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# PRE-SERVICE TEACHERS' VIEWS ON THEIR DIGITAL COMPETENCE LEVELS

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**Abstract**

The aim of this study is to determine the views of prospective Turkish teachers about their digital competence levels. Case study, one of the qualitative research designs, was used in the study. The study group of the research consists of Turkish language teacher candidates studying at a university in western Turkey. The data of the study were collected through the "Forms" internet application of the "Google" company with a semi-structured observation form. Descriptive analysis technique was used on the collected data. In the study, according to the responses of the prospective Turkish teachers about their digital competencies, it was understood that they saw themselves as low level competent. They interpreted the most important reason for this as the faculty of education not supporting them in the field of digital technology. In this context, it is suggested that studies should be conducted on how education faculties should draw a road map to support their students in the technological field.

**Keywords:** Digital age, digital competence, pre-service teachers.

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## Introduction

Education undoubtedly plays the most important role in meeting the requirements of the age and foreseeing development. In order to fulfill this role, there is a need to use technology effectively in educational activities. "*Digital education, which will have a direct impact on the basic characteristics such as education, science, culture, consciousness, perception, behavior, attitude and habits of individuals who will form the future societies of the digital age, is already attracting the attention of sensitive societies and developed countries. The digitalization of education, as a public policy, has already become one of the leading trends in education policies.*" (Parlak, 2017, p. 1744). In this context, the digital age creates new responsibilities for teachers in the field and teachers' knowledge, experience, skills and competencies related to digital tools are becoming more and more important. In addition to having the necessary pedagogical knowledge, teachers are required to have the competence of current technological tools and applications at a level appropriate to the age (Yaman, Demirtaş, & Aydemir, 2013, p. 1409). In this direction, teachers are expected not only to use technology effectively in education, but also to continuously enrich the lessons and increase the interest in the lesson by using technology in learning development processes.

Technology is the sum of methods and solutions used to solve problems in certain fields and to act as a link between science and practice. In this context, educational technology is the whole of the processes of designing, implementing and developing the learning and teaching process (Şimşek, Özdamar, Becit, Kılıçer, Akbulut, & Yıldırım, 2008, p. 440; Alkan, 1998, p. 15). While the concept of educational technology is generally accepted as an umbrella concept, factors such as teachers' competence and equipment in this field have brought the concepts of education in the digital age and digital competence to the agenda. With the rapid advancement of technology, the concept of digital competence has gained great importance in recent years. In the field of Digital Competence, the United Nations and the European Commission; UNESCO (United Nations Educational, Scientific and Cultural Organization) and DigCompEdu (Digital Competence Framework for Educators) are international institutions that work to establish standards. At the United Nations, UNESCO has drawn attention to 18 digital competencies consisting of six factors and three levels. These competencies consist of 64 target outcomes in total. In the European Commission, a total of 22 different digital competencies for teachers under

six different headings, namely Professional Engagement, Digital Resources, Teaching and Learning, Assessment and Evaluation, Empowering Students, and Supporting/Developing Students' Digital Competencies, have been highlighted by DigCompEdu.

Although there are different definitions of digital competence in the literature, digital competence is simply a concept related to "how" information and communication technologies can be used in education and training processes (Bozkurt, Hamutoğlu, Kaban, Taşçı, & Aykul 2021, p. 47). In order to develop digital capacity in teacher education, some countries have established digital competency frameworks. The Digital Competence Framework for Teachers is a set of statements that describe the characteristics that a teacher should have regarding technological competence. These qualities, which are highlighted for the use or benefit of different institutions in the field of teacher training, have been proposed by various researchers as a result of scientific research conducted within the framework of national policy and are conceptually included in the literature (TEDMEM, 2020, p. 4).

Increasing the efficiency and quality of the teaching process is directly proportional to the education and training of visionary teachers and prospective teachers with the necessary competencies (Türk & Baki, 2017, p. 44). For this reason, the mission of undergraduate institutions in teacher training is to train prospective teachers who can enrich the teaching process by realizing the importance of technology in life and understanding the need for current technology in the process for effective education and fulfilling the requirements and needs (Dargut & Çelik, 2014, p. 29).

While the view that it is inevitable that digital technology will revolutionize almost every aspect of life and create changes in the education system is the dominant perspective all over the world, the use of digital technology in the field of education has gained momentum with the 21st century, when digital transformation accelerated all over the world (Curacı, 2021, p. 168; Metin, 2018, p. 80). In the field of Turkish education, many studies have been conducted on the use of information and digital technology and digital competence (Atlı, Aksüt, Atar, & Yıldız, 2007; Aytan & Başal, 2015; Arslan & Durukan, 2019; Yaman, Demirtaş, & Aydemir, 2013; Avcı & Okan, 2021; Avcı & Çoşkun, 2021; Bircan, 2012; Türk & Baki, 2017; Maden, Banaz, & Maden, 2018; Beler & Elkıran, 2021; Büyük & Elkıran, 2021; Ceyhun &

Taşkın, 2017; Coşkun & Yürektürk, 2020; Dargut & Çelik, 2014; Özbay & Çelik, 2013; Tiryaki & Demir, 2020; Demir Atalay, 2016; Şimşek, Direkçi, & Koparan, 2021; Elkıran, 2017; Elkıran, 2019; Eskimen and Erdoğdu, 2021; Eren, Geçgel, Kana and Eren, 2020; Elkıran and Güzel, 2021; Eyüp, 2012; Elkıran, 2019; Gedik, 2015; Geçgel and Bayraktar, 2021; Geçgel and Taşgın, 2021; Işıksalan, 2020; Tiryaki and Karakuş, 2019; Karagül, 2020; Kansızoğlu, 2016; Karahan, 2016; Kana and Ustabulut, 2021; Kana and Şenol, 2021; Kana and Oskay, 2021; Kana and Mete, 2021; Kana and Yılmaz, 2021; Kana and Kiler, 2021; Maden, 2019; Polatcan, 2015; Sarıkaya and Şakiroğlu, 2021; Selçuk, 2018; Ustabulut, 2021; Yaman, 2007; Yılmaz, 2021; Karakuş and Züheyla, 2021). At the end of 2018, with the global virus epidemic that affected the world, the concepts of distance education, technology in education, teachers' competence and equipment in this field, the *development of* digital capacity in teacher education, and digital competence have started to appear more frequently. These factors have brought the research of digital competence levels of teachers and prospective teachers to the agenda. In this framework, the aim of the research is to determine the views of prospective Turkish teachers on their digital competence levels. The sub-problems of the research are as follows:

- Are the trainings on digital competence adequate?
- How can pre-service teachers use digital technology effectively in in-class/out-of-class activities?
- How do you ensure internet safety on the digital platform for yourself and your students?
- How do they plan to utilize digital technology in the assignments they will give when they start teaching?
- What are the individual teaching methods/techniques that they can apply in line with the principle of student relativity when they start teaching?
- Do they have suggestions for the creation of a Digital Competence framework in Turkey and do they feel able to offer ideas on this issue?

## Method

## Research Design

In this study, case study design, one of the qualitative research designs, was used. Case study is the method that allows the investigation of events or phenomena in more detail within the framework of how and why questions (Yıldırım & Şimşek, 2006). For this reason, the case study design was utilized in the study to determine the views of prospective Turkish teachers on digital competence.

## Working Group

The study group of the research consists of 15 Turkish language teacher candidates studying in the 3rd and 4th grades in the Department of Turkish Language Teaching at a state university in western Turkey. Criterion sampling, one of the purposeful sampling methods, was used to determine the participants. In the Turkish Language Teaching Program, Information Technologies and Instructional Technologies courses are given in the 1st and 2nd grades. Pre-service teachers taking these courses were preferred. Information about the study group of the research is given below. The names of the participants were coded as P1, P2, P3, ... (Participant 1, Participant 2, Participant 3...).

**Table 1.** Demographic Characteristics of Participants

| Participant | Gender | Age Range | Classroom |
|---|---|---|---|
| K1 | E | 18-30 | 3 |
| K2 | E | 18-30 | 3 |
| K3 | E | 18-30 | 3 |
| K4 | E | 18-30 | 3 |
| K5 | E | 18-30 | 4 |
| K6 | E | 18-30 | 4 |
| K7 | E | 18-30 | 4 |
| K8 | E | 18-30 | 4 |
| K9 | K | 18-30 | 4 |
| K10 | K | 18-30 | 4 |
| K11 | K | 18-30 | 4 |
| K12 | K | 18-30 | 4 |
| K13 | K | 18-30 | 4 |
| K14 | K | 18-30 | 4 |
| K15 | K | 18-30 | 4 |

As seen in Table 1, 15 Turkish language teacher candidates studying in the 3rd and 4th grades participated in the study. Eight of them were male and seven were female. Considering the ages of the participants, it is seen that they are generally between 18 and 30 years old.

**Data Analysis**

The data collected from the interview form were analyzed using descriptive analysis. The answers given by the participants were grouped and coded according to their similarities. The names of the participants were coded as P1, P2, P3, ... (Participant 1, Participant 2, Participant 3...).

**Data Collection Tool**

The research questions related to the subject were determined by the researcher and these questions were sent to teachers and lecturers who are experts in the field. The semi-structured interview form was prepared after the interviews with the field experts. Then, a pilot study was conducted on a Turkish teacher candidate. After the questions were finalized, a questionnaire was administered to Turkish language teacher candidates studying in the 3rd and 4th grades at the educational institution where the research was conducted via the Forms application of Google company and data were collected on a voluntary basis. Semi-structured interviews are when the participants express what they perceive with their own thoughts (Şimşek, Direkçi, & Koparan, 2021: 238)

**Validity and Reliability**

After it was decided to conduct a research to determine the views of prospective Turkish teachers on digital competence, it was decided to use the case study design in terms of validity. In order to ensure the validity and reliability of the research, the questions in the interview form were sent to teachers and lecturers who are experts in the field. Then, a pilot study was conducted on a Turkish language teacher candidate at the university where the research was conducted.

In the interview form containing the research questions, the person conducting the research, the reason for conducting the research were explained to the participants who accepted the interview, and it was informed that the interview would be conducted voluntarily, that they could leave the interview unfinished if they wished and that all kinds of personal information would be kept confidential. The participants

answered the questions and conveyed their views in a comfortable environment, knowing all the conditions. In terms of internal reliability, the findings obtained as a result of data analysis were confirmed through interviews with teachers and lecturers who are experts in the field and the study was finalized.

## Findings

According to the data obtained from the research on pre-service teachers' views on digital competence levels, the findings and interpretations of these data are given in this section.

### Adequacy of Trainings on Digital Competence

**Table 2.** Sufficiency/Insufficiency of Trainings on Digital Competence

| Code | *f* |
|---|---|
| Inadequacy of the trainings received | 11 |
| Trying to learn by their own means | 1 |
| The trainings received are partially sufficient | 1 |
| Adequacy of the trainings received | 1 |
| Receiving support training from anywhere | 1 |

When Table 2 is analyzed, prospective Turkish teachers think that the trainings received on digital competence are insufficient (f=11), the trainings received are sufficient (f=1) and partially sufficient (f=1). In addition, pre-service Turkish teachers try to learn digital competence with their own means (f=1) and state that they do not receive support training from anywhere (f=1). The opinions of pre-service teachers on this issue are as follows:

*"I do not think that the trainings I received at school were sufficient."* (P1, P2, P3, P4, P6, P7, P9, P10, P11, P12, P14).

*"The trainings I received at school are sufficient."* (P5)

*"I think it is partially sufficient, of course there could be more."* (P8)

*"Regarding digital competence, I do not think that the education I received during my undergraduate education was sufficient. For this reason, I had to complete my deficiencies myself in the online period." (P13)*

*"I took a course on digital competence only once and that was a computer course. Other than that, they did not give any technology courses at school. Our faculties are very insufficient in this regard." (P15)*

**Using Technology Effectively in In/Out-of-Class Activities, Individual Plan**

**Table 3.** Using Technology Effectively in In/Out-of-Class Activities, Individual Plan

| Code | *f* |
|---|---|
| To be able to use technology effectively in in-class/out-of-class activities | 6 |
| Creating an individual plan/ Having an individual plan | 6 |
| Not creating an individual plan/No individual plan | 2 |
| Not using technology effectively in in-class/out-of-class activities | 1 |

When Table 3 is examined, it is understood that Turkish teacher candidates will make effective use of technology in in-class/out-of-class activities (f=6), while some candidates will not make use of technology in in-class/out-of-class activities (f=1). In addition, while it was seen that some of the candidates created an individual plan for the use of technology (f=6), it was also understood that there were candidates who did not create a plan (f=2). The opinions of the prospective teachers on this issue are as follows:

"*Yes, I think I can use them. I know the names of most of the Web 2.0 tools. I use some of these tools in my internship practices and school assignments.*"(P3)

"*After school, I will go to a course to improve more on this subject*."(P15)

"*Yes, I do. I think about using Web 2.0 tools at all levels of education. Digitalization is suitable for all in-class/out-of-class applications. It is necessary to act according to the conditions of the age.*"(P6)

"*I plan to do in-class activities with Web 2.0 tools. I think I can attract children's attention to the lesson more because they will be intertwined with technology.*"(P12)

"*I want to continuously improve myself in this field. I plan to follow the current technology closely.*"(P9)

"*I can use it because we are intertwined with technology. I plan to do it with Web 2.0 tools."*(P1)

"*I have made progress with my own individual effort, of course I will use technology effectively*."(P13)

"*I think I can use digital technology effectively in in-class/out-of-class activities*."(P4, P5, P10, P11)

"*I can use it effectively at a sufficient level because it is in my field of interest*."(P11)

"*I don't think much, I don't have an individual plan*."(P14, P2)

"*I feel inadequate to use digital technology effectively in in/out-of-class activities.*"(P8)

**Internet Security on Digital Platforms**

**Table 4.** Internet Security on Digital Platforms

| Code | *f* |
|---|---|
| Providing recommendations on internet security | 6 |
| Trusting the internet on digital platforms | 3 |
| Not trusting the internet on digital platforms | 1 |
| Undecided about trust in the internet on digital platforms | 1 |
| Lack of knowledge about internet security | 1 |
| Volunteering to raise awareness among students | 1 |
| Working in cooperation with parents | 1 |
| Support assistance from specialized people | 1 |

When Table 4 is analyzed, it is seen that Turkish teacher candidates trust the internet on digital platforms (f=3), do not trust the internet (f=1) and are undecided about trust (f=1). In digital forms, it was found that there were no information about internet security (f=1). In addition, while there were students who offered suggestions on how to ensure internet security (f=6), there were candidates who were willing to work in cooperation with parents on security (f=1). Apart from this, it is understood that there are also those who think of getting support from people who are specialized in internet security (f=1). The opinions of prospective teachers on this issue are as follows:

*"For internet security, there are protection programs such as firewalls, web filtering or checking our privacy and security settings frequently."* (P10)

*"I can try to provide special content. It can carry out studies only for the link thrown."* (P1)

*"I use a password for security."* (P15)

*"I ensure security with special system software."* (P6)

*"I think it is possible to make it possible by navigating to sites with reliable extensions. I don't know how much this will be possible."* (P13)

*"Together with my students, we watch content from Youtube on how to use a safer Internet and what to pay attention to, it will help us a little bit."* (P8)

*"I think the internet is safe as long as I use digital platforms in my lessons and take the necessary security measures."* (P2, P3, P9)

*"I don't think the internet is safe on digital platforms."*(P12)

*"I am still undecided about what to do to ensure internet security on digital platforms."*(P8)

*"I do not have information about internet security."* (P7)

*"I watch videos with my students in order to increase digital awareness and raise awareness."* (P5)

*"I would like them to act jointly with their parents to warn and follow up their children on this issue."* (P14)

*"I think to get help from experts in the field for internet security."* (P4)

**Using Digital Technology in Homework**

Table 5. Using Digital Technology in Homework

| Code | *f* |
|---|---|
| Opinion on the use of digital technology in assignments | 7 |
| Utilizing digital technology in homework | 4 |
| Not using digital technology in homework | 2 |
| Occasional use of digital technology in homework | 1 |
| Considering the conditions of the school in digital assignments | 1 |

When Table 5 is examined, it is stated that Turkish teacher candidates will make use of digital technology in their assignments (f=4), some of them will not (f=2), and some of them will sometimes make use of technology (f=1). While a group of pre-service teachers expressed their opinions on how they would make use of technology in assignments (f=7), it was also understood that there were candidates (f=1) who drew attention to the conditions of the

school in digital assignments. The opinions of pre-service teachers on this issue are as follows:

*"I will use a platform for instant feedback and joint control of assignments"* (P14, P10)

*"I think to evaluate in many ways such as collective homework, exams, trials, experiments, audio books, etc."* (P15)

*"Digital technology to control out-of-class activities is now possible. I plan to use applications that will provide instant correction and feedback through applications that share content. For example, the Nearpod application provides convenience in this regard."* (P2)

*"First, I will set up a virtual classroom. I will send the assignments to the students over the internet and receive the assignments from there. Of course, the adequacy of the students' technological tools will also be an important factor."* (P6)

*"I can ask students to share their writing assignments on blog accounts or virtual magazines. By giving tasks related to speaking, I can give them the ability to address the masses by publishing them in various digital programs."*(P13)

*"I think to give fun, short-term, game-style activities. I want to make the lesson attractive with activities that will both pay attention and contribute to learning the information."*(P4)

*"It can be used for many assignments. I think that all four basic skills can be used in a healthy way in the field of digital technology. Students can do homework efficiently in the digital environment. Therefore, I mostly think of using digital technology..."* (P1, P3, P7, P11)

*"I do not plan to make use of digital technology."* (P5, P9)

*"Actually, I want to benefit from 50% digital technology in this regard because it seems impossible to be completely connected to digital technology and not to use it."* (P8)

*"When I start teaching, my use of digital technology in the assignments I give may vary according to the conditions of the school."* (P12)

**Individual Teaching Methods/Techniques in line with the Student Relativity Principle**

Table 6. Individual Teaching Methods/Techniques in Line with the Principle of Relativity to the Student in Teaching Life

| Code | *f* |
|---|---|
| Using teaching principles, methods and techniques | 8 |
| Considering the principle of student relativity | 4 |
| Not paying attention to the principle of student relevance | 1 |
| Considering constructivist education | 1 |
| Utilizing educational games | 1 |

When Table 6 is examined, it is understood that while there are pre-service teachers who consider the principle of relativity to the student in their teaching life (f=4), there are also pre-service teachers who do not consider this principle (f=1). It was understood that there were pre-service teachers who expressed opinions about using teaching methods and techniques in line with the principle of relativity to the student (f=8) and there were also pre-service teachers who drew attention to the need to utilize the opportunities of constructivist education (f=1). In addition, there was a pre-service teacher (f=1) who presented an idea that educational games should be utilized. The opinions of prospective teachers on this subject are as follows:

*"I plan to use methods and techniques such as question-answer, invention teaching, six hats, opinion development, teaching with large and small groups."* (P1)

*"I will benefit from Active Learning, Quantum learning."* (P10)

*"It is possible to organize internet-based learning in accordance with the principle of student relevance. Digital platforms allow this. Self-paced learning allows learning independent of time, place and person. Most importantly, it helps to eliminate incomplete learning. I care about internet-based learning."*(P2)

*"I will apply for individualized instruction, programmed learning."* (P9)

*"I will use the question-answer technique the most because I want students to question individuals who constantly ask questions so that they can constantly find new solutions to problems."* (P6)

*"There are techniques such as hourglass, opinion development, market place, Philips 66. I plan to use these."* (P13)

*"Blended teaching model, Kubaşık learning are the ones I think to apply the most."* (P4)

*"I will use methods such as lecture, question and answer, demonstration, case study."* (P11)

"*Every child has their own individual characteristics. Each student should receive education in accordance with his/her age, intelligence, interests and abilities. Teaching is personalized*." (P7, P8)

"*Each student has a different way of acquiring knowledge. Some learn by reading, some by writing, some by listening. I get to know the students in the classroom and give activities according to their learning style and check that they learn the information.*" (P15, P14)

*"I do not think to consider the principle of student relativity."* (P12)

*"I use individual teaching methods and techniques in line with the principle of relativity to the student, taking into account constructivist education."*(P3)

*"I think I can benefit from educational games."* (P5)

**Establishment of a Digital Competence Framework / Level of Idea Submission**

**Table 7.** Level of Opinion on the Digital Competence Framework

| Code | *f* |
|---|---|
| Sorting recommendations related to the created framework | 7 |
| Not feeling competent in expressing opinions on digital competence | 4 |
| Lack of understanding of the digital competence framework | 4 |

When Table 7 is analyzed, it is seen that there is one pre-service teacher (f=1) who has never heard of the digital competency framework before. While a group of pre-service teachers (f=8) felt competent in expressing their opinions on this subject, it was understood that a group of pre-service teachers did not feel competent. In addition, it was determined that there were also pre-service teachers (f=8) who offered suggestions on how the digital competence framework should be. The opinions of pre-service teachers on this issue are as follows:

*"With digitalization, there have been serious changes in traditional methods in education as in every field. We can say that some methods and techniques have been shaken to their foundations. It is useful to revise the systems according to the new*

*structure that has evolved into digital. It is important to educate students according to the conditions of the age. This is only possible through the change and transformation of the system. I feel that I am at a level to offer ideas on this subject because I am aware of the change and the need."* (P15)

*"Centers with more application opportunities can be created. I think in-service training should be given especially in the field of digital competence."*(P6)

*"Existing teachers should be provided with service training and revitalization should be ensured*" (P2)

*"Courses on digitalization can be given starting from secondary school. If necessary, in-service training can also be utilized."* (P1)

*"I think that the number and hours of courses related to it should be increased in schools."*(9)

*"Compulsory courses on this subject can be introduced in universities and the number of courses can be increased."(*14)

*"The first thing to do for digital competence is to provide children with access to technological tools. Of course, every child can access computers today, but it is much more useful to have them individually. Once this is ensured, computer-related training activities and learning incentives can be provided."* (P11)

*"I don't feel competent to provide suggestions for the creation of a digital qualification framework in Turkey."* (P7, P8, P10, P12)

"*I don't know what the digital competence framework is."*(P4, P5, P13, P3)

## Discussion and Conclusion

While the importance of technology in educational activities is a fact that cannot be ignored, the main element that makes education efficient and effective is the teacher. In this study, the views of prospective teachers on their digital competence levels were examined. In the study, prospective Turkish teachers think that the trainings they received about digital competence in their undergraduate education are insufficient. In their study, Erdener and Gül (2017), unlike this study, argued that graduates of the faculty of education have higher competence in acquiring knowledge and digital competence. Dargut and Çelik (2014) emphasized that it should be an important mission of teacher training institutions to train prospective teachers who understand the importance of technology in life and its need in the teaching process and who have the skills and self-confidence to use

technology effectively in the teaching process, and underlined that educational institutions have great duties in this process.

In terms of using digital technology effectively in in-class/out-of-class activities, it was understood that the majority of pre-service teachers would include technology in the activities and were willing to follow the current technology closely. In addition, when the individual plans of the candidates were questioned, a situation in favor of those who had a plan emerged. It was understood that the candidates would especially get help from Web 2.0 tools in the activities. Elmas and Geban (2012) mentioned the importance of using Web 2.0 tools in educational environments. The study of Korucu and Yücel (2015) also supports these views. Horzum (2010) stated in his study that the efficiency in education and training will increase if Web 2.0 tools that allow students to be active participants in the classroom are used. Timur, Yılmaz, and Küçük (2021) predicted that improving the competencies of prospective teachers on this subject will positively affect their professional lives and that their education and training processes will be more efficient.

When internet safety on digital platforms was questioned, it was understood that the candidates felt safe. In the study conducted by Çubukçu and Bayzan (2013), it was emphasized that it is necessary to recognize, know and use online technologies correctly for internet security. Yılmaz, Şahin, and Akbulut (2016) pointed out that awareness, consciousness-raising and skill trainings can be provided about threats to digital data security.

When the rates of Turkish teacher candidates to get help from digital technology in their homework assignments when they start their professional life are evaluated, it is understood that there are more candidates who will benefit effectively. In their study, Ardıç and Altun (2017) suggested that teachers and families should also be supported in this regard, in addition to the studies on students related to digital technology. They also emphasized that the physical conditions of the school are also important in this regard and supported the pre-service teacher who expressed an opinion on this issue.

When the findings related to individual teaching methods/techniques in line with the principle of relativity to the student are examined, it is

understood that the number of candidates willing to use teaching principles, methods and techniques considering the principle of relativity to the student is quite high. Ergün and Özdaş (1997) emphasized the importance of considering general teaching principles and using appropriate teaching methods and techniques in order to achieve the desired success in the learning and teaching process. According to Karatekin and Durmuş (2008), these principles are the starting point of all activities from the use of these principles in curricula to the selection of course materials, and their implementation in education and training is a must for everyone involved in this sector, especially teachers.

When the candidates' level of opinion on the Digital Competency Framework was questioned, it was found that the candidates who did not have information about the framework and did not feel competent in expressing their opinions on this issue. Improving teachers' competencies in technology is one of the top priorities in the education systems of countries. Ferrari (2013) stated that although countries are working to increase the digital competencies of their citizens, many people do not have these competencies. The United Nations Educational, Scientific and Cultural Organization (UNESCO) states in its ICT Competency Framework published for teachers' ICT competencies that teachers are not competent in ICT (UNESCO, 2011). Gökbulut (2018) argued that, as stated in the report of the European Commission, in order to increase the rate of ICT use in the classroom, studies should be carried out to determine and improve the digital competence levels of teachers, international standards should be utilized while conducting these studies, and all these will contribute to bringing the digital competencies of teachers to an international dimension.

**Recommendations**

In the light of the data and results obtained from this research, the following recommendations are presented:

In order to improve the digital competence levels of the Turkish teacher candidates participating in the research, the institutions where they receive education have important responsibilities. These institutions should provide courses and free seminars on digital technology and organize activities that develop and support digital competencies. In addition, these faculties should add technology-oriented application courses to their undergraduate programs.

In future studies, research can be conducted on how the faculties of education can create a road map for pre-service teachers to feel competent in the field of digital technology when they start their profession and which goals and achievements should be added to their studies.

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