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Evaluation of Technology Usage in Adult Education According to Trainers' Views[1]

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Abstract

The research aims to examine the opinions of trainers working in the Public Education Center about the use of technology in education. The survey model, one of the quantitative research methods, was used in the study. In the study, the survey titled "Use of Technology in Education in Adult Education" developed by the researchers was used as a data collection tool. Croanbach Alpha internal consistency coefficient of the developed survey is .93. The Sample of the study, which used convenience sampling, consisted of 138 master trainers working in Public Education Centers in the District of Muğla in the 2023-2024 academic year. Descriptive statistics and content analysis of open-ended questions were used in data analysis. It was revealed that trainers have positive attitudes towards the use of technology, they have difficulties in the use of technology, and they need to improve themselves more in the use of technology, a significant majority of the participants in the study have not taken a course, seminar or course on the use of technology in education so far, and they see the use of technology in their courses as an important need. According to the total scores of the survey on the use of technology in education, there is no significant difference in the trainers' professional experience, branch, and educational status. Trainers in Public Education Centers should be informed about accessing resources related to their course areas and share them with their trainees by examining MoNE's HEMBA platform.

Keywords: Adult Education, Educational Technology, Digital competence

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Introduction

With 21st-century skills, the continuity of learning, which we have started to encounter more frequently in our lives, is evaluated under lifelong learning. Lifelong learning is a field that is used for the continuous renewal and acquisition of knowledge, skills, and competencies of adults in developing and changing life conditions without being limited to the formal education process (Aksoy, 2013; Bağcı, 2011; Uysal, 2009). In the field of lifelong learning; it is ensured that individuals gain continuously changing knowledge skills and competencies and that different factors such as time, space, age, and gender are eliminated in education and access to information is made continuous (Coşkun & Demirel, 2012). Since an educator who does not have 21st-century skills and who does not renew himself/herself in this field cannot raise individuals different from himself/herself, it is important to make teachers and educational environments suitable for this new situation (Özcan, 2022; Çiftçi et al, 2021).

In the education system of Türkiye, there has been a significant increase in the field of adult education in recent years (Ministry of National Education [MoNE], 2020), and the demands of adults to increase their up-to-date knowledge, skills, and competencies are increasing. Public Education Centers (PECs), which serve under the General Directorate of Lifelong Learning of the MoNE, are in the first place in meeting these demands. The establishment of PECs dates back to the 1950s and today 1001 PECs are operating in many districts. PEC provides education services to the public in provinces, districts, and villages, especially in training rooms, prisons and correctional institutions, rehabilitation centers, hospitals, workplaces belonging to public and private institutions, buildings belonging to formal education institutions, and other places where they are needed, with courses organized free of charge in vocational, social, social, economic, sportive and cultural fields for the interests, wishes, abilities and expectations of adults in the field of non-formal education (MoNE, 2020).

The curricula implemented in PECs consist of vocational and cultural dimensions. These programs mainly consist of content that will support and increase their professional and personal development. Many curricula that can be accessed under the e-formal module are approved by the General Directorate of Lifelong Learning of the MoNE. The qualifications of master trainers and teachers who will be the implementers of these approved programs in institutions are shared in detail on the e-yaygın named platform. Of course, training situations, which are the implementation process of these curricula, constitute the most important step of the learning-teaching activity.

The "Andragogy" approach developed by Knowles (1950) is used in adult education. Andragogy is derived from the Greek roots Anr (adult) and Agagos (guidance), meaning "the science and art of guiding or helping adults learn" (Knowles, 1984; Aydın, 2014). Buttedahl et al. (1985) define the concept of adult education as "all kinds of purposeful, planned and regular education and training activities organized outside and/or in addition to school education to improve the individual's abilities, general and professional knowledge, and skills and to ensure personal development". Today, adult education is characterized as an educational approach that covers the compulsory education process but also includes non-formal education activities and informal learning activities for individuals who have not received formal education for any reason or whose education has been interrupted (Terzioğlu Barış, 2013). The concept of 'adult education', which is evaluated from different perspectives in line with different approaches and has different definitions, is constantly updated within the framework of technological developments. It can be seen from the definitions that there are some complexities in the definition and scope of adult education (Aydın, 2014; Uysal, 2009). Lowe (1985) states that this confusion leads to some problems; the aims of education are not organized well enough, public resources are not sufficiently utilized, and this uncertainty will continue unless a common understanding is developed. Since adult education is considered an important factor in the economic development of countries, its importance has been emphasized much more in recent years. One of the objectives of adult education is to meet the changing labor force that requires continuous updates through education. Thus, individuals will be able to gain professional skills and competencies in line with their needs through adult education.

In the andragogical approach, some principles are different from the pedagogical approach. The most important of these principles are adults' need to know, their self-perceptions, the role of their

experiences, their readiness to learn, their orientation to learning, and their motivation. By integrating educational activities carried out in line with these assumptions with educational technologies, quality outputs can be achieved in the field of adult education. PECs serving in adult education in our country also need to reorganize their organizational skills and programs with the developments in educational technologies (Uçar Sarımanoğlu, 2019). By supporting these approaches used in the field of adult education with technology, it is aimed to enrich learning environments, increase the access opportunities of learners, improve interaction, increase the quality of learning, diversify opportunities for the acquisition of new knowledge and skills, and provide equal opportunities (Hylen, 2015). According to Seels and Richey (1994), educational technologies have a broad meaning that includes the design, development, harmonization with teaching methods, implementation, and evaluation of theoretical and practical instructional materials. Although it is seen that instructional technologies, whose main purpose is to increase the quality of teaching in the field of formal education, are widely used, there are not many studies in the literature on the use of technology in adult education (Yıldız-Durak & Durak, 2020).

Educational technologies can accelerate, deepen, and enrich the acquisition of basic skills (Koçak-Usluel & Demiraslan, 2007). Educational technologies increase learners' motivation, and their participation in the learning process (Taş & Düz, 2016; Özgen et al., 2013), help students to establish a relationship between the academic subjects taught in the courses and the application (Çelen et al., 2011) and provide more permanent learning (Johns, 2015; Kaya & Yılayaz, 2013; Altun, 2002), strengthen education; improve the quality of tomorrow's workforce and connect the school to the real world (Fong et al., 2022; Schacter, 1999). With these contributions of educational technologies, the basic principles of adult education can be supported and the quality of educational activities carried out in the field of adult education can be increased. However, although this benefit is known, it is not understood that there are not enough studies on the importance of technology use in adult education (Holford et al., 2014). According to Selwyn (2003), one of the main reasons for the use of technology in education is technology-based adult education, learners should be at the center of the learning process and respond to their own needs with the possibility of combining different materials and creating something new to gain self-confidence. This is in line with the main goal of adult education, which is to provide oriented and transformative learning. The reason why it is used in adult education is that as a result of adult education developments. In this respect, it is important to emphasize the importance of technology use in adult education and to provide innovative solutions by addressing the current problems encountered in the field.

According to Selwyn (2003), there are many problems and obstacles encountered in the use of technology in adult education. The most prominent of these challenges is the inability to integrate existing traditional education with technology-based education. Technology-based education in terms of adult education, is more on skills and has pedagogical deficiencies. In such training, the trainers are usually one-way information and there is no interaction between the trainer and the learner. Therefore individuals feel alone and lonely during the training, and they perceive the training as abstract and ambiguous (Döğer, 2016).

Digital Competencies of Trainers

The concept of competence is also referred to as “qualification” in the literature, but it does not have a common definition accepted by all parties since it is handled from different perspectives by different disciplines such as psychology, education, and management. The concept of competence characterizes having the knowledge, skills, and experience needed in a professional field. While Ferman and Özçelik (2007) define the concept as 'the professional knowledge, skills, and experiences required to perform a specific job effectively and efficiently' or 'the behaviors required to achieve desired results', Aslan and Çınar (2011) define it as 'the sum of knowledge, skills, and attitudes required for superior performance'. The conditions regarding the qualifications and competencies of trainers who can take part in training organized in the field of lifelong learning are determined by the General Directorate of Lifelong Learning according to the fields of training.

When the situation of the adult educator profession in our country and the world in terms of service areas is evaluated; in our country, educational institutions affiliated to the MoNE (Public Education Centers, Vocational Education Centers, and Open Education Institutions), various non-governmental organizations, municipalities, in-service training units of public and private institutions and organizations, continuing education or lifelong learning centers of universities, private classrooms, nursing homes, prisons, public libraries, etc. In other countries, adult education units affiliated with the MoNEs, community colleges, and non-formal education activities organized by the public and private sectors provide services under the names of the trainer, community education worker, human resource developer, adult and workplace educator, technical and further education teacher (Koç et al., 2009; Terzioğlu Barış, 2013). One of the common skills in modeling to determine the competencies of educators working in different service areas is the ability to use Information Communication Technologies effectively in educational environments (Linkaityt et al., 2006; EMCET, 2003; MYK, 2002).

Teaching is a profession that can be in contact with and influence all segments of society. Therefore, teachers should have the competencies to facilitate students' learning and plan, implement, and evaluate teaching activities. In this context, within the framework of the general knowledge, skills, and attitudes that teachers should have to fulfill the teaching profession effectively and efficiently within the scope of general competencies of the teaching profession some competencies and performance indicators come to the fore in the use of technology (MEB, 2006). Digital competence, which is one of the most sought-after concepts in the field of professional competence of individuals in recent years, is a concept that includes skills such as data management, data analysis, generating new data from data, and exhibiting collaborative behaviors in online environments by using information and communication technologies effectively (Gallardo-Echenique et al., 2015; Ilomaki et al., 2011). There are several frameworks accepted in the literature for defining the concept of digital competence and determining the boundaries of its standards. The most important of these frameworks is Technological Pedagogical Content Knowledge (TPACK) and Digital Competence Framework for Educators (Digital Competence Framework for Educators-DigCompEdu) developed by the European Commission. The main purpose of developing these frameworks is to identify the digital competencies that individuals already have and to develop strategies to improve these skills. Among these frameworks, DigCompEdu aims to help teachers enrich learning environments by using information communication technologies effectively, supporting students' digital competencies, and helping them act safely and ethically in online environments (Bilbao Aiastui et al., 2021). This framework contains six main components: Professional Engagement, Digital Resources Teaching-Learning, Assessment, Facilitating Learners' Digital Competencies, and Learner Empowerment. These components enable teachers to determine and increase their knowledge and skill levels in the field of information technologies and to reinforce their role as facilitators in learning-teaching environments (Ghomi & Redecker, 2019).

In today's living conditions, individuals feel in need of continuous change and development, and they can no longer meet their educational needs with a single diploma. They have to continue and manage their learning processes effectively with the concept of lifelong learning. Enriching the programs implemented in public education centers, which make important contributions to individuals in the field of lifelong learning, with educational technologies is seen as an important factor in increasing the quality of teaching here. To use educational technologies more effectively in the training given in public education centers, there is a need to better understand the use of technology (Sarıtepeci et al., 2016; Russel et al., 2003). In this context, the study will make an important contribution to illuminating the issue. Although there are many studies on the use of educational technologies in formal education levels in the literature, the number of holistic studies on the subject at the level of public education centers, which is one of the most basic institutions serving adult education in our country, is very limited. The study is important as it has the potential to contribute to the development of digital skills of trainers serving in the field of adult education. The aim of this study was to determine the purposes of instructors' use of educational technologies, to determine their attitudes and perceptions towards technology and to contribute to the shaping of future training programs. In line with the reasons arising from this need, the research questions were determined as follows.

1. What are the views of trainers on the use of technology in educational environments?

    a. Trainers' views on their skills in the use of educational technologies
    b. The opinions of trainers regarding how educational technologies enhance the learning environment
    c. Trainers' views on the skills of collaborative and social media use in the use of educational technologies
    d. Negative opinions and difficulties experienced by trainers in the use of educational technologies
    e. What are the suggestions and recommendations of trainers for educational technologies?

2. Are there significant differences in terms of professional experience, educational status, and branches according to the total scores of the survey for the evaluation of the opinions on educational technologies of the trainers working in adult education?

Method

Research Approach and Design

The descriptive survey model, one of the quantitative research designs, was used as the method in the study. In the survey model, to make a general judgment about the universe in a universe consisting of a large number of elements is a survey model conducted on the whole universe or a group, sample or sample to be taken from it. In survey models, it is essential to reflect on the existing situation (Karasar, 2013). The reasons for choosing this method in the research are to determine the current situation of the trainers working in public education centers regarding the use of technology in education, to take their opinions and suggestions, and to try to reveal general views about the use of technology in education.

Research Sample

Within the scope of convenience sampling in the study, 138 volunteer teachers and master trainers worked in 6 Public Education Centers serving in Muğla province in the 2023-2024 academic year (Table 1). When Table 1 was examined, regarding the demographic information of the participants in the study; 29.5% of them were male and 69.5% were female, their education level was mostly at the undergraduate level with 46.8%, and among their professional experience, those with experience between 10-19 years were 38.1% with the highest rate. When the branches of the trainers participating in the study were analyzed, it was seen that the branches of Sports 19.4%, Handicrafts 11.5% and Fashion 8.6% were predominant.

Table 1.
Demographic Information of Sample

Variables		***f***	**%**
Gender	Male	41	29.5
	Female	97	69.5
Total		138	100
Education Status	Primary	4	2.9
	High	32	23.0
	Association degree	19	13.7
	Undergraduate	65	46.8
	Post-Graduated	16	11.5
	Doctorate	2	1.4
Experience	1-4 years	14	10.1
	5-9 years	36	25.9
	10-19 years	53	38.1
	20+ years	35	25.2
Branches	Sport	27	19.4
	Handcrafts	16	11.5
	Fashion	12	8.6
	Computer Technologies	10	7.2
	Food	9	6.5
	Folk Dances	7	5
	Ceramic	6	4.3
	English Language	5	3.6
	Turkish	5	3.6
	Special Education	5	3.6
	Art	5	3.6
	Music	5	3.6
	First Aid and Hygiene	5	3.6
	Wood	4	2.9
	Others	17	13

Data Collection Tool

In the study, a personal information form and survey of technology use in adult education were used as data collection tools.

Survey of Using Technology in Education in Adult Education. The data collection tool used in the study, the opinion survey on the use of technology in adult education, was developed by the researchers. The survey was designed to evaluate the trainers' digital competencies, skills, collaborative technology use skills, problems encountered in the use of technology, and their views on the use of technology in education. The survey consists of two sections. One of them was the demographic information of the participants such as age, PEC name, education level, professional experience et al. Another was made of thirty-five closed-ended questions and five open-ended questions to determine the level of their use of educational technologies. Participants were instructed to rate responses to questions by indicating "5"-strongly agree, "4" –agree, "3" –neutral, "2" –disagree, and "1" –strongly disagree.

During the survey development process, survey items were developed after the literature study, and these question items were first revised by a Turkish field expert for language validity and then revised in line with the opinions of three experts experienced in the field of Educational Technologies. For the pilot level, the survey was carried out with 54 participants before the application and the items were analyzed, and the survey was finalized by eliminating the items that were not deemed appropriate. The pilot application of the survey was applied to public education trainers working in another district and the reliability coefficient (Cronbach's alpha) of the survey was determined as .86. The pilot survey was carried out to sample through physically face-to-face and online settings (Google Forms).

Within the scope of the study, data collection was carried out in online settings. The developed survey was transferred to the Google Forms environment and announced to the participants. In the study, Croanbach's alpha value of the survey was measured as .931. The average score value of the 35 items in the survey is 3.51.

Validity and Reliability

The following are the steps performed to ensure the study's validity and reliability. Two specialists, two scholars in the fields of computer education and instructional technology, and a Turkish language expert were consulted regarding the validity of the draft survey. The pilot group was used to test the draft survey, and the items that were malfunctioning were noted. Reliability coefficient and factor analysis were used to identify the final survey version following the pilot test. The survey's open-ended questions were evaluated using descriptive analysis derived from qualitative approaches. When processing data that doesn't require a thorough deconstruction of qualitative data sets, descriptive analysis is typically employed (Miles & Huberman, 1994). In the study, the answers to the open-ended questions were coded by the researchers within the framework of the use of technology in education and the frequencies of these codes were shared. For the validity of the coding, support was obtained from a scientific expert in the field of educational administration. The rate of agreement between independent coders was measured as 78%. This rate is considered sufficient in qualitative analysis studies (Miles & Huberman, 1994).

Data Analysis and Process

Descriptive statistics were used to analyze the data collected through the survey. The information given by the participants to the survey items was presented with frequency, median, mean, and percentages. Also, the answers to the open-ended questions were explained using descriptive analysis. One-way analysis of variance (ANOVA) was applied in the significant difference tests according to independent variables. SPSS 26.0 tool was used for data analysis. Values of outliers were checked to make the data suitable for statistical analysis. Skewness and Kurtosis values were taken into consideration in determining the normality distribution of the data. According to George and Mallery (2010), while ±1 values are considered a perfect fit in psychometric measurements, values between ±2 are accepted as acceptable values in many cases. In the data analysis, the data were analyzed according to the skewness and kurtosis values and it was seen that the data were normally distributed.

Ethical Information

Before the study, Muğla Provincial Government issued a letter dated 08.12.2023 and numbered 91671756, which granted the necessary permission for the survey application. Participants were notified in the survey's introduction section that any information they chose to provide for the study would be kept private and anonymous, that it would only be used for purposes appropriate to safeguarding personal information, and that the study's foundation was their voluntary participation.

Findings

RQ 1: What are the views of trainers on the use of technology in educational environments?

The views of trainers working in adult education on the use of technology in educational environments were shared under the following headings according to the themes obtained as a result of the analysis of the survey data.

a. Trainers' views on their skills in the use of educational technologies

Descriptive statistics of the items related to trainees' self-evaluation of their skills in the use of technology in educational environments were shown in Table 2.

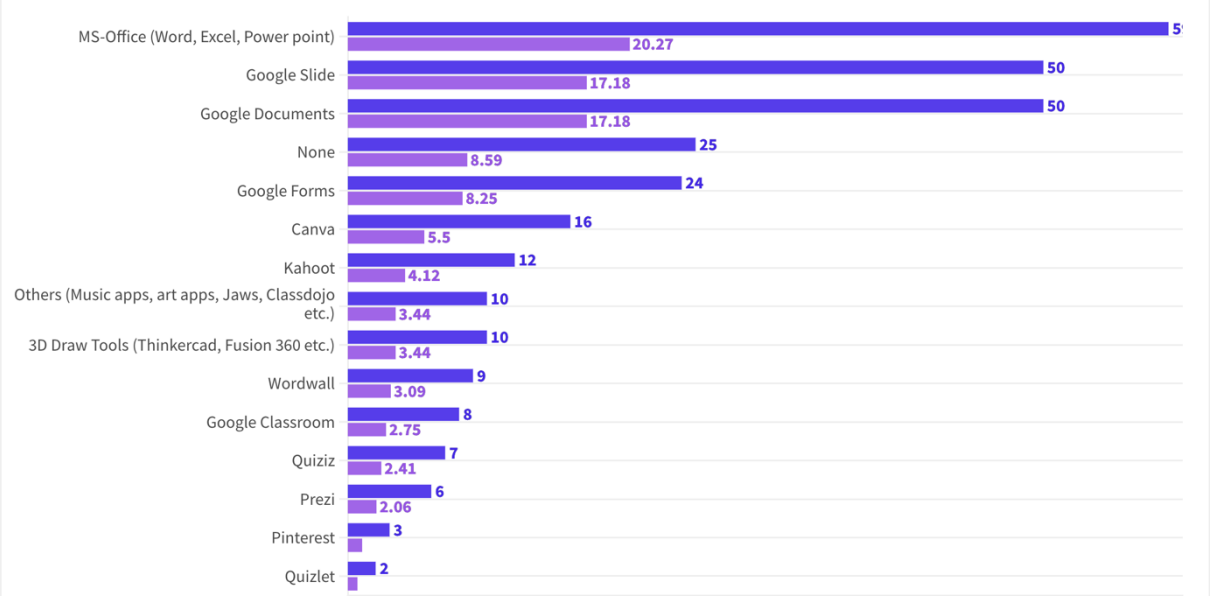
Table 2.
Items of Trainers' Views on Their Skills in the Use of Educational Technologies

Items	***X***	***Sd.***		**1**	**2**	**3**	**4**	**5**
I use technological tools in my courses.	4.22	1.14	n	6	7	21	22	83
			%	4.3	5	15.1	15.8	59.7
I can decide what kind of technological tools (PC, Software, Tablet, Smartphone, Projection, etc.) I will use it in my courses.	4.34	1.02	n	4	6	15	28	86
			%	2.9	4.3	10.8	20.1	61.9
I know that I will use the most appropriate tool (presentation-picture show, video, interactive content, e-content sharing, etc.) in the introduction, in-class activity, and evaluation stages of my course.	4.32	1.05	n	3	9	16	23	88
			%	2.2	6.5	11.5	16.5	63.3
I believe that I still have much to learn in the field of instructional technology.	4.27	1.13	n	6	8	15	24	86
			%	4.3	5.8	10.8	17.3	61.9
I determine the appropriate technological tools to support different teaching methods in my course.	4.22	1.12	n	6	6	22	23	82
			%	4.3	4.3	15.8	16.5	59
I develop the digital content (presentation, interactive content, video, etc.) that I use in my course.	3.92	1.26	n	10	9	30	23	67
			%	7.2	6.5	21.6	16.5	48.2
I consider myself equipped with knowledge and skills in the use of technology in education.	3.99	1.13	n	6	10	24	38	61
			%	5.8	10.8	20.1	16.5	46.8

When Table 2 was analyzed; 63.3% (*X*=4.32) of "*I know that I will use the most appropriate tool (presentation-picture show, video, interactive content, e-content sharing, etc.) in the introduction, in-class activity and evaluation stages of my course*", 61.9% (*X*=4. 34) of the "*I can decide what kind of technological tools (PC, Software, Tablet, Smartphone, Projection, etc.) I will use in my courses*" item with the highest mean score. Two items dropped below the mean (*X*=4,12). These items were, "*I consider myself equipped with knowledge and skills in the use of technology in education*" 48% of the participants agreed with the item with the lowest mean score (*X*=3.92), and "*I develop my digital content (presentation, interactive content, video, etc.) that I use in my course*" 46.8% of the participants agreed with the item (*X*=3.99). 69.8% of the trainers stated that they did not participate in the Technology Use in Education Course before or during their employment as a master teacher. The rate of agreement with the item "*I know that I will use the most appropriate tool (presentation-picture show, video, interactive content, e-content sharing, etc.) in the introduction, in-class activity, and evaluation stages of my course*" was 61.9%. In the closed-ended format of this item, in response to the question "*At which stage or stages of your course do you make use of educational technologies*?" 46.4% (*n*=64) of the trainers stated that they used it at the preparation stage, 42.8% (*n*=59) at the training situation stage, and 10.9% (*n*=15) at the evaluation stage.

Trainers' preferences for the web tools they use in their courses were visualized in Figure 1

Figure 1.
Web tools used by trainers in their courses



For the tools used in their courses, the trainers stated that they usually use MS Office tools at 20.27% (*f*=59), Google Slides and Google Documents at 17.18% (*f*=50), Google Forms at 8.25% (*f*=24), Canva at 5.5% (*f*=16), Kahoot at 4.12% (*f*=12), 3D tools at such as Thinkercad 3.44% (*f*=10) and Google Classroom 2.75% (*f*=8). As an online assessment tool, Trainers rarely make Quiziz at 2.41% (*f*=7), Prezi at 2.06% (*f*=6), Quizlet at .33% (*f*=2) and Wordwall at 3.09% (*f*=9). The most striking statistic is that the rate of trainers who do not use none is 8.59% (*f*=25).

b. The opinions of trainers regarding how educational technologies enhance the learning environment

Table 3 shows us that the Item score of "*The use of technology in education increases the transferability of learned knowledge to different fields*" was the highest score (*X*=4.31) and had a participation rate of 61.9%. Such a higher score was followed by the following item "*I think it is necessary to use technological tools and equipment in my course*" (*X*=4.27) and the participation rate of the item is 62.6%.

Table 3.
Items of Trainers' Views in Terms of The Contribution of Educational Technologies to the Learning Environment

Items	*X*	*Sd.*		1	2	3	4	5
I use teaching materials in the form of e-content (videos, pictures, simulations, interactive content - drag and drop, fill in the blank, etc.) in my course.	3.88	1.27	n	8	15	28	23	65
			%	5.8	10.8	20.1	16.5	46.8
I believe that teaching is more effective when I use technological tools and equipment in my course.	4.23	1.12	n	6	6	20	25	82
			%	4.3	4.3	14.4	18	59
I think it is necessary to use technological tools and equipment in my course.	4.27	1.15	n	7	7	15	23	87
			%	5	5	10.8	16.5	62.6
My trainees pay more attention when technology is used in the classroom.	4.19	1.18	n	7	9	17	23	83
			%	5	6.5	12.2	16.5	59.7
The use of technology in education increases the motivation of my trainees.	4.24	1.14	n	7	6	17	25	84
			%	5	4.3	12.2	18	60.4
The use of technology in education increases the retention of my trainees' learning.	4.26	1.15	n	7	6	18	21	87
			%	5	4.3	12.9	15.1	62.6
The use of technology in education increases the transferability of learned knowledge to different fields.	4.31	1.04	n	4	5	21	23	86
			%	2.9	3.6	15.1	16.5	61.9

Items of "*I use teaching materials in the form of e-content (videos, pictures, simulations, interactive content - drag and drop, fill in the blank, etc.) in my course*" (*X*=3.88) and "*The use of technology in education increases the attention of my trainees*" (*X*=4.19) were lower score than mean score (*X*=4.20).

c. Views of Trainers on Their Skills of Collaborative and Social Media Use in The Use of Educational Technologies

According to descriptive statistics of items in Table 4, Items "*I can direct my trainees to instructive resources after the lesson by using digital environments*" (*X*=4.25) and "*I can easily find the digital content I use in my course*" (*X*=4.18) had highest score.

Items' average score of trainers' views on the skills of Collaborative and Social Media in the use of Educational Technologies was *3.81. So, Items of "I use teaching management systems to follow the progress of my trainees (EBA, e-yaygin, Google Classroom, etc.)*" (*X*=3.68), "*I also use the technological materials used by my fellow trainers in my classes*" (*X*=3.40) and "*The e-yaygın module is sufficient to monitor the digital learning of my trainees*" (*X*=3.36) were lower scores than average score.

Table 4.
Items of Trainers' Views on the Skills of Collaborative and Social Media Use in the Use of Educational Technologies

Items	***X***	***Sd.***		**1**	**2**	**3**	**4**	**5**
I share educational information with my trainees outside of class time by using technological tools.	4.09	1.19	n	8	8	20	31	72
			%	5.8	5.8	14.4	22.3	51.8
I can direct my trainees to instructive resources after the lesson by using digital environments.	4.25	1.07	n	6	4	19	30	30
			%	4.3	2.9	13.7	21.6	57.6
I use learning management systems to follow the progress of my trainees (HEMBA, e-yaygin module, Google Classroom, etc.).	3.68	1.33	n	10	20	32	20	57
			%	7.2	14.4	23	14.4	41
I use technological tools (Smartphone, Projection, Tablet, etc.) that I bring to my course.	4.01	1.23	n	6	17	17	28	71
			%	4.3	12.2	12.2	20.1	51.1
The HEMBA is sufficient to monitor the digital learning of my trainees.	3.36	1.32	n	15	17	48	20	39
			%	10.8	12.2	34.5	14.4	28.1
I exchange opinions with my fellow trainers on the use of technology in education.	3.80	1.24	n	9	10	32	32	54
			%	6.5	7.2	24.5	23	38.8
I also use the technological materials used by my fellow trainers in my classes.	3.4	1.34	n	17	15	41	27	39
			%	12.2	10.8	29.5	19.4	28.1
I find the teaching materials I use in my course through the internet.	3.97	1.2	n	10	7	21	40	61
			%	7.2	5.0	15.1	28.8	43.9
I follow internet forums created by trainers in my field.	3.78	1.25	n	9	11	35	29	55
			%	6.5	7.9	25.2	20.9	39.6
I can easily find the digital content I use in my course.	4.18	1.06	n	5	5	22	35	72
			%	3.6	3.6	15.8	25.2	51.8
I often find the teaching materials I use in my course through social media (Facebook, Twitter, Instagram, etc.).	3.44	1.38	n	16	19	40	16	48
			%	11.5	13.7	28.8	11.5	34.5

d. Negative Opinions and Difficulties Experienced by Trainers in the Use of Educational Technologies

Items' average score of negative opinions and difficulties experienced by trainers in the use of educational technologies was 2.23. In the section where the negative opinions of the trainers about the use of technology were taken, it was seen that the item *"Using technology in education is a waste of time*" as a waste of time had the lowest score and only a participation rate of 3.1% had this opinion. Also, the item "*I think that the use of technology in education negatively affects the educational environment*" had a lower score

Table 5.
Items of Traineers' Negative Opinions and Difficulties about Using Educational Technologies

Items	***X***	***Sd.***		**1**	**2**	**3**	**4**	**5**
There are not enough resources, tools, and equipment for me to use educational technologies in my course environment.	3.14	1.39	n	26	15	45	20	33
			%	18.7	10.8	32.4	14.4	23.7
I think that using educational technologies is not suitable for my branch.	2.06	1.42	n	79	14	21	9	16
			%	56.8	10.1	15.1	6.5	11.5
I think that the use of technology in education makes people lazy.	2.22	1.33	n	61	24	27	16	11
			%	43.9	17.3	19.4	11.5	7.9
I think that the use of technology in education negatively affects the educational environment.	1.85	1.21	n	80	23	20	8	8
			%	57.6	16.5	14.4	5.8	5.8
Using technology in education is a waste of time.	1.56	1.03	n	96	21	13	4	5
			%	69.1	15.1	9.4	2.9	3.6
While using technology in my lessons, I experience difficulties arising from the education classroom environment (seating arrangement, the physical condition of the classroom, etc.).	2.43	1.39	n	53	17	40	13	16
			%	38.1	12.2	28.8	9.4	9.4
I have difficulties arising from my trainees when using technology in my lessons.	2.5	1.35	n	45	24	41	12	17
			%	32.4	17.3	29.5	8.6	12.2
I have difficulties arising from my lack of knowledge and skills when using technology in my lessons.	2.03	1.26	n	69	23	30	7	10
			%	49.6	16.5	21.6	5.0	7.2
I have difficulties in terms of time when using technology in my lessons.	2.04	1.21	n	62	34	26	8	9
			%	44.6	24.5	18.7	5.8	6.5
When using technology in my lessons, I experience problems arising from technological tools (tool malfunction, inability to operate properly, etc.).	2.45	1.32	n	45	29	34	18	13
			%	32.4	20.9	24.5	12.9	9.4

2. What are the suggestions and recommendations of trainers in adult education for educational technologies?

The descriptive analysis of the open-ended question "If you have any comments and suggestions you would like to convey to us for the effective use of educational technologies, please write them in detail." was presented in Table 6.

Table 6.
Descriptive Analysis of Traineers' suggestions for the effective use of educational technologies

Codes	***f***	***%***
Providing Internet Access	65	26
Hardware Support	45	18
Using Web 2.0 Tools	34	13,6
Physical Improvement	32	12,8
Using Projector	24	9,6
Introduction of New Programmes	22	8,8
Course of Basic Computer Usage	12	4,8
The course of Social Media Usage in Education	11	4,4
Interactive Board Request	5	2

Trainers mostly stated that the use of educational technologies could be increased by providing internet access (*f*=65) and increasing hardware support (*f*=45) in classroom environments. At the point of hardware support in the classrooms, they stated that they mostly need projection (*f*=24) and that they can share many contents with their trainees more easily with the provision of projection. They emphasized that they demanded the organization of training on the use of Web 2.0 tools (*f*=34) and the introduction of new programs and applications that can be used in educational environments (*f*=22). They requested training such as courses or seminars on the provision of basic-level computer courses (*f*=12) and the use of social media in education (*f*=11). Among the recommendations for the use of technology in the classroom environment, was the improvement of the physical conditions of the classrooms (*f*=32). In the concept of physical improvement here, it was suggested to support the

different seating arrangements of the classrooms, to improve the conditions such as location, ventilation, desk-chair-table, washbasin, etc.

RQ 2: Are there significant differences in terms of professional experience, educational status, and branches according to the total scores of the survey for the evaluation of the opinions on educational technologies of the trainers working in adult education?

The results of the one-way ANOVA test used to measure whether there is a difference in the total scores of the technology using a survey of the trainers according to their professional experience, educational status, and branches are shown in Table 7.

Table 7.
Anova Tests Results of total scores of the survey for the evaluation of the opinions on educational technologies of the trainers working in adult education (*p<.05*)

Variables	Source of Variance	Sum of Squares	*df*	Mean Square	*F*	*p*
Branch	Between Groups	12264.591	16	766.537	1.463	.125
	Within Groups	63385.235	121	523.845		
	Total	75649.826	137			
		Sum of Squares	*df*	Mean Square	*F*	*p*
Professional Experience	Between Groups	4004.620	3	1334.873	2.497	.063
	Within Groups	71645.206	134	534.666		
	Total	75649.826	137			
		Sum of Squares	*df*	Mean Square	*F*	*p*
Educational Status	Between Groups	3137.603	5	627.521	1.142	.341
	Within Groups	72512.223	132	549.335		
	Total	75649.826	137			

It was found that there was no significant difference between and within groups according to the professional experience of the trainers ($F_{(3\text{-}134)}$=2.49, p>.05). In terms of the experience of the trainers, the group with the highest score was those with 20 or more years of experience (X=130.57), while the group with the lowest score was those with 5-9 years of experience (X=117.27). The total score of those with 1-4 years of experience was X=128.14 and the total score of those with 10-19 years of experience was X=120.57.

When Table 7 was analyzed, there was no significant difference between and within groups according to the branches of the trainers ($F_{(16\text{-}121)}$=1.463, p>.05). According to the branches of the trainers, Special Education (X=138.0), Cooking (X=138.66), First Aid and Hygiene (X=132.4) were the branches with high total scores. At the same time, Wood (X=98), Turkish Education (X=111.6), and Information Technologies (X=119.5) were the branches with low scores.

As was seen in Table 7., there was no significant difference between and within groups according to the graduation status of the trainers ($F_{(5\text{-}132)}$=1.14, p>.05). When the total scores of the trainers according to their graduation status were analyzed, the highest score was obtained by high school graduates (X=124.68). In contrast, secondary education graduates obtained the lowest score (X=109.0). The total score of associate degree graduates was 124.06, the total score of bachelor's degree graduates was 124.04, and the total score of master's degree graduates was X=122.12.

Discussion, Conclusion, and Suggestions

The study, 138 volunteer trainers in 6 PECs serving in Muğla province participated in the study, and in terms of branch distribution, there is participation from all branches working in the courses carried out in PECs. In the evaluation made in line with the findings of the study; it was seen that the trainers working in PECs had a positive attitude towards the use of technology in education, that they could decide on appropriate equipment for educational environments, that they were willing to increase their skills in the use of technology in education, that they tried to use technology as much as

they could in their courses, and that they wanted to receive in-service training at advanced and basic levels. Only 12% of the trainers stated that they had problems arising from their lack of knowledge and skills. The fact that trainers have positive attitudes and are willing to use technology in education has been supported in many studies in the literature (Döğer, 2016; Kandemir, 2015; Menzi et al., 2012; Deniz et al., 2006). The literature shows that there is a positive relationship between trainers' positive attitudes toward technology and their level of using technology in educational practices (Hammond & Manfra, 2009; Russel, et al., 2003; Usta & Korkmaz, 2010, Tatlı & Akbulut; 2017). In this context, it is seen that the training to be applied to trainers to increase their technological knowledge and skills will increase their more effective use of technologies in classroom environments. Sarıtepeci et al. (2016), in their study to determine the in-service training needs of trainers, determined that the most needed subjects were "the use of technology in education, the use of the internet for educational purposes, and the effective use of teaching materials". In this respect, it can be said that this finding in the study is supported by the studies in the literature.

Although the trainers considered their technology usage skills sufficient, they stated that they could not develop the digital content to be used in their courses. Although a significant number of trainers consider themselves sufficient in terms of their knowledge and skills in the use of technology in education (Döğer, 2016), the rate of trainers who do not consider themselves sufficient in this field is also at a significant level (30%). In addition, the fact that the participants who stated that they did not have any problems demanded training reveals a contrasting picture of this situation. Especially on the side of adapting technology to education, trainers do not consider themselves sufficient. Tatlı and Akbulut (2016) also supported this finding in their study on the competencies of pre-service teachers towards the use of technology.

In the study, it was found that the main difficulties they encountered in the use of technology were the lack of sufficient tools and equipment in their classrooms, and the physical condition of their classrooms, and a few of them experienced problems arising from their trainees. It is known that trainers are inadequate in using the technology available in their classrooms due to reasons such as insufficient equipment and worrying about breaking technological tools (Archambault & Crippen, 2009; Yılmaz, 2007; Tatlı & Akbulut, 2016).

The trainers agree on the positive contribution of the use of technology to educational environments and state that the use of technology has a high level of contribution to the motivation of the trainees, retention in learning, and increasing their attention (Döğer, 2016).

Even if they are in the same branch, the finding that the trainers do not share much with their colleagues regarding the use of technology, do not use collaborative tools, and do not use each other's digital materials is among the other findings that draw attention. Exchanging ideas with colleagues can allow trainers to keep themselves open to innovation and explore different perspectives. This, in turn, can help trainers improve their teaching methods and make students' learning experiences richer and more effective. As a result, trainers exchanging ideas with their colleagues on the use and development of digital materials can help trainers improve their digital competencies and make their students' learning experiences more productive (Olpak, 2023).

Teaching materials are the most important tools in the learning environment. In the use of technology in education, teachers are expected to be able to develop these materials in digital environments by using educational technologies. In this study, trainers consider themselves partially sufficient in this regard. Although the trainers use the internet effectively to find digital content, they have average scores indicating that they do not use social media and trainers forums very often (Uçar Sarımanoğlu, 2019). Döğer (2016) measured the rate of use of social networks as 71.1% in his study with trainers participating in EU projects and a situation opposite to this finding was observed. The HEMBA platform, where the learning of the trainees in the field of non-formal education is monitored and educational content is shared by MoNE, was evaluated as insufficient by 57.5% of the trainers and it was stated that they use other tools as learning management systems.

Microsoft Office tools are the most important software used by trainers in learning environments, followed by Google tools. They also listed Google Forms and Google Slide tools among the Google tools they use. It is among the important findings of the study that the trainers do

not have sufficient knowledge about Web 2.0 tools, they cannot use Web 2.0 tools effectively in their courses, and they also demand training on these tools (Uçar Sarımanoğlu, 2019; Tatlı & Akbulut, 2017). Projection is one of the most common hardware tools that trainers want to use in the classroom environment and that they offer as a suggestion. They stated that they could transfer the course content to their trainees with projection. Although some of them requested an interactive board among the hardware they want to use in the classroom, the high demand for projection shows that they still lack knowledge and skills for interactive content. Özer and Kır (2018), in their study on the distance education experiences of teachers working in public education centers, found that trainers frequently used projection, especially for purposes such as watching videos, showing content, and easy access.

There was no significant difference between the groups in terms of professional experience, branch, and educational status variables in the opinions of the trainers participating in the study on the use of technology. However, a high score distribution was observed between the total scores of the groups. Karasakaloğlu et al. (2011) found that the attitudes of prospective Turkish teachers towards technology did not differ statistics significantly according to gender and professional experience, but showed a significant difference according to the socioeconomic level of the school. There are studies in the literature that do not agree with this finding in the study. Döğer (2016), in his study on the dynamics affecting the use of technology in education depending on the opinions and experiences of teachers participating in Computer Assisted Training, found a significant difference in terms of gender, age, experience in terms of teachers' use of technology in their classrooms, but did not find a significant difference in terms of survey total scores according to their branches. Olpak (2023), in his study with teachers working in science and art centers, found a significant difference in the use of digital materials and digital competence skills in favor of those with a master's degree according to the educational status of the trainers.

Karadeniz and Vatanartıran (2015) examined the relationship between the technological pedagogical content knowledge of classroom teachers according to demographic characteristics and variables related to technology in their study. The findings of the study support the findings of the study that classroom teachers see themselves at a sufficient level within the framework of technological pedagogical content knowledge and that there is no significant difference in terms of educational status.

Another contrasting finding in the findings of the study is that the item that the majority of the trainers can direct their trainees to educational environments after the course received the highest score, while the item "I use learning management systems to follow the learning of my trainees" received the lowest score. This situation shows that trainers do not have sufficient knowledge and skills about the necessary tools to guide their trainees' learning outside the school. One of the biggest advantages that educational technologies have brought to educational environments is to enable learning to take place even in different environments by removing the boundaries in learning environments. In this respect, it can be said that the trainers working in PECs have limited their course processes only in face-to-face environments.

Suggestions for Researchers;

- Structured courses can be developed to increase the skills of trainers in adult education for the use of education technologies. Web 2.0 tools should be emphasized in the content of these courses. Courses should be practice-oriented and designed on content-learner interaction.
- The study can be repeated on a larger sample and PECs located in different regions.
- Different variables affecting the use of educational technologies in the field of adult education and their relationship can be analyzed.

Recommendations for Practitioners;

- Trainers in Public Education Centres can access resources related to their course areas and share them with their trainees by examining MoNE's HEMBA platform.
- Attending courses on innovative technology supported learning methods will contribute significantly to the integration of technology in educational settings.
- They should examine web 2.0 tools that they can easily develop content.

Limitations

The limitations of the research;
- 138 volunteer trainers working in Public Education Centers serving in Muğla province,
- The data collection tool used in the research is limited to the survey.

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