A Study on Determining the Relationship Between Teachers' Lifelong Learning Tendencies and Their Attitudes Towards Using Technology in Education

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ABSTRACT

The aim of this study is to examine the relationship between teachers' lifelong learning tendencies and their attitudes towards technology use in education, and to determine the different variables that affect them. The participants of the research are teachers. In the study, the Mann Whitney U test was used for the variables of gender, education level and the frequency of reading books, journals, newspapers and articles, and Kruskal Wallis H test was used for the variables of professional seniority and school level to determine the lifelong learning tendencies of teachers and their attitudes towards technology use in education. It was concluded that teachers' lifelong learning tendencies differ significantly according to gender, level of learning, and frequency of reading books, magazines, newspapers and articles, and there is a significant difference in the factor of openness to development according to professional seniority. No significant difference was found according to the school level. It was concluded that teachers' attitudes towards the use of technology in education differ significantly according to gender and education level in some factors. No significant difference was found in terms of the frequency of reading books, magazines, newspapers and articles, professional seniority and school level.

Keywords: *Lifelong learning, technology, use of technology, teachers, education*

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INTRODUCTION

The rapid development of information and technology necessitates some changes in the field of education, as in many other fields. It has become necessary to develop and implement student-centered education practices instead of traditional education practices. Learning environments are important in order to obtain the desired efficiency from education. Supporting this educational environment with technology will increase the effectiveness of education and training. The competencies of teachers, who are the practitioners of education and training in the classroom, come to the fore in this regard. Having the technological competencies of teachers is necessary for the application of technology use in education in the desired way. In order to keep themselves updated, lifelong learning levels should be high for teachers.

Lifelong learning is the learning activities carried out with the aim of developing knowledge and skills

individually and socially (MoNE, 2018). In this respect, learner roles should also be at the forefront in order to develop teachers and renew themselves continuously (Koşar, 2019). Teachers should make lifelong education a part of their lives rather than a behavior or learning habit (Erdamar, 2019). Increasing the workforce to higher levels and leading a quality life of individuals are among the aims of lifelong learning. In this context, lifelong learning is an opportunity for individuals to update their knowledge (Akpınar, 2020). As one of the most basic elements of our education system, teachers' continuing learning needs and needing new educational technologies have revealed the necessity of lifelong learning. Teachers, who have an important role in the development of societies in the education system, need to improve themselves (Özçiftçi & Çakır, 2015).

Lifelong Learning

UNESCO used the concept of lifelong education in 1960. This concept started to develop later. Within 20 years after this date, studies on lifelong education started to intensify and at that time the European Council used the expression "education permanente" for this concept. On the other hand, OECD defined it as the concept of "recurrent education". In the definition made by the European Council, the concept was affected by social and cultural factors, while the definition made by the OECD emphasized that the innovations brought by economic and technological changes shaped the concept (Óhidy, 2008). In 2009, the Ministry of Education in Turkey prepared "lifelong learning strategy document" (MoNE, 2014).

Lifelong learning includes formal, non-formal, vocational and in-service training. Therefore, the lifelong education can take place at school, outside, at work, in short, in any environment where human beings exist. It provides equality of opportunity for all individuals without being affected by factors such as place, time and economic situation (Ayvaz, 2021). In this context, the aim of lifelong learning is to ensure individuals who can actively participate in all components of life without being affected by factors such as economic, social, cultural, age and gender (Aksoy, 2013). It is necessary for the individual to recognize and evaluate himself / herself and to reveal and develop existing skills (Ulaşır, 2020). Lifelong learning is the alternative to formal education. It is a process that supports the incomplete and inadequate learning of the individual during his education at school (Güleç, Çelik & Demirhan, 2012). In other words, lifelong learning includes both formal and informal education and contributes to the development of the knowledge, skills and abilities of the individual. In this way, it helps the individual to keep up with the ever-changing information society (Coşkun & Demirel, 2012).

Continuous and active acquisition and use of knowledge is necessary in lifelong education. Now, it is necessary for individuals to be able to access the information necessary for the solution of a problem, to use the information for their own benefit, and to be able to constantly update themselves (Zengin & Gündüz, 2018). These are "communication in the mother tongue, communication in foreign languages, mathematical competence and basic competences in science and technology, digital competence, learning to learn, interpersonal, intercultural and social competences and civic competence, entrepreneurship and cultural expression" (The European Communities Commission, 2005). Schools have a great role in raising individuals with these characteristics. Because the quality and quantity of the education received in the school environment will provide motivation for future learning, teachers should have the competencies needed for lifelong education in order to be lifelong learners and to constantly improve themselves.

Use of Technology in Education

As a result of the continuous and rapid development of technology in the century we live in, one of the most important usage areas where technology affects people's lives is education (Buluk & Eşitti, 2020; Güney & Kaya, 2018). When we look at learning theories, the use of technology in education is now necessary (Aydoğan, 2017). It is important to use technology effectively in the education and training process in schools in order to meet the ever-changing expectations of the society, to equip students with knowledge and skills that they can use in their daily lives and increase their academic competence, and keep up-to-date teaching methods and techniques (Donahoo & Whitney, 2006). The use of technology in education increases the motivation of students and contributes to the development of their cognitive skills (Higgins, Huscroft-D'Angelo & Crawford, 2019). Unlike the usual educational activities, the use of technology in lessons allows

students to rest more and learn more comprehensively. With the use of technology in education, students internalize information more and have more competence about where and how the information they learn will be used (Kenar, 2012). The use of technology in the school environment facilitates learning, reduces the cost and shortens the learning time (Daşdemir, Cengiz, Uzoğlu & Bozdoğan, 2012). The benefits of using technology in education and learning can be listed as follows: Students can actively participate in classes, a faster and more enjoyable education can be realized, they contribute to the creativity of students, they experience activities that they cannot do in real life thanks to technology, they create equal opportunities because lessons can be taught through distance education, and lessons can be registered. They can repeat the lessons wherever and whenever they want (Kaya, 2017).

The activities carried out during education should address more than one sensory organ, and therefore, the use of visual and auditory educational materials in lessons increases the effectiveness of education. The use of technology in education is particularly important in an educational environment where students with visual, auditory and kinesthetic learning skills are present (Bakırcı & Kılıç, 2021; Kurudayıoğlu & Bal, 2014). Thanks to the use of technology in education, course contents are prepared in different ways and in accordance with various learning approaches. In addition, it has effects on students' achievement as it addresses different learning styles (Çöl & Karaca, 2020). Considering the learning styles of the students, adopting a contemporary education approach instead of traditional learning methods will increase the effectiveness of education. Instead of developing and implementing student-centered applications, activities that will ensure active participation of students should be implemented. Therefore, the use of technology in education is important in order to fulfill the requirements of modern education understanding (Yılmaz, Ulucan & Pehlivan, 2010).

The Relationship Between Lifelong Learning and Using Technology in Education

Information and communication technologies, which are constantly evolving, offer people new learning spaces and constantly put pressure on learning. Therefore, individuals feel the need to improve themselves in order to catch the requirements of the age. It is stated that not only formal education is sufficient to meet this need, but also education should continue lifelong (Can, 2011). Continuous change and development of knowledge necessitates the training of individuals who can think creatively and have different approach skills to the problems they face. This situation highlights lifelong learning. In today's society, there is a need for individuals who can continuously improve themselves, follow the developments and changes in their environment and actively use new technologies (Kartal, 2020). Lifelong learning is a concept designed to enable individuals to develop continuously by using different technological tools, acquiring the necessary skills in the face of developing new technologies and adapting to contemporary social life (Yasa, 2018). Lifelong learning, described as the best investment that can be made in human beings, is necessary for the technological development of the individual as well as the acquisition of basic knowledge skills and contemporary and flexible learning opportunities (Demirel, 2009).

Different learning methods and techniques perform education and training more effectively in schools. In cases where these methods and techniques alone are insufficient, using technology in education will affect success positively (Peregoy & Boyle, 2012). An educational environment supported by technology enables students to develop their creativity, innovations, providing individual learning opportunities (Orhan et al., 2014). With the integration of technology into education, the biggest duty falls on teachers to use these technologies successfully in the classroom (Southall, 2013). In order to use this technology, teachers should have the necessary knowledge, attitude and skills about technology (Schleicher, 2019; ISTE, 2017). Teachers have technological competence in order to provide both effective and sufficient education and professional development (Güneş, 2019). In addition to using technology effectively, teachers also need to update their technological developments. It is more likely that teachers with a high level of lifelong learning can access the necessary information and use this information actively.

There are studies that examine lifelong learning and technology use together. Kabataş and Yılmaz (2018) have found that the relationship between teachers' lifelong learning attitudes and their self-efficacy towards educational technology standards were examined. In the study, lifelong education positively affected teachers' self-efficacy towards educational technologies. In the study conducted by Çam and Saltan

(2019), the relationship between teachers' lifelong teacher orientation and technological pedagogical content knowledge was examined. As a result of the study, there was a significant and positive relationship between variables. In the study conducted by Gürkan (2017), the relationship between school administrators' technological leadership characteristics and lifelong learning levels was examined. As a result of the study there is a positive relationship between the technological leadership characteristics of school administrators and their lifelong learning competencies. In another study, Kan and Murat (2020) found that teacher candidates have moderately positive relationships between the basic competencies of lifelong learning and the self-efficacy sub-dimensions of educational technology standards. In a different study conducted on academic staff, Konokman and Yelken (2014) stated that a positive relationship was found between lifelong education and using technology.

Lifelong learning level and the gender of the participants are studied together. In their study, Çam and Üstün (2016) tried to determine whether teachers' lifelong learning tendencies differ significantly according to their gender. Similarly, Yaman and Yazar (2015) examined the relationships between teachers' lifelong tendencies and gender. When the literature is examined, there are also different studies in which the lifelong learning level of the participants and their gender are studied together (Arslangilay, 2017; Çelebi, Özdemir, & Eliçin, 2014; Çetin & Çetin, 2017; Demir-Başaran & Sesli, 2019; Demirel & Akkoyunlu, 2017; Erdamar, Demirkan, Saraçoğlu & Alpan, 2017; Gürkan, 2017; Kabataş & Yılmaz, 2018; Şahin & Arcagök, 2014; ; Kazu & Erten, 2016; Yılmaz, 2016). In addition, the level of lifelong learning and the education level of the participants (Çelebi, Özdemir & Eliçin, 2014; Kazu & Erten, 2016; Yaman & Yazar, 2015; Yılmaz, 2016; Şahin & Arcagök, 2014), the school they work in (Çam & Üstün, 2016; Demir-Başaran & Sesli, 2019; Gürkan, 2017; Kabataş & Yılmaz, 2018; Kazu & Erten, 2016; Yılmaz, 2016), frequency of reading books, magazines and newspapers (Demir-Başaran & Sesli, 2019) and professional seniority (Arslangilay, 2017; Çelebi, Özdemir & Eliçin, 2014; Demir-Başaran & Sesli, 2019; Erdamar, Demirkan, Saraçoğlu & Alpan, 2017; Gürkan, 2017; Kazu & Erten, 2016; Yaman & Yazar, 2015; Yılmaz, 2016; Şahin & Arcagök, 2014). In addition, there are studies aiming to determine the lifelong learning level of teachers in general (Arslangilay, 2017; Çam & Üstün, 2016; Çelebi, Özdemir & Eliçin, 2014; Çetin & Çetin, 2017; Demir-Başaran & Sesli, 2019; Erdamar, Demirkan, Saraçoğlu & Alpan, 2017; Gürkan, 2017; Kabataş & Yılmaz, 2018; Şahin & Arcagök, 2014; Yılmaz, 2016;).

There are many researches that the use of technology in education and the gender of the participants (Aydoğan, 2017; Dargut & Çelik, 2014; Güneş & Buluç, 2017; Kahyaoğlu, 2011; Yaman, 2007; Yılmaz, Üredi, & Akbaşlı, 2015), education level (Aydoğan, 2017; Güneş & Buluç, 2017) and professional seniority (Aydoğan, 2017; Güneş & Buluç, 2017; Güneş & Buluç, 2018; Kahyaoğlu, 2011). In addition, there are studies aimed at determining the level of technology use of teachers in education in general (Aydoğan, 2017; Dargut & Çelik, 2014; Gülcü, Solak, Aydın, & Koçak, 2013; Güneş & Buluç, 2017; Güneş & Buluç, 2018; Yavuz & Coşkun, 2008). There is no study examining the difference between the use of technology in education, the school level at which the participants work and the frequency of reading books, magazines and newspapers.

Rapid changes and developments in educational technologies require teachers to constantly improve themselves. It is necessary for teachers to follow new developments in the world and to actively adapt these developments to education for the sake of efficiency of education. Therefore, teachers should be individuals who learn for life. Accordingly, determining the lifelong learning levels of teachers may be important issue. Making use of technology in education is necessary for the quality and permanence of education. Determining teachers' perceptions about the use of technology in education is important in terms of the integration of technology into education and the structuring of education programs in accordance with technology. In addition, examining the effect of teachers' lifelong learning levels on the use of technology in education can provide enlightening information to researchers and educators on the subject. The results of this study can guide the decisions to be taken by the practitioners of the training and the training programs to be implemented. In addition, this study is of great importance in terms of providing resources and providing up-to-date information for future studies.

Purpose of the research

The aim of this study is to examine the relationship between teachers' lifelong learning tendencies and their attitudes towards technology use in education, and to determine the different variables that have an

impact on them. For this purpose, answers to the following research questions were sought.

1- What are the teachers' lifelong learning tendencies and attitudes towards the use of technology in education?

2- Do teachers' lifelong learning tendencies and attitudes towards technology use in education differ according to some demographic characteristics (gender, education level, professional seniority, school level and frequency of reading books, magazines, newspapers and articles)?

3- Is there a significant relationship between teachers' lifelong learning tendencies and their attitudes towards using technology in education?

RESEARCH METHOD

Research Model

In this study,the relationship between teachers' lifelong learning tendencies and their attitudes towards using technology is the aim of the this research. In this context, the relational survey method was used in the study. “Relational scanning is a research method that aims to determine whether there is a change between two or more variables, and if there is a change, the degree of this change” (Karasar, 2015). In this study, the relational scanning model was used in order to determine the relationship between the lifelong learning tendencies of teachers and their attitudes towards the use of technology in education and to reveal the degree of this relationship.

Participants

The participants of the study are teachers working in Sivas city center in the 2020-2021 academic year. Participants were selected by simple random sampling method. “In the simple random sampling method, all items in the universe have an equal chance of being selected” (Karasar, 2015). The universe consists of about 5200 people. In this direction, the sample calculation formula mentioned in the study of Naing, Winn, and Rusli (2006) was used. According to the formula, when the confidence interval is 95% and the margin of error is 5%, data should be collected from at least 358 people. Data were sent to approximately 1000 people, and after the incorrect and incompletely filled scales were removed from the returned scales, necessary analyzes were made with the data collected from 557 participants. Demographic characteristics of the data collected are shown in Table 1.

Table 1. *Demographic Variables Regarding the Study Group*

Variables	Options	N	%
Gender	Male	273	%49
	Female	284	%51
Education Level	Undergraduate	374	%67.5
	Graduate	183	%32.9
Book Magazine, Newspaper and Article Reading Frequency	Sonetimes	236	%42.4
	Every Day	321	%57.6
Professional Seniority	1-10 years	309	%55.5
	11-20 years	166	%29.8
	21 years and over	82	%14.7
School Level	Primary School	183	%32.9
	Secondary School	158	%28.4
	High School	216	%38.7

49% (N = 273) of the participants are male and 51% (N = 284) are female. According to the educational level variable, 67.5% (N = 374) of the participants are undergraduate and 32.9% (N = 183) are graduates. According to the variable of the frequency of reading books, magazines, newspapers and articles, 42.4% of the participants selected the option occasionally (N = 236) and 57.6% every day (N = 321). In terms of

professional seniority, 55.5% of the participants have experience between 1-10 years (N = 309), 29.8% between 11-20 years (N= 166) and 14.7% have 21 years or more. According to the school level variable, 32.9% (N = 183) of the participants work at primary school, 28.4% (N = 158) at secondary school and 38.7% (N = 216) at the high school level.

Data Collection Tool

In the study, lifelong learning tendencies scale and attitude scale towards technology use in education were used to collect data. Information about the scales is given below.

Lifelong Learning Tendencies Scale: The scale was developed by Erdoğan and Arsal (2016). The scale has 17 items in total and consists of two sub-factors: "willingness to learn" (11 items) and "openness to development" (6 items). The scale was developed in a 5-point Likert type and was graded as "1-strongly disagree", "5-absolutely agree". It is stated that the 2-factor structure of the scale was confirmed as a result of the confirmatory factor analysis. It is stated that in the test conducted for the reliability analysis of the scale, the Cronbach's Apha reliability coefficient was calculated as .86, and the test-retest reliability coefficient was found as .76. In this study, the Cronbach's Apha reliability coefficient was found as .90 in the "willingness to learn" factor and .88 in the "openness to development" factor. It was calculated as .92 for the whole scale.

Attitude Scale towards Using Technology in Education: The scale developed by Öztürk (2006) consists of three factors and 39 items. These factors are named as “reflection of technology use in education on teaching processes” (16 items), “self-development in using technology in education” (14 items) and “use of technology in education and classroom management” (9 items). 15 of the items in the scale are positive and 24 have negative attitudes. The scale was developed in 5-point Likert type and was graded as "1-strongly disagree", "5-totally agree". The reliability analysis of the scale was measured with the Cronbach's Alpha reliability coefficient and it was stated that this value was .90. Within the scope of this study, the Cronbach's Alpha reliability coefficient was calculated as .94 for the "reflection of technology use in education on teaching processes" factor .93 for the "self-development in technology use in education" factor and .91 for the "use of technology in education and classroom management" factor. It was found to be .95 for the whole scale.

Data Analysis

In order to analyze the data, the data obtained from the participants were entered into the SPSS 24 program. The missing data were checked through the program and the normality analysis of the data was examined. In the Kolmogorov-Smirnov test conducted to determine the normality of the data, the results were significant for all factors and it was concluded that the data were not normally distributed ($p<.05$). In this context, it is concluded that the application of non-parametric tests will give the most accurate result. The frequency percentages were calculated by examining the demographic characteristics of the participants, and then the mean and standard deviation values of each dimension were calculated. In order to interpret the data, the criteria of "I am very insufficient" between 1.00-1.80, "I am insufficient" between 1.81-2.60, "moderately sufficient" between 2.61-3.40, "I am sufficient" between 3.41 and 4.20 and "I am very sufficient" between 4.21-5.00 were used.

In the study, the Mann Whitney U test was used for the variables of gender, education level and frequency of reading books, journals, newspapers and articles, and Kruskal Wallis H test was used for the variables of professional seniority and school level to determine the lifelong learning disposition and attitude levels towards technology use in education. In addition, Pearson correlation analysis was used to determine the relationship between teachers' lifelong learning tendencies and attitudes towards technology use in education.

FINDINGS

In this part of the study, the statistical analyzes regarding the research questions and the evaluations regarding the analysis are presented in order.

Within the scope of the first sub-aim of the study," teachers' lifelong learning tendencies (LLT)" and their "attitudes towards the use of technology in education (UTE)" were examined. The mean and standard deviations of the answers given by the teachers according to the sub-dimensions of the scales are given in Table 2.

Table 2. *Mean and Standard Deviation Values of Teachers*

	Sub-dimensions	N	X̄	sd
LTT	Willingness to Learn	557	4.08	.59
	Openness to Development	557	4.10	.68
	Total	557	4.09	.62
UTE	Reflection on the Process	557	3.96	.66
	Self Improvement	557	4.21	.57
	Classroom Management	557	3,76	.67
	Total	557	3.92	.55

In the table 2, the "willingness to learn" factor is X̄=4.08 (sd=.59) and the "openness to development" factor is X̄=4.10 (sd=.68). In addition, the factor of "reflection of technology use in education on teaching processes" is X̄=3.96 (sd=.66), "self-development in technology use in education" factor X̄= 4.21 (sd =. 57) and the factor "technology use and classroom management in education" is X̄=3.76. (sd=.67). When Table 2 is examined, it is the self-improvement factor of the highest average in technology use in education (X̄=4.21). The lowest average is the use of technology and classroom management in education (X̄=3.76).

In line with the second sub-purpose of the study, it is examined whether there are significant differences in teachers' attitudes towards lifelong learning tendencies (LLT) and use of technology in education (UTE) according to their gender, education level, frequency of reading books, magazines, newspapers and articles, professional seniority and school level.

Table 3 presents the statistical data obtained as a result of the comparison of teachers' lifelong learning tendencies and attitudes towards technology use in education according to gender.

Table 3. *Man-Whitney U-Test on Teachers' According to Gender*

	Sub-dimensions	Gender	N	Average Rank	Row Total	U	z	p
LLT	Willingness to Learn	Female	284	297.35	84447,0	33555,0	-2,750	.00
		Male	273	259.91	70956,0			
	Openness to Development	Female	284	302.69	85963,0	32039,0	-3,561	.00
		Male	273	254.36	69440,0			
UTE	Reflection on the Process	Female	284	291.16	82688,5	35313,5	-1,819	.07
		Male	273	266.35	72714,5			
	Self Improvement	Female	284	300.64	85382,0	32620,0	-3,243	.00
		Male	273	256.49	70021,0			
	Classroom Management	Female	284	280.16	79566,5	38435,5	-0,174	.86
		Male	273	277.79	75836,5			

According to the results of the test (Table 3), "willingness to learn" (U=33555,0, z=-2.750, p<.05), "openness to development" (U=32039,0, z=-3.561, p<.05) and "in education it is seen that the factors of "self-development in technology use" (U=32620,0, z=-3.243, p<.05) differ significantly according to gender. Looking at the mean rank, it can be said that this differentiation is in favor of female teachers. "Reflection of technology use in education on teaching processes" (U= 35313.5, z=-1.819, p>.05) and "use of technology in education and classroom management" (U=38435.5, z=-0.174, p>.05)), no significant differentiation was found according to gender.

Table 4 presents the statistical data obtained as a result of comparing the lifelong learning tendency of teachers and their attitudes towards the use of technology in education according to their education level.

Table 4. *Mann Whitney U-Test for Teachers' to Education Level*

	Sub-dimensions	Education Level	N	Average Rank	Total	U	z	p
LLT	Willingness to Learn	Undergraduate	374	257,07	96145,0	26020,0	-4,606	.00
		Graduate	183	323,81	59258,0			
	Openness to Development	Undergraduate	374	267,03	99870,5	29745,5	-2,521	.01
		Graduate	183	303,45	55532,5			
UTE	Reflection on the Process	Undergraduate	374	268,30	100347,5	30222,5	-2,242	.02
		Graduate	183	300,84	55055,5			
	Self Improvement	Undergraduate	374	260,47	97419,5	27294,5	-3,890	.00
		Graduate	183	316,84	57983,5			
	Classroom Management	Undergraduate	374	280,39	104866,5	33700,5	-0,292	.77
		Graduate	183	276,15	50536,5			

According to the results of the test (Table 4), "willingness to learn" (U=26020,0, z=-4.606, p<.05), "openness to development" (U=29745,5, z=-2.521, p<.05), "in education reflection of technology use on teaching processes" (U=30222.5, z=-2.242, p<.05) and" self-development in technology use in education" (U=27294.5, z=-3.890, p<.05) It is seen that there is a significant differentiation according to the level. Considering the mean rank, it can be said that this differentiation is in favor of graduate teachers. On the other hand, in the factor of "Use of technology and classroom management in education" (U=38435.5, z=-0.174, p>.05), there is no significant difference according to education level.

Table 5 presents the statistical data obtained as a result of comparing teachers' lifelong learning tendencies and attitudes towards technology use in education by frequency of reading books, journals, newspapers and articles.

Table 5. *Man-Whitney U-Test on Teachers' According to the Frequency of Reading Books, Journals, Newspapers and Articles*

	Sub-dimensions	Reading Books, Magazines, Newspapers and Articles	N	Average Rank	Row Total	U	z	p
LLT	Willingness to Learn	Sometimes	236	258,32	60964,0	32998,0	-2,605	.00
		Every day	321	294,20	94439,0			
	Openness to Development	Sometimes	236	261,26	61657,5	33691,5	-2,242	.02
		Every day	321	292,04	93745,5			
UTE	Reflection on the Process	Sometimes	236	265,63	62689,0	34723,0	-1,682	.09
		Every day	321	288,82	92714,0			
	Self Improvement	Sometimes	236	267,52	63135,5	35169,5	-1,446	.14
		Every day	321	287,43	92267,5			
	Classroom Management	Sometimes	236	277,92	65591,0	37625,0	-0,135	.89
		Every day	321	279,78	89812,0			

According to the results of the test (Table 5), "willingness to learn" (U=32998.0, z=-2.605, p<.05) and "openness to development" (U=33691.5, z=-2,242, p<.05) It can be seen that there is a significant difference according to the frequency of reading magazines, newspapers and articles. When the average rank is examined, it is seen that this difference is in favor of teachers who read books, magazines, newspapers and articles every day. In the attitude scale towards using technology in education, "reflection of technology use in education" (U=34723.0, z=-1.682, p> .05), "self-development in technology use in education" (U=35169.5, z =- 1.446, p> .05) and "use of technology in education and classroom management" (U= 37625.0, z= -0.135, p>.05) factors do not differ significantly according to the frequency of reading books, magazines, newspapers and articles.

Table 6 presents the statistical data obtained as a result of comparing the lifelong learning tendencies of teachers and their attitudes towards the use of technology in education according to the professional seniority variable.

Table 6. *Kruskal Wallis H Test According to Professional Seniority Variable*

	Sub-dimension	Professional Seniority	N	Average Rank	Chi Square	Degree of Freedom	p	Sig. Mean
LLT	Willingness to Learn	1-10	309	286,04	1,95	2	.37	-
		11-20	166	277,89				
		21 and over	82	254,67				
	Openness to Development	1-10	309	288,56	8,04	2	.01	1-3 2-3
		11-20	166	271,40				
		21 and over	82	258,31				
UTE	Reflection on the Process	1-10	309	286,52	2,81	2	.24	-
		11-20	166	273,87				
		21 and over	82	261,03				
	Self Improvement	1-10	309	285,62	1,87	2	.39	-
		11-20	166	277,02				
		21 and over	82	258,02				
	Classroom Management	1-10	309	293,18	2,48	2	.28	-
		11-20	166	272,84				
		21 and over	82	238,00				

According to the results of the test (Table 6), it is seen that the factor "openness to development" ($X^2_{(2)}$=8.04, p<.05) differs significantly. It can be stated that these differences are between teachers whose professional seniority is 1-10 years and 21 years and above, and 11-20 years and 21 years and above. It is seen that thedifferentiation takes place in favor of teachers with 1-10 years of professional seniority. In ddition, teachers' professional seniority and "willingness to learn" ($X^2_{(2)}$=1.95, p> 05), "reflection of technology use in education on teaching processes" ($X^2_{(2)}$=2.81, p> 05) "in the use of technology in education No significant differentiation was found between the factors of self-development ($X^2_{(2)}$=1.87, p>05) and "use of technology in education and classroom management" ($X^2_{(2)}$=2.48, p> 05).

Table 7 presents the statistical data obtained as a result of comparing the lifelong learning tendency of teachers and their attitudes towards the use of technology in education according to the school grade variable.

Table 7. *Kruskal Wallis H Test According to the School Grade Variable*

	Sub-dimension	Education Level	N	Average Rank	Chi Square	Degree of Freedom	p	Sig. Mean
LLT	Willingness to Learn	Primary School	183	285,62	1,45	2	.48	-
		Secondary School	158	266,08				
		High School	216	282,83				
	Openness to Development	Primary School	183	278,55	0,49	2	.78	-
		Secondary School	158	272,42				
		High School	216	284,18				
UTE	Reflection on the Process	Primary School	183	266,36	1,75	2	.41	-
		Secondary School	158	282,50				
		High School	216	287,14				
	Self Improvement	Primary School	183	269,62	2,36	2	.30	-
		Secondary School	158	271,96				
		High School	216	292,09				
	Classroom Management	Primary School	183	285,24	0,50	2	.77	-
		Secondary School	158	278,86				
		High School	216	273,81				

According to the results of the test (Table 7), a significant difference was not found among the factors:"willingness to learn" ($X^2_{(2)}$=1.45, p>.05) and "openness to development" ($X^2_{(2)}$=.49, p>.05),

"technology use in education reflection on teaching processes ”($X^2_{(2)}$=1.75, p>05)" self-development in technology use in education "($X^2_{(2)}$=2.36, p>05) and" use of technology in education and classroom management "($X^2_{(2)}$=.50, p>05),

In line with the third sub-purpose of the study, teachers' lifelong learning tendencies (LLT) and attitudes towards use of technology in education (UTE) were compared with Pearson correlation analysis. The values obtained as a result of comparison are shown in table 8.

Table 8. *Correlation Values According to Sub-Dimensions*

Factors	Willingness to Learn	Openness to Development	Reflection of UTE to the Process	Self Development in UTE	UTE and Classroom Management
Willingness to Learn	1				
Openness to Development	.62	1			
Reflection of UTE to	.44	.40	1		
Self Development in UTE	.58	.52	.65	1	
UTE and Classroom	.22	.24	.58	.32	1

In the table 8, all factors of lifelong learning tendencies and attitudes towards technology use in education are significantly positive with each other. The relationship between the "willingness to learn" factor and the "openness to development" factor is at a "high" level. (r=.62, p<.01); There is a "moderate" relationship with the factor of "reflection of UTE to the process" (r=.44, p<.01); There is a "moderate" relationship with the "self-development in UTE" factor (r=.58, p<.01); There is a weak correlation between the factor of "UTE and classroom management" (r=.22, p<.01). In addition, there is a "moderate" relationship between the "openness to improvement" factor and the "reflection of UTE to the process" factor (r=.40, p<.01); There is a moderate relationship with the factor of "self-improvement in UTE" (r =.52, p<.01). There is a "weak" relationship with the factor of "UTE and classroom management" (r=.24, p<.01). In addition, there is a "high" level of relationship between "reflection of UTE in the process" and "self-development in UTE" factor (r=.65, p<.01). There is a "medium" level (r=.58, p<.01) relationship between the factor of "UTE and classroom management". There is a "weak" level of relationship between "self-development in UTE" and "UTE and class management" (r=.31, p<.01).

DISCUSSION, CONCLUSION AND SUGGESTİONS

According to the findings obtained as a result of the analysis conducted in the direction of the first research question, it was concluded that teachers' "willingness to learn" and "openness to development" tendencies were at a high level. In addition, it was concluded that their attitudes were positive in the factors of "reflection of technology use in education on teaching processes", "self-development in technology use in education, and" use of technology in education and classroom management ". In general, it can be said that the "lifelong learning disposition" levels of the teachers are at a high level and their "technology use in education" attitudes are at a positive level. When the studies on the subject are examined, it is seen that these results are supported. In the study conducted by Çam and Üstün (2016) with a sample of teachers, it was stated that teachers' lifelong learning tendencies were at a high level. In the study conducted by Çetin and Çetin (2017), it is stated that teacher candidates have a positive tendency to lifelong learning, they are open to lifelong learning and they see learning as a part of their lives. In the study conducted by Çelebi, Özdemir and Eliçin (2014), it is stated that teachers' perceptions of lifelong learning are high. Similarly, in the study conducted by Yılmaz (2016), it is stated that teachers' lifelong learning tendencies are at a high level. In addition, similar studies show that teachers' lifelong learning tendencies are at a high level (Demirel & Akkoyunlu, 2017; Erdamar, Demirkan, Saraçoğlu, & Alpan, 2017; Kabataş & Yılmaz, 2018; Şahin & Arcagök, 2014). In the study conducted by Yavuz and Coşkun (2008), it is stated that teacher candidates' attitudes towards using technology in education are positive. In the study conducted by Dargut and Çelik (2014), it is stated that Turkish teacher candidates have a positive attitude towards the use of technology in education. In the study conducted by Güneş and Buluç (2018) with a sample of teachers, it was concluded that teachers' technology usage levels were high. In the study conducted by Aydoğan (2017), it was concluded that teachers' attitudes towards technology use were moderate. In another study by Güneş and Buluç (2017), it was stated

that teachers' use of technology was high.

As a result of the analysis conducted in line with the second research question, it was concluded that teachers' lifelong learning tendencies and attitudes towards technology use in education differ significantly according to gender in the factors of "willingness to learn", "openness to development" and "self-development in using technology in education". In other words, it was concluded that teachers' lifelong learning tendencies differ significantly according to gender, and their attitudes towards using technology in education differ significantly by gender in the factor of "self-development in technology use in education". When the literature is examined, it can be stated that these results are supported. Demirel and Akkoyunlu (2017) stated in their study on teacher candidates that the lifelong learning tendencies of the participants differ significantly in terms of their gender. In another study, Çelebi, Özdemir, and Eliçin (2014) stated that teachers' lifelong learning tendencies differ significantly in favor of female teachers. Similarly, Çetin and Çetin (2017) found in their study on pre-service teachers that there was a significant difference in favor of female teacher candidates between lifelong learning tendencies and gender. In addition, in different studies, it is stated that there is a significant difference between teachers' lifelong learning tendencies and their gender (Demir-Başaran & Sesli, 2019; Erdamar, Demirkan, Saraçoğlu & Alpan, 2017; Gürkan, 2017; Kazu & Erten, 2016). Dargut and Çelik (2014) concluded that pre-service teachers' attitudes towards the use of technology in education differ significantly in favor of female teachers. Similarly, Güneş and Buluç (2017) stated that there is a significant difference between teachers' gender and their use of technology in education in the dimensions of "technology literacy", "contextual use", innovativeness "and" technological disadvantages ".

As a result of the analysis conducted in line with the second research question, it was concluded that teachers' lifelong learning tendencies and attitudes towards technology use in education differ significantly according to gender in the factors of "willingness to learn", "openness to development" and "self-development in using technology in education". In other words, it was concluded that teachers' lifelong learning tendencies differ significantly according to gender, and their attitudes towards using technology in education differ significantly by gender in the factor of "self-development in technology use in education". When the literature is examined, it can be stated that these results are supported. Demirel and Akkoyunlu (2017) stated in their study on teacher candidates that the lifelong learning tendencies of the participants differ significantly in terms of their gender. In another study, Çelebi, Özdemir and Eliçin (2014) stated that teachers' lifelong learning tendencies differ significantly in favor of female teachers. Similarly, Çetin and Çetin (2017) found in their study on pre-service teachers that there was a significant difference in favor of female teacher candidates between lifelong learning tendencies and gender. In addition, in different studies, it is stated that there is a significant difference between teachers' lifelong learning tendencies and their gender (Demir-Başaran & Sesli, 2019; Erdamar, Demirkan, Saraçoğlu & Alpan, 2017; Gürkan, 2017; Kazu & Erten, 2016). Dargut and Çelik (2014) concluded that pre-service teachers' attitudes towards the use of technology in education differ significantly in favor of female teachers. Similarly, Güneş and Buluç (2017) stated that there is a significant difference between teachers' gender and their use of technology in education in the dimensions of "technology literacy", "contextual use", innovativeness "and" technological disadvantages ".

It was concluded that teachers' lifelong learning tendencies differ significantly according to the frequency of reading books, newspapers, magazines and articles. When the literature is examined, we come across only one study that studies teachers' lifelong learning tendencies and the frequency of reading books, newspapers and magazines together. In their study, Demir-Başaran and Sesli (2019) concluded that teachers' lifelong learning tendencies do not differ significantly according to the frequency of reading books, newspapers and magazines. The reason for this may be that, unlike this study, only primary and secondary school teachers were selected in the sample. It may also be due to the fact that it contains different items.

It was concluded that teachers' lifelong learning tendencies differ significantly in the "openness to development" factor according to professional seniority. When the studies on the subject are examined, it is seen that this result is supported. Similarly, Çelebi, Özdemir and Eliçin (2014) concluded that teachers' lifelong learning tendencies differ in terms of "professional development" and "personal development" according to professional seniority. In a different study conducted by Yaman and Yazar (2015) on teachers, it was concluded that teachers' lifelong learning tendencies differ according to professional seniority. In the

study conducted by Kazu and Erten (2016), it is stated that the lifelong learning tendencies of teachers differ significantly according to professional seniority in "acquiring knowledge" and "digital factors". In addition, different studies conclude that lifelong learning tendencies and factors differ significantly according to professional seniority (Şahin & Arcagök, 2014; Yılmaz, 2016)

As a result of the analysis made in line with the third research question, it was concluded that all factors of teachers' lifelong learning tendencies and attitudes towards the use of technology in education were significantly positively correlated with each other. When the studies on the subject are examined, it is seen that this result is supported. In the study conducted by Kabataş and Yılmaz (2018), it is stated that there is a positive significant relationship between teachers' lifelong learning attitudes and their self-efficacy towards educational technology standards. In the study conducted by Çam and Saltan (2019), it was concluded that there is a positive relationship between teachers' lifelong learning tendencies and technological pedagogical content knowledge. In the study conducted by Gürkan (2017), it was found that there is a positive relationship between school administrators' lifelong learning tendencies and technological leadership characteristics. In the study conducted by Kan and Murat (2020), it is stated that there is a moderate positive relationship between the basic competencies of life-long learning and the sub-dimensions of educational technology standards. In the study conducted by Konokman and Yelken (2014), it is stated that there is a positive relationship between the lifelong learning competencies of the teaching staff and their level of using technology.

According to a result obtained from the research, it can be said that, in general, the levels of “lifelong learning tendency” of the teachers are at a high level and their “attitude towards the use of technology in education” is at a positive level. Teachers' attitudes and behaviors should be at the expected level in today's world, where there is a need for individuals who can continuously improve themselves, follow the developments and changes in their environment and actively use new technologies (MoNE, 2009). Even though the "lifelong learning tendency" and "attitudes towards technology use in education" of teachers are high and positive, trainings should be organized in order to ensure the permanence of these behaviors and even raise them to higher levels. Especially on “lifelong learning”, activities determined in line with the interests and needs of teachers should be organized and it is thought that teachers' participation should be ensured. It can be said that it may be beneficial to include the subject of "use of technology in education" among these activities. In addition, it is thought that the education policies of the Ministry of National Education should be regulated in a way that teachers can develop themselves throughout their lives.

As a result of the research, it can be stated that teachers' lifelong learning tendencies and attitudes towards the use of technology in education differ according to gender. Considering that female teachers are more successful in this subject, studies should be carried out to increase the competencies of male teachers. It is important that the school administration organizes various trainings with the help of experts in order to attract the attention of male teachers. In addition, it is thought that government policies should be structured in a supportive way to increase the level of lifelong learning of all teachers.

It can be stated that teachers' lifelong learning tendencies and attitudes towards the use of technology in education differ significantly according to their education level. In the study, it was concluded that the lifelong learning tendencies of the graduate teachers and their attitudes towards the use of technology in education are higher. In this context, it is thought that it is important to encourage teachers to do postgraduate education so that they can provide new learning and improve themselves. It can be said that schools and universities should work together and cooperate for the development of teachers in this regard.

It was concluded that teachers' lifelong learning tendencies differ significantly according to the frequency of reading books, newspapers, magazines and articles. Considering that teachers who read books, newspapers, magazines and articles have higher lifelong learning tendencies, it is necessary to make studies for teachers to gain reading habits. It is thought that cooperation between schools and libraries should be provided to teachers in line with their interests. In addition, teachers should be encouraged to access paid publications in Turkey or abroad. It was concluded that teachers' lifelong learning tendencies differ significantly in the "openness to development" factor according to professional seniority.

It has been found that teachers' lifelong learning tendencies are high in their first years in the profession, and as experience increases, their lifelong learning tendencies decrease. Necessary measures should be taken and necessary studies should be carried out in order to prevent teachers' motivation for lifelong learning. Teachers should be lifelong learners at all stages of their profession so that they can learn new information, develop different ideas and keep up with emerging technologies. From this point of view, it is thought that the Ministry of National Education should establish a multi-directional system that can follow the continuous development of teachers. Thus, the development of teachers will be continuously monitored, and teachers who do not develop can be identified and supported for development.

In the study, it was determined that teachers' lifelong learning tendencies and their attitudes towards the use of technology in education were positively and significantly related. It can be said that an educational environment supported by technology enables students to develop their creativity, to be open to innovations and to give individual learning opportunities (Orhan et al., 2014). In this regard, it is thought that the government should establish policies that will encourage teachers to learn lifelong in order to increase teachers' attitudes towards technology use. In addition, it is thought that adding lifelong learning and its importance to the education curriculum is important in order to draw attention to the subject. Conducting this study qualitatively can bring out thoughts on the subject as a whole. In addition, studies can be carried out on different organizational outcomes with lifelong learning. Thus, the effects of lifelong learning can be understood more.

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