

## **Views of Vocational School Students About Distance Education Applications During The Covid-19 Pandemic \***

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### **Abstract**

The aim of this study is to determine the views of vocational school students about the positive and negative effects of distance education applications during the COVID-19 pandemic. Qualitative research method and phenomenology design were used in the study. Maximum variation sampling was preferred in sample selection. The sample group consisted of 39 second-year students studying at Technical Sciences Vocational School of Bingl University in the city centre of Bingl in the 2021-2022 academic year. The researcher collected data by using a student interview form with 13 questions in order to get the views of the participants in detail. The descriptive analysis method was employed to analyse the data. As a result of the research, findings regarding the first changes in feelings and thoughts, the positive and negative effects of distance education applications on courses, their suggestions for distance education applications and the continuity of distance education applications were obtained.

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## INTRODUCTION

The Novel Coronavirus (COVID-19) pandemic, which broke out in Wuhan, China in the last months of 2019 and quickly spread throughout the world in a short span of time, has brought about changes in many fields. The field of education is one of these areas that have been affected to a significant degree. Due to the COVID-19 pandemic, educational institutions at all educational levels, from primary school to higher education, interrupted their service. Following this circumstance, as in other educational levels, universities decided on the implementation of distance education and continued educational activities (Öğüdücü, 2020).

The individual acquires knowledge and abilities not only in educational institutions but also everywhere where learning takes place. Some of these learning activities carry out in a planned and programmed manner, in response to the demands made by the student. Some of them take place when an individual observes, feels, or experiences actions and objects in any environment without being aware of them (MEB, 2014). The world is undergoing a continual and rapid process of change and development as a direct consequence of the effect of globalization, which has resulted in the disappearance of boundaries, the universalization of values, and the beginning of cultures that resemble one another (Bozkurt, 2014). It has been understood that these constantly and very rapidly renewed developments in technology and science, as well as the changing needs of individuals in response to these developments necessitate new learning settings (Yıldız, 2016), and school education is insufficient to solve the problems that arise in real life later on. The availability of educational opportunities other than school is needed in order to overcome these problems (Bağcı, 2011). Distance education, which makes it possible for an educational system to simultaneously provide both mass and individualized education (Bayrak, Aydemir and Karaman, 2017), appears as an alternative in this sense.

Distance education is an education model that uses information technologies to solve educational problems and enables learners to organize their own work styles, enabling many students to study independently of time and place (İşman, 2011; Kaya, 2002). The educational needs of students have been satisfied by information and communication technologies based on their interests, abilities, occupations, ages, individual paces, and methods and the limitations of traditional education have decreased as the necessity to share time and space has been abolished (Oral and Yazar, 2017). Different application strategies in the distance education system are formed into two basic structures: synchronous and asynchronous (Mahiroğlu and Coşar, 2008). While asynchronous distance education involves the lecturer and student being online at separate times, synchronous distance education takes place when the lecturer and student are online at the same time and have the opportunity to do the course together (Oral and Yazar, 2017). The lecturer prepares and presents course materials to the student in asynchronous distance learning. Students may continue their studies by having access to these materials at any time they want. Simultaneous distance learning is a type of education in which lecturers and students interact at certain intervals through various methods (Erfidan, 2019).

One of the most significant challenges that many educational institutions faced as a result of the transition to distance education is the fact that they were not prepared for distance education and did not have the necessary infrastructure to make use of this system. Another important consideration discovered throughout the period is that distance education was the sole source of education for students and they receive education at their home via television and the internet (Yamamoto and Altun, 2020). At this time, when the distance education became more and more important, it is important to know the negative and positive aspects of the system, to overcome the problems and to use it more effectively in order to improve the system. At this point, it is crucial to determine the views expressed by students, who are among the stakeholders most affected by the system, on the positive and negative circumstances they encounter. Because determining the positive and negative effects of distance education applications that have entered our lives urgently due to the pandemic will guide the subsequent distance education application processes. Based on these reasons, it was planned to conduct this research with students who received education through distance education during the pandemic period. In this sense, the aim of this study is to determine the views of vocational school

students about the positive and negative effects of distance education applications during the COVID-19 pandemic.

## METHOD

This section contains information about the research model, sample group, data collection tools, and data analysis.

### Research Model

In this study, phenomenology, one of the qualitative research methods, was used. Phenomenological design places a significant emphasis on experience since it intends to reach the essence of experiences by questioning those experiences (Ersoy, 2016). Individuals and groups who experience the phenomenon and can reflect on the phenomena they have experienced serve as data sources in phenomenological studies (Yıldırım and Şimşek, 2016, p.71). These data sources must have experiences that are related to the phenomena that are being investigated (Gliner, Morgan, and Leech, 2015).

### Sample Group

The sample group was formed using maximum variation sampling. Maximum variation sampling investigates common conditions over a broad range of variation (Glesne, 2015, p.61). Maximum diversity sampling was used in this sense, as the opinions of students who had previously experienced the phenomenon of distance education and studied in various programs were tried to be taken. The sample group comprised 39 second-year students studying at the Technical Sciences Vocational School of Bingöl University in the city centre of Bingöl in the 2021-2022 academic year. Information about the students is given in Table 1.

**Table 1.** Information about students

Variables		f	%
<b>Gender</b>	Female	12	30,76
	Male	27	69,23
<b>Study Program</b>	Alternative Energy Resources and Technology programme	2	5,12
	Computer Programming	4	10,25
	Electronic Communication Technology programme	2	5,12
	Mapping and Cadastral Survey programme	4	10,25
	Carpet Weaving and Rugmaking programme	1	2,56
	Interior Design programme	7	17,94
	Construction Technology programme	4	10,25
	Machinery programme	4	10,25
	Mechatronics programme	3	7,69
	Automotive Technology programme	7	17,94
	Landscape and Ornamental Horticulture	1	2,56

The student interview form was employed during interview held with 39 students studying in different programmes. Volunteerism of the individuals to be interviewed was taken into account. In the office of the researcher, one-on-one interviews with students were held.

### Data Collection Tools

Phenomenology design was used in the study. Interviews are the mostly used data collection tool in phenomenological researches. During the interview, the researcher may allow people to divulge their experiences that they are unaware of and the meanings that they do not think by establishing a communication based on trust and empathy with the data sources (Yıldırım and Şimşek, 2016, p.71). In this context, a semi-structured interview form was used, in which the questions were prepared in advance, but some questions could be added during the interview, in order to obtain views of students

at the Technical Sciences Vocational School on the applications of distance education in detail. First, a list of questions was prepared. The student interview form list had 13 questions. For expert opinion, a professor, an assistant professor, and a lecturer working in different units evaluated both lists for content and clarity, and necessary adjustments were made. Interview forms consisted of simply comprehensible open-ended questions that are supposed to determine the views of students on distance education applications.

### Data Analysis

In the study, the descriptive analysis method was used to analyse the data. The purpose of this analysis method is to organize and interpret the gathered data and present it to the reader (Yıldırım and Şimşek, 2016, p.239). As a consequence, the data were described, explained, and interpreted, and some conclusions were achieved. The data from students were divided into main themes based on the research questions, and then sub-themes and codes were produced based on these themes. In qualitative studies, it is essential to establish both reliability and validity. In order to ensure reliability in qualitative studies, detailed field records should be kept, the research team should deliver precise and thorough information, participants should check examine notes for accuracy, audio and video recordings should be retained, citations should be made from the participants and presented verbatim without any additions (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz and Demirel, 2012). Internal validity in studies is related to the problem that research findings do not correspond to reality in the outer world. External validity, on the other hand, is related to the degree to which a research finding may be extended to different situations (Merriam, 2013). Accordingly, to provide reliability and internal and external validity in the study, the data was initially recorded during collection phase. The data was analysed, examined and compared at different times by both the researcher and a assistant professor, and the categories were well defined. The text included frequently citations from the interviewees. Without making any further changes, the citations were presented here with italics and quotation marks. While giving citations, there were also abbreviations for students. In order to denote the students interviewed, abbreviations such as AER-1 and CP-1, which were the initials of the programme that each student attended were used.

## FINDINGS AND REMARKS

This section includes the results achieved from the views of the students. As a result of the analysis of the data obtained from the students' views, 9 main themes were determined. These main themes were divided into sub-themes and codings.

### The Theme of First Views for Distance Education Decision

This major theme was divided into two sub-themes: emotions and thoughts. Table 2 shows the coding and loading numbers for this main theme.

**Table 2.** Sub-themes and loading numbers of students' first views on the distance education decision during the COVID-19 pandemic

SUB-THEMES	f
<b>THOUGHTS</b>	<b>43</b>
<b>Positive thoughts</b>	<b>15</b>
staying safe (health)	6
saving time	4
making time for oneself	2
both studying and working	2
independence from space	2
Comfort	2
economic comfort	1
ambient comfort	1
financial saving	1

<b>Negative thoughts</b>	<b>28</b>
being away from school	5
learning difficulty	5
lack of experience	5
inefficiency	5
lack of knowledge	3
communication problem	2
adaptation problem	1
inability to master the courses	1
lack of resources	1
<b>EMOTIONS</b>	<b>33</b>
<b>Positive emotions</b>	<b>8</b>
Joy	7
Curiosity	1
<b>Negative emotions</b>	<b>25</b>
nervousness	9
Sadness	8
worry/anxiety	3
suspicion/doubt	3
unhappiness	1
astonishment	1
<b>Total</b>	<b>76</b>

When Table 2 was examined, it was observed that the students expressed their first views on the distance education decision as both thoughts and emotions in both positive and negative senses. The following are some reference sentences on the resulting coding:

**ID- 1.** *“In all honesty, we believed that it was really beneficial for health. Because it was evident that if individuals came together, the pandemic would spread much farther.”*

**MAC-4.** *“...we wouldn’t have had to deal with the difficulties while going to and from school. We might even attend courses from our workplace.”*

**MAC-3.** *“We did not have such an experience since we had never previously experienced a distance education process. It would be our first time. Therefore, it was a bit unusual.”*

**CP-4.** *“I’m from out of town. Of course, when I first heard about it last year, I thought it was a great opportunity since it meant I could remain at home for a year. I would not leave town. That’s why I was so delighted when I first heard it.”*

### **The theme of Views on the Effect of Distance Education Applications on the Courses**

Sub-themes of this main theme were “theoretical courses” and “applied courses”. Table 3 presents the coding and loading numbers for these sub-themes.

**Table 3.** Sub-themes and loading numbers of students’ views on the effect of distance education applications on the courses during the COVID-19 pandemic

<b>SUB-THEMES</b>	<b>f</b>
<b>THEORETICAL COURSES</b>	<b>84</b>
<b>Positive views</b>	<b>43</b>
• efficient/beneficial	32
• reinforcement	7
• simultaneous research opportunity	1
• extra course opportunity	1
• easy access to resources	1
• private course convenience	1

<b>Negative Views</b>	<b>41</b>
• inefficient	24
• lack of communication and interaction	4
• inability to ask questions to the lecturer	3
• inability of lecturers to give information	1
• lack of compulsory school attendance	2
• failure to follow course records	2
• useless	2
• temporary	2
• discontinuity between classes	1
• raising a conflict	1
• lack of motivation	1
• boring	1
• diminished responsibility	1
<b>APPLIED (LABORATORY) COURSES</b>	<b>82</b>
<b>Positive Views</b>	<b>5</b>
• efficient	2
• reduced stress	1
• Internet resource support	1
• homework support	1
<b>Negative Views</b>	<b>77</b>
• inefficient	32
• no opportunity to practice	11
• being away from the laboratory/practice setting	8
• being abstract	7
• learning difficulty	5
• lack of feedback-correction	4
• lack of guidance and supervision	3
• flexibility	3
• short course duration	2
• lack of materials	2
<b>Total</b>	<b>166</b>

When Table 3 was examined, it was observed that the student's views on the effects of distance education applications on courses were established through positive and negative coding in the context of theoretical and applied courses. The following are the student views that served as the source for the coding:

**ECT-1.** *“We could watch course videos and recordings over and over again. If we were confused anywhere, we could simply open it up and look again.”*

**CP-4.** *“We do not attend any courses at all, and the lecturers do not disclose which topics or questions would be on the exam until it comes around to that time. They do nothing either. That being the case, they do not provide any information”*

**ATP-5.** *“...Because when the lecturer told us, we could open it and discover all sorts of items in detail on the internet.”*

**CT-1.** *“I believe that it is impossible to get efficiency from applied courses without seeing, touching, and being a witness to a one-to-one narrative. Since things are structured in this way in distance education, I don't believe it will be of much use to us in our future careers...”*

#### **The theme of Views on Assessment/Evaluation Applications in Distance Education**

“Beneficial aspects” and “problems faced” appeared as sub-themes of this main theme. Table 4 presents the coding and loading numbers for this main theme.

**Table 4.** Sub-themes and loading numbers of students' views on assessment/evaluation applications in distance education during the COVID-19 pandemic

<b>SUB-THEMES</b>	<b>f</b>
<b>BENEFICIAL ASPECTS</b>	<b>24</b>
<ul style="list-style-type: none"> <li>• efficient</li> <li>• simple</li> <li>• ambient comfort</li> <li>• clear questions</li> <li>• referral to research</li> </ul>	<p>10 5 5 3 1</p>
<b>PROBLEMS FACED</b>	<b>93</b>
<b>Individual Problems</b>	<b>28</b>
<ul style="list-style-type: none"> <li>• helping each other</li> <li>• easy access to answers</li> <li>• disregarding exams</li> <li>• get stressed</li> </ul>	<p>16 6 5 1</p>
<b>Technical Problems</b>	<b>30</b>
<ul style="list-style-type: none"> <li>• early/late opening of the exam</li> <li>• logged out of the exam</li> <li>• failure to load the file</li> <li>• power cut</li> <li>• failure to return to the previous question</li> <li>• failure to submit exam</li> <li>• collapse of the system</li> <li>• shutdown of the system</li> <li>• disconnection</li> <li>• freezing problem</li> <li>• failure to transmit a file</li> <li>• access problem</li> <li>• display problem</li> <li>• failure to take the exam</li> </ul>	<p>7 4 3 2 2 2 2 2 1 1 1 1 1 1 1</p>
<b>Lecturer-Based Problems</b>	<b>9</b>
<ul style="list-style-type: none"> <li>• insufficient exam time</li> <li>• tough questions</li> <li>• too many questions</li> <li>• long questions</li> </ul>	<p>4 3 1 1</p>
<b>Other Problems</b>	<b>26</b>
<ul style="list-style-type: none"> <li>• failure to assess the success</li> <li>• inefficient</li> <li>• unfair</li> <li>• ineligible for applied courses</li> </ul>	<p>21 3 1 1</p>
<b>Total</b>	<b>117</b>

When Table 4 was examined, it was observed that the students expressed both positive and negative views on distance assessment and evaluation applications. There were multiple sub-themes and coding in the sub-theme of the problems faced. The following are some of the student views that served as the source for the coding:

**AER-2.** "... Because you take the exam in a comfortable setting. The atmosphere in the classroom might be tense. I'd say it might be stressful. However, you are more comfortable in your home atmosphere."

**MC-4.** "...the student was taking the exam by opening the topics from another place in the exam. He wasn't taking the exam based solely on his knowledge"

**ID-1.** "...there was sometimes a difficulty with the system. For example, we couldn't log in the system for ten minutes before a fifteen-minute exam. Or, when we submitted the exam two minutes ago, the system failed to recognise it, and we failed the exam."

**CT-3.** *“The questions were lengthy. Their solutions were the same. It was taking us a long time to write it and get it into the technological environment.”*

### The Theme of Views on the Materials Used in Distance Education Applications

It was observed that the sub-themes of this main theme were “course recordings/videos”, “portable document”, “presentation”, “blackboard”, “visuals”, and “link”. Table 5 shows the coding and loading numbers for these sub-themes.

**Table 5.** Sub-themes and loading numbers of students’ views on the materials used in distance education applications during the COVID-19 pandemic

<b>SUB-THEMES</b>	<b>f</b>
<b>COURSE RECORDINGS/VIDEOS</b>	<b>26</b>
<b>Positive views</b>	<b>19</b>
• possibility of repeat	7
• efficient	7
• explanatory	2
• sufficient	2
• instant access	1
<b>Negative views</b>	<b>7</b>
• disconnection	3
• insufficient	3
• inefficient	1
<b>PORTABLE DOCUMENT</b>	<b>16</b>
<b>Positive views</b>	<b>13</b>
Sufficient	5
Explanatory	3
Efficient	3
Detailed	1
possibility of repeat	1
<b>Negative views</b>	<b>3</b>
• ready document	1
• content deficiency	1
• complicated	1
<b>PRESENTATION</b>	<b>10</b>
<b>Efficient</b>	<b>5</b>
• sufficient	2
• comprehensible	1
• easy access	1
• possibility of repeat	1
<b>BLACKBOARD</b>	<b>6</b>
<b>Positive views</b>	<b>3</b>
• efficient	2
• problem-free	1
<b>Negative views</b>	<b>3</b>
• display problem	3
<b>VISUALS</b>	<b>2</b>
• efficient	2
<b>LINK</b>	<b>2</b>
• efficient	2
<b>Total</b>	<b>62</b>

When Table 5 was examined, it was determined that the students expressed their views on the positive and negative aspects of course recordings/videos, portable document, presentation, blackboard, visuals, and link materials utilised in distance education applications. The following are some student views:

**ID-7.** *“Whether it’s presentations, PDFs, or videos. They were all efficient in that way.”*

**ATP-5.** “Thanks to our lecturers, they have previously described all of the material in the PDF in the most detailed manner. I didn’t need any further books or materials.”

**CP-4.** “The videos were efficient; however, they were often interrupted.”

**CT-3.** “We did well with the material. We were constantly receiving notes, pdfs, etc. Courses were being taught. The video link for that course was uploaded. We were watching the videos of the experiments made in the laboratory setting.”

### The Theme of Views on the Effect of Distance Education Applications on the Interpersonal Communication

It was observed that sub-themes of this main theme appeared as “with the lecturers” and “with the classmates”. Table 6 shows information about this theme.

**Table 6.** Sub-themes and loading numbers of students’ views on the effect of distance education applications on interpersonal communication during the COVID-19 pandemic

SUB-THEMES	f
<b>WITH THE LECTURERS</b>	<b>73</b>
<b>Positive Effects</b>	<b>29</b>
• communication diversity	14
• communication via Microsoft Teams	5
• communication via WhatsApp	5
• communication via e-mail	4
• easy access	9
• quick feedback	6
<b>Problems Faced</b>	<b>44</b>
• system-based	18
• connection problem	6
• login problem	6
• crowded virtual classroom	3
• being logged out of the system	2
• insincerity in the virtual setting	1
• individual-based	13
• inability to express oneself	6
• unfamiliar with the lecturer	5
• adaptation problem	2
• lecturer-based	13
• unable to contact the lecturer	11
• failure to get feedback	1
• lack of communication	1
<b>WITH THE CLASSMATES</b>	<b>37</b>
<b>Positive Effects</b>	<b>27</b>
• communication diversity	27
• communication via WhatsApp	18
• communication over phone	5
• communication over the application	3
• communication via e-mail	1
<b>Problems Faced</b>	<b>10</b>
• virtual acquaintance	5
• shyness	4
• mechanical relationship	1
<b>Total</b>	<b>110</b>

When Table 6 was examined, it was determined that students utilised positive and negative coding to describe their communication status with both the lecturers and their classmates during the distance education process. The following are some of the student views that served as the source for the coding:

**MC-1.** *“Our class shared a WhatsApp group. When the lecturers spoke out, the representative promptly notified the group. So, everyone knew everyone.”*

**CT-4.** *“We were hesitant to ask the lecturers questions during the classes. Because we were hesitant of what people’s attitudes would be if we asked questions to individuals we’d never met.”*

**ID- 3.** *“I’ve had no problems. I was in frequent contact with my friends by phone.”*

**CP-1.** *“...However, in our own classroom, hardly one talked in class since they didn’t know anybody.”*

### **The Theme of Views on the Problems Faced During Distance Education Applications**

Loadings were made to two sub-themes under this main theme: “associated with live classes” and “associated with the application system”. Table 7 provides the sub-themes and upload numbers for this theme.

**Table 7.** Sub-themes and loading numbers of students’ views on the problems faced in distance education applications during the COVID-19 pandemic

<b>SUB-THEMES</b>	<b>f</b>
<b>Associated with Live Classes</b>	<b>45</b>
• lack of technological opportunities	25
• <i>Internet connection problem</i>	16
• <i>PC/Tablet Issue</i>	4
• <i>Internet quota problem</i>	3
• <i>power cut</i>	2
• lack of technological skills	7
• <i>failure to log in the course</i>	4
• <i>unable to adjust audio/video settings</i>	2
• <i>failure to attend the course</i>	1
• inability to participate actively in the class	4
• lack of content knowledge	3
• joint conduct of the courses	2
• inefficient	2
• inability to take class notes	1
• long duration of the courses	1
<b>Associated with the Application System</b>	<b>67</b>
• sound/display problem	21
• logged out of the class	20
• <i>logged out of the class by the system</i>	13
• <i>logged out of the class by other students</i>	7
• failure to log in course	16
• connection problem	4
• failure to start-up	3
• failure to appear in the list of participants	1
• inability to view messages	1
• failure of the modules to start	1
<b>Total</b>	<b>112</b>

When Table 7 was examined, it was determined that the students stressed the problems they encountered with live classes and the application system in distance education applications. The following are some of the student views:

**MC-4.** *“I was unable to attend the courses since the internet was not accessible much in our region. Due to the internet, I was able to log in too late.”*

**CT-4.** *“We were unable to maximise the effectiveness of the applied courses. The lecturer was drawing, but we couldn’t. Sometimes we couldn’t have a table, or we weren’t in an available location.”*

**ATP-7.** *“For instance, the screen was being frozen. I can say that the voices were coming late. Voices might overlapped. It was a little difficult when several people were speaking at the same time.”*

**LOH-1.** *“We were having many problems in common classes. We couldn’t ask anything that came to mind during the class”*

### The Theme of Recommendations for Distance Education Applications

Four sub-themes appeared under this main theme; “for the courses”, “for the technical support”, “for the system”, and “for the exams”. Table 8 shows the sub-themes and loading numbers for this theme.

**Table 8.** Sub-themes and loading numbers of the students’ views on the recommendations for distance education applications during the COVID-19 pandemic

SUB-THEMES	f
<b>For the Courses</b>	<b>34</b>
<ul style="list-style-type: none"> <li>• students must have their webcams turned on</li> <li>• education should be hybrid</li> <li>• active participation of students should be ensured</li> <li>• appropriate teaching method should be selected</li> <li>• documents should be uploaded to the system before the course</li> <li>• courses should be kept short.</li> <li>• there should be a restriction for absenteeism</li> <li>• courses should take place every week day</li> <li>• homework should be assigned</li> <li>• all courses must be taught online</li> </ul>	<p>12 6 4 3 2 2 2 1 1 1</p>
<b>For The Technical Support</b>	<b>14</b>
<ul style="list-style-type: none"> <li>• Internet support should be given</li> <li>• support for technical devices should be provided</li> </ul>	<p>10 4</p>
<b>For The System</b>	<b>19</b>
<ul style="list-style-type: none"> <li>• the system should be improved</li> <li>• the system should have an administrator</li> <li>• technical problems of the system should be solved</li> <li>• platforms used should be integrated</li> <li>• materials suitable for the system should be developed</li> </ul>	<p>9 5 3 1 1</p>
<b>For the Exams</b>	<b>13</b>
<ul style="list-style-type: none"> <li>• students should be excused for systemic problems in the exams</li> <li>• each student should have a different question</li> <li>• exam time should be extended</li> <li>• the number of questions should be decreased</li> <li>• students should be able to return to the questions that they have answered.</li> <li>• feedback on the exam delivery should be taken</li> <li>• questions must be displayed at the same time</li> <li>• questions may be answered in any order</li> </ul>	<p>3 2 2 2 1 1 1 1</p>
<b>Total</b>	<b>80</b>

When Table 8 was analysed, it was observed that the students offered several recommendations in accordance with the problems they encountered. The following are some of the student views that served as the reference for those recommendations:

**MEC-1.** *“Students may switch on their webcams to figure out whether they are studying or not.”*

**MAC-4.** *“By uploading the lecture notes to the system one week in advance, our lecturers can assure that the students get ready for the class. It would be better if students get ready for the class and reinforced this throughout the class.”*

**LOH-1.** *“Homework was quite beneficial to me. I learned many courses this way. I figured it out by doing my homework. Students should be assigned homework to achieve this.”*

**ATP-6.** *“The exam time was insufficient due to too many questions. I think that both the duration of the exam should be extended and the number of questions should be reduced.”*

### **The Theme of Views on the Comparison of Face-to-face Education Applications and Distance Education Applications**

Two sub-themes as “face-to-face education”, and “distance education” appeared under this theme. Table 9 shows the sub-themes and loading numbers for this theme.

**Table 9.** Sub-themes and loading numbers of student views for the comparison of face-to-face education applications and distance education applications during the COVID-19 pandemic

<b>SUB-THEMES</b>	<b>f</b>
<b>FACE-TO-FACE EDUCATION</b>	<b>55</b>
<b>Its effect on the course</b>	<b>27</b>
• <i>efficient</i>	<i>14</i>
• <i>understanding courses</i>	<i>5</i>
• <i>repeat</i>	<i>3</i>
• <i>applied education opportunities</i>	<i>3</i>
• <i>attendance to courses</i>	<i>1</i>
• <i>responsibility</i>	<i>1</i>
<b>Its effect on communication</b>	<b>20</b>
• <i>ability to ask questions to the lecturer</i>	<i>6</i>
• <i>one-on-one communication with the lecturer</i>	<i>5</i>
• <i>classroom/school atmosphere</i>	<i>3</i>
• <i>ability to spend time with friends</i>	<i>2</i>
• <i>ability to receive feedback</i>	<i>2</i>
• <i>ability to express oneself comfortably</i>	<i>1</i>
• <i>knowing lecturers</i>	<i>1</i>
<b>DISTANCE EDUCATION</b>	<b>183</b>
<b>Providing flexibility</b>	<b>35</b>
• <i>independence from space</i>	<i>8</i>
• <i>ability to both study and work</i>	<i>6</i>
• <i>ability to make time for oneself</i>	<i>5</i>
• <i>short course duration</i>	<i>4</i>
• <i>no absenteeism problem</i>	<i>4</i>
• <i>independence from time</i>	<i>4</i>
• <i>flexible course hours</i>	<i>3</i>
• <i>more flexible lecturers</i>	<i>1</i>
<b>Its effect on the course</b>	<b>30</b>
• <i>ability to play back lecture recordings</i>	<i>16</i>
• <i>ability to access materials at any time</i>	<i>4</i>
• <i>ability to make time for studying</i>	<i>3</i>
• <i>ability to research</i>	<i>2</i>
• <i>success</i>	<i>2</i>
• <i>not having stress</i>	<i>2</i>
• <i>individual study</i>	<i>1</i>
<b>Economic</b>	<b>14</b>
<b>Comfort</b>	<b>14</b>
<b>Health</b>	<b>14</b>
<b>Transportation</b>	<b>4</b>
<b>Total</b>	<b>238</b>

When Table 9 was examined, it was determined that each sub-theme was divided into sub-themes within itself. These sub-themes, coding and reference views are as follows:

**ATP-6.** *“As associate degree students, we have to be trained as technical staff. For that, we must learn through holding and viewing things. Therefore, I believe that face-to-face education is effective.”*

**MEC-2.** *“Another advantage of face-to-face education is the ability to physically touch certain objects and observe their operating mechanism.”*

**MAC-3.** *“In face-to-face education, you come to the classroom. You have friends. You are at home online and alone. In comparison, the learning atmosphere in the classroom is better. Because there is a dialogue atmosphere with your friends. It’s more immersive since you are learning the course in class with your classmates. You are alone while you are online; just the lecturer is speaking.”*

**CT-3.** *“Distance education was a great blessing for people who were engaged in a different job at that time, working at a different job, earning a livelihood and having responsibilities, since the courses are repeated and we may listen to them afterwards.”*

### **The Theme of Views on the Continuity of Distance Education Applications**

Loading was made to three sub-themes under this main theme: “should partially continue” “should never continue”, and “should fully continue”. Table 10 shows information about this theme.

**Table 10.** Sub-themes and loading numbers of the students’ views on the continuity of distance education applications after the COVID-19 pandemic

<b>SUB-THEMES</b>	<b>f</b>
<b>Should partially continue</b>	<b>28</b>
• theoretical courses	8
• verbal courses	6
• extra-curricular courses	4
• should be hybrid	4
• elective courses	4
• only exams	1
• numerical courses	1
<b>Should Never continue</b>	<b>22</b>
<b>Should fully continue</b>	<b>6</b>
<b>Total</b>	<b>56</b>

When Table 10 was analysed, it was found that each sub-theme was divided into sub-themes within itself. These sub-themes, coding and reference views are as follows:

**MAC-2.** *“I personally wish we could have had verbal courses.”*

**ATP-1.** *“Other than the department course, I believe all classes should be online, but the department courses should absolutely be face-to-face.”*

**MCP.** *“There is an opportunity to work and study at the same time. It is more financially comfortable. That is my personal view.”*

## **CONCLUSION AND DISCUSSION**

The views of students about discontinuing face-to-face education and transitioning to distance education were determined first in the study. When the participants learned that education and training would continue with distance education, they expressed both their emotions and their thoughts on this

subject at that moment. When students first learned about the decision on distance education, they stated that they had positive thoughts that it would be good in terms of staying safe (health); whereas, their negative thoughts were generally learning difficulties, lack of experience, inefficiency, lack of information, communication problem and adaptation problem. The data from the study revealed that students mentioned the effect of distance education on theoretical courses and applied courses with regard to the effect of distance education applications on the courses. As a result of the study, the students stated that the applied courses were inefficient and the materials required for the application were missing. Another negative view expressed by students on this subject was the lack of feedback and correction, as well as lack of guidance and supervision. When it comes to the effects of distance education on theoretical courses, the students claimed that it was efficient. According to the information received from the students, the positive effects of distance education on theoretical courses were reinforcement, additional course opportunities, and easy access to resources. With regard to the negative effects of distance education on theoretical courses, students reported that it made them less motivated and more bored. While Demir and Kale (2020) also reported in their study that students in distance education had less motivation and pay less attention to the classes, Duman (2020), on the other hand, stated that students in the system of distance education lost their attention and motivation since there was no interaction between them and their lecturers. Likewise, in the evaluation of the section on the quality of distance education in the study by Gören et al., (2020), all participants reported that distance education did not progress as effectively as face-to-face education, and they experienced some challenges such as internet connection and lack of motivation during this period.

The third conclusion drawn based on the study was related to the assessment-evaluation applications carried out in distance education. The problems faced by students as well as the beneficial aspects of the application were mentioned in that theme. Students agreed that assessment-evaluation applications were comfortable, they also stated that they faced some technical problems. The students stated to having problems caused by the lecturer, such as insufficient exam time and tough questions. The students indicated that the exams did not measure success. Another issue addressed in the study was the effect of distance education applications on interpersonal communication. The students addressed the problems they faced in communicating with both the lecturers and their classmates, as well as the positive effects of distance education applications. The students mentioned that they had more system-based problems in communication with the lecturers. In the study by Bakioğlu and Çevik (2020), students came up with views that they were anxious due to their low attendance and difficulties in communicating with other students. Sultana and Tamanna (2022), stated that internet technologies reduced communication by increasing the social distance between individuals in the field of education as in many other fields.

The fifth theme is about the materials used in distance education applications. The possibility of repeat, which is one of the positive aspects of the materials, was also represented in other studies evaluated. The study by Alper (2020) reported that the possibility to watch offline classes was among the advantages of distance education. Likewise, the study by Duman (2020) noted that one of the advantages of distance education was the possibility to watch the classes later again. Similarly, Genç and Gümrükçüoğlu (2020) reported that students were satisfied with the capability to listen to classes later again.

The problems faced in distance education applications were one of the conclusions drawn in the study. In this main theme, the students had problems with live classes and the application system. Among these problems, the students mostly had problems with the application system. Likewise, Alper (2020) stated in her study that some students had problems with homework and attendance. In their studies, Bakioğlu and Çevik (2020) determined that the problems caused by lack of technological opportunities, such as the provision of educational tools such as computers and the internet, and the problems they expressed as a lack of knowledge about computer use and education platforms, were similar to the problems caused by lack of technological skills. In their study, Genç and Gümrükçüoğlu (2020) indicated that the inadequacy of the tools used by students to access the internet and watch the lectures reduced course follow-up and efficiency. In their study, Gömleksiz and Pullu (2020) mentioned that live class applications were boring, challenging and short, as well as incomplete and

inefficient, and ineligible for distance education. Furthermore, they reported that the students had problems with the technological infrastructure, such as system-related problems like audio and video loss in live classes, inadequate internet quotas, and internet access. The Fauzi reported in its 2022 study that students experiencing financial difficulties struggled the most to connect to classes. Internet connection and lack of suitable devices to study at home were among the problems faced by students (Fauzi, 2022).

The seventh result reached as a result of the research is the students' suggestions for distance education applications. The students offered recommendations for courses, technical support, the system, and exams. The students recommended mostly that their webcams be turned in the sub-theme on courses. The main theme of the recommendations for distance education applications concluded the students made common recommendations, such as hybrid education, short course periods, internet support, technological device support, and system improvement. The study by Yavuz et al., (2020) indicated that in times of crisis, the need for finding synchronous and asynchronous tools, developing infrastructure, carrying out some activities to prepare students and lecturers for the process, holding some social and cultural activities using synchronous tools, and expediting digital transformation activities came into prominence due to future concerns, such as public health and safety came. In their study, Topuz et al., (2021) expressed that face-to-face education and distance education should be utilised in conjunction, and infrastructure should be improved in order to eliminate the barriers causing anxiety in distance education. Pal et al., (2021), on the other hand, argued that in order to overcome the problems faced, necessary services should be delivered and beneficial strategies should be developed to supply virtual tools in the education system. Furthermore, it was established that they made recommendations for the use of the mixed education system in order to enhance educational quality at an affordable price.

Another result is the comparison of face-to-face education and distance education applications. Students emphasized that distance education applications provide flexibility to them. Apart from the issues they shared with the lecturers, the students mentioned that distance education had a positive effect on their health and transportation, offered comfort, and was cost-effective. The study by Demir and Kale (2020) indicated that the positive aspects of distance education included giving alternative educational options during the pandemic period, supporting face-to-face education, and saving time and space. Furthermore, they discovered that one of the advantages of distance education was the ability to spend more time with their family throughout this process. The study by Duman (2020) reported that the advantages of distance education were mostly due to its properties such as the ability to play back lecture recordings, independence from the space, no problem of absenteeism, and the ability to attend the courses by phone, Genç and Gümrükçüoğlu (2020) also indicated that students were satisfied with the opportunities with distance education, such as saving time, accessing the courses easily, and listening to them later again. Kunaviktikul et al., (2022) noted that students could attend the course whenever and wherever, but Sultana and Tamanna (2022) remarked that distance education saved the most potential time for individuals in the education sector.

The ultimate conclusion drawn from the interviews was related to the continuity of distance education applications. As a result of this theme, the students conveyed their views in three ways: should partially continue, should ever continue, and should fully continue. While the study by Topuz et al., (2021) reported that there were the views stating that face-to-face education and distance education should be utilised in conjunction in order to eliminate the barriers causing anxiety in distance education, the study by Pal et al., (2021) revealed that they made recommendations for the use of the mixed education system in order to enhance educational quality at an affordable price.

In line with the results of the research, some suggestions have been developed. Technological device support should be provided in order to enable students to participate in the lesson and to use the applications. Technological infrastructure should be provided in order to eliminate systemic problems, which are one of the main sources of problems experienced while using the system, and to enable all stakeholders to use the system. Participants should be trained about the system.

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