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Antecedents of classroom teachers' intention to use distance education environments: A structural equation modeling approach

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Abstract: Distance education's importance has recently been understood more compared to the period prior to the COVID-19 pandemic. Teachers' intentional use of distance education environments is considered effective in taking advantage of the distance education medium. In order to benefit from classroom teachers' experiences during the pandemic when aiming to incorporate distance education's advantages into formal K-12 education, factors regarding teachers' behavioral intention to use distance education environments were investigated in this study within the framework of the technology acceptance model. The study aimed to assess classroom teachers' self-efficacy, perceived benefit, attitude toward the use of distance education environments, as well as each of these variables' influence on teachers' intention to use distance education environments. Data were collected from 370 classroom teachers through a self-reporting scale. Structural equation modeling approach was then used to test the measure and structure models, with descriptive statistics applied to assess teachers' levels for the constructs. The results indicated that classroom teachers' self-efficacy, perceived benefit, and attitudes towards the use of distance education environments significantly influence teachers' behavioral intention to use distance education environments. Both researchers and educational policymakers should consider these significant predictors to promote classroom teachers' intentional use of distance education environments in their future classrooms.

Keywords: Classroom teachers, distance education, technology acceptance model, structural equation modeling, intention to use distance education.

Highlights

What is already known about this topic:

- Technology Acceptance Model (TAM) is a robust model that can be used to analyze how users accept and intend to use technologies and has been confirmed in numerous studies.
- TAM Studies in the literature have generally scrutinized *learners'* acceptance of technologies for use in distance education.

What this paper contributes:

- The current study investigates the acceptance of distance education environments amongst classroom teachers, as they are one of the leading groups of distance education implementers at the K-12 level.
- The study applies SEM to provide robust quantitative evidence for the significant predictors of classroom teachers' acceptance of distance education environments based on the TAM.

Implications for theory, practice and/or policy:

- The study offers significant predictors, namely self-efficacy, perceived benefit, and attitude toward use, of classroom teachers' intention to use distance education environments.
- The study verifies the TAM model for distance education environments among Turkish classroom teachers, with multiple fit indices in the good fit ranges.
- The study provides evidence for the direct influence of self-efficacy which has conflicting results in existing studies.

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Introduction

Face-to-face education was almost totally replaced with distance education during the COVID-19 pandemic, resulting in distance education's importance having since been understood much more across all levels of education. Therefore, understanding the distance education medium and teachers' use of distance education environments is crucial to being able to take advantage of its potential benefits.

Distance education is defined as "institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors" (Schlosser & Simonson, 2009, p. 1). Under the interactive telecommunications systems, technological teaching and learning platforms, as well as specialist software and tools are used by both teachers and learners in distance education. However, how teachers actually apply distance education using these technologies has some bearing on the effectiveness of each distance education application. Almost all teachers, even at the K-12 level, were required to teach via distance education during the pandemic, and were therefore compelled to utilize various distance education environments. Although formal K-12 education in Turkey has since reverted totally to face-to-face classroom lecturing, practically all K-12 teachers have now experienced the application of distance education environments in their own teaching, and have therefore also observed firsthand the advantages and disadvantages of distance education for instructional activities. Applying the teachers' experience with distance education following the pandemic is important in that the advantages of this experience can now be directed towards formal classroom education.

Undoubtedly, classroom teachers had the most difficulty in K12 in this process as they are the teachers who are responsible to teach all core subjects to their students. However, there are a few studies on classroom teachers about distance education. Öçal et al. (2021) asserted that classroom teachers need to be educated about technology use and they should be able to use Web 2.0 tools to promote interactivity. Özdemir and Gündoğan Önderöz (2022) and Yazicioglu (2021) investigated opinions of classroom teachers about distance education and focused on primary reading and writing skills of students and attendance rate of students. Demir (2022) revealed classroom teachers' positive and negative experiences during the pandemic through a phenomenological study. In addition to directly distance education-related studies, researchers have studied the digital competencies of classroom teachers for distance education since the pandemic. Sarı and Keser (2021) found that classroom teachers perceived themselves as being competent in using technology in general, but less competent in using technology for pedagogical purposes or for content-related activities. In a study by Kaşçı and Selçuk (2021), a high level of self-efficacy belief was reported by teachers in the use of technology for teaching their content area. Although these studies are valuable to explore what classroom teachers experienced in the pandemic and what needs to be done to enhance this experience, a need exists to study classroom teachers' intention to use distance education environments in their future teaching to promote its use after the pandemic and its potential contribution to formal K-12 education.

Although most teachers implemented distance education at some level during the pandemic, there will also be some who did not do so by choice, just where it was mandatory. However, their reasons for preferring not to use distance education should not be attributed only to their self-efficacy levels of using distance education environments. Educational researchers have studied users' intention to use a technology through the technology acceptance model (TAM). According to the model, there are a number of variables that can affect the intention to use technology in addition to self-efficacy which refers to one's perception of competency and capability of performing certain required actions (Bandura, 1982), specifically applying distance education environments in this study. Another variable studied in this study is perceived benefit which is defined as one's belief in the use of distance education environments will likely to have a positive impact on learning outcome (Orbell et al., 1996). Attitude

toward use, as another variable, is one's feelings while using distance education environments (Teo & Noyes, 2011). Finally, variable of behavioral intention to use is a measure of one's intention to use (Davis et al., 1989) distance education environments in the current study.

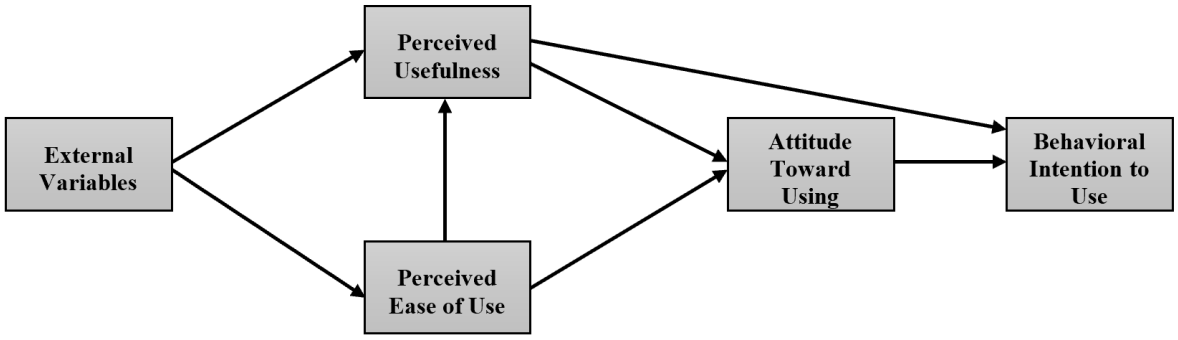
When considering the increasing importance of distance education and the experiences with distance teaching that most teachers have now gained, it is considered worthwhile to investigate teachers' intention to use distance education environments according to the TAM, which has been verified by numerous researchers as described in the Literature Review section.

Literature Review

Technology Acceptance Model (TAM)

The TAM, pioneered by Davis (1989), aims to describe how users accept and intend to use technology by identifying variables that significantly affect their intention to use that technology. Basically, the TAM claims that perceived usefulness, perceived ease of use, and attitude towards using technology significantly influence the intention to use that technology (see Figure 1). In addition to these core variables, studies conducted based on TAM have revealed that other variables such as self-efficacy (Gurer, 2021; Scherer et al., 2019; Teo, 2009), subjective norms (Gurer, 2021; Scherer et al., 2019), facilitating conditions (Gurer, 2021; Scherer et al., 2019) and technological barriers (Hamutoglu, 2021) also significantly influence the intention to use technology. In addition to the acceptance of technology in general, there are TAM studies that have investigated acceptance of specific technologies such as whiteboards, mobile learning, virtual reality, and floor robots (Casey et al., 2021; Fussell & Truong, 2022; Mutambara & Bayaga, 2021; Tosuntaş et al., 2015).

Figure 1. Technology acceptance model (Davis et al., 1989)



Studies have also been published about the acceptance of online learning (Lazim et al., 2021), online classes (Han & Sa, 2022) and other specific technologies used in distance education such as video conferencing tools (Nguyen et al., 2021), learning management systems (Annamalai et al., 2021), web-based distance learning systems (Bağcı & Çelik, 2018), distance education platforms (Al-Dokhny et al., 2021), and virtual laboratories (Çivril & Özkul, 2021). These studies, however, have scrutinized learners' acceptance of technologies for use in distance education. Teachers' acceptance of digital tools for distance teaching was examined in a general sense as a qualitative study (Wohlfart et al., 2021). The current study aims to apply structural equation modeling (SEM), which provides robust quantitative evidence, in order to investigate the significant predictors of teachers' acceptance of distance education environments in general.

Several studies (Han & Sa, 2022; Şahin & Şahin, 2021; Weerathunga et al., 2021) have examined university students' acceptance of e-learning or online classes in general using SEM. However, a need

still exists to investigate the acceptance of distance education environments amongst teachers, especially classroom teachers, as they are one of the leading groups of distance education implementers at the K-12 level. Some recent studies have analyzed classroom teachers' technological capabilities for distance teaching (Kaşçı & Selçuk, 2021; Sarı & Keser, 2021). Nevertheless, although these studies examined the technological efficacies of classroom teachers, TAM revealed that self-efficacy is only one factor that can affect intention to use technology. Therefore, the current study aims to investigate classroom teachers' self-efficacy, perceived benefit, attitude toward the use of distance education environments, and these variables' influences on teachers' intention to use distance teaching environments within the framework of TAM. Information about each of the research model's constructs are detailed in the subsequent subsections.

Self-Efficacy

Self-efficacy is defined as the perception of one's competency and capability of performing certain required actions (Bandura, 1982). Pajares (1996) asserted that how people perceive their level of achievement as a result of their performances affects their self-efficacies and this affect their subsequent performances. Therefore, self-efficacy is considered important for the intention to use a technology as the higher the level of teachers' self-efficacy for technology, the more likely they are to actually utilize that technology for educational purposes (Gurer, 2021). As a result, self-efficacy is included in the current study to investigate relationship between self-efficacy and behavioral intention to use distance education environments by defining self-efficacy for distance education environments as the perceived ability to use distance education environments such as to use distance education platforms, to develop instructional materials for distance education, and to manage technological problems.

Perceived Benefit

Studies (Davis, 1989; Gurer, 2021; Teo & Noyes, 2011) based on the TAM have revealed the significant effect of perceived usefulness on the intention to use technology; therefore, the current study included this important variable to confirm its effect on the teachers' intention to use distance education environments according to the TAM. Perceived usefulness refers to "the degree to which an individual believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320). As another term, not synonymously but interchangeably used, perceived benefit is defined as the "perceived likelihood that taking a recommended course of action will lead to a positive outcome" (Orbell et al., 1996, p. 36). The term "perceived benefit" is preferred in the current study since the author considers that "benefit" is more appropriate to the nature of distance education, since utilizing distance education environments is about more than just the use of certain distance technologies. In the current study, perceived benefit for distance education environments means a perceived belief that the teachers' use of distance education environments will lead to positive learning outcomes for their students.

Attitude

Attitude is "an individual's positive or negative feelings about performing the target behavior or object" (Teo & Noyes, 2011, p. 1646). It is one of the variables whose significant effect on the intention to use technology was preliminarily discovered (Davis, 1986). Recent studies (Gurer, 2021; Nguyen et al., 2021; Scherer et al., 2019; Weerathunga et al., 2021) have also confirmed that attitude significantly influences intention to use technology. Therefore, the classroom teachers' attitudes towards using distance education environments is included in the current study to reveal the relationship between their attitudes and their intention to use distance education environments with the definition of teachers' feelings about using distance education environments.

Behavioral Intention to Use

Behavioral intention to use is “a measure of the strength of one’s intention to perform a specified behavior” (Davis et al., 1989, p. 984). It also refers to “the cognitive representation of a person's readiness to perform a given behavior” (Fang et al., 2019, p. 18). By determining teachers’ acceptance of a new technology system, TAM aims to measure their intentions to use that technology in their own educational context (Scherer et al., 2019). In the current study, influences of the aforementioned variables on the variable of behavioral intention to use as a dependent variable is investigated for distance education environments.

Distance Education Environments

Distance education environments is a medium of delivery in which students and teachers are required to learn new technologies for teaching and learning activities (Berigel & Karal, 2011). In distance education, students, teachers, and instructional materials in different places are brought together through technological platforms (Gülbahar, 2009). That is, teaching and learning process is carried out based on these technological platforms (Özkul & Aydın, 2013). In addition to requirement of using technological platforms, students and teachers had to use technologies to promote communication in order to minimize the disadvantage of physical distance, to manage technical problems, to manage classroom via a technological platform, to include non-digital or digital (more in comparison to traditional environments) instructional materials via a technological platform, etc. In other words, they need to apply various technologies while delivering teaching and learning activities via distance education. All these technology related applications are referred as distance education environments in the current study.

Teachers’ Use of Distance Education

Distance education is implemented by almost all teachers throughout the world in the pandemic. They have explored advantages of distance education whilst they have also experienced its difficulties. During this compulsory implementation, they had to develop digital competencies, they faced with technical and pedagogical challenges but had to manage application of distance education environments and therefore their perception of distance education has improved (Pryor et al., 2020). Although they still consider distance education is not effective as face-to-face education, they agree about its usefulness and ease of use (Rahayu & Wirza, 2020). Thanks to the pandemic, many teachers have been able to both improve their knowledge and skills about distance education environments in practice and experienced it without the possibility of rejection, despite their difficulties. Some teachers stated that they planned to use some elements of distance education environments in their future classrooms such as making learning independent, using technology to individualize learning, and/ or improving communication with stakeholders (Pryor et al., 2020). As a result, the potential benefits of distance education are considered more than before the pandemic. Therefore, policymakers at all levels must invest in infrastructure and create enabling environments for teachers to continue to benefit from the advantages of distance education environments experienced in the pandemic (Aristovnik et al., 2020) so that we can turn the compulsory and difficult distance education process we experienced in the pandemic into an advantage for formal education.

Distance education environments has already started to be used more in higher education (Ali, 2020). The infrastructure used in the pandemic is ready to achieve this goal. Also, it is expected to be used more for teachers’ professional development than before the pandemic (Douce, 2022; Tekin, 2020). What about its use in formal K12 education? What can be done for teachers, especially classroom teachers who have a very important place in K12 education, to continue to benefit from the advantages

of distance education after the pandemic? In particular, understanding the classroom teachers' intentions to use distance education environments are very important in this sense.

Qualitative studies (Demir, 2022; Özdemir & Gündoğan Önderöz, 2022; Yazicioglu, 2021) investigated classroom teachers' opinions about their distance teaching experiences during the pandemic and revealed their positive and negative experiences about their distance teaching. Öçal et al. (2021) examined on ICT competencies of classroom teachers and concluded that they need to be trained about ICT usage for a successful distance teaching application. There are other studies (Fauzi & Khusuma, 2020; Moore-Adams et al., 2016; Rasmitadila et al., 2020; Sarı & Keser, 2021) on classroom teachers' competencies for distance education and the difficulties faced by K12 teachers in applying distance education during the pandemic. However, after the pandemic, there is a need for studies on classroom teachers' intention to use distance education environments to continue to benefit from distance education environments, to support face-to-face education, and to increase the quality of formal education with the experience they have gained about distance education environments.

Aim of the Study and Research Hypothesis

The current study aims to assess classroom teachers' self-efficacy, perceived benefit, attitude toward the use of distance education environments, and each of these variables' influences on teachers' intention to use distance education environments through structural equation modeling (SEM). With this aim, the study is guided by the following research questions:

- How do the classroom teachers perceive their self-efficacy, perceived benefit, attitude toward the use of distance education environments, and behavioral intention to use distance education environments?
- Which variables are the significant antecedents of classroom teachers' intention to use distance education environments?

The SEM results are also expected to reveal whether or not the results confirm the Technology Acceptance Model (TAM) for distance education environments on the basis of included variables. Based on the findings of the TAM studies (Davis, 1989; Davis, 1986; Gurer, 2021; Nguyen et al., 2021; Scherer et al., 2019; Teo & Noyes, 2011; Weerathunga et al., 2021), the following hypotheses were established:

H1: Classroom teachers' self-efficacy of distance education environments will have a significant influence on their perceived benefit of distance education environments.

H2: Classroom teachers' self-efficacy of distance education environments will have a significant influence on their behavioral intention to use distance education environments in their future classrooms

H3: Classroom teachers' perceived benefit of distance education environments will have a significant influence on their attitudes towards the use of distance education environments.

H4: Classroom teachers' attitudes towards use of distance education environments will have a significant influence on their behavioral intention to use distance education environments in the future.

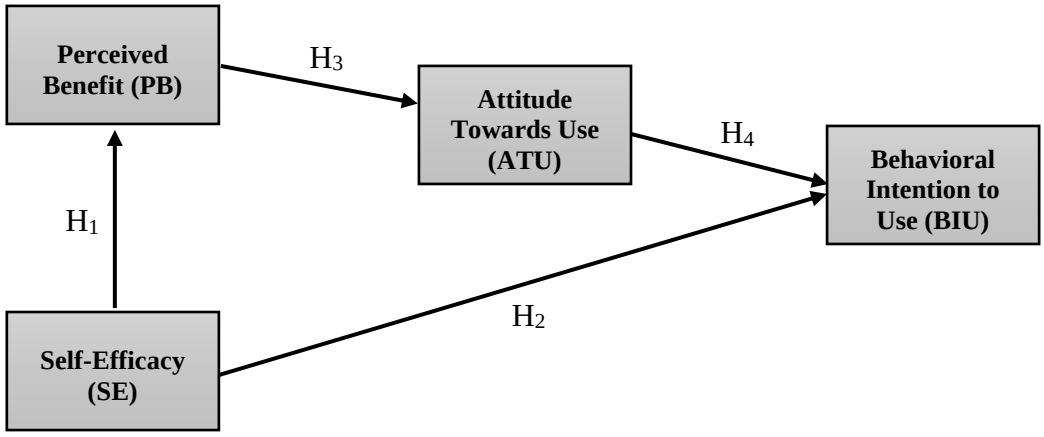
Methodology

The current study applies SEM which is utilized to test a specific model offered by a theory (Şimşek, 2007). General SEM which includes path and CFA models was administered to test measurement and structure models (Kim & Bentler, 2006) in this study. Specifically, the SEM approach was used to test and propose a model that indicates the relationship between the variables of self-efficacy (SE), perceived benefit (PB), attitude towards use (ATU), and the behavioral intention to use (BIU) distance education environments. The relationships among these variables for technology in general was asserted by the TAM which is explained in the next section.

Research Model

TAM is a robust model that can be used to analyze how users accept and intend to use technologies (Teo & Noyes, 2011), and which has been confirmed in numerous studies (Annamalai et al., 2021; Bağcı & Çelik, 2018; Çivril & Özkul, 2021; Gurer, 2021; Nguyen et al., 2021; Sahin & Sahin, 2021; Teo & Noyes, 2011; Weerathunga et al., 2021) for different disciplines and specific technologies or technology in general. Based on the findings of these studies, a research model (see Figure 2) was proposed to test classroom teachers' intention to use distance education environments in general.

Figure 2. Research model



Participants

The study's participants were 370 classroom teachers (62.16% female, 37.84% male) working across all regions of Turkey. The sample size is considered to be adequate for the purposes of the study since it exceeds five times the number of items (50) in the applied scales (Hair et al., 2010) and far exceeds the amount of 200 as recommended by Ramlall (2016).

The vast majority of the participants worked at public (state) schools. In Turkey, there are four grades in primary schools. Only classroom teachers who were active in the teaching of students in the first to fourth grades were included in the current study. Classroom teachers working as managers, teachers of students in other grades, and subject teachers for Grade 1 through to Grade 4 were excluded from the study. Information regarding which grade the participating teachers taught, and their length of service can be seen in Figure 3 and Figure 4, respectively.

Figure 3. Grades the teachers taught

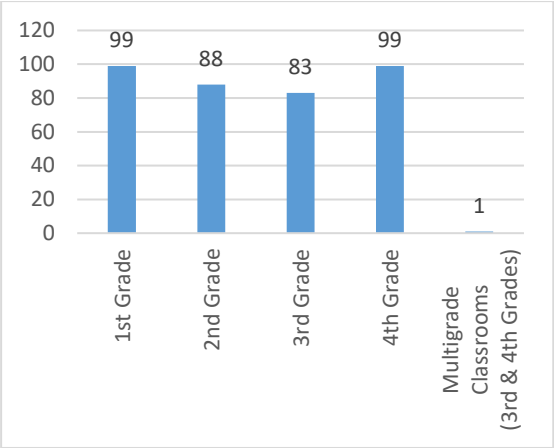
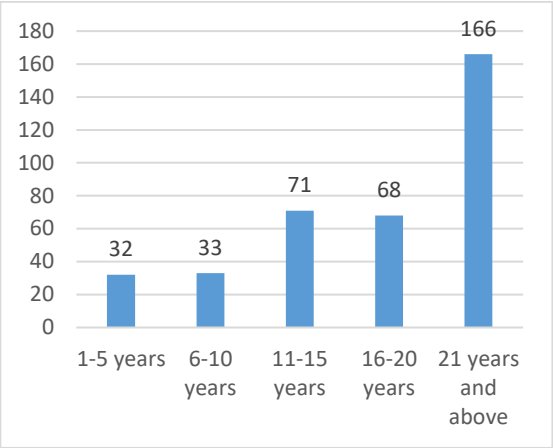


Figure 4. Teachers' years of service



Instruments and Data Collection

Four different scales were used to test the study's proposed model. For the participants' SE and PB perceptions, two scales (with 10 and 16 items, respectively) developed and validated by Yıldız and Erdem (2018) were employed. To measure the teachers' ATU, the scale (21 items) developed and validated by Ağır et al. (2008) was utilized. Lastly, three behavioral intention items from the "Unified Theory of Acceptance and Use of Technology-2" scale (Yılmaz & Kavanoz, 2017) were adapted for the measurement of the participants' behavioral intention to use distance education environments. As a result, the classroom teachers were asked to complete a scale of 50 items in total, presented as a 5-point, Likert-type instrument in addition to demographic questions.

An online version of the 50-item scale was created in Google Forms, and it was shared with classroom teachers via social media groups, namely classroom teacher groups in WhatsApp and Facebook (Meta), during the 2020-2021 academic year. At the beginning of the online scale, the teachers were informed about the purpose and structure of the study and that submitting the scale provided their consent to the use of the collected information for research purposes. In total, 401 classroom teachers completed the scale, and the data for 370 were accepted as those participants were active Grade 1-4 classroom teachers.

Data Analysis

Data were analyzed through SEM approach which represents a relationship among teachers' intention to use distance education environments, self-efficacy, perceived benefit, and attitude toward use of distance education environments. SEM is used to test a research model that represents the predictions of the theory by measuring the observed variables in the model (Hayduk et al., 2007). A research model based on the TAM was proposed for classroom teachers' intention to use distance education environments in the current study. A path analysis was conducted in Lisrel to test the proposed model. During the analysis, Ramlall (2016)'s practical guidelines for SEM were applied. First, the research model specified based on findings of the existing TAM-related studies. After data were analyzed in terms of missing data, sample size and normality, model fit was evaluated with fit index values. As there are controversial issues about direct effect of self-efficacy on the intention to use technology in existing studies, a research model with and without direct effect of self-efficacy on teachers' intention to use distance education environments was tested, compared, and decided which connection the data approved. Then, direct, indirect, and total effect of the variables on teachers' intention to use distance

education environments were calculated. Finally, the model was modified by applying the modification indices suggested. In addition to SEM, A confirmatory factor analysis (CFA) was applied to provide evidence for construct validity of the measures. Details about CFA can be found under the heading of Testing the Measurement Model in the Results section. Finally, descriptive analysis was performed to reveal how the classroom teachers perceived their level of self-efficacy, benefit, attitude, and behavioral intention to use distance education platforms.

Results

Classroom Teachers' Descriptive Levels for the Variables in the Research Model

The descriptive analysis was conducted for the measures; the results of which are presented in Table 1. The SE and BIU mean scores of the 370 classroom teachers were found to be above the midpoint of 3.00, whilst their PB and ATU mean scores were below the midpoint. The standard deviations range from 0.77 to 1.14. The skewness values are between -2 and +2, and the kurtosis values do not exceed 7, as suggested by Ramlall (2016) for normality of data.

Table 1. Descriptive statistics of proposed model's constructs

Construct	# of Items	Mean	*SD*	Skewness	Kurtosis
SE	10	3.83	0.93	-0.69	-0.69
PB	16	2.69	0.94	0.30	-0.49
ATU	16	2.62	0.77	0.14	-0.51
BIU	3	3.21	1.14	-0.32	-0.66

Antecedents of Classroom Teachers' Intention to Use Distance Education

SEM was conducted to reveal significant predictors of the classroom teachers' intention to use distance education among the variables included in the research model. Before testing the hypothesis and the structure model proposed based on the TAM, the measurement model was investigated to confirm the validity of the included measurements. The following section presents the measurement model test results.

Testing the Measurement Model

A confirmatory factor analysis was administered to investigate the construct validity of measures applied in the study. After verifying the data's normal distribution, the researcher checked the t-values of the measurement model and deleted one ATU item due to it having an insignificant t-value. The analysis was then rerun and the standardized solution of the model examined. Four ATU items were then removed from the scale due to their having low-loading coefficients smaller than .30 (Hair et al., 1995; Stevens, 2002). All factor loadings of the remaining items ranged from .37 to .95 (see Table 3). As Hair et al. (2010) suggested, multiple goodness-of-fit indices were then analyzed to confirm the validity of the measurement model. Table 2 shows the fit indices of the scale and frequently used fit criteria (Kline, 2005; Schermelleh-Engel et al., 2003). The fit indices provide evidence for the construct validity of the measurement model since all of the frequently used indices show values that are between good and acceptable fit values.

Table 2. Fit index values of the measurement model

Fit index	Good fit values	Acceptable fit values	Fit index value
χ^2 / *df*	.00 < χ^2 / *df* < 3	3.01 < < χ^2 / *df* < 5.00	3.68
RMSEA	.00 < RMSEA < .05	.05 < RMSEA < .10	.08
SRMR	.00 < SRMR < .05	.05 < SRMR < .10	.05
NFI	.95 < NFI < 1.00	.90 < NFI < .95	.95
NNFI	.95 < NNFI < 1.00	.90 < NNFI < .95	.96
CFI	.95 < CFI < 1.00	.90 < CFI < .95	.97

Convergent validity for the measures was maintained using average variance extracted (AVE) and composite reliability coefficients. Table 3 presents these coefficients for each item measured. With AVE values higher than .50 (Hair et al., 2010) and composite reliability coefficients higher than .70 (Nunnally & Bernstein, 1994), it may be said that they represent appropriate convergent validity of the measures. According to the study's results, the AVE values of the constructs are above .50, excluding the AVE value of the ATU construct, whilst all of the composite reliability coefficients are much higher than .70. As the composite reliability of the ATU construct (.92) is highly acceptable, and it is only the AVE value which is smaller but closer to .50, convergent validity was accepted as being adequate.

Table 3. Convergent validity and composite reliability for the measures

Construct	Item	Factor Loading	Average Variance Extracted	Composite Reliability
SE	SE1	.73	.70	.96
	SE2	.76		
	SE3	.84		
	SE4	.83		
	SE5	.89		
	SE6	.89		
	SE7	.89		
	SE8	.86		
	SE9	.86		
	SE10	.80		
PB	PB1	.76	.58	.96
	PB2	.71		
	PB3	.79		
	PB4	.83		
	PB5	.83		
	PB6	.78		
	PB7	.84		
	PB8	.72		
	PB9	.80		
	PB10	.71		
	PB11	.80		
	PB12	.75		
	PB13	.78		
	PB14	.72		
	PB15	.65		
	PB16	.68		
ATU	ATU1	.70	.42	.92
	ATU2	.74		
	ATU3	.70		
	ATU5	.79		
	ATU7	.50		
	ATU8	.77		
	ATU10	.62		
	ATU11	.60		
	ATU12	.42		
	ATU13	.52		
	ATU14	.78		
	ATU16	.73		
	ATU17	.64		
	ATU18	.37		
	ATU19	.71		
	ATU21	.58		
BIU	BIU1	.87	.78	.92
	BIU2	.82		
	BIU3	.95		

Discriminant validity of the measures was also assessed by calculating the square root of the AVE values for the four constructs. Table 3 demonstrates the square root of AVE values of the constructs in diagonals, with parenthesis and correlation coefficients in the off-diagonal elements. According to Fornell and Larcker (1981), discriminant validity can be maintained if the square root of each construct's AVE value is higher than the correlation coefficients between the construct and other constructs. As can be seen in Table 4, all the square roots of the AVE values are higher than the correlation coefficients, except for the square root of the AVE value for the ATU construct (.65) which is slightly larger than the correlation between the ATU and PB (.69). As the values are very close to each other, and it is the only issue across all the measures, discriminant validity was assumed.

Table 4. Discriminant validity for the measures

Construct	SE	PB	ATU	BIU
SE	(.84)			
PB	.27	(.76)		
ATU	.26	.69	(.65)	
BIU	.30	.44	.45	(.88)

Hypotheses and Structure Model Testing

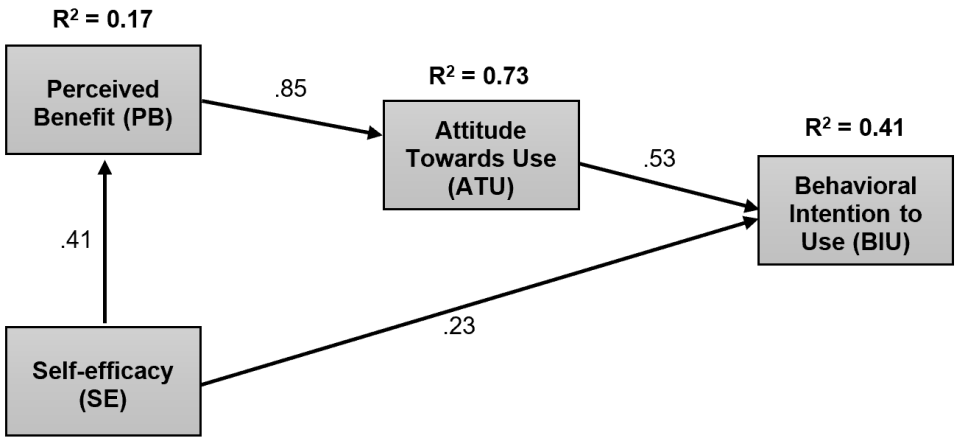
A path analysis was conducted in Lisrel to test the proposed model and to assess the direct and indirect effect of SE, PB, and ATU on BIU for distance education environments. Hair et al. (2010) suggested presenting multiple indices as evidence for good model fit. Table 5 shows the fit index values with ranges of good and acceptable fit values according to the literature (Kline, 2005; Schermelleh-Engel et al., 2003). As can be seen in Table 5, all fit index values are within the ranges of a good fit except for AGFI whose fit value is within the acceptable range. Furthermore, CFI index is reflected as 1.00 in the output of Lisrel. Based on the appropriateness of the other indices, CFI value is presumed to be rounded as it is greater or equal to .995. In conclusion, all fit index values indicate a good model fit for the proposed structure model.

Table 5. Fit index values of structure model

Fit index	Good fit values	Acceptable fit values	Fit value for scale
χ^2/df	$.00 < \chi^2/df < 3$	$3.01 < \chi^2/df < 5.00$	2.09
RMSEA	.00 < RMSEA < .05	.05 < RMSEA < .10	.05
SRMR	.00 < SRMR < .05	.05 < SRMR < .10	.02
NFI	.95 < NFI < 1.00	.90 < NFI < .95	.99
NNFI	.95 < NNFI < 1.00	.90 < NNFI < .95	.99
AGFI	.95 < AGFI < 1.00	.90 < AGFI < .95	.93

Figure 5 presents the structure model with path coefficients and explained variance for the variables. When t-values were checked for the structure model, the results indicate that the following four hypothesized relationships were statistically significant.

Figure 5. Structure model with path coefficients



Examining the results of H1, SE significantly influenced PB and R2 estimates indicate that 17% of variance in PB is explained by SE. Table 6 indicates the direct, indirect, and total effect of the constructs of the proposed model. Effect sizes less than .10 are considered small, between .10 and .50 as medium, and greater than .50 as a large effect size (Cohen, 1988). As can be seen in the table, SE has a large effect on PB with .65 of effect size. When the t-values were analyzed for H2, SE has a statistically significant influence on BIU. Based on the findings demonstrated in Table 6, SE has a direct and indirect effect on BIU with .34 total effect which means medium effect according to Cohen (1988). For the H3 hypothesis, PB was found to have a significant influence on ATU, whose explained variance is 73%. PB has a large effect on ATU with .70 (see Table 6). In response to the last hypothesis, findings revealed that ATU significantly influenced BIU with an effect size of .33 which recognized as a medium effect (Cohen, 1988). As a result, SE, PB, and ATU each have a statistically significant total effect on BIU. However, SE and ATU has a direct effect on BIU whilst PB has only an indirect effect on BIU as ATU is a mediator variable between PB and BIU and 41% of variance of BIU is explained by the constructs of the model.

Table 6. Direct, indirect, and total effects of proposed model

Outcome	Determinant	Standardized Estimates (*t*-values)		
		Direct	Indirect	Total
BIU	SE	.19	.15	.34 (5.02)
	PB	-	.23	.23 (5.73)
	ATU	.33	-	.33 (5.89)
ATU	SE	-	.46	.46 (7.88)
	PB	.70	-	.70 (32.67)
PB	SE	.65	-	.65 (8.23)

Model Comparison

While investigating the influence of SE, PB, and ATU on BIU, the data were analyzed for the proposed model (Model 1) and also without a direct path between SE and BIU (Model 2). Table 7 presents several fit indices for both models. The fit indices for Model 1 indicate a much better fit; therefore, the structure model with a direct path between SE and BIU is proposed for the study based on the path analysis results.

Table 7. Fit index values for compared models

	χ^2 / *df*	RMSEA	SRMR	AGFI
Model 1 (proposed model)	2.09	.05	.02	.93
Model 2	3.58	.08	.08	.85

Discussion

The current study investigated the influences of classroom teachers' self-efficacy, perceived benefit, and attitude toward using distance education environments on their intention to use distance education environments. The path analysis results demonstrated that self-efficacy and attitude toward distance education environments have a significant and direct effect, while perceived benefit has a significant and indirect effect on classroom teachers' behavioral intention to use distance education environments. This finding revealed that perceived benefit does not directly predict behavioral intention to use distance education environments which supports previous studies (Gurer, 2021; Teo & Noyes, 2011).

The current study also contributes to empirical validity of the TAM for the use of distance education environments among classroom teachers in Turkey. Their behavioral intention to use was significantly influenced by their self-efficacy, perceived benefit, and attitude toward use which is consistent with findings of previous TAM studies (Annamalai et al., 2021; Bağcı & Çelik, 2018; Çivril & Özkul, 2021; Gurer, 2021; Nguyen et al., 2021; Şahin & Şahin, 2021; Teo & Noyes, 2011; Weerathunga et al., 2021). The result of the significant effect of self-efficacy is consistent with Teo's (2009) study that scrutinized the influence of computer self-efficacy on behavioral intention to use technology. In Teo's study, self-efficacy was also found to have both a direct and indirect effect on behavioral intention, as was the case in the current study. On the other hand, Gurer (2021) found that technology self-efficacy did not significantly influence intention to use technology and Al-Dokhny et al. (2021) concluded that self-efficacy has an indirect effect on intention to use distance education platform. Therefore, the researcher in the current study tested two research models: (1) a model with a direct path between SE and BIU; and, (2) a model without a direct path between SE and BIU. The model with a direct path between SE and BIU (Model 1) showed much better fit indices, and is therefore this model proposed in the current study.

In addition to the effect of self-efficacy on the behavioral intention to use distance education environments, classroom teachers' self-efficacy demonstrated a significant influence on their perceived benefit regarding distance education environments, which is a result that supports previous studies in the literature (Scherer, 2019; Teo, 2009). This result contradicts with Al-Dokhny et al. (2021)'s result of that computer self- efficacy's effect on intention to use distance education platform was not supported; however, they investigated computer self-efficacy rather than self-efficacy regarding distance education platforms.

Classroom teachers' perceived benefit of distance education environments significantly affect their attitudes towards distance education environments as Arpaci (2017) found for distance education tools. The teachers' perceived benefit resulted in a significant and direct influence on their attitudes, as has previously been reported in SEM studies based on the TAM (Mutambara & Bayaga, 2021; Nguyen et al., 2021; Salo et al., 2013; Teo, 2009; Weerathunga et al., 2021). The teachers' perceived benefit was also shown to have an indirect effect on behavioral intention to use distance education environments, as was also stated in the studies of Gurer (2021), Mutambara & Bayaga, 2021, Salo et al. (2013), and Weerathunga et al. (2021). On the contrary to Mutambara & Bayaga (2021), the results revealed that perceived benefit did not directly affect their behavioral intention to use distance education environments.

The SEM results in the current study indicate that classroom teachers' attitudes towards distance education environments is a significant predictor of their intention to use distance education environments, which is a finding consistent with the literature (Annamalai et al., 2021; Gurer, 2021; Salo et al., 2013; Teo, 2009; Weerathunga et al., 2021). Although there were a few minor issues whilst testing the measurement model for the teachers' attitude towards distance education environments, the results appear to support the literature.

The descriptive results of the current study indicate that the participating classroom teachers had considerable self-efficacy for distance education environments, although not outstanding in magnitude. This result supported Tarakçı's (2022) study which was conducted with 301 classroom teachers in Turkey. These promising self-efficacy results may be due to the pandemic having had a positive effect in increasing teachers' competencies in distance teaching. However, according to the results, the same positive effect for teachers' attitudes toward distance education environments is still not evident. In a study by Kırkıç and Yahşi (2021) with 173 classroom teachers from Turkey, the average score of the teachers' attitudes towards distance education environments was found to be 52.54 out of 105. This result partially coincides with the moderate attitude levels of the current study's participant classroom teachers, whose perceived benefit also paralleled with their attitude. Considering the direct and large effect of PB on ATU, this is to be considered an expected result.

Finally, the study's descriptive results also revealed that while the teachers' intention to use distance education environments was above the midpoint, it was not actually that high. The participant classroom teachers in Ertan Kantos' (2021) study stated that they preferred face-to-face education, and would only use blended learning environments when it was compulsory to do so. Although the classroom teachers participating in the current study are not that far from the idea of actually using distance education environments, their intention to use it was not that high either.

Limitations and Further Research

The result of the current study is limited to the four constructs. Therefore, only 41% of behavioral intention to use distance education environments could be explained. The proposed model included the variables of self-efficacy, perceived benefit, attitude to use, and behavioral intention to use; so, the results are limited to these variables. Common variables such as perceived ease of use, subjective norm, and facilitating conditions could also be included in any future studies. Furthermore, the current study applied predeveloped scales to investigate teachers' intention to use distance education environments. There were a few minor issues for convergent and discriminant validity tests of the attitude measure. Therefore, in order to strengthen the validity of future studies, exploratory factor analysis could be conducted after reexamining the ATU items and adding items of any additionally included variables. Finally, the current study was applied with classroom teachers, whereas future research could be conducted with teachers from other or all disciplines and with university instructors.

Conclusion and Implications

The current study verified the TAM model for distance education environments among Turkish classroom teachers, with multiple fit indices in the good fit ranges. The study also provided significant predictors, namely self-efficacy, perceived benefit, and attitude toward use, of classroom teachers' intention to use distance education environments. By comparing structure models with and without an effect of self-efficacy on behavioral intention to use distance education, the study found that classroom teachers' self-efficacy for distance education environments has a significant and direct influence on behavioral intention to use these environments. This finding indicated the importance of teachers' self-efficacy on their intentional use of distance education environments in their future classrooms. Moreover, their perceived benefit regarding distance education environments and attitudes toward use of the environments also significantly affect their intention to use the environments. These results are considered to be important for both theory and practice. Theoretically, the results support empirical validity of the TAM in terms of distance education environments which gains much importance due to the pandemic. Also, this study provides significant predictors of classroom teachers' behavioral intention to use distance education environments for policy makers for K12 to create enabling environments for

classroom teachers to continue to enjoy the benefits of distance education environments in practice. These results can be used in designing professional developments programs for distance education environments so that these programs should aim not only to improve the self-efficacies of classroom teachers, but also to positively change their perceived benefit and attitudes toward distance education environments.

References

Ağır, F., Gür, H., & Okçu, A. (2008). Uzaktan eğitime karşı tutum ölçeği geliştirmeye yönelik geçerlilik ve güvenirlik çalışması [Validity and reliability study for the development of the attitude scale towards distance education]. *Education Sciences, 3*(2), 128-139. https://dergipark.org.tr/tr/download/article-file/185997

Al-Dokhny, A., Drwish, A., Alyoussef, I., & Al-Abdullatif, A. (2021). Students' intentions to use distance education platforms: An investigation into expanding the technology acceptance model through social cognitive theory. *Electronics, 10*, 2992. https://doi.org/10.3390/electronics10232992

Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher Education Studies, 10*(3), 16-25. https://doi.org/10.5539/hes.v10n3p16

Annamalai, N., Ramayah, T., Kumar, J. A., & Osman, S. (2021). Investigating the use of learning management system (lms) for distance education in Malaysia: A mixed-method approach. *Contemporary Educational Technology, 13*(3), Article ep313. https://doi.org/10.30935/cedtech/10987

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability, 12*(20), 8438. https://doi.org/10.3390/su12208438

Arpaci, I. (2017). The role of self-efficacy in predicting use of distance education tools and learning management systems. *Turkish Online Journal of Distance Education, 18*(1), 52-62. https://doi.org/10.17718/tojde.285715

Bagci, K., & Celik, H. E. (2018). Examination of factors affecting continuance intention to use web-based distance learning system via structural equation modelling. *Eurasian Journal of Educational Research*, 78, 43–65. https://ejer.com.tr/examination-of-factors-affecting-continuance-intention-to-use-web-based-distance-learning-system-via-structural-equation-modelling/

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*(2), 122-147. https://doi.org/10.1037/0003-066X.37.2.122

Berigel, M., & Karal, H. (2011). Students' adoption of distance education environments: An action research of a non-thesis masters' program. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 12*(2), 135. https://dergipark.org.tr/en/download/article-file/1492402

Casey, J. E., Pennington, L. K., & Mireles, S. V. (2021). Technology acceptance model: Assessing preservice teachers' acceptance of floor-robots as a useful pedagogical tool. *Technology, Knowledge, and Learning, 26*, 499-514. https://doi.org/10.1007/s10758-020-09452-8

Cohen, J. (1988). *Statistical Power Analysis for The Behavioral Sciences* (2nd ed.). Erlbaum.

Çivril, H., & Özkul, A. E. (2021). Investigation of the factors affecting open and distance education learners' intentions to use a virtual laboratory. *International Review of Research in Open and Distributed Learning, 22*(2), 143-165. https://doi.org/10.19173/irrodl.v22i2.5076

Davis, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* [Doctoral dissertation]. Massachusetts Institute of Technology. https://dspace.mit.edu/handle/1721.1/15192

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340. https://doi.org/10.2307/249008

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science, 35*(8), 982-1003. https://doi.org/10.1287/mnsc.35.8.982

Demir, O. (2022). Broken wings: Evaluation of distance education activities in rural areas in the shadow of the pandemic: A phenomenological study. *İnönü Üniversitesi Eğitim Fakültesi Dergisi, 23*(2), 951-972. https://doi.org/10.17679/inuefd.1040418

Douce, C. (2022) Perspectives on models and professional development. *Open Learning: The Journal of Open, Distance and e-Learning, 37*(1), 1-5. https://doi.org/10.1080/02680513.2021.2014801

Ertan Kantos, Z. (2021). Sınıf öğretmenlerinin uzaktan eğitim ile ilgili görüşleri [Opinions of the elementary school teachers about the distance education]. *MSGSÜ Sosyal Bilimler Dergisi*, *1*(23), 476-491. https://app.trdizin.gov.tr/publication/paper/detail/TkRZNU5URXhNUT09

Fang, C. S. O. Y., Kayad, F., & Misieng, J. (2019). Malaysian undergraduates' behavioural intention to use LMS for online English learning: An extended self-directed learning technology acceptance model. *Journal of ELT Research, 4*(1), 1–8. https://doi.org/10.22236/JER_Vol4Issue1pp8-25

Fauzi, I., & Khusuma, I. H. S. (2020). Teachers' elementary school in online learning of COVID-19 pandemic conditions. *Jurnal Iqra': Kajian Ilmu Pendidikan, 5*(1), 58-70. https://doi.org/10.25217/ji.v5i1.914

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.1287/mnsc.35.8.982

Fussell, S. G., & Truong, D. (2022). Using virtual reality for dynamic learning: an extended technology acceptance model. *Virtual Reality, 26*, 249-267. https://doi.org/10.1007/s10055-021-00554-x

Gülbahar, Y. (2009). E-öğrenme. Pegem. https://doi.org/10.14527/9786054282098

Gurer, M. D. (2021). Examining technology acceptance of pre-service mathematics teachers in Turkey: A structural equation modeling approach. *Education and Information Technologies, 26*(4), 4709-4729. https://doi.org/10.1007/s10639-021-10493-4

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate Data Analysis with Readings* (4th ed.). Prentice-Hall.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective* (7th ed.). Pearson.

Hamutoglu, N. B. (2021). Testing the effects of technological barriers on high school teachers' role in technology integration. *Asian Journal of Distance Education, 16*(1), 74-89. https://doi.org/10.5281/zenodo.4661743

Han, J. H., & Sa, H. J. (2022). Acceptance of and satisfaction with online educational classes through the technology acceptance model (TAM): The COVID-19 situation in Korea. *Asia Pacific Education Review, 23*(3), 403-415. https://doi.org/10.1007/s12564-021-09716-7

Hayduk, L., Cummings, G., Boadu, K., Pazderka-Robinson, H., & Boulianne, S. (2007). Testing! testing! one, two, three--Testing the theory in structural equation models! *Personality and Individual Differences, 42*(5), 841–850. https://doi.org/10.1016/j.paid.2006.10.001

Kaşçı, T., & Selçuk, G. (2021). Examination of classroom teachers' technological pedagogical content knowledge and teacher self-efficacy beliefs. *Journal of Educational Technology & Online Learning, 4*(4), 774-792. https://doi.org/10.31681/jetol.1018879

Kırkıç, K. A., & Yahşi, Ö.. (2021). The relationship between teachers' attitudes to distance education and their life satisfaction. *MOJES: Malaysian Online Journal of Educational Sciences, 9*(2), 53-65. https://juku.um.edu.my/index.php/MOJES/article/view/29379

Kim, K. H. & Bentler, P. M. (2006). Data modeling: Structural equation modeling. In J. L.Green, G. Camilli, & P. B. Elmore (Eds.), *Handbook of complementary methods in education research* (pp. 161-175). Lawrence Erlbaum.

Kline, T. J. B. (2005). *Psychological Testing: A Practical Approach to Design and Evaluation*. Sage. https://doi.org/10.4135/9781483385693

Lazim, C. S. L. M., Ismail, N. D. B., & Tazilah, M. D. A. K. (2021). Application of technology acceptance model (TAM) towards online learning during covid-19 pandemic: Accounting students perspective. *International Journal of Business, Economics and Law, 24*(1), 13-20. https://www.ijbel.com/wp-content/uploads/2021/02/IJBEL24_507.pdf

Moore-Adams, B. L., Jones, W. M., & Cohen, J. (2016). Learning to teach online: A systematic review of the literature on K-12 teacher preparation for teaching online. *Distance education, 37*(3), 333-348. https://doi.org/10.1080/01587919.2016.1232158

Mutambara, D., & Bayaga, A. (2021). Determinants of mobile learning acceptance for STEM education in rural areas. *Computers & Education, 160*, Article 104010. https://doi.org/10.1016/j.compedu.2020.104010

Nguyen, X.-A., Pho, D.-H., Luong, D.-H., & Cao, X.-T.-A. (2021). Vietnamese students' acceptance of using video conferencing tools in distance learning in COVID-19 pandemic. *Turkish Online Journal of Distance Education, 22*(3), 139-162. https://doi.org/10.17718/tojde.961828

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. McGraw-Hill.

Orbell, S., Crombie, I., & Johnston, G. (1996). Social cognition and social structure in the prediction of cervical screening uptake. *British Journal of Health Psychology, 1*(1), 35-50. https://doi.org/10.1111/j.2044-8287.1996.tb00490.x

Öçal, T., Halmatov, M. & Ata, S. (2021). Distance education in COVID-19 pandemic: An evaluation of parent's, child's and teacher's competences. *Education and Information Technologies, 26*, 6901–6921. https://doi.org/10.1007/s10639-021-10551-x

Özdemir, S. M. & Gündoğan Önderöz, F. (2022). Teachers' opinions on teaching primary reading and writing through distance education during the Covid-19 pandemic period. *Journal of Teacher Education and Lifelong Learning, 4*(1), 34-50. https://doi.org/10.51535/tell.1123629

Özkul, A.E., & Aydın, C.H. (2013). Açık ve Uzaktan Öğrenmenin Temelleri ve Araştırmaları. In K. Çağıltay, & Y. Göktaş, *Öğretim Teknolojilerinin Temelleri: Teoriler, Araştırmalar, Eğilimler* (pp. 513-534). Pegem. https://doi.org/10.14527/9786053644576.38

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*(4), 543-578. https://doi.org/10.3102/00346543066004543

Pryor, J., Wilson, R. H., Chapman, M., & Bates, F. (2020). Elementary educators' experiences teaching during the COVID-19 school closures: Understanding resources in impromptu distance education. *Online Journal of Distance Learning Administration, 23*(4), 1–12. https://ojdla.com/assets/pdf/pryor_young_chapman_bates234.pdf

Rahayu, R. P., & Wirza, Y. (2020). Teachers' perception of online learning during pandemic COVID-19. *Jurnal Penelitian Pendidikan, 20*(3), 392-406. https://doi.org/10.17509/jpp.v20i3.29226

Ramlall, I. (2016). *Applied Structural Equation Modelling for Researchers and Practitioners: Using R and Stata for Behavioural Research*. Emerald. https://doi.org/10.1108/9781786358820

Rasmitadila, R., Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (2020). The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia. *Journal of Ethnic and Cultural Studies, 7*(2), 90–109. https://doi.org/10.29333/ejecs/388

Salo, J., Kajalo, S., Mäntymäki, M., & Islam, A. K. M. (2013). *Conference on E-Business, E-Services and E-Society*. Springer. https://10.1007/978-3-642-37437-1_16

Sarı, M. H., & Keser, H. (2021). Classroom teachers' online teaching experiences during the COVID-19 pandemic: The perspective of technological pedagogical content knowledge. *Journal of Pedagogical Research, 5*(4), 251-269. https://doi.org/10.33902/JPR.2021474706

Scherer, R., Siddiq, F., & Tondeur, J. (2019). The technology acceptance model (TAM): A meta-analytic structural equation modeling approach to explaining teachers' adoption of digital technology in education. *Computers & Education*, *128*, 13-35. https://doi.org/10.1016/j.compedu.2018.09.009

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: test of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research - Online, 8*(2), 23-74. https://www.researchgate.net/publication/251060246_Evaluating_the_Fit_of_Structural_Equation_Models_Tests_of_Significance_and_Descriptive_Goodness-of-Fit_Measures

Schlosser, L. A., & Simonson, M. (2009). *Distance Education: Definition and Glossary of Terms* (3rd ed.). Information Age.

Stevens, J. (2002). *Applied Multivariate Statistics for The Social Sciences*. Erlbaum. https://doi.org/10.4324/9781410604491

Şahin, F., & Şahin, Y. L. (2021). Examining the acceptance of e-learning systems during the pandemic: The role of compatibility, enjoyment and anxiety. *International Technology and Education Journal, 5*(1), 1-10. http://itejournal.com/articles/examining-the-acceptance-of-e-learning-systems-during-the-pandemic-the-role-of-compatibility-enjoyment-and-anxiety.pdf

Şimşek, Ö. F. (2007). *Yapısal Eşitlik Modellemesine Giriş: Temel Ilkeler ve Lisrel Uygulamaları [Introduction to Structural Equation Modeling: Fundamentals and Applications of Lisrel]*. Ekinoks.

Tarakçı, S. (2022). *Sınıf öğretmenlerinin uzaktan eğitimde bilişim teknolojileri kullanım yeterliliklerini yönelik algıları [Perceptions of classroom teachers about their competence in using information technologies in distance education]* [Master's thesis]. Pamukkale University, Turkey. http://acikerisim.pau.edu.tr/xmlui/handle/11499/38949

Tekin, O. (2020). Uzaktan eğitim kullanılan hizmet içi eğitim programlarına yönelik öğretmen görüşlerinin incelenmesi. *Eğitimde Kuram ve Uygulama, 16*(1), 20-35. https://doi.org/10.17244/eku.643224

Teo, T. (2009). Modelling technology acceptance in education: A study of pre-service teachers. *Computers & Education, 52*(2), 302-312. https://doi.org/10.1016/j.compedu.2008.08.006

Teo, T., & Noyes, J. (2011). An assessment of the influence of perceived enjoyment and attitude on the intention to use technology among pre-service teachers: A structural equation modeling approach. *Computers & Education, 57*(2), 1645-1653. https://doi.org/10.1016/j.compedu.2011.03.002

Tosuntaş, Ş. B., Karadağ, E., & Orhan, S. (2015). The factors affecting acceptance and use of interactive whiteboard within the scope of FATIH project: A structural equation model based on the Unified Theory of acceptance and use of technology. *Computers & Education, 81*, 169-178. http://dx.doi.org/10.1016/j.compedu.2014.10.009

Weerathunga, P. R., Samarathunga, W. H. M. S., Rathnayake, H. N., Agampodi, S. B., Nurunnabi, M., & Madhunimasha, M. M. S. C. (2021). The COVID-19 pandemic and the acceptance of e-learning among university students: The role of precipitating events. *Education Sciences, 11*(8), Article 436. https://doi.org/10.3390/educsci11080436

Wohlfart, O., Trumler, T., & Wagner, I. (2021). The unique effects of COVID-19: A qualitative study of the factors that influence teachers' acceptance and usage of digital tools. *Education and Information Technologies, 26*(6), 7359-7379. https://doi.org/10.1007/s10639-021-10574-4

Yazicioglu, A. (2021). The opinions of classroom teachers on remedial training of students who have been out of education process during the COVID-19 pandemics. *International technology and education journal, 5*(2), 75-85. https://files.eric.ed.gov/fulltext/EJ1338073.pdf

Yıldız, M., & Erdem, M. (2018). An investigation on instructors' knowledge, belief and practices towards distance education. *Malaysian Online Journal of Educational Technology, 6*(2), 1-20. https://doi.org/10.17220/mojet.2018.02.001

Yılmaz, M., & Kavanoz, S. (2017). Teknoloji kabul ve kullanım birleştirilmiş modeli-2 ölçeğinin Türkçe formunun geçerlik ve güvenirlik çalışması [The validity and reliability of Turkish version of unified theory of acceptance and use of technology-2]. *Turkish Studies*, *12*(32), 127-146. https://doi.org/10.7827/TurkishStudies.12064

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Author's Contributions (CRediT)

Derya Başer: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Resources, Validation, Visualization, Writing – original draft, Writing – review & editing.

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Conflict of Interest

The author does not declare any conflict of interest.

Data Availability Statement

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