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Undergraduate Preservice EFL Teachers' Digital Technology Engagement and Beliefs

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ABSTRACT

In today's world, technology plays a vital role in every aspect of daily life both personally and professionally. To this, the domain of education is not an exception. Indeed, as an ever-progressing field that is interrelated and intertwined with real life where instantaneous change and development exist due to the period of modernisation and globalisation, education necessitates more technology integration, especially in language teaching to address diverse sorts of learners. In addition, teacher beliefs hold a key point in putting theory into practice. Therefore, conducted on 52 preservice EFL teachers studying at a Turkish state university, the current study aimed to investigate teacher beliefs and engagement with digital technology with a survey research design following a quantitative trend. Descriptively analysed results indicated that preservice teachers positively view digital technology as a complementary means for their instructional purposes within the classroom and know the importance thereof. Inferential statistics done indicated a significant difference in the participants' beliefs between genders only. On the other hand, the participants are dissatisfied with their institution's technical infrastructure and resources providing information on digital technology use. Furthermore, they report to have received insufficient education regarding digital technology use. Thus, the suggestions would be to resolve technical issues, provide more relevant resources, and enhance digital technology education within the faculties of education.

Keywords: Digital technologies, instructional technologies, preservice teachers, technology in ELT, technology-assisted language learning

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INTRODUCTION

In today's global world, where instantaneous change and constant progression exist in every part of human life, digital technology (DT) holds a vital role. With a growing means of DTs, life is getting easier, and advances in these technologies affect and dramatically change classroom practices throughout the world as well since education is not an exception to the scope of DT influence (Akyuz & Yavuz, 2015). Especially in the field of language teaching, DT's impact is more visible when compared to other areas of research as it requires more technology integration (Kartal, 2005, as cited in Başal, 2015) to address different sorts of styles in language acquisition and learning through exhorting interaction and providing linguistically and graphically enhanced language with learner participation (Galvis, 2012).

On the other hand, related to this study, teacher beliefs and perceptions are also key elements in education. Teacher's stance on a particular pedagogy, method, strategy, or instructional material to be used in the classroom has a great impact on his/her effectiveness, which is a prevalent point of interest for research in the field (Başal, 2015; Biletska et al., 2021; Ding et al., 2019; Galvis, 2012; Hol & Aydın, 2020; Liu et al., 2017). Therefore, in line with this notion and DT abovementioned, the current study aims to investigate the preservice EFL teachers' beliefs and engagement with DTs, and to this end, two research questions were formulated.

RQ1. What are the preservice EFL teachers' beliefs of engagement in digital technology?

RQ2. By what factors are the beliefs of the preservice EFL teachers affected?

Digital Technology in Education

Initially, the distinction between digital technology and technology should be clarified. Although used interchangeably, technology and DT do not incorporate the same meaning. Technology is in fact the application of theoretical discipline into reality by means of determinable and reproducible practices, the aims of which are to attain practical objectives in real life (Skolnikoff, 1993). Technology may manifest itself in the forms of tools, software, machines, or physical objects. Hence, the word itself connotes more of a hypernym, which encompasses all sorts of instruments that are useful to people in various aspects of life, ranging from a simple pen and paper to the Large Hadron Collider in Europe. According to this, then, DT would be a specific type of technology that is appertaining to digital counterparts thereof, which can be defined as a vast variety of software and hardware-based solutions, instruments, utilities, and applications that are in prominent use in every part of modern life (Haleem et al., 2022; Rice, 2003). In view of these statements, throughout this paper, DT is used to refer to any kind of technology that utilizes or is based upon digital elements, whereas technology is used when referring to any particular tool with no attribution to its feature of digitality.

As the world changes and progresses, so do educational practices. Concurrently, the ever-progressing nature of technology and DTs have a profound influence on various regards of life, to the scope of which foreign language education does not constitute an exception but in fact a necessitation for a more elevated level of utilization (Başal, 2015; Hockly & Dudeney, 2018). Furthermore, aside from the fact that technology is everywhere, today's learners are also different in that as Prensky (2001) states, they are digitally native and inherently call for DT use to enhance the effectiveness of the instructional processes in which digitally native learners partake. Sorts of technologies that can be classified as DT that are in frequent use in language classrooms include but are not limited to online teaching and learning environments, presentation software solutions like PowerPoint, web tools, worldwide internet, tablet PCs, and laptops (Çelik, 2013; Galvis, 2012). Especially internet technology has plentiful resources beyond useful for linguistic

and communicative purposes which provide first-hand practice of information application and contextualizing the language input in a meaningful manner as Yang and Chen (2007) highlight. Modern classroom environments, thus, highly incorporate the use of these modern technologies in foreign language teaching (Hol & Aydın, 2020) to obtain several benefits in education.

The use of DTs in language teaching has formed the theoretical bases of some prevalent areas of research in the literature with their own specific beneficiary features that resonate with effective language education. Of these related to the study, several can be mentioned. One of them is computer-assisted language learning (CALL), which as the name suggests, utilizes DTs by employing computer software and tools in learning a foreign language and has provided numerous benefits to L2 or FL learning, among which are authentic language learning materials and tasks, contexts, and real-life situations to be implemented in the classroom (Kartchava & Chung, 2015). Based on CALL, a recently popular field of language teaching research is virtual reality-assisted language learning, which corresponding with Uygun and Girgin (2022), provides a stress-free environment, lowers the affective filter, surrounds the learners with a linguistically rich environment that is in line with their needs, ages, and proficiency levels. Other areas of research include online, flipped, and blended learning, which could be specified as methods complementary to the processes of learning and teaching with their interactive and learner-centered nature (Çelik, 2013; Hockly, 2015, 2018). As an overall implication to what is discussed here, in accordance with Haleem et al.'s (2022) statements, the role of DTs and technology is vital in education, in that digital classrooms employing these modern tools and instruments are more engaging, interesting, affordable, flexible, and more importantly have the characteristic of easing the teaching process with practicality.

Teacher Perceptions

Another concept that the current study encapsulates is teacher perceptions or beliefs, which is about DT use in accordance with the overall research aim in this context. Viewing from the perspective of educational research, teacher beliefs or perceptions about a peculiar topic of interest within a specifically related field of research have been prominently studied, which is still a hot topic (Ding et al., 2019; Liu et al., 2017). Beliefs, as presented by Pajares (1992, p. 309), can be defined as "at best a game of player's choice", which are important to reason instructional practices but have overlapping features with professional knowledge, thoughts, ideology, or attitudes. Over the past decades, the terminology in connection with beliefs, perspectives, or perceptions was a mess to informally state. Pajares, in his study to clarify the meaning of beliefs, synthesized a set of conforming features for beliefs, which could be brought together in a definitive statement that follows. Accommodated within a system that incorporates all culturally transmitted beliefs and being formerly formed, tending to self-perpetuate, and preserving against external sources of alterations like schooling, beliefs constitute a mindset of reference for the individuals to interpret and process the reality around them and accordingly act upon daily circumstances they come across with based on a cognitive presumption to determine how to plan and make decisions for their actions, some of which are strongly resistant to change and most of which precede the knowledge they are intertwined with (Ding et al., 2019; Galvis, 2012; Pajares, 1992). In short, beliefs are a gateway to explaining practices and applications in education, which is why they are heavily researched.

In the literature of English language teaching and foreign language teaching in general, a large number of studies exist about teacher beliefs regarding DTs or technology use. Presenting several of them would only be logical to lay down the theoretical framework of the current study on a sound basis. One of these is the study by Hol and Aydın (2020), executed with the aim of examining in-service EFL teachers' beliefs about DT implementation, upon which the current study is built as a conceptual replication. Hol and Aydın discovered that teachers held positive views with

regard to technology use in the classroom and were aware of its importance in providing a positive learning environment. Likewise, similar findings were reached from a study by Kartchava and Chung (2015), which investigated both in-service and preservice teachers, in that they thought technology use in EFL classes was of great importance, but there were dissimilarities present in between the two groups' beliefs, which according to the study, was concerned with the participants' age, experience, and contexts. Çelik's (2013) study was also in parallel to the former two with regards to perceptions of the EFL teachers, but there was a tendency amongst the participants to a more regnant belief that they experienced some adversities in implementing suitable DT materials. An overall enquiry to these studies, therefore, indicates that there could be a predisposition of the preservice EFL teachers in this study's context to have positive views on DT use.

METHOD

Research Design

Following a quantitative approach, the current study is a survey research design and a conceptual replication of a study by Hol and Aydın (2020) , which aimed to investigate the in-service EFL teachers' beliefs of and engagement with the DTs in general and had a differing point from the current study due to its population. A conceptual replication, thus, could be identified as a type of research that aims to measure the same idea or hypotheses the original one puts forth but with dissimilar study elements, such as the study's sample, research design, method, or instrumentation (Crandall & Sherman, 2016).

Setting and Participants

The study was conducted at a Turkish state university's English language teaching department with a small sampling group of 22 male and 30 female (N = 52) fourth year year students as to create a balanced distribution. The participants' age ranged from 19 to 25, averaging to 21 years old. Detailed demographic information, which constitutes the possibly affecting factors of DT use beliefs in education, is presented in the following subheading.

Participant Demographics

Information with reference to the demographical features of the study's participants was revealed with the aim of investigating their effect on the preservice EFL teachers' beliefs about DT engagement in education. To this end, the participating student-teachers were provided with several questions in addition to the belief questionnaire. Accordingly, they were asked whether they engaged in DT use in instructional settings, their training in DT use, and at which level of proficiency they report to be in DT use.

Table 1. Preservice EFL teachers' areas of DT use

Area of Use	Yes f (%)	No f (%)
Personal uses	52(100%)	0
Instructional uses	48(92.3%)	4(7.7%)

Table 2. Preservice EFL teachers' training on DT

Training in digital technology	f	Percentage
Yes (workshop, conference, or a formal course)	35	67.3%
No	17	32.7%

To the questions asking the participants for their DT use purpose, they responded as in Table 1. All of them have used a sort of DT for personal purposes, whereas the number diminishes by 4 participants for instructional purposes. In a follow-up question, the participants were then asked whether they received training in DTs. Table 2 exhibits their answers, according to which most participants have training in DT.

As the last piece of demographic information, the participants were asked to report their proficiencies in DT use for both purposes on a scale of 1 (unfamiliar) to 6 (expert), the results of which are presented in Table 3. In personal use, the majority of 52 participants reported to be advanced users of DT (44%, M = 4.73). In instructional use, half of 48 total participants reported to be of intermediate level of proficiency (M = 4.15). The difference in the total amount of respondents is parallel to that of Table 1 since it would be illogical for participants who have never used DT in instructional settings to self-report their proficiencies in instructional use.

Table 3. Self-reported proficiencies in DT by area of use

Area of Use	Unfamiliar f (%)	Newcomer f (%)	Beginner f (%)	Intermediate f (%)	Advanced f (%)	Expert f (%)
Personal	0	0	1(2%)	20(36%)	**23(44%)**	8(15%)
Instructional	0	1(2%)	7(15%)	**24(50%)**	16(33%)	0

Note. Bold-typed frequencies denote the most chosen item.

Instruments

The tool for data collection was a questionnaire that Hol and Aydın (2020) utilized in their study, which was an adapted version of the one prepared by Kartchava and Chung (2015). The questionnaire was readapted here as well in order for its statements to be in line with the sample group of the present study. In the first part of the questionnaire, following the participants' demographical information, they were asked to provide details on their use of DTs to analyze the impact of these on their beliefs. In this regard, the participants' self-reported proficiencies in use by purpose were sought to be revealed, and followingly, they were asked what sorts of DTs they used parallel to their purposes, both personally and instructionally. In the second part of the questionnaire, the participants were asked to choose the most suitable answers for each item on a five-point Likert-type scale, ranging from "strongly disagree" to "strongly agree". There were 31 items in the questionnaire with four subscales, namely importance with 10 items, use with 4 items, expertise with 9 items, and context with 8 items. Internal consistency of the subscales is above the threshold of α = .7 (importance = .74, use = .75, expertise = .76, and context = .86), establishing the reliability of the items (Pallant, 2011).

Procedure

The researcher initially informed the course instructors about the study and its aim before requesting a time allocation from them to employ the questionnaire, designating the faculty of education's permission for the study's conduction. Subsequent to this stage, the students were informed of the study's aim in the classroom, and the volunteering students were selected as the participants of the study. In addition to the questionnaire, an informing consent form was provided to these students. After the implementation thereof on the preservice teachers, the data collection procedure was done.

Data Analysis

The entire process of data analysis was conducted with the use of SPSS Software. Descriptive statistics were used to present the mean values of each selected item in the questionnaire for the first research question. To address the second research question, a variety of inferential analyses were conducted. As in the original study by Hol and Aydın (2020), these included correlation analyses, independent samples t-tests, and several tests for analysis of variances (ANOVA) for each scale dimension. The purpose of each statistical analysis was to determine whether the independent variables of participant demographic features had any significant impact on their beliefs regarding DT use.

RESULTS

RQ1. Digital Technology Beliefs of Preservice EFL Teachers

As to address the first research question, descriptive statistics were used. The mean values of answers to each of the belief questionnaire items were taken into consideration. Results were identified in separate tables for each subscale respectively in Tables 5, 6, 7, and 8.

As seen in Table 5, the preservice teachers demonstrate high agreement for the positive statements under the subscale of importance, and they think DTs have a useful role in bettering their instructor performance (I1, M = 4.73), are beneficiary in enhancing language skills of their learners as well as motivating them (I2, M = 4.69; I10, M = 4.63), are of enthusiastic value both for themselves and their learners (I3, M = 4.42; I4, M = 4.44), and foster active participation (I5, M = 4.50). Furthermore, the participants exhibit a willingness to learn more about DT (I7, M = 4.50), deem DT use to be an essential element in their classroom (I8, M = 4.50), and a motivating factor for student participation in language teaching activities. However, despite being the lowest two values of all importance beliefs, the participants are feeling that the use of DT interrupts the usual flow of their instructional activities and teaching abilities (I9, M = 4.21; I6, M = 4.13).

Table 5. Importance beliefs regarding DT (N = 52)

Importance Items	M	SD
I1. I find digital technology useful in enhancing my performance as a teacher in the classroom.	4.73	0.45
I2. I find digital technology useful in improving my students' language skills when I teach.	4.69	0.51
I10. I feel that digital technology is beneficial in motivating my students to participate in the classroom activities.	4.63	0.69
I5. I feel it is important for students to actively participate in activities using digital technology.	4.50	0.58
I7. I am willing to learn more about digital technology.	4.50	0.58
I8. I feel that it is important to use digital technology in the classroom.	4.50	0.61
I4. I feel it is important for students to be enthusiastic about using digital technology in the classroom.	4.44	0.61
I3. As a teacher, I am enthusiastic about using digital technology in the classroom.	4.42	0.75
I9. I feel that the use of digital technology interrupts the normal classroom activities.*	4.21	0.83
I6. The use of digital technology in the classroom limits my abilities as a teacher.*	4.13	0.91

*Items are reverse scored.

When it comes to beliefs regarding DT use, demonstrated in Table 6, most of the participants report they provide chances for students to use DT (U1, M = 4.37), believe DTs to be an enjoyable element (U3, M = 4.42) and have a fun role in teaching languages (U4, M = 4.50). The participants, therefore, have an ardent desire to utilize DT regularly in their teaching (U2, M = 4.42).

Table 6. Use beliefs regarding DT (N = 52)

Use Items	M	SD
U4. The use of digital technology lets my students have fun in the classroom.	4.50	0.67
U2. I am willing to make digital technology regular feature in my teaching.	4.42	0.70
U3. The use of digital technology makes lessons enjoyable for my students.	4.42	0.72
U1. I provide my students with opportunities to use digital technology.	4.37	0.74

Concerning their expertise belief statements given in Table 7, the majority of the preservice teachers are confident in their ability to use DT (E9, M = 3.85) in accordance with their settings and educational objectives (E2, M = 4.67; E3, M = 4.62; E4, M = 4.27; E6, M = 4.27 agree; E7, M = 4.44). Additionally, they may need external help in using DTs (E8, M = 3.48) although they are self-reported to be early adaptors of DTs (E1, M = 3.83) and could resolve any common issues they may face in using DTs (E5, M = 4.00).

Table 7. Expertise beliefs regarding DT (*N* = 52)

Expertise Items	M	SD
E2. I can use digital technology to collect information from a variety of resources.	4.67	0.47
E3. I can use digital technology to facilitate academic learning.	4.62	0.53
E7. I can use digital technology to communicate with students.	4.44	0.70
E4. When I use digital technology in the classroom, I understand clearly how to use it.	4.27	0.74
E6. I can choose digital technology based on its appropriateness to specific tasks in the classroom.	4.27	0.72
E5. I can troubleshoot common problems when using digital technology.	4.00	0.66
E9. I am confident in using all kinds of digital technology available in my classroom.	3.85	0.85
E1. I would describe myself as an early adaptor of digital technology compared to my fellow teachers.	3.83	0.99
E8. When I use digital technology in the classroom, I need help from other staff.*	3.48	1.08

*Item is reverse scored.

As for the belief items regarding their context, the participants' frequency of answers to each item is presented in Table 8. Accordingly, most of them have access to DT within the classroom (C1, *M* = 4.06), so the participants' school members are reported to be enthusiastic about and encouraged for DT use (C5, *M* = 4.02; C6, *M* = 3.92; C7, *M* = 3.85). Most of the participants also report that DTs are in active use by the teachers and staff (C8, *M* = 3.85). However, the majority of the preservice teachers are unhappy regarding their school's technical infrastructure (C2, *M* = 3.27) and feel that not enough resources are available in their institution regarding DT use in language learning and teaching (C3, *M* = 3.50).

Table 8. Context beliefs regarding DT (*N* = 52)

Context Items	M	SD
C1. I have access to digital technology in my classroom.	4.06	0.85
C5. Students are encouraged to use digital technology in the school.	4.02	0.90
C6. The teachers and staff in my school are enthusiastic about using digital technology.	3.92	0.90
C7. The teachers and staff in my school are encouraged to use digital technology.	3.85	0.83
C8. The teachers and staff in my school actively use digital technology.	3.85	0.92
C4. I am encouraged to attend in educational programs regarding digital technology.	3.73	0.99
C3. I am satisfied with resources available in my school regarding the use of digital technology in learning and teaching language.	3.50	0.98
C2. I am satisfied with technical infrastructure in my school (e.g. internet connection, digital technology equipment).	3.27	1.07

RQ2. Factors Affecting Digital Technology Beliefs

Since a variety of inferential statistical analyses was to be conducted to determine which factors significantly affected DT beliefs, the assumption of normal distribution had to be met. To achieve this, skewness and kurtosis values were taken into consideration. As seen in Table 9, each subscale was normally distributed in line with the ± 1.5 interval proposed by Tabahnick and Fidell (2013).

Table 9. Descriptive statistics of the subscales

Subscale	M	SD	Skewness		Kurtosis	
			Value	Std. Error	Value	Std. Error
Importance	4.48	0.37	-0.52	0.33	-0.99	0.65
Use	4.43	0.53	-0.73	0.33	-0.19	0.65
Expertise	4.16	0.41	0.10	0.33	-1.07	0.65
Context	3.77	0.59	0.20	0.33	-0.51	0.65

Correlation Between the Subscales

In order to determine whether the subscales of the belief questionnaire were interrelated, a Pearson correlational analysis was conducted. As Table 10 shows, a high level of statistically significant correlation is present between the importance and use dimensions (*r* = .63), and medium levels of statistically significant correlation are observed between the subscales of importance and expertise (*r* = .51), importance and context (*r* = .33), use and context (*r* = .52), and expertise and context (*r* = .28). However, there was not any significant relationships between expertise and use

dimensions of the DT beliefs questionnaire.

Table 10. Correlation between the belief subscales

Subscales	A	B	C	D
Importance (A)	-			
Use (B)	.63**	-		
Expertise (C)	.51**	.22	-	
Context (D)	.33*	.52**	.28*	-

*p < .05, **p < .001.

Gender

To determine whether there is a significant impact of participant gender on DT beliefs of the preservice EFL teachers, independent samples t-tests were computed for each subscale. Results of these tests are provided in Table 11. A significant difference between the two genders was only present in the use dimension [$t(50)$= -2.74, p = .01] with a medium effect size of d = .75.

Table 11. Gender and DT beliefs

	Males (n = 22)		Females (n = 30)				
Subscales	M	SD	M	SD	t	df	p
Importance	4.41	0.31	4.52	0.40	-1.07	50	.29
Use	4.20	0.58	4.59	0.44	-2.74	50	.01*
Expertise	4.25	0.41	4.10	0.41	1.42	50	.16
Context	3.63	0.50	3.88	0.64	-1.58	50	.12

*p < .05.

Grade

The participants' year of studies' impact on DT beliefs was observed with the conduction of ANOVA. To this end, Table 12 depicts descriptive statistics of groups according to belief subscales, and Table 13 exhibits the results of ANOVA. No statistically significant difference was present in beliefs across the participant grades.

Table 12. Descriptive statistics of grades according to the belief subscales

Subscales	Grades	n	M	SD	Minimum	Maximum
Importance	First year	11	4.63	0.22	4.10	4.90
	Second year	15	4.37	0.39	3.70	4.90
	Third year	13	4.43	0.44	3.80	5.00
	Fourth year	13	4.52	0.33	4.00	5.00
	Total	52	4.48	0.37	3.70	5.00
Use	First year	11	4.34	0.52	3.50	5.00
	Second year	15	4.35	0.54	3.50	5.00
	Third year	13	4.40	0.67	3.00	5.00
	Fourth year	13	4.62	0.39	4.00	5.00
	Total	52	4.43	0.54	3.00	5.00
Expertise	First year	11	4.12	0.29	3.67	4.67
	Second year	15	4.16	0.41	3.44	4.78
	Third year	13	4.20	0.48	3.44	4.89
	Fourth year	13	4.15	0.48	3.56	4.89
	Total	52	4.16	0.41	3.44	4.89
Context	First year	11	3.64	0.29	3.00	4.13
	Second year	15	3.78	0.59	2.75	4.50
	Third year	13	3.55	0.62	2.75	4.63
	Fourth year	13	4.11	0.67	3.13	5.00
	Total	52	3.77	0.60	2.75	5.00

Table 13. ANOVA results of DT beliefs by grade

Subscales	Variance Source	SS	df	MS	F	p
Importance	Between Groups	0.49	3	0.16	1.23	.31
	Within Groups	6.35	48	0.13		
	Total	6.83	51			
Use	Between Groups	0.64	3	0.21	0.74	.54
	Within Groups	13.90	48	0.29		
	Total	14.54	51			
Expertise	Between Groups	0.04	3	0.01	0.06	.98
	Within Groups	8.72	48	0.18		
	Total	8.75	51			
Context	Between Groups	2.30	3	0.77	2.37	.08
	Within Groups	15.57	48	0.32		
	Total	17.88	51			

Self-reported Proficiencies

In analyzing the impact of self-reported proficiencies in DT use for both personal and instructional purposes, only intermediate and advanced users were taken into consideration due to the low number of reports in other proficiency levels. Also, instead of analyzing by separate dimensions, an overall mean analysis was conducted for proficiency levels, which was done with two independent sample t-tests to determine whether these two proficiency groups differed significantly in each area of DT use. In personal use, no significant difference was discovered between the preservice EFL teachers who reported to have intermediate levels of proficiency (n = 20, M = 4.17, SD = 0.37) and those who have advanced levels (n = 23, M = 4.18, SD = 0.37), $t(41)$ = -0.12, p > .05. Likewise, for instructional use, no significant difference was present either between the intermediate level participants (n = 24, M = 4.27, SD = 0.32) and those that are advanced (n = 16, M = 16, SD = 0.42), $t(38)$ = -0.23, p > .05.

Training

The last factor analyzed was the participants' training on DT use. To determine whether the training received had a significant impact on beliefs, independent sample t-tests were computed for each subscale of the DT beliefs questionnaire. Results showed no significant difference in any of the subscales as seen in Table 14.

Table 14. Independent samples t-test results of DT training and beliefs

	Trained (n = 35)		Untrained (n = 17)				
Subscales	M	SD	M	SD	t	df	p
Importance	4.45	0.38	4.52	0.33	0.64	50	.53
Use	4.44	0.55	4.40	0.52	-0.29	50	.78
Expertise	4.21	0.44	4.05	0.34	-1.29	50	.20
Context	3.84	0.63	3.64	0.49	-1.14	50	.26

DISCUSSION

Most preservice teachers highly use DT for distinct purposes in both personal and instructional areas, which may be linked to the fact that the sampling group mostly consists of digitally native individuals, a highlighted feature of 21st century learners by Prensky (2001). Digitally native preservice teachers of this study are actively utilizing DTs in their daily lives both for instructional and personal use, which significantly differs by gender. In doing so, the majority claim to be advanced in personal use of DTs whereas half of them report themselves having an intermediate level of proficiency in using DTs for instructional purposes, which do not significantly impact any of their beliefs regarding DTs. These are parallel to the participants' contextual beliefs about DT use, in that they report an inadequacy of their

institution in providing resources and sufficient infrastructure regarding DT use, corroborating the findings of some previous studies in the field (Başal, 2015; Gabriel et al., 2012) while also contrasting some (Hol & Aydın, 2020; Kartchava & Chung, 2015). Thereupon, a digital divide is seen here, which as noted by Hockly and Dudeney (2018), refers to an unequal access to technology, and although it may firstly be interpreted as a geographical division as in that which is amongst underdeveloped, developing, and developed countries, it can be more nuanced than that because it may also present itself across the schools of the same regions (Warschauer et al, 2004). On the other hand, the issue may also relate to inadequate education preservice teachers receive related to DT use, as stressed by Başal (2015) and Biletska et al. (2021). However, it must be noted that their claim of inadequate training on DTs, which is also linked to their year of studies, does not significantly impact their beliefs regarding such technologies. As an overall implication, though, both probable factors should be taken into consideration and needs to be compensated for this lacking point that emerged from their belief statements so that future teachers can be nurtured in their deficient aspects.

Despite the fact that the majority of the preservice teachers are dissatisfied with the technical infrastructure and available educational resources provided by their institution as abovementioned, yet again, the majority exhibits prominent levels of agreement regarding DTs' availability in their classroom in addition to believing them to have a vital role in their teaching. They also show a willingness to use such technologies, claim to have moderately adequate expertise in DT use, and being capable of choosing appropriate sorts of DT for classroom implementation in line with their objectives. Comparable results are present in some related studies in the literature. Regarding the beliefs about DT importance and use, the participants in Hol and Aydın's (2020) and Kartchava and Chung's (2015) studies, which utilize the same instrument as the one in the current study, also show high degrees of agreement. The fact that although reported to have received inadequate education on DT use, the preservice teachers have high expertise beliefs can be explained again by their being digitally native (Hockly & Dudeney, 2018). After all, having enough hands-on experience over a prolonged period of time since one's pubescent would most probably help foster such skills with DTs. Nonetheless, it is evident that professional training is still necessary when the results are taken into consideration.

CONCLUSION AND RECOMMENDATIONS

The current study aimed to investigate the preservice EFL teachers' engagement of and beliefs about digital technology use within language teaching contexts. To this end, there were two main elements of research, namely the digital technology use of the participants both for personal and instructional purposes and their overall beliefs regarding digital technology. Several results were fetched in accord. Firstly, a vast majority of EFL preservice teachers are cognizant of the importance of DT use, and they tend to be interested in implementing such technologies in their classroom practices. Secondly, there seems to be an institutional shortcoming related to instilling an awareness of DT use and related resources as well as a lacking technical infrastructure, which has an impact on the beliefs of the participants by negatively influencing their practical beliefs in turn. Therefore, an overall concluding remark would suggest that even though the preservice EFL teachers are highly interested in and aware of DT use in the language classroom, there is a lack of support that is both fundamentally institutional and training-wise. An important implication to be drawn, in line with these remarks, would then be to enhance preservice teacher training related to DT use and its suitable incorporation into the classroom as well as developing the institutional technical infrastructures in order to meet the student-teachers' needs.

Reporting limitations in research is a necessity so that further research could be laid down on a more sound basis.

Lack of limitational statements may undermine the literature and "cause less informed readers of research" (Price & Murnan, 2004, p. 67). The current study's limitations can be summarized in two. Firstly, the number of participants could have been higher for more generalizability of the results. Secondly, quantitative data could have been reinforced with qualitative data too, through such instruments as semi-structured interviews to be held with some of the study's participants, thereby following mixed-method research if a similar study were to be conducted in out-of-course settings. Further research should therefore conduct larger studies with mixed research methodologies to fetch more generalizable and reliable results.

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REFERENCES

Akyuz, S., & Yavuz, F. (2015). Digital learning in EFL classrooms. *Procedia – Social and Behavioural Sciences*, *197*, 766–769. https://doi.org/10.1016/j.sbspro.2015.07.176

Başal, A. (2015). English language teachers and technology education. *Journal of Theory and Practice in Education, 11*(4), 1496-1511. https://dergipark.org.tr/en/download/article-file/63516

Biletska, I. O., Paladieva, A. F., Avchinnikova, H. D., & Kazak, Y. Y. (2021). The use of modern technologies by foreign language teachers: developing digital skills. *Linguistics and Culture Review*, *5*(S2), 16-27. https://doi.org/10.37028/lingcure.v5nS2.1327

Crandall, C. S., & Sherman, J. W. (2016). On the scientific superiority of conceptual replications for scientific progress. *Journal of Experimental Social Psychology, 66*, 93-99. https://doi.org/10.1016/j.jesp.2015.10.002

Çelik, S. (2013). Internet-assisted technologies for English language teaching in Turkish universities. *Computer Assisted Language Learning*, *26*(5), 468–483. https://doi.org/10.1080/09588221.2012.692385

Ding, A. C. E., Ottenbreit-Leftwich, A., Lu, Y. H., & Glazewski, K. (2019). EFL teachers' pedagogical beliefs and practices with regard to using technology. *Journal of Digital Learning in Teacher Education*, *35*(1), 20–39. https://doi.org/10.1080/21532974.2018.1537816

Gabriel, M. A., Campbell, B., Wiebe, S. MacDonald, R. J., & McAuley, A. (2012). The role of digital technologies in learning: Expectations of first year university students. *Canadian Journal of Learning and Technology*, *38*(1), 1-18. https://www.learntechlib.org/p/178056/

Galvis, A. H. (2012). Understanding beliefs, teachers' beliefs, and their impact on the use of computer technology. *Profile Issues in Teachers' Professional Development, 14*(2), 2256-5760. https://files.eric.ed.gov/fulltext/EJ1051550.pdf

Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A Review. *Sustainable Operations and Computers*, *3*, 275–285. https://doi.org/10.1016/j.susoc.2022.05.004

Hockly, N. (2015). Developments in online language learning. *ELT Journal*, *69*(3), 308–313. https://doi.org/10.1093/elt/ccv020

Hockly, N. (2018). Blended learning. *ELT Journal*, *72*(1), 97–101. https://doi.org/10.1093/elt/ccx058

Hockly, N., & Dudeney, G. (2018). Current and future digital trends in ELT. *RELC Journal, 49*(2), 164–178. https://doi.org/10.1177/0033688218777318

Hol, D., & Aydın, İ. (2020). Is technology in our classrooms? EFL teachers' beliefs and engagement with technology in the classroom. *Journal of Educational Issues, 6*(2), 38-58. https://doi.org/10.5296/jei.v6i2.17326

Kartal, E. (2005). Bilişim-iletişim teknolojileri ve dil öğretim endüstrisi [ICTs and language education industry]. *The Turkish Online Journal of Educational Technology – TOJET, 4*(4), 82-87.

Kartchava, E., & Chung, S. (2015). Pre-Service and in-service English as a second language teachers' beliefs about the use of digital technology in the classroom. *Studies in English Language Teaching*, *3*(4), 355. https://doi.org/10.22158/selt.v3n4p355

Liu, H., Lin, C. H., & Zhang, D. (2017). Pedagogical beliefs and attitudes toward information and Communication Technology: A survey of teachers of English as a foreign language in China. *Computer Assisted Language Learning, 30*(8), 745–765. https://doi.org/10.1080/09588221.2017.1347572

Mishra, P., Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, *108*(6), 1107-1054.

Pallant, J. (2011). *SPSS survival manual: a step-by-step guide to data analysis using the SPSS Program* (4th ed.). Allen & Unwin.

Pajaers, F. (1992). Teachers' beliefs and educational research: Cleaning up the messy construct. *Review of Educational Research*, *62*(3), 307-332.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, *9*(5), 1-6. https://doi.org/10.1108/10748120110424816

Price, J. H., & Murnan, J. (2004). Research limitations and the necessity of reporting them. *American Journal of Health Education*, *35*(2), 66–67. https://doi.org/10.1080/19325037.2004.10603611

Rice, M. F. (2003). Information and communication technologies and the global divide: Technology transfer, development, and least developing countries. *Comparative Technology Transfer and Society*, *1*(1). 72-78. https://doi.org/10.1353/ctt.2003.0009

Skolnikoff, E. B. (1993). *The elusive transformation: Science, technology, and the evolution of international politics.* Princeton University Press.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson.

Uygun, E. & Girgin, D. (2022). Integration of virtual reality (VR) technology into vocabulary teaching in primary school English lessons. *Journal of Theory & Practice in Education*, *18*(2), 85-94. https://doi.org/10.17244/eku.1175087

Warschauer, M., Knobel, M., & Stone, L. (2004). Technology and equity in schooling: deconstructing the digital divide. *Educational Policy*, *18*(4), 562–88.

Yang, S. C., & Chen, Y. J. (2007). Technology-enhanced language learning: A case study. *Computers in Human Behaviour*, *23*(1), 860–879. https://doi.org/10.1016/j.chb.2006.02.015