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Examining the past of distance education and the views of faculty members on the present and future

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Article Info	ABSTRACT
	After examining the historical development of distance education through the relevant literature, the purpose of this study is to examine faculty members' views on the current situation and future expectations. The phenomenology method, one of the qualitative research methods, was used for the study. 11 lecturers who taught via distance education at a university during the Covid 19 pandemic participated in the research. Semi-structured interview questions were used as an instrument for data collection. Distance or face-to-face interviews were conducted with the participants for the research purpose. The interviews were analyzed using the content analysis technique. As a result of the analysis, opinions were grouped under six headings: Applications in Distance Education, Advantages of Distance Education, Useful Aspects of Distance Education, Problems in Distance Education, Requirements in Distance Education, and Its Future in Distance Education. The prominent results of the research are discussed in the discussion section. When these prominent results are considered, for learning management system developers; problems experienced in the system, and features that should be added, for researchers; It can be stated that it is a guide for future experimental studies. It is recommended to support the advantages and useful aspects, meet the requirements, conduct research to solve the problems experienced, and conduct studies to meet the expectations for the future.

INTRODUCTION

Education is the process of creating a deliberate change in the behavior of individuals through their own experiences (Ertürk, 1975). These behavioral changes may differ over time in line with the needs of individuals and societies. For example, the skills needed by individuals in society 100 years ago and the skills needed today are quite different. If the educational needs are not determined correctly, the information that individuals will learn may not meet the needs of society, causing education to be ineffective. Many parents think that a good education will provide their children with the skills and tools to meet their needs for a lifetime (Miller, 2000). Considering the rapidly developing technology, conditions, and changing needs depending on these, when the recent periods are examined, it is not possible to meet lifelong needs with a uniform education. For individuals to adapt to rapid changes, it is considered necessary to receive education according to the conditions and needs of their age throughout their lives (Güleç, Çelik & Demirhan, 2012). This situation reveals the importance of lifelong learning. Distance education plays an important role in meeting the new needs emerging within the scope of lifelong learning.

In this study, after examining what distance education is and its historical development process based on a literature review, opinions and suggestions will be made about its current structure and new technologies that can be used in the future, taking into account the opinions of instructors with distance education experience. In line with these examinations, opinions on the definition of distance education, its history, its current structure, and new technologies that can be used in the future will be made.

Literature Review

Distance Education

Distance education first appeared in the Boston newspaper in 1728 with "Shortcut lessons" (Holmberg, 2005). This concept is defined in different ways in the literature. However, according to the generally accepted definition, distance education is generally accepted as a structured learning experience that can be done from an academic institution, at home, or work (McIsaac & Gunawardena, 1996). İşman (1998) defines it as an education system in which the learning-teaching processes of students and instructors in different environments are carried out through mail or communication technologies. A different definition was made by Uşun (2006). According to Uşun, it is a planned, systematic educational technology application in which interaction between the source and the receiver is ensured by using written, printed, audio and technological tools that allow flexible and independent learning following individual characteristics in a large part of the learning-teaching processes of the source and the receiver.

McIsaac and Gunawardena, (1996) distance education are traditionally defined as teaching through printed or electronic communication tools to people who are doing planned learning in a different place or time than the instructor or trainers.

When various dictionaries are examined, the definitions of distance education are as follows:

- It is a form of study in which you study from where you live without going to a school, college, or university, where you are usually taught something and given work to be done about what has been taught (Cambridge Dictionary, 2021). In addition, the terms "Distance Education" and "Distance Learning" are defined as synonyms in the Cambridge dictionary.

- Internet, e-mail, mail, etc. where teachers or students do not meet in the classroom, but to take lessons. It is a working method in which they use communication methods (Merriam-Webster, 2021). In this dictionary, the concepts of distance education and distance learning are defined as variants of each other.

- Instead of going to school, students can share their course content with videos, etc. on the internet. It is the form of education they receive with tools (Dictionary.com, 2021). In this

dictionary, the concepts of distance education and distance learning are defined in the same way.

- It is a method of study in which lectures are published or lectures are conducted by correspondence, without the need for the student to go to a school or college (Lexico, 2021). The Lexico dictionary includes the concept of distance learning. However, the definition of distance education could not be found.

- In the dictionary of the Turkish Language Institution, distance education is defined as "a form of education conducted from a certain center by using various communication tools without being face-to-face between the student and the teacher" (TDK Sözlük, 2021).

Considering the definitions in different dictionaries, there are common points in the definitions of distance education. These:

- Students and teachers being in separate places,

- Sharing educational content through different communication channels such as mail, e-mail, radio, television, and internet applications.

- It is to enable students to learn by working on the shared course content.

When the definitions in the dictionaries are compared, the results are similar to the six basic elements of distance education made by Desmond Keegan (1980). According to Keegan (1980), the six basic elements of distance education are as follows:

- Separation of teacher and student

- Impact of an educational institution

- Use of media to connect teacher and student

- Providing two-way communication

- Students are individuals rather than a group.

- An industrialized form of education

Developmental Stages of Distance Education

When the stages related to distance education are examined, it is seen that technological developments play a decisive role in the formation of these stages (Akyürek, 2020). Developments in technology affect education and training processes as well as in all areas of life. In this context, there has been a transition from printed sources to electronic sources in education processes over time (Gülbahar, 2012). These transition processes also affect distance education. Distance education, which started with the giving of distance shorthand lessons in the Boston newspaper in 1728, has been divided into 5 stages in the historical development process (Moore & Kearsley, 2012). These phases are as follows:

1. Correspondence Phase (Letter, mail, etc.)

2. Radio and Television Broadcasts

3. Open Universities

4. Teleconference Systems

5. Internet and Web Technology

Correspondence Phase (Letter, mail, etc.)

In the early 1880s, cheap and reliable postal services emerged as a result of the spread of railway transportation to large regions. As a result of these services, people wanted to learn at home or work using the teaching materials delivered to them from a distant teacher. In this context, over 200 letter teaching schools were opened between 1890 and 1930 (Moore & Kearsley, 2012).

Radio and Television Broadcasts

Radio emerged as a new technology at the beginning of the 20th century. He obtained his first educational radio license at Salt Lake City University in 1921 (Saettler, 1990). Later, the Iowa public university started to offer lectures on its radio station, and 80 students were enrolled in the first course opened (Pittman, 1986).

Educational television broadcasts started in 1932-1937 (Uşun, 2006). In those years, Iowa public university lectures on oral hygiene and astronomy were presented via television. About 400 educational programs were broadcast from the university's broadcast station until 1939 (Unwin & McAleese, 1988).

Information via radio and television broadcasts is transmitted faster than information transmitted by mail. However, there is still a lack of mutual communication. This shortcoming can be remedied by mail.

Open Universities

In the late 1960s and early 1970s, a critical period was experienced for distance education. The idea of an open university emerged as a result of several experiments with new ways of combining human resources and technology, led by new educational theories and teaching techniques. The most important examples of this concept are the University of Wisconsin's AIM project (Articulated Instructional Media) and the Open University of Great Britain.

The AIM project is a project led by Charles Wedemeyer and funded by the Carnegie company. It aims to deliver high-quality inexpensive teaching materials to off-campus students using various communication technologies. The technologies they use are printed study guides, postal mentoring, educational radio and television programs, recorded audio tapes, telephone conferences, material packages for home experiments, and local library resources (Moore & Kearsley, 2012). As can be seen, all technologies used in the project were used during the period in which it was implemented.

The idea of an Open University in Great Britain was originally conceived only for television and radio broadcasts to provide open access to higher education for the adult population. However, in November 1967, upon the planning committee's review of the University of Wisconsin's achievements and methods in the AIM project, he invited Wedemeyer, the director of the AIM project, to London. In the next 2 years, the Open University began to take shape. Wedemeyer later stated that "Almost all of the geography of open education systems was determined in the AIM project experiments" (Wedemeyer, 1982, p.24).

Teleconference Systems

The first teleconferencing technology was used as audio conferencing in the 1970s and 1980s. Contrary to the previous phases, there was direct two-way communication where students could ask questions and get answers from their teacher. Students and teachers can interact in real-time in different places.

The first video conferencing systems became widely used in the 1990s. Two-way video conferencing systems initially transmitted video signals from one studio to another. It can be said that it is quite expensive these days. Video signals are compressed with a device called a codec, which was the size of a refrigerator in the early days, and sent to the opposite studio. Later, these devices came to a size that could fit inside a personal computer. Two-way video conferencing systems have become more

affordable and faster thanks to fiber optic cables used in telephone lines (Moore & Kearsley, 2012).

Internet and Web Technology

With the Internet and web technologies, distance education has accelerated. While only 50 pages were hosted on the Web in 1992, the number of pages increased to over 1 billion in 2000 (Maddux, 2001). In the 1990s, many universities started Web-based programs. In all previous stages, distance education practices specific to that period were carried out in the distance education process, and new thoughts and ideas about how distance education would have emerged with the spread of the internet and web technologies (Moore & Kearsley, 2012). Some of these are learning management systems, video, animation, simulation content, virtual classrooms, etc. applications (Tuncer & Taşpınar, 2008). In addition, the widespread use of mobile internet access provides a prediction that mobile-based learning (m-learning) will gain importance in the future (Özbay, 2015).

Tools Used in Distance Education

Considering all the historical development stages of distance education, it is seen that the most effective communication technology of that period was used. The tools used in distance education are printed tools (books, worksheets, faxes, etc.), audio tools (radio, audio conference, sound recordings, etc.), video tools (television, videotapes, satellite broadcasts, DVD, etc.), and computers (e-mail, web-based resources, smartphones, etc.) are divided into 4 categories (Barron, 2009). These categories and their advantages-disadvantages made by Barron (2009) are given in Table 1.

Tablo 1. *Tools Used in Distance Education and Their Features (Barron, 2009)*

CATEGORY	TOOLS	ADVANTAGES	DISADVANTAGES
Printed	Textbooks Study guides Workbooks Fax	Being very portable Ease of Use Cost-Effective	No interaction Requires reading skills Long delivery time to the student
Audio	Radio Telephone Audio Mail Audio teleconferences Audio files / CDs	Cost-effective Being Easily Accessible Ease of Use	Not suitable for visual information Requires planning for simultaneous voice communication Lack of visual only audio interaction
Video	TV Video Cassettes Satellite Broadcasts DVD	Allows both audio and video communication Having both audio and visual communication High level of interaction	To be costly Requires a lot of planning and preparation Requires technical support team
Computer	Email, chat, etc. Web-based resources Video conferences Smartphones	Ability to learn at your own pace It can contain text, graphics, audio, and video. High level of interaction cost-effective Worldwide reach	Requires hardware and software Requires great planning computer viruses Problems from computer systems or network

Purpose of the research

In this study, after examining the development of distance education from the past to the present according to the literature, it is aimed to examine the views of the instructors involved in the distance education process about the problems experienced in distance education today and what could happen in the field of distance education in the future. As a result of the opinions received, it is aimed to classify the problems experienced today and to reveal what is expected from distance education applications in the future.

Importance of research

The findings at the end of the study will guide the features needed in solving the problems in today's applications and the development of new technologies and software for the future. Determining the problems in today's applications is very important in terms of solving these problems. Considering the outputs of the study, it is one of the most important outputs of the study to add the features needed in the future to the existing applications or to guide the development of a new application in the distance education applications that are expected to be used more widely in the future.

METHOD

Model of the research

This study is aimed to take the opinions of the instructors who have taught at least one semester through distance education on the current distance education systems and examine their predictions about how distance education can be in the future. For this reason, the phenomenology method, one of the qualitative research methods, was used in the research. Phenomenology focuses on phenomena that we are aware of but do not have a deep understanding of, according to Cropley (2002). Another definition is a research method that allows the researcher to examine the experiences of a case or event in depth (Yıldırım & Şimşek, 2018). Best and Kahn (2017) define phenomenology studies as an approach that explains the current situation or examines and analyzes the structure between the factors affecting change and development

Study group of the research

The study group of this research consists of 11 instructors who have taught at least one semester through distance education at a university. While choosing the study group, homogeneous sampling, one of the purposive sampling methods, was used. Purposeful sampling is a non-random sampling approach and allows in-depth research by selecting information-rich situations or groups depending on the purpose of the study (Patton, 2014). The homogeneous sampling method is the selection of a homogeneous subgroup related to the purpose of the research from the research population (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2013).

Research Instruments and Processes

In this study, semi-structured interview forms were used as a data collection tool. The interview form was prepared by reviewing the literature and taking expert opinions. The data collection process was recorded in the form of remote interviews due to the Covid-19 Pandemic and the measures taken in this context. The questions in the semi-structured interview form, which is the data collection tool, can be seen below.

Interview Questions

Concerning the Current Situation

- Which distance education applications (moodle, alms learning management system, google meet, teams, zoom, adobe connect, etc.) have you used so far?

- Do you find the distance education applications you have used so far useful?

- If yes, in what ways do you think it is useful?

- If you don't find it, why don't you find it useful? What features would you like to have?

- What are the problems you have encountered in the distance education applications you have used so far?

Opinion Questions about the Future Situation

- What kind of developments can occur in the future, taking into account distance education and practices from the past to the present?

- Considering the distance education applications you currently use, do you think these applications will become widespread in educational environments after the epidemic? o Why?

- What kind of developments do you foresee in face-to-face education and distance education practices in educational environments in the future?

Data Analysis

The content analysis method was used in the analysis of the data. The content analysis method is a qualitative analysis method that aims to identify and reveal important information on the collected data (Marshall & Rossman, 2014). Interviews were held in the form of interviews by connecting with the participants via remote video conferencing tools. These interviews were recorded and analyzed. According to Altunışık (2010), the following steps should be done during the data analysis process:

- Creating a framework for descriptive analysis,

- Processing data according to the thematic framework,

- Description of findings,

- Interpretation of the findings

While examining the records, first of all, important concepts in the records were determined. Then, coding was done according to the purpose of the research, a logical structure was developed and themes were created. These themes were analyzed numerically and interpretations were made.

Reliability of the Research

To ensure reliability in the research, researcher triangulation and data sources triangulation methods were used. Investigative triangulation involves more than one investigator in data collection, analysis and interpretation; Triangulation of data sources is defined as the use of a wide variety of data sources (Denzin, 1978). In this study, the opinions of the lecturers working in different faculties were taken. At the same time, the interviews were made, analyzed, and interpreted by the researchers involved in the study.

While the themes were being extracted, the audio recording recorded as a result of the interviews was first translated into text. Afterward, the researchers formed separate themes with the interviews that were translated into text. The final version of the themes was determined by discussing the items created by the researchers. In addition, the opinions of the participants on the prominent items in the findings section are given as one-to-one quotations.

Ethic

Name of the committee that made the ethical evaluation: Bolu Abant Izzet Baysal University, Human Research Ethics Committee in Social Sciences

Date of ethical review decision: 29.04.2021 - Ethics assessment document issue number: 2021/187.

FINDINGS

According to the examinations made as a result of the interviews, opinions have been reached under various headings regarding distance education today. These; applications, advantages, useful aspects, views on the future of distance education, requirements, hybrid education model, post-pandemic process, problems, and reasons for preference.

Many computer applications are used in distance education processes. In line with the findings, it was seen that all of the instructors participating in the research used at least one distance education application. Information on the applications used in distance education is shown in Table 2.

Table 2. *Communication systems and platforms used in distance education*

Communication systems or platforms used in distance education	Frequency	Percent (%)
Google Meet	11	100
Microsoft Teams	11	100
Zoom	9	81,8
Edmodo	1	9,1
Adobe Connect	1	9,1
Blackboard	1	9,1
Skype	1	9,1
Perculus	1	9,1

In Table 2, the most used application in the research sample is listed as the least used application. Among the applications currently in use, Google Meet, Microsoft Teams, and Zoom applications emerged as the most widely used applications by the participants.

One of the topics that emerged as a result of the research is the advantages of distance education. As a result of the research interviews, the views on the advantages of distance education are listed in Table 3 below.

Table 3. *Advantages of Distance Education*

Item No	Advantages of Distance Education	Frequency	Percent (%)
1	Enabling students to repeat through recordings	3	27,3
2	To give homework	2	18,2
3	Easy sharing of recordings	2	18,2
4	Creating different groups in the lesson	1	9,1
5	Mutual communication	1	9,1
6	Whiteboard sharing	1	9,1
7	Stronger interaction thanks to video and voice communication	1	9,1
8	Sharing different resources more easily in distance education	1	9,1
9	Submitting an attendance report	1	9,1
10	Mobile app support	1	9,1
11	Web application support	1	9,1
12	Technical support provided by the developer company	1	9,1
13	The interfaces are suitable for individuals with low technology literacy	1	9,1

As seen in Table 3, enrollment in the courses and allowing students to repeat the courses are one of the most important advantages of distance education. Some of the participants' views on this situation are as follows:

"It has the following advantage for students; maybe they can open the lecture that the teacher tells and listen and watch and get more efficiency from it" (Table 3, Item 1) K10

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"It is nice that different groups can be formed in the course. You can do other homework. You can make narrations, screen sharing, etc. These are nice features" (Table 3, Item 2, 4, 6) K2

"One of the aspects that I find useful is that it allows mutual communication, so you can see your students, so your presentations are more active and there is no problem in terms of transmitting data anymore" (Table 3, Item 5) K5

Another topic in the opinions of the participants was the beneficial aspects of distance education. Information about the results of the interviews is shared in Table 4.

Table 4. *Useful Aspects of Distance Education*

Item No	Useful Aspects of Distance Education	Frequency	Percent (%)
1	Finding applications useful	7	63,6
2	Facilitates participation in seminars and congresses	3	27,3
3	Useful in Pandemic Conditions	2	18,2
4	Useful for specific (theoretical) courses	2	18,2
5	Providing time and place of independence	2	18,2
6	More useful for postgraduate courses	2	18,2
7	Useful for personal professional development training	1	9,1
8	More useful in crowded classrooms	1	9,1
9	Providing equal opportunity in education	1	9,1
10	Facilitating graduate education evaluation meetings	1	9,1

When Table 4 is examined, it is concluded that the participants find distance education useful in general, but more useful in some conditions. As a result of the interviews, expressions such as remote participation in seminars and congresses, finding it useful only in pandemic situations, finding it useful for certain courses, and providing time and place independence come to the fore. Some participants views on the benefits of distance education are as follows:

"Accessing information has been very easy. Yes, for example, I just told you that I attended a training, if I wanted to attend this training, training is organized almost every week. It is organized by an association and I can follow it very well every week." (Table 4, Item 1, 2, 7) K7

"I find distance education applications useful like this, of course, don't they have disadvantages as well? Of course, there is, but of course, I think it is very useful and useful during the pandemic process right now. Because now we have to continue the education. Of course, it is useful, if necessary." (Table 4, Item 3) K10

"I think it offers students an equal opportunity to learn. I think that it accelerates the followability of the courses and provides resources to the students after the course. I also find it useful in terms of providing equal opportunities. In other words, I think that if a person in the village has a computer or internet, they can access any openly given courses and they will benefit in this way." (Table 4, Item 1,5,9) K3

"Here, at least, you have the opportunity to meet whenever you want, whenever you want. I find it very useful, especially for graduate students. Because the number of our graduate students is known. Whatever 3 people are 4 people, there is a certain number of them. By opening the screen directly with each student and sharing it, there is an opportunity to talk as if it were a face-to-face education." (Table 4, Item 6) K4

"Although we don't use a lot of amps in the classroom environment. I only use an amp from 1 lesson. For example, it was a problem to write there. He had vision problems. … there are 200 or 300 people in big lecture halls, so it is more efficient to conduct lessons remotely than to attend lectures in that lecture hall. Crowded classrooms should be considered especially for lessons held in large lecture halls." (Table 4, Item 8) K8

"It saves time in our daily life, saves on the road. It's just 1 click away. In other words, it is enough to have internet in 1 place. It is very useful actually." (Table 4, Item 5) K6

Table 5. *Views on the Future of Distance Education*

Item No	Views on the Future of Distance Education	Frequency	Percent (%)
1	Increasing virtual reality augmented reality applications	9	81,8
2	The hologram structure will be used	8	72,7
3	Distance learning becoming more popular with the pandemic	3	27,3
4	Distance education applications are customized according to the departments	2	18,2
5	Personalized learning tools	1	9,1
6	Using apparatuses that transfer touch and contact (Health, Physiotherapy, etc.)	1	9,1
7	Environments with more interaction	1	9,1
8	Applications with a robotic approach	1	9,1

Regarding the future situation of distance education, most of the participants think that virtual reality and augmented reality applications will increase (81.8%) and tools such as holograms will increase (72.7%). In addition, the views that distance education will be more popular after the pandemic process can be customized to departments, include more sensory organs, increase interaction, and robot teacher systems have emerged. Some opinions on these topics are as follows:

"I think even a classroom environment can be created with virtual images. Maybe we will be able to see the camera taken by the student with a projection in the classroom environment. We will teach as if we are normal students, a bit like a hologram." (Table 5, Item 1, 2) K2

"Especially meetings that are held informally, if not directly for educational environments, I don't know, online seminars, you know, now that seminars are held, not everyone can come from everywhere. I think it will become widespread, especially in such titles." (Table 5, Item 3) K1

"There are also apparatuses that transfer touch and contact in departments such as physiotherapy in the field of health. So maybe these kinds of things seem to be used in our profession, for example. I think it will be more interactive. So this hologram, that virtual reality just seems like the beginning of that job." (Table 5, Item 4, 6) K10

"I also think that one of the things that should be done is that when you put on the virtual reality glasses, the sense organs should be affected a lot in the environment in 3D. In other words, I think it has to be for you to feel yourself in the job." (Table 5, Item 1, 7) K5

"I think that by analyzing learning features with artificial intelligence, more personal learning environments will be created with learning analytics" (Table 5, Item 5, 8) K3

Table 6. *Requirements for Distance Education*

Item No	Requirements for Distance Education	Frequency	Percent (%)
1	Giving orientation to teachers about distance education	5	45,5
2	Student's willingness to take distance lessons	3	27,3
3	The necessity of regulation and procedural principles regarding distance education	3	27,3
4	Creation of technical classes in each faculty	2	18,2
5	Investigation of new measurement and evaluation methods in distance education	2	18,2

6	Students have high technology literacy	1	9,1
7	Providing internet support to students	1	9,1
8	Providing technical support	1	9,1
9	Students are required to attend the class live	1	9,1
10	Ensuring interaction in distance education courses	1	9,1

The prominent opinions on the theme of what should be in distance education emerged as the necessity of giving orientation to teachers about distance education and those students be willing to take distance lessons. Other opinions appear as requirements such as having procedures and principles regarding distance education, having a technical class in faculties, researching new measurement and evaluation methods, providing internet support to students, and providing technical support and interaction in distance education processes. Some participant opinions on these topics are shared below.

"I am sure there are people who have difficulties in terms of technology, I think it can be good in terms of orientation training in this process." (Table 6, Item 1) K10

"I think it is necessary to take 1 training at first. Until you learn until you do something in the system… Orientation is absolutely necessary, and when I think about it in terms of teachers" (Table 6, Item 1) K11

"In certain classes in faculties, such a technical class can be created, for example, the teacher sits on the blackboard again. Students are projected onto a large screen on the classroom side, but I think that something can be done mutually in that way, the students see the board and the teacher from the camera again" (Table 6, Item 4) K4

"Distance education is useful, but I think that the student should have some awareness and his enthusiasm for education. Because students who don't are also going in the opposite direction." (Table 6, Item 2, 9) K9

"You know, we need to try different measurement and evaluation methods from a distance, rather than face-to-face exams… that is, we need to go to new measurement systems" (Table 6, Item 5) K5

"Distance education directive teaches how the lesson will be done, of course, how it will work, the teacher knows, the instructor knows, there is no problem with it, but I think that 1 directive and 1 procedural basis should be at least for every university, how long it will take and what can be done in this process." (Table 6, Item 3) K2

"Technical support is important, that is, it is nice to introduce the program at least, and to show all those features within the applications itself" (Table 6, Item 1, 8) K4

Table 7. *Problems in Distance Education*

Item No	Problems in Distance Education	Frequency	Percent (%)
1	Internet outage and technical issues	8	72.7
2	Low student participation	6	54.5
3	Less teacher-student interaction	6	54.5
4	Insufficient measurement and evaluation	4	36.4
5	Lack of technical knowledge	4	36.4
6	Problems caused by the teacher's computer (lack of hardware, heavy applications)	2	18.2

7	Students do not react in the virtual classroom environment	2	18.2
8	Insufficient infrastructure services	2	18.2
9	Camera and Microphone settings issues	2	18.2
10	Problem with accessing course records	1	9.1
11	Teachers' use of methods in traditional education environments from distance education environments	1	9.1
12	Low level of readiness in distance education applications	1	9.1
13	Low student concentration	1	9.1

When Table 7 is examined, it is seen that internet interruptions and technical problems are the main problems experienced in distance education. In addition to the technical problems, as a result of the interviews, problems such as low participation of the students in the courses, insufficient interaction, low student concentration, lack of technical knowledge of the participants in the distance education process, low level of readiness, insufficient infrastructure services, and the problem of accessing the course records emerged. Some of the participants' opinions are as follows.

"Not all students turn on camera microphones. It is not clear what they are doing against it, especially in terms of licensing. In other words, we are faced with the following things, the lesson is over, for example, 10 people stay there, it is obvious that they do not listen, they do not even close, so we have a big problem in this regard. It doesn't look like a two-person relationship, it doesn't feel like a lesson. These transactions are very lacking in interaction." (Table 7- Items 2, 3, 7, 13) K11

"I had problems due to the infrastructure when I was teaching, that is, due to insufficient servers, if there was too much load at the same time, there were breaks in our lessons during the lesson" (Table 7- Item 1, 8) K3

"When we look at the average age of the existing users, we see that many teachers are over 35 years old and 1 generation who had to switch technology quickly in 2 or 3 generations. Therefore, there are problems in their use of distance education applications." (Table 7 - Item 5) K6

"We do not have a chance to follow a student one-to-one in distance education environments. Who understood what you are talking about? Who Doesn't Understand or is following? I don't even understand it. So interaction is low. We do not receive feedback. There is no answer" (Table 7- Item 3, 4, 13) K9

"I think that teachers who have always been accustomed to traditional education find it difficult to adapt to the new system." (Table 7- Item 11) K3

"The most important deficiency was the low level of readiness of the teachers and students, who were the stakeholders of this course process, so the teachers did not know how to use it" (Table 7- Item 12) K1

"Sometimes there may be connection problems, that is, it may be due to the internet. Now I have a process like this, especially when we worked remotely, especially when we were working remotely, I was having problems sharing due to my own personal home connection problems. Likewise for students. Some of our students were having trouble connecting to the connected internet system at work." (Table 7- Items 1, 6, 9) K2

DISCUSSION, CONCLUSION, RECOMMENDATIONS

When the applications used in distance education are examined, it has been revealed that the most frequent applications are Google Meet, Microsoft Teams, and Zoom. While there are many alternative applications, the reasons for these applications to come to the fore may be factors such as their strong infrastructure, enabling mutual communication, easy integration, keeping them constantly updated, ease of use, security, and adding new features in the process according to needs. Such factors should be considered if a distance education application is planned to be developed or evaluated.

In the research, remarkable findings have emerged within the scope of the advantages and benefits of distance education. It can be stated that these results are the tasks that an instructor does in the lessons conducted in a face-to-face classroom environment, but which are more difficult to do (assigning homework, collecting homework, and evaluating and feedback). For example, making assignments and collecting them from students can create more workload in face-to-face classroom environments than in distance education systems. In addition, it was found that most of the lecturers with whom the interviews were made agreed that the most important advantage was the replayability of the recordings for the benefit of the students. When this situation was examined in terms of student opinions, similar results were found (Özdoğan & Berkant, 2020). The factor that allows the lessons to be watched again is the recording of the lesson. The most important reason why this situation is an advantage in distance education may be the lack of technical equipment and cost in face-to-face education environments. Because in the distance education process, many instructors have already been able to take records through the technologies (webcam, etc.) available on their devices. At the same time, it will be much more costly to install devices such as webcams and microphones, whose prices increase in line with the increasing needs, in face-to-face classroom environments.

When the advantages and benefits of distance education are examined, it is seen that there are findings such as creating time for the academic staff to devote to their professional and personal development and providing time and space independence. The reason for this may be that the necessity of being in the classroom environment in the face-to-face education process and the transportation difficulties for participation in seminars and congresses can be overcome with distance education opportunities.

In addition, some of the views are that distance education is only useful for not disrupting education during the pandemic process, it is more useful in certain (theoretical) courses, but not suitable for some courses, it is more useful in graduate courses and graduate evaluation meetings (thesis monitoring, thesis defense, etc.). These views may be due to the problems experienced by the instructors.

The statements in the title of problems experienced in distance education, which is one of the findings of this research, show that the problems experienced are mostly due to technical problems and the lack of knowledge, skills, and experience of teachers and students. This situation can be associated with the low level of readiness of the instructors and students due to the rapid transition to distance education due to the pandemic. Koloğlu, Kantar, and Doğan (2016) emphasized that the level of readiness of all stakeholders (student, trainer, etc.) is important to be successful in distance education. Sherry (1995) stated that changing stakeholder roles in distance education is one of the problems in distance education. The inability of instructors and students to adapt to their changing roles in distance education may affect their readiness levels. Among the findings of this research, fulfilling the requirements such as giving orientation to instructors within the scope of the requirements in distance education, high technology literacy levels of the students, the willingness of the students to distance education, and the provision of support such as the internet and technical support will increase the readiness levels of teachers and students. Therefore, it will contribute to the reduction of negative opinions about distance education and be more efficient.

One of the findings obtained from the lecturers in the research is their thoughts about the future of distance education. When the expressions within this scope are examined, it is seen that it is thought that technologies (virtual reality, hologram, etc.) that we see examples of today, but not yet widespread, will become widespread in the future. At the same time, the participants think that distance education has become popular with the pandemic and will become more popular over time. It is seen that the problems experienced in distance education are the lack of interaction (unresponsiveness of students in live lessons, etc.) and the deficiencies in applied lessons (inadequacy of current conference technologies in applied lessons, lack of distance education materials for applied lessons, etc.) will be solved with different applications in the future. These views can be considered as the expectations of the instructors participating in the research to eliminate the deficiencies they have experienced during the distance education process. It is recommended that these views be taken into account in future research and practices related to distance education. These views of the instructors may be an indication that they have a positive attitude about the future of distance education.

As a result, distance education, which has transformed into different forms with the developing technologies from the past to the present, is gaining importance due to meeting the increasing educational needs of today and lifelong learning becoming a necessity in the 21st century (Fırat, 2016). In this research, as a result of the interviews about distance education were examined in 4 categories: advantages and useful aspect, requirements, problems, and views for the future. Particularly prominent items in these categories can be listed as follows; "enabling students to repeat through recordings, finding applications useful, facilitates participation in seminars and congresses", (advantages and useful aspect), "giving orientation to teachers about distance education, student's willingness to take distance lessons, the necessity of regulation and procedural principles regarding distance education, creation of technical classes in each faculty and investigation of new measurement and evaluation methods in distance education" (requirements), "internet outage and technical issues, low student participation, less teacher-student interaction, insufficient measurement and evaluation, lack of technical knowledge" (problems), "increasing virtual reality augmented reality applications, the hologram structure will be used " (opinions for the future) can be listed as prominent items. When these prominent results are considered, for learning management system developers; problems experienced in the system, and features that should be added, for researchers; It can be said that it is a guide for future experimental studies. It is recommended to carry out studies on supporting the advantages and beneficial aspects, realizing the features that are seen as a necessity, providing solutions for the problems, and meeting the expectations for the future in future research.

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