Technology Role Modeling of Teacher Educators and Technology Acceptance and Use of Teacher Candidates

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Article Info	Abstract
	The research model, which aims to determine the correlation between the level of teacher candidates taking teacher educators as role models in technology use and the level of technology acceptance and use and to what extent teacher candidates taking teacher educators as role models in technology use predicts technology acceptance and use, is a correlation survey model. The study group of the research consists of teacher candidates who are studying in different units of a state university in Turkey in the 2023-2024 academic year and are receiving pedagogical formation education. When the research findings are examined, it can be said that the scores of teacher candidates regarding taking teacher educators as role models in utilizing technology correspond to the "very high" level and their acceptance and use of technology scores of the teacher candidates correspond to the "very high" level. According to findings of the research there was a moderately significant correlation between the scores of teacher candidates regarding teacher educators as role models in technology use and the scores of technology acceptance and use. It was seen that the level of teacher candidates regarding teacher educators as role models in technology use significantly predicted the level of technology acceptance and use.

Introduction

Many of the important developments of the 21st century we are in have been in the field of technology. The emergence or development of many structures such as mobile devices, social networks, autonomous systems, augmented reality, virtual reality, meta verse, artificial intelligence have occurred in this period. This rapid change has affected many systems in human life and made the integration of these systems with technology inevitable. One of the mentioned systems is education. In the 21st century, in addition to the differentiation of the skills expected from individuals; the changes in the needs and habits of individuals, the ways of accessing information and learning have led to the emergence of new paradigms in education and the updating of education systems accordingly. With the new paradigms, all variables of the teaching and learning process such as the learning and teaching environment, preferred strategies, methods and techniques, tools and materials used, student and teacher roles are being updated. One of the most important stakeholders affected by this change is certainly the teacher. The changing role of the teacher has also led to the development of the competencies that teachers must have. Various standards have been developed regarding the knowledge, skills, attitudes, values, etc. that today's teachers

should have. The competencies expected from today's teachers are explained under the title of National Educational Technology Standards - Teachers (NETS-T) prepared by the International Association for Technology in Education (ISTE, 2014) under 5 items:

(a) To facilitate learning and encourage creativity,

(b) To develop and design learning experiences and assessment processes appropriate for the digital age,

(c) To be a model for working and learning in the information age,

(d) To be a model and encourager of digital citizenship and its responsibilities,

(e) To be effective in professional development and leadership.

When the items are examined, it is seen that in addition to being able to use technology effectively in the teaching and learning process, being a model for students in the use of technology is also among the competencies expected from today's teachers.

The use of technology in education is a subject that researchers have been working on for many years. As a result of the research, it has been concluded that the use of technology in educational environments provides significant advantages. Some of these advantages are facilitating the learning process, reducing learning time, concretizing learning, reducing costs, enriching the learning environment, taking individual differences into account and increasing academic success (Nikolopoulou, 2014; Omiles et al., 2019; Perdana et al., 2019; Serhan, 2019; Alkhayat et al., 2020; Harris, 2020; Olowo et al., 2020).

Today, various studies are being conducted to make the teaching and learning process more effective and efficient with the help of technology. Within the scope of these studies, technological deficiencies are being addressed with infrastructure investments. However, research shows that even if hardware and software deficiencies are addressed, the use of technology in education has not reached the desired level and teachers have a key role in the effective use of technology (Dağhan et al., 2015; Kuşkaya-Mumcu, 2017; Öçal & Şimşek, 2017).

The effect of higher education on teachers' ability to use technology in their professional lives is significant. In the study of Karal and Berigel (2006), it was concluded that higher education has an effect on the problems experienced by teachers in adapting technological developments to education and that these problems can be overcome with higher education. At this point, teacher educators have important roles. One of these roles is that teacher educators are good models for teacher candidates with their use of technology in education. According to social learning theory, individuals tend to model the behaviors of individuals around them. Learning can occur directly by doing, as well as indirectly by observing others (Bandura, 1971; Schunk, 2011). In addition, in modeling behavior, it is important for the observed to have high status, respect and power in the eyes of the observer (Korkmaz, 2012). When considered from this perspective, it is seen that the probability of teacher candidates taking teacher educators as models is high (Salentiny, 2012). When teacher educators are good role models, teacher candidates will be able to use information technologies more effectively and efficiently in their professional lives.

In addition to having certain qualifications to benefit from the advantages of technology in their lessons, educators' adoption and acceptance of technology also have an important effect (Pierson, 2001; Jeong & Kim,

2017). One of the questions that are wondered about technology use is the question of which variables affect individuals' use of technology. Many researchers are trying to define the processes related to the acceptance and use of technology by individuals (Sırakaya, 2019).

Human behavior is often unpredictable by nature; so many theoretical models have been proposed to project people's acceptance of new technologies and their future intentions to use those (Kurt & Eken, 2022). These models are Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behavior (TPB), Model of PC Utilization (PCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT) (Venkatesh et al., 2003; Wu et al., 2008; Thomas et al., 2013). Since 2002, studies examining users' use and acceptance of technology in many different contexts using these models have been found in the literature (Oshlyansky et al., 2007; Wills et al., 2008; Slade et al., 2013; Martins et al., 2014; Al-Qeisi et al., 2015; Torun & Cengiz, 2018; Nikolopoulou et al., 2020; Kizir & Bozbay, 2021; Altıntaş & Bilgili, 2023; Erdoğan, 2023). Similarly, there are many studies on technology acceptance of students, teacher candidates and teachers in educational environments (Park, 2009; Teo, 2010; Göğüş et al., 2012; Wong et al., 2013; Kabakçı-Yurdakul et al., 2014; Ramli et al., 2015; Yeni & Gecu-Parmaksiz, 2016; Karaoğlan-Yılmaz & Binay-Eyuboğlu, 2018; Aktürk & Delen, 2020; Ertekin & İzmirli, 2020; Balaman & Baş, 2021; Diri & Açıkgül, 2021; Kalınkara & Özdemir, 2023; Du & Liang, 2024; Suhail et al., 2024; Üzümcü et al., 2024).

The Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al. (2003) by evaluating the strengths and weaknesses of the eight different models and theories described above, gave better results than each of them (Venkatesh et al., 2012). UTAUT includes four basic constructs that affect behavioral intention to use technology: performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh et al., 2012). The expectation that the use of a system will provide added value to the intended use is called performance expectancy. Performance expectancy has been found to have a unique, significant and positive effect on an individual's behavioral intention to accept and use an information and communication technologies (ICT) system (Venkatesh et al., 2003). Effort expectancy, defined as the degree of ease associated with using a system (Venkatesh et al., 2003), is derived from the perceived ease of use factor. An application that is perceived as relatively easy for people to use is found to be more likely to be accepted (Davis, 1989). Facilitating conditions refer to the degree to which an individual believes that the existing organizational, environmental and technical infrastructure can support the use of technology (Chan et al., 2010). Facilitating conditions are related to the availability of sufficient resources and support for individuals to use technology (Neslin & Shankar, 2009). Lack of help, support and information, limited resources and inadequate factors can undermine facilitating conditions and affect the user's views (Kurt & Eken, 2022). Social influence is defined as the degree to which an individual believes in the recommendations of other people he cares about the use of the new system (Venkatesh et al., 2003). The social influence factor, which can be described as the close circle effect of user comments, is one of the important determinants of behavioral intention (Kurt & Eken, 2022).

Venkatesh et al., (2012) adopted an approach that complements the existing structures in UTAUT in their studies

on the use of information technologies. In this improved model, called The Unified Theory of Acceptance and Use of Technology-2 (UTAUT-2), in addition to UTAUT, hedonic motivation, defined as the pleasure obtained from the use of a technology, price value, defined as the cognitive trade-off between the perceived benefits of applications and the monetary cost of using them and habit variables, expressed as the degree to which people tend to perform behaviors automatically, were taken into account (Escobar-Rodríguez & Carvajal-Trujillo, 2014). Venkatesh et al. (2012) stated that hedonic motivation directly affects an individual's intention to adopt technology in different contexts; Beh et al. (2019) stated that an individual cognitively compares the benefits to be gained and the financial cost that must be sacrificed before deciding to use a new technology. The addition of the habit dimension is due to the fact that habit reveals intentions during the development phase of behavior, triggers action towards use and is an antecedent and automatic behavior (Morris et al., 2005).

Yılmaz and Kavanoz (2017) adapted UTAUT-2 scale into Turkish in order to provide a suitable model for evaluating users' acceptance and use of any technology and reached an eight-dimensional structure including the behavioral intention dimension. According to the theory of planned behavior (Ajzen, 2020), it is stated that the actual behavior of individuals can be predicted through behavioral intentions. If measured correctly, most behavioral intentions are thought to be indicators of social behavior (Cao et al., 2015).

Purpose and Questions of Research

The use of technology in learning and teaching processes is a multidimensional and dynamic process. It can be argued that the structures revealed in the studies conducted in the field of adoption, acceptance and diffusion will enable the process to be addressed multidimensional. Therefore, in this study, it was deemed appropriate to use UTAUT-2, which examines the use of technology from a unified perspective.

Although there are studies examining technology acceptance in many contexts including teacher education, there are limited studies on technology role modeling and no study examining the relationship between technology acceptance and technology role modeling has been found. Therefore, it is thought that the research will contribute to the relevant literature and practice. Based on what has been mentioned, the purpose of the research is to determine the direction and level of the correlation between the level of teacher candidates taking teacher educators as role models in technology use and the level of technology acceptance and use and to determine to what extent teacher candidates taking teacher educators as role models in technology use predicts their technology acceptance and use. Within the scope of the research, answers to the sub-problems stated below were sought in line with this general purpose.

(a) What is the level of teacher candidates taking teacher educators as role models in technology use?

(b) What is the level of teacher candidates' technology acceptance and use?

(c) Is there a significant correlation between the level of teacher candidates taking teacher educators as role models in technology use and the level of technology acceptance and use?

(d) Is there a significant correlation between the level of teacher candidates taking teacher educators as role models in technology use and the scores they get from the dimensions of the UTAUT-2 scale (performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic

motivation, price value, habit, behavioral intention)?

(e) Is the level of teacher candidates taking teacher educators as role models in technology use a significant predictor of the level of technology acceptance and use?

(f) Is the level of teacher candidates taking teacher educators as role models in technology use a significant predictor of the scores they get from the dimensions of the UTAUT-2 scale (performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, habit and behavioral intention)?

Method

Research Design

The research model, which aims to determine the direction and level of the relationship between the level of teacher candidates taking teacher educators as role models in technology use and the level of technology acceptance and use and to what extent teacher candidates taking teacher educators as role models in technology use predicts technology acceptance and use, is a correlation survey model, which is one of the quantitative research models. Correlation survey models are research models that aim to determine the existence and degree of correlation between two or more variables (Karasar, 2009).

Participants

Participants of the research consists of teacher candidates who are studying in different units (faculty/college) of a state university in Turkey in the 2023-2024 academic year and are receiving pedagogical formation (teaching professional knowledge) education. Demographics of the participants are presented in Table 1.

Table 1. Demographics of the Participants

Faculty/College	Frequency	Percent
Faculty of Literature	266	39.5
College of Foreign Languages	70	10.4
Faculty of Economics and Administrative Sciences	5	.7
Faculty of Science	64	9.5
Faculty of Engineering	7	1.0
Faculty of Health Sciences	21	3.1
Faculty of Sports Sciences	191	28.4
Faculty of Art, Design and Architecture	17	2.5
College of Applied Sciences	32	4.8
Total	673	100.0

Data Collection Tools

Within the scope of the research, *the Scale for Taking Teacher Educators as a Role Model for Utilizing Technology*

developed by Özüdoğru and Çakır (2020) was used in order to determine the level of teacher candidates' taking teacher educators as role models in the use of technology in education. The Cronbach's α of the one-dimensional five-point Likert scale consisting of 13 items was .923; the data collection tool was found to be reliable (George & Mallery, 2003). The Cronbach's α was recalculated based on the research data and found as .718. It can be said that this value can be considered sufficient for a Likert-type scale (George & Mallery, 2003). The scale is scored as (1) *I completely disagree*, (2) *I disagree*, (3) *I am undecided*, (4) *I partially agree*, (5) *I completely agree*. The lowest score that can be obtained from the scale is 13 and the highest score is 65.

Within the scope of the research, *the Scale for Unified Theory of Acceptance and Use of Technology-2* developed by Yılmaz and Kavanoz (2017) was used in order to determine the technology acceptance and use level of teacher candidates. The 28-item five-point Likert scale consists of eight dimensions: performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), hedonic motivation (HM), price value (PV), habit (H), behavioral intention (BI). The Cronbach's alpha value of the scale is .97 and Cronbach's alpha values vary between .76 and .93 for all dimensions. These values show that the scale has sufficient internal consistency (George & Mallery, 2003). The Cronbach's alpha value was recalculated based on the research data and was found to be .918 for the entire scale. It can be said that this value can be considered sufficient for a Likert-type scale (George & Mallery, 2003). When Cronbach's α values were examined in terms of the dimensions of the scale, it was seen that they varied between .637 and .872. The scale is scored as (1) *I completely disagree*, (2) *I disagree*, (3) *I am undecided*, (4) *I partially agree*, (5) *I completely agree*. The lowest score that can be obtained from the entire scale is 28 and the highest score is 140. The lowest score that can be obtained from the PE, EE, H and BI dimensions of the scale is 4 and the highest score is 20; while the lowest score that can be obtained from the SI, FC, HM and PV dimensions is 3 and the highest score is 15.

Data Collection

The participants of the study were teacher candidates who were studying in different units of a state university in Turkey and receiving pedagogical formation education in the 2023-2024 academic year and volunteered to participate in the study. The research data were collected from the participants through a form shared online. A text explaining the purpose of the research, that participation in the research is voluntary, that the information obtained through the relevant form will be confidential and will only be used for scientific purposes within the scope of this research, and that personal identifying information such as name, surname, school number should not be written, was added to the beginning of the form developed for the collection of data as a consent text.

Analysis

In order to make analyses in line with the research sub-problems, firstly the skewness coefficients were examined in order to determine whether the research data had a normal distribution. It was observed that the skewness values varied between -.326 and -1.785. A skewness value between ±1.0 is considered excellent for most psychometric purposes, but a value between ±2.0 is in many cases also acceptable (George & Mallery, 2012). In this case, it was concluded that the scores obtained from both scales did not deviate excessively from the normal distribution

and it was decided to use parametric tests in the analysis of the data. In the study, *descriptive statistics* were used to determine the level of teacher candidates' taking teacher educators as role models and the technology acceptance and usage level of teacher candidates and *the Pearson correlation coefficient*, one of the simple correlation techniques, was used to determine the direction and level of the correlation between these two dependent variables; *the simple linear regression technique* was used to determine the degree to which the level of teacher candidates' taking teacher educators as role models predicted the technology acceptance and usage level of teacher candidates.

Results

Level of Teacher Candidates' Taking Teacher Educators as Role Models in Utilizing Technology

Descriptive statistics techniques were applied to determine the level of teacher candidates taking teacher educators as role models in utilizing technology (TTERMUT) and the results are given in Table 2.

Table 2. Descriptive Statistics of Teacher Candidates' Taking Teacher Educators as Role Models in Utilizing Technology

	N	Min	Max	$\bar{x}$	S
TTERMUT	673	28.00	65.00	52.84	5.66

When Table 2 is examined in terms of the scores that can be obtained from *the Scale for Taking Teacher Educators as a Role Model for Utilizing Technology*, it can be said that the scores of teacher candidates regarding taking teacher educators as role models in utilizing technology correspond to the "very high" level ($\bar{x}$=52.84).

Level of Teacher Candidates' Acceptance and Use of Technology

Descriptive statistics were applied to determine the acceptance and use of technology level of teacher candidates and the results are given in Table 3.

Table 3. Descriptive Statistics of Teacher Candidates' Acceptance and Use of Technology

	N	Min	Max	$\bar{x}$	S
PE	673	7.00	20.00	18.41	2.15
EE	673	9.00	20.00	17.06	2.46
SI	673	3.00	15.00	12.54	2.36
FC	673	5.00	15.00	11.89	2.26
HM	673	3.00	15.00	13.52	1.90
PV	673	5.00	15.00	12.10	2.07
H	673	6.00	20.00	16.11	2.64
BI	673	5.00	15.00	13.18	1.95
UTAUT-2	673	67.00	140.00	119.29	13.03

When Table 3 is examined in the context of the scores that can be obtained from *the Scale for Unified Theory of Acceptance and Use of Technology-2*, it can be said that the acceptance and use of technology scores of the teacher candidates correspond to the "very high" level ($\bar{x}$=119.29). When the mean scores are examined in terms of the dimensions of the scale, it can be said that they correspond to the level of "very high" in the PE dimension ($\bar{x}$=18.41), "very high" in the EE dimension ($\bar{x}$=17.06), "very high" in the SI dimension ($\bar{x}$=12.54), "high" in the FC dimension ($\bar{x}$=11.89), "very high" in the HM dimension ($\bar{x}$=13.52), "very high" in the PV dimension ($\bar{x}$=12.10), "very high" in the H dimension ($\bar{x}$=16.11) and "high" in the BI dimension ($\bar{x}$=13.18).

Correlation between Teacher Candidates' Taking Teacher Educators as Role Models in Utilizing Technology and Their Acceptance and Use of Technology

In order to determine whether there is a significant correlation between the scores obtained by teacher candidates from *the Scale for Taking Teacher Educators as a Role Model for Utilizing Technology* and the scores obtained from *the Scale for Unified Theory of Acceptance and Use of Technology-2 Scale*, the *Pearson correlation technique*, one of the simple correlation techniques, was applied and the results are given in Table 4.

Table 4. Correlation between Scores of Teacher Candidates' Taking Teacher Educators as Role Models in Technology Use and their Unified Theory of Acceptance and Use of Technology-2 Scores

		TTERMUT	PE
PE	Pearson Correlation	.507	1
	p	.000	
	N	673	673
		TTERMUT	EE
EE	Pearson Correlation	.422	1
	p	.000	
	N	673	673
		TTERMUT	SI
SI	Pearson Correlation	.460	1
	p	.000	
	N	673	673
		TTERMUT	FC
FC	Pearson Correlation	.316	1
	p	.000	
	N	673	673
		TTERMUT	HM
HM	Pearson Correlation	.444	1
	p	.000	
	N	673	673
		TTERMUT	PV

PV	Pearson Correlation	.439	1
	p	.000	
	N	673	673
		TTERMUT	H
H	Pearson Correlation	.533	1
	p	.000	
	N	673	673
		TTERMUT	BI
BI	Pearson Correlation	.507	1
	p	.000	
	N	673	673
		TTERMUT	UTAUT-2 Total
UTAUT-2 Total	Pearson Correlation	.635	1
	p	.000	
	N	673	673

When Table 4 is examined, it is seen that there is a moderately significant correlation between the scores of teacher candidates' taking teacher educators as role models in utilizing technology and their acceptance and use of technology (r=.635, p<.01). Accordingly, it can be said that when the level of teacher candidates' taking teacher educators as role models in utilizing technology increase, their level of acceptance and use of technology also increase. It is seen that there is a moderately significant correlation between the scores of teacher candidates' taking teacher educators as role models in utilizing technology and the scores obtained from the dimensions of *the Unified Theory of Acceptance and Use of Technology-2 Scale* (p<.01). The correlation values with the dimensions of the scale vary between r=.316 and r=.533.

Prediction of Technology Acceptance and Usage Level of Teacher Candidates According To Their Level of Taking Teacher Educators as Role Models For Utilizing Technology

In order to determine whether the scores obtained by teacher candidates from *the Scale for Taking Teacher Educators as a Role Model for Utilizing Technology* significantly predicted the scores obtained from the *Scale for Unified Theory of Acceptance and Use of Technology-2*, *simple linear regression technique* was applied and the results are given in Table 5.

Table 5. Prediction of Technology Acceptance and Usage Level of Teacher Candidates according to their Level of Taking Teacher Educators as Role Models for Utilizing Technology

		TTERMUT
PE	R	.507
	R2	.257
	F	232.385

		TTERMUT
	p	.000
		TTERMUT
EE	R	.422
	R2	.178
	F	145.031
	p	.000
		TTERMUT
SI	R	.460
	R2	.211
	F	179.704
	p	.000
		TTERMUT
FC	R	.316
	R2	.100
	F	74.270
	p	.000
		TTERMUT
HM	R	.444
	R2	.197
	F	164.606
	p	.000
		TTERMUT
PV	R	.439
	R2	.193
	F	159.962
	p	.000
		TTERMUT
H	R	.533
	R2	.284
	F	266.557
	p	.000
		TTERMUT
BI	R	.507
	R2	.257
	F	231.615
	p	.000
		TTERMUT
UTAUT-2 Total	R	.635
	R2	.403

F	452.372
p	.000

When Table 5 is examined, it is seen that the level of teacher candidates taking teacher educators as models in technology use significantly predicts technology acceptance and use level (R=.635, R2=.403, F=452.372, p<.01). Accordingly, it can be stated that 40% of the total variance regarding the technology acceptance and use level of teacher candidates is explained by the level of teacher candidates taking teacher educators as models in technology use. It is seen that the level of teacher candidates taking teacher educators as role models in technology use significantly predicts technology acceptance and use dimensions (p<.01). The level at which prospective teachers take teacher educators as role models in their use of technology explains the total variance in the dimensions of *the Scale for Unified Theory of Acceptance and Use of Technology-2* varies between 10% and 28%.

Discussion, Conclusion and Recommendations

Discussion and Conclusion

When the research findings are examined in terms of the scores that can be obtained from *the Scale for Taking Teacher Educators as a Role Model for Utilizing Technology*, it can be said that the scores of teacher candidates regarding taking teacher educators as role models in utilizing technology correspond to the "very high" level ($\bar{x}$=52.84). Studies have shown that students take their teachers as role models in many areas. One of these areas is technology use (Moursound & Bielefeld, 1999; Albee, 2003; Göktaş et al., 2009; Tondeur et al., 2012). According to social learning theory, it is important for the observed to have high status, prestige and power in the eyes of the observer (Bandura, 1971; Schunk, 2011; Korkmaz, 2012). From this perspective, it is seen that teacher candidates are more likely to take teacher educators as models (Salentiny, 2012). Cuckle and Clarke (2002) revealed in their study that students of educators who benefit from technology also use technology and they concluded that one of the reasons for this is role modeling.

When the research findings are examined in the context of the scores that can be obtained from *the Scale for Unified Theory of Acceptance and Use of Technology-2*, it can be said that the acceptance and use of technology scores of the teacher candidates correspond to the "very high" level ($\bar{x}$=119.29). It has been observed that the use of technology in higher education increases the effectiveness of educators in their core activities (Kirkup & Kirkwood, 2005). New technologies strengthen collaboration and communication in education and increase the flexibility and ease of application. It can be said that there is a linear correlation between the use of information and communication technologies and the work efficiency of academicians (Ege & Sezer, 2002). Once new technologies are accepted by faculty members, they support current education practices. It is known that faculty members in higher education are not resistant to new technologies and use new technologies in their education activities as much as possible (Turan & Çolakoğlu, 2008).

When the research findings were examined, it was seen that there was a moderately significant correlation between the scores of teacher candidates regarding teacher educators as role models in technology use and the scores of technology acceptance and use (r=.635, p<.01). Accordingly, it can be said that when the level of teacher

candidates regarding teacher educators as role models in technology use increase, their level of technology acceptance and use also increase. According to another finding of the research, it was seen that the level of teacher candidates regarding teacher educators as role models in technology use significantly predicted the level of technology acceptance and use (R=.635, R2=.403, F=452.372, p<.01). It can be stated that 40% of the total variance regarding the level of teacher candidates regarding technology acceptance and use is explained by the level of teacher candidates regarding teacher educators as models in technology use. Technology is used in higher education as well as at all level of education. It is important for higher education institutions to prioritize the use and development of technology in order for societies to adapt to technology (Çağıltay et al., 2007). The use of technology in the education of teacher candidates in higher education has a special importance. Because when teacher candidates graduate, they will train individuals who can be from every professional group in the future. In the study by Karal and Berigel (2006), teachers stated that their higher education had an impact on the problems they experienced in adapting technological developments to education. According to Agyei and Voogt (2011), the amount and quality of teachers' technology experiences in their pre-service education is an important factor affecting their acceptance of technology. Barton and Haydn (2006) concluded in their study that teacher candidates consider role models necessary in the use of technology and that the lack of role models is a factor that hinders their use of technology.

Recommendations

In this study conducted in the 2023-2024 academic year, it was observed that teacher candidates' scores for taking teacher educators as role models in technology use and technology acceptance and use scores were "very high". However, technology is a rapidly developing and changing phenomenon. In order to ensure the continuity of the positive results revealed in the study, it is important to support both teacher educators and teacher candidates in adapting to new technologies within the scope of lifelong learning. At this point, it is thought that today's teacher candidates, who were born into and grew up in a technological environment and are called "digital natives", will have an easier time adapting to changing technologies than today's teacher educators, most of whom can be called "digital immigrants" and who have met technology almost in adulthood.

As a result of the research, a positive correlation has emerged between teacher candidates' taking teacher educators as role models in technology use and their acceptance and use of technology. It is thought that teacher educators being role models for students in the use of information technologies is a factor that facilitates the integration of technology into education. In order for teacher educators to be role models in the use of technology, they must first be able to use technology effectively them. At this point, it is important for the institutions they work in to provide support. In general, it can be said that when technical support, infrastructure and cost problems are overcome, educators will adopt and use technology more in education. It is estimated that arranging curriculums in higher education in a way that will provide technology integration, even necessitating it, by taking the opinions of information technology experts and field experts, will contribute to the development of both teacher educators and teacher candidates in terms of technology use. In addition, it is important for educators to have positive acceptance and intentions regarding the use of technology in order to fully benefit from technology in education. Identifying and analysing the issues that individuals hesitate about in accepting and using technology and therefore

innovation, will help to eliminate the limitations in this regard and determine which issues new studies should focus on.

This research was conducted with a correlation survey design, one of the quantitative research designs. Qualitative research such as a case study or phenomenology research can be planned to obtain in-depth information on both technology acceptance and usage behaviour and being a role model in technology usage; experimental studies can be designed by planning educations for teachers and teacher candidates on technology use.

In this study, the correlation between the scores of teacher candidates regarding taking teacher educators as role models in technology use and technology acceptance and use scores was investigated. In future studies, the mediating effect of different variables on this correlation can be tested; both dependent variables can be examined in terms of various demographic variables.

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