertise" (Denis, Watland, Pirotte, & Verday, 2004). While Aydın (2005) classifies them as "technology, communication, time, online education and content", Bingöl Meşe (2010) lists them as "technical and pedagogical competence and willingness to continue uninterrupted communication". Bailie (2011) categorized the online teacher competencies according to preferred features, the most preferred ones being "feedback, content, managerial and social", and the least preferred ones being "e-mail usage, classroom assessment techniques, techniques ensuring student participation".
Technical competencies, assessment competencies, pedagogical competencies, and communicative competencies are common features highly emphasized in studies on online teacher competence categories.

In all societies, raising individuals is one of the main tasks of the education system of that country and the basic elements of education. For the quality and effectiveness of education, the role of the teacher in the learning-teaching process is undoubtedly the most important of these factors (Büyükkaragöz & Kesici, 1998; Çelikten, Şanal, & Yeni, 2005; Demirel & Kaya, 2006, 337; Üredi, 2006). It is very important that "teachers are specialized in their fields and professions, open to innovations and technology, aware of their own characteristics, and can renew and develop themselves" (MEB, 2008).
Mutluoğlu and Erdoğan (2016) state that teachers should be able to use technology actively and efficiently in the education process, constantly renewing and updating the knowledge required by the profession, improving themselves, and adapting new teaching approaches to their own instructional behaviors.

1.4 Aim

The aim of this research is to examine the digital literacy of social studies teachers, their roles and competencies in distance online education and to reveal the relationship between these variables, to evaluate them in line with the studies in the literature, and to make suggestions for the future. Within the framework of this general objective, answers to the following questions were sought:

1. What is the level of Digital Literacy of Social Studies Teachers?
2. What is the level of Online Teacher Competencies of Social Studies Teachers?
3. Do social studies teachers' digital literacy and roles and competencies in online distance education differ significantly by

   Gender

   Age

   Education level

   Years of service

   Internet usage time

   Taking courses as a student in a distance education program

   Teaching time in online education

4. Is there a significant relationship between the digital literacy of social studies teachers and their role in distance online education?

1.5 Significance

According to the curriculum updated in 2018, the Turkish Education System aims to raise "individuals who have acquired integrated knowledge, skills, and behaviors in terms of competencies". "Digital Competence" is one of the eight key competencies determined in the Turkish Qualifications Framework (TQF), which was created within the scope of the qualifications that students will need in their personal, social, academic, and business lives in local and international environments (MEB, 2018). Digital competence covers the safe and critical use of information and communication technologies for work, daily life, and communication in the Social Studies Curriculum. It is stated that digital competence is supported by basic skills such as accessing information and using computers to evaluate, store, produce, present, and exchange information, as well as joining common networks and communicating over the Internet (MEB, 2018, p.5).

The declaration made regarding the implementation of the Social Studies Curriculum, which was updated and renewed in 2018, states that "with the developments in digital technologies in recent years, new phenomena expressing the determination of citizenship rights and responsibilities such as digital citizenship, e-government, social media, e-commerce, and new problems such as digital division, privacy of personal information, identity theft, cyberbullying and cyber fraud have emerged" (MEB, 2018).

The literature review on digital literacy and online learning, which has recently been more integrated into education systems, revealed studies on digital literacy, online learning (Akman, 2021), "digital literacy levels of teacher candidates" (Şahin, 2021; Yılmaz & Çakır, 2022; Bay, 2021), "Teacher views on distance education in Turkish teaching", (Epçaçan & Paçalı, 2021), "distance education in the covid-19 pandemic" (Sezgin & Fırat, 2020). Academic studies on this subject are limited and insufficient, and there is no study on social studies teachers. This study will enable teachers to develop themselves by having more in-depth knowledge of their digital competencies. In this way, it is expected that these teachers will be more beneficial to their students. In addition, policy makers' knowledge of teachers' digital competencies will play a major role in developing new policies. For researchers, it is possible to say that it will be important in terms of determining the acceleration of future research. This study, which will benefit teachers, students, policy

makers and researchers, will also positively affect the society in the long run.

2.   Method

In this study, the correlational research model, which is a quantitative research design, was used to examine the relationship between the digital literacy of social studies teachers and their roles and competencies in online distance education. A correlational design is a research approach that aims to describe a past or present situation as it is. "The correlational research model is a screening approach that aims to determine the existence of co-variation between two or more variables. In this model, it is tried to determine whether the variables change together, and if so, how" (Karasar, 2011).

The universe of the research consisted of social studies teachers in Turkey, and the sample group consisted of social studies teachers who gave distance education during the COVID-19 pandemic. All data were analyzed and 229 teachers who filled out the online questionnaire prepared with the Google form were reached.

Table 1. *Demographic Information of Participants*

Demographic Information		
Gender	n	%
Female	87	35.8
Male	156	64.2
Total	229	100

As seen in Table 1, 87 (35.8%) of the social studies teachers participating in the study were female and 156 (64.2%) were male.

2.1 Data Collection Tools

The data of the study were obtained through the personal information form and the "Digital Literacy Scale" and "The Scale for Determining the Role and Competencies of Teachers in Online Distance Education", whose reliability and validity were tested in various studies.

The first scale of the study was the Likert-type "Digital Literacy Scale", which was developed by Ng (2012) and adapted into Turkish by Hamutoğlu, Canan Güngören, Kaya

Uyanık, and Gür Erdoğan (2017), consisting of 4 dimensions (attitude, technical, cognitive and social) and 17 items. The scale was first applied to prospective teachers between the ages of 18-30 studying at a university in Australia. There is no reverse-scored item on the scale and a 5-point Likert-type rating was used from Strongly agree (5) to Strongly disagree (1).

The scale consists of 10 positive items. The Cronbach Alpha internal consistency coefficient of the scale was determined as 0.86.

The second scale used in the research is the "Online Teacher Competency Scale" developed by Kavrat and Türel (2013). For the questionnaire consisting of 49 items in the form of a five-point Likert scale, the participants were asked to mark the most appropriate option from the statements "Strongly disagree, Do not agree, Partially agree, Agree and Strongly agree". The total score of each participant was obtained by giving 5 points to the most positive category and 1 point to the most negative category. The Cronbach Alpha internal consistency coefficient of the scale was calculated as 0.920.

"Online Teacher Competency Scale" includes eight sub-dimensions covering the scale items;

"1. Distance Education Practices sub-dimension consists of 4 items (Items 1, 2, 3, 4).

2. Educational Software Development sub-dimension consists of 5 items (Items 5, 6, 7, 8, 9).

3. Instructional Planning and Implementation sub-dimension consists of 15 items (Items 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24).

4. Technology sub-dimension consists of 7 items (Items 25, 26, 27, 28, 29, 30, 31).

5. Communication sub-dimension consists of 4 items (Items 32, 33, 34, 35).

6. Time sub-dimension consists of 4 items (Items 36, 37, 38, 39).

7. Content sub-dimension consists of 4 items (Items 40, 41, 42, 43).

8. The Attitude Toward Web-Based Education sub-dimension consists of 6 items (Items 44, 45, 46, 47, 48, 49).

2.2 Data Collection and Analysis

An online survey tool "Google Form" was delivered to social studies teachers via social media (Facebook, WhatsApp, Instagram, and LinkedIn).

Before the survey, it was stated that the research was on a voluntary basis and the identities and answers of the people participating in the survey would be kept completely confidential and would not be shared with third parties. In addition, the "Informed Voluntary Consent Form" was submitted for the approval of the individuals.

2.3 Data analysis

Research data were analyzed using the SPSS 21 program. In quantitative data analysis, normality was determined from the descriptive statistics of the scores obtained from the scales.

2.4 Ethics Committee Approval

The research adhered to the rules specified in the "Higher Education Institutions Scientific Research and Publication Ethics Directive". To conduct the research, ethics committee approval was obtained from the Social and Human Sciences Ethics Committee of Sivas Cumhuriyet University, with the decision dated 07.09.2021 and numbered 72045.

3. Results

Findings determined in accordance with the sub-problems of the research are presented in the tables below.

Table 2. *Digital Literacy of Social Studies Teachers*

	N	$\bar{X}$	Ss
Digital literacy	243	3.33	.74

Table 2 demonstrates that the digital literacy levels of social studies teachers ($\bar{X}$= 3.33) were above average.

Table 3. *Online Teacher Competencies of Social Studies Teachers*

	N	$\bar{X}$	Ss
Online Teacher Competencies	243	3.63	.45

Table 3 indicates that the online teacher competencies of social studies teachers (X= 3.63) were above average.

Table 4. *Digital Literacy of Social Studies Teachers by Gender*

	N	X̄	Ss	sd	t	p
Male	156	3.46	.69	241	-3.92	.00
Female	87	3.08	.74			

As seen in Table 4, the digital literacy of social studies teachers differs significantly according to the gender variable, in favor of males ([t(241)= -3.92, p<.05]).

Table 5. *Online Teacher Competencies of Social Studies Teachers by Gender*

	N	X̄	Ss	sd	t	p
Male	156	3.64	.45	241	-.236	.813
Female	87	3.62	.44			

As seen in Table 5, online teacher competencies of social studies teachers do not differ significantly according to gender (p >.05).

Table 6. *Investigation of Digital Literacy and Online Teacher Competencies of Social Studies Teachers According to the Education Level Variable*

			N	X̄	Ss	sd	t	p
Online Teacher Competency		Bachelor's degree	198	3.62	.44	241	-.667	.505
		Graduate degree	45	3.67	.47			
Digital literacy		Bachelor's degree	198	3.27	.76	241	-2.42	.016
		Graduate degree	45	3.57	.62			

Table 6 shows that social studies teachers' online teacher competencies do not differ significantly according to their education levels (p>.05), while their digital literacy differs significantly in favor of graduate education level ([t(241)= -2.42, p<.05]).

Table 7. *Investigation of Digital Literacy of Social Studies Teachers According to the Professional Seniority Variable*

Professional Seniority	N	X̄	Source of Variance	KT	sd	KO	F	p	Significant difference
0-10 years	64	3.20	Between groups	2.373	2	1.187	2.136	.120	-
10-15 years	49	3.49	Within groups	133.309	240	.555			
16 years and over	130	3.33	Total	135.682	242				

Table 7 shows that the digital literacy of social studies teachers does not differ significantly according to their professional seniority (p>.05).

Table 8. *Investigation of Online Teacher Competencies of Social Studies Teachers According to the Professional Seniority Variable*

Professional Seniority	N	X	Source of Variance	KT	sd	KO	F	p	Significant difference
0-10 years	64	3.74	Between groups	5.244	2	2.622	14.256	.000	*0-10 years and over 16 *10-15 years and 16 years and over
10-15 years	49	3.84	Within groups	44.138	240	.184			
16 years and over	130	3.50	Total	49.381	242				

As seen in Table 8, according to the variable of years worked (professional seniority), online teacher competencies differ significantly among those with 16 years and 0-10 years of professional seniority, in favor of those with 0-10 years of professional experience F(2.240)=14.256, p>.05. When the employees working for 10-15 years and 16 years or more

are compared, there is a significant difference in favor of those working between 10-15 years, F(2.240)=14.256, p>.05.

Table 9. *Investigation of the Relationship between Social Studies Teachers' Digital Literacy, Online Teacher Competency, and Internet Usage Time*

Internet usage time	**Digital literacy**	
	r	.120
	p	.063
	Online Teacher Competence	
	r	.203
	p	.002

As seen in Table 9, while there is no significant relationship between social studies teachers' digital literacy and internet usage time (p>.05), there is a weak significant correlation between online teacher competency and internet usage time (r= .203, p<.05).

Table 10. *Investigation of the Digital Literacy of Social Studies Teachers According to the Variable of Taking Courses in a Distance Education Program*

	N	X̄	Ss	sd	t	p
Received D.E.	103	3.49	.75	241	2.90	.004
Did not receive D.E.	140	3.21	.72			

Table 10, which explores the variable of whether or not they took courses in a distance education program, shows that there is a significant difference in the digital literacy of social studies teachers in favor of those who took courses in distance education ([t(241)= 2.90, p<.05]).

Table 11. *Investigation of the online teacher competencies of Social Studies teachers according to the variable of taking courses in a distance education program*

	N	X̄	Ss	sd	t	p
Received D.E.	103	3.71	.46	241	2.31	.021
Did not receive D.E.	140	3.58	.43			

As seen in Table 11, which examines the variable of social studies teachers taking courses in a distance education program, online teacher competencies differ significantly in favor of those who took courses in distance education ([t(241)= 2.31, p<.05]).

Table 12. *Investigation of the relationship between digital literacy of social studies teachers, online teacher competencies, and duration of teaching in online education*

Duration of teaching in online education	**Digital literacy**	
	r	-.027
	p	.676
	Online Teacher Competence	
	r	.155
	p	.016

When Table 12 is examined, it is seen that there is no significant relationship between the digital literacy of social studies teachers and the duration of teaching in online education (p>.05), whereas there is a weak and significant relationship between online teacher competencies and duration of teaching in online education (r= 155, p<.05).

4.   Discussion

In this study, the findings obtained within the scope of the research conducted with the aim of investigating the effect of social studies teachers' digital literacy on their roles and competencies in online distance education were discussed and interpreted.

The first sub-problem of the study: "What are the social studies teachers' digital literacy levels and roles and competencies in online distance education?"

It is seen that both the digital literacy levels and online teacher competencies of social studies teachers are above average. This may be attributed to the implementation of the FATIH Project initiated by the Ministry of National Education in 2010 to ensure that every student receives the best education, has access to quality educational content, and finds equal opportunities in education, and the education and courses provided within this scope. Cho, Cheng, and Lai (2009) stated that the effectiveness of online learning activities depends on various characteristics of the individual, such as cognitive, technical, etc., and the level of social support received from the environment, while Mohammadyari and Singh

(2015) emphasized that digital literacy plays an important role in the acceptance of online learning.

The second sub-problem of the study: "Do social studies teachers' digital literacy and roles and competencies in online distance education differ significantly by gender, age, education level, years of service, internet usage time, taking courses as a student in a distance education program, and duration of teaching in online education?"

It was concluded that the social studies teachers' digital literacy differed significantly in favor of men, but their online teacher competencies did not show a significant difference according to gender. Various studies in the literature (Acar, 2015; Hamutoğlu, Güngören, Gür Erdoğan, & Kaya Uyanık, 2017; Öçal, 2017; Özerbaş & Kuralbayeva, 2018; Yeşildal, 2018) have reported that digital literacy differs significantly according to gender. However, there are also studies reporting that digital literacy levels do not differ according to gender (Maden, Banaz & Maden, 2018; Arıkan & Karasu, 2016), which contradicts the results of this study. Considering that almost all individuals in our country in the 21st century have equal facilities in terms of accessing technological opportunities and that they have encountered technology at all stages of the education-teaching process starting from the primary education, it is surprising that the female and male teachers could not reach an equal level of technological knowledge. The lack of significant difference in online teacher proficiency may be due to the active use of social studies teachers' smart board application, EBA program, in schools.

It is seen that the social studies teachers' online teacher competencies did not differ significantly according to their education level, though their digital literacy showed a significant difference in favor of postgraduate education level. In parallel with the results of this study, Öçal (2017) and Yaman (2019) reported that digital literacy levels differ according to the teachers' educational background and that teachers with graduate education are more competent in terms of digital literacy.

Analysis of the social studies teachers' professional seniority as the variable revealed no significant difference in digital literacy, whereas online teacher competencies differed significantly among those with 16 years and 0-10 years of professional seniority, in favor of those with 0-10 years of professional experience. On the other hand, comparison of the employees working for 10-15 years and 16 years or more revealed a significant difference in favor of those with professional seniority of 10-15 years.

Yaman (2019) determined that there is a significant difference between teachers' digital literacy levels and their seniority, along with other factors, and concluded that as their seniority increases, their digital literacy levels decrease. This result contradicts the findings of the present study.

It has been determined that there is no significant relationship between the digital literacy of social studies teachers and the duration of internet use, while there is a weak and significant relationship between online teacher competencies and the duration of internet use. However, the results of some previous studies that the digital literacy levels increase

as the time spent by the teachers on the internet increases (Çetin, 2016; Özerbaş & Kuralbayeva, 2018; Yaman, 2019) contradicts the findings of the present study. On the other hand, the weak relationship between online teacher competencies and the duration of internet use can be explained by the in-service training of the social studies teachers participating in the study, the FATIH project of the Ministry of National Education, the widespread use of EBA infrastructure, their pedagogical knowledge and adopting all roles designed for in-service training and online education environments. The study of Üstün, Karaoğlan-Yılmaz, and Yılmaz (2020) on the teachers' readiness for e-learning found that teachers' readiness levels, self-efficacy, self-confidence, and attitudes towards e-learning were at a moderate level, supporting the results of the present study.

Based on the analysis of the variable of the social studies teachers taking courses in the distance education program, it was concluded that both digital literacy and online teacher competencies differed significantly in favor of those who took distance education courses. The e-courses of the EBA Academic Support Teacher Training programs implemented by the Ministry of National Education with the obligatory participation of all teachers could have affected these results.

It was determined that the duration of teaching in online education did not have a significant relationship with the digital literacy of social studies teachers, but it had a weak but significant relationship with online teacher competencies. These findings can be explained by all students' easy access and active use of the Education Information Network (EBA), which was established by the Ministry of National Education in 2012 and improved and modified over the years to enable students and teachers to be in contact, during the pandemic.

In line with the findings, it is recommended to continue the distance online education environments, which were put into practice during the pandemic, by increasing the ratio of the courses offered in the online environment with different online applications and to increase the competence of the teachers in technology-based course preparation and presentation to further improve the effectiveness of the online courses.

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