Research Article

Evaluation of Online Education Provided to Students During the COVID-19 Pandemic: A University Experience

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Abstract

AIM: In this study, it was aimed to evaluate the online education provided to students during the COVID-19 pandemic.

METHOD: The research was carried out with 841 students studying for undergraduate and associate degrees in a health sciences university. The research was designed with qualitative and quantitative features using a mixed method. In the quantitative phase, an online questionnaire consisting of eight questions covering socio-demographic data and experiences in the COVID-19 process was used. In the qualitative phase, in-depth interviews were conducted online using a semi-structured interview form. The qualitative design was carried out and reported in accordance with the criteria of “COnsolidated criteria for REporting Qualitative research (COREQ).”

RESULTS: Of the students who responded, 75.5% (n = 635) stated that they attended 76–100% of the total number of courses, and 56.1% of them stated that the efficiency of their lessons was over 50%. The analysis of the data was done manually according to Heidegger philosophy, in accordance with the steps of the data analysis method of Colaizzi (1978). As a result of the content analysis, three main themes and 21 categories were determined. The following themes were achieved: “Better than nothing!” for positive aspects of students’ experiences, “Face-to-face education is better!” for negative aspects, and “It could have been better!” for their suggestions.

CONCLUSION: It has been determined that the contents of distance education in health sciences for theoretical and applied courses should be further developed with a technological approach.

Keywords: COVID-19, distance education, mixed type research, online education, university students

Introduction

The COVID-19 pandemic that started in Wuhan, China, in January 2020 has affected the whole world (Shehata et al., 2020). The first COVID-19 cases were seen in Turkey on March 11, 2020 (Republic of Turkey Ministry of Health, 2020). Just as in the rest of the world, there have been significant changes in lifestyle, including education, in Turkey as a result of the pandemic. Face-to-face education at the undergraduate level was suspended and the transition to distance education enabled education and training activities to continue. In fact, distance education was a method used in nursing education even before the COVID-19 pandemic (Şenyuva & Bodur, 2016). However, during the COVID-19 pandemic, distance education became compulsory because face-to-face education became impossible (Bozkurt & Sharma, 2020; El Maarouf et al., 2020). This rapid and compulsory transition for educators and students who have not previously had distance education experience has technically challenged academicians and students (Telli & Altun, 2020).

The teaching process carried out during the COVID-19 pandemic is defined as “emergency remote teaching” rather than “online learning.” In the literature, it is stated that the education given in this...
period is not the same as the normal online learning process, and the process should be evaluated within the framework of its own conditions (Bozkurt & Sharma, 2020). In Turkey, where the study was conducted, as of March 16, 2020, in-person education was suspended and distance education was introduced in undergraduate education (Yükseköğretim Kurulu, 2020a). However, this development brought serious concerns about how to conduct distance education, especially in applied sciences such as medicine, dentistry, nursing, midwifery, physiotherapy, and health services at the level of associate degree programs. Courses in health sciences such as nursing education include active practical training with real patients, and intensive theoretical training. The main purpose of this training is to provide students with up-to-date knowledge and evidence-based practices with active learning methods, while contributing to their intellectual development. In education, in the field of the health sciences, where application skills are important, students’ views on distance education are significant in terms of improving the quality of education. In this study, where we aimed to analyze the experiences of students who received education in the compulsory and rapid transition from face-to-face education to distance education, students’ experiences with distance education were examined in terms of quantitative and qualitative aspects.

Research Questions
1. What are the experiences of students in online education during the COVID-19 pandemic?
2. What suggestions do students have regarding online education during the COVID-19 pandemic?

Method

Study Design
This was a quantitative and descriptive study.

Sample
The research population consisted of 2923 undergraduate and associate degree students continuing their education in the spring semester of the 2019–2020 academic year. The research was a mixed type (nested pattern) in which qualitative and quantitative research designs were carried out and analyzed simultaneously. In the qualitative design of the study, a phenomenological research design was used, in which the experiences of the students regarding the online distance education due to the COVID-19 pandemic were examined, as a “phenomenon.” The qualitative design was carried out and reported in accordance with the criteria of Consolidated criteria for REporting Qualitative research (COREQ).

Sample
In the current study, the students were stratified according to their departments using a stratified sampling method. The research sample consisted of undergraduate and associate degree students who were randomly selected and who voluntarily accepted to participate in the study (n = 841).

The qualitative sample of the study, on the other hand, consisted of randomly selected students out of all the distance education students in all faculties and colleges that make up the population, according to the maximum diversity sampling method. In qualitative research, the adequacy of the sample size is decided when new views/ideas are no longer received and the data begins to become repetitive (the saturation point) (Creswell et al., 2007). In total, 39 students were interviewed online after the purpose and method of the research were explained to them. The average age of the participants (22 female and 17 male) was 21.02 ± 3.05 years.

Data Collection
The Distance Education Evaluation Form created by the researchers in line with the relevant literature was used to collect the quantitative data. The Distance Education Evaluation Form, consisting of three questions on demographic information and five questions on the participants’ experiences during the distance education process, was delivered to participants online through Google Forms (https://docs.google.com/forms/d/1QaniajbVJkJymZ5lwxE8ELwDxB3ccqhAOl5KnOzgp3vg/edit?ts=5f105254&gxids=7757).

The researchers who gathered the qualitative data were academicians who actively participated in distance education lessons, and they had preliminary information about the experiences of the participants in line with the feedback received during the courses. However, the validity of the feedback received by the educators regarding students’ perceptions is doubtful. In addition, each educator only had distance learning experiences related to their own courses. Students’ perceptions of all aspects of the phenomenon and of students who were studying in other departments.
of the university who had not participated in the feedback were not known. In-depth interviews with students were conducted online (AS, MB). A semi-structured interview form was used in the interviews. The students were asked “What are your experiences about your distance education process?” In addition, two sub-questions and drilling questions for the positive and negative experiences of the students were asked (“What do you think are the positive aspects of your distance education process?” “What do you think are the negative aspects of your distance education process?” “What do you think can be done to increase the effectiveness of distance education?”) Two researchers took part in the online interviews, a guide and a viewer who maintained the observation notes (AS, MB). The interviews were held once with each student and lasted an average of 35–50 minutes.

**Statistical Analysis**

In the analysis of the quantitative data of the study, IBM Statistics Package for Social Sciences, Version 23, (IBM SPSS Corp., Armonk, NY, USA) and chi-square, Pearson’s chi-square, continuity correlation, and Fisher’s exact test were applied. A value of \( p < .05 \) indicated that the results was considered statistically significant.

Qualitative data were transferred to the computer by the researchers as they were received. The analysis of the data was carried out by two researchers, according to Heidegger’s philosophy (hermeneutics phenomenological approach) (the researchers who conducted the analysis were women and academicians; a nurse with a doctorate degree experienced in qualitative research and a specialist nurse) (AS, MB) (Creswell, 2020). The qualitative research analysis was done in accordance with the steps of data analysis with Colaizzi’s method (1978). The two researchers listened to the interview recordings twice and documented them. The documented data were read repeatedly to confirm that they were compatible with the voice recordings (AS, MB). The smallest significant expressions obtained from the data were listed and checked by the two researchers (in vivo coding). The list of expressions obtained was grouped under common meaning units in line with their closeness (creating categories and themes). Themes created from the obtained semantic units were verified with participant expressions. The results were presented in a rich and comprehensive description (description). Finally, the researchers agreed on the themes and the thematic core of the research (Colaizzi, 1978; Creswell, 2020). As a result of the analysis, three main themes and 21 categories were determined. The created themes and categories were validated through independent examination by a third researcher (experienced in qualitative research, a female academic with a doctorate in educational sciences) (SG) (Creswell et al., 2007). Quotations from participants’ expressions were presented by indicating the students’ age, gender, department, and grade.

To increase the validity and reliability of the qualitative design, (1) at the end of the interviews, participant confirmation was received, (2) data analysis and results were described in detail, (3) the statements of the participants were quoted without any comment, for the reader to compare the data one-to-one, (4) data analysis was done by two different researchers, while another researcher listened to the data records and compared the codes and themes (analysis triangulation) (Creswell et al., 2007).

**Ethical Considerations**

Consent was obtained from the participants before collecting data. This study was carried out by obtaining ethical approval from the Kütahya Health Sciences University Non-Invasive Research Ethics Committee (Approval number: 41997688-050.99) and institutional permission from all departments. Apart from the ethics committee approval for the study, consent was obtained from the Scientific Studies Commission of the Ministry of Health of the Republic of Turkey on COVID-19 (Decision no: 2020-07-01T14_37_50).

**Results**

The demographic information of 841 students who were receiving education in the field of health sciences during the COVID-19 pandemic period is given in Table 1.

The majority of the students participating in the study belonged to the medical faculty \( (n = 205, 29.7\%) \). The average age of the students was \( 20.91 \pm 2.07 \). Most of the participants in the study consisted of first year students \( (n = 294, 35.1\%) \).

Quantitative analyses of the problems experienced by students of the health sciences university with distance education are given in Table 2.
Students who attended online courses the most were dentistry students ($p = .001$). The most encountered problems related to distance education were problems with internet connection and system problems ($p = .001$). It was observed that internet-related problems were mostly experienced by students of the nursing department ($n = 62, 21.8\%$) and personal problems were mostly experienced by the dentistry students (38%). There was no difference between the departments in terms of the rates of querying the lecturer during the classes ($p = .063$).

The highest rate of getting technical support in case of problems during the lessons was among the medical faculty students, at 72.7% ($p = .001$). The rate of students who thought the lessons were quite effective was 22.7%. Students who thought that the courses were quite effective were mostly medical faculty students, at 31.2% ($p = .035$).

As a result of the analysis, 3 main themes and 21 categories were determined.

**Theme 1. Better Than Nothing! (Positive Aspects)**
This theme defines the positive experiences of students in the distance education process, and includes the categories of "we are not sick," "home comfort," “ease of access,” “cheap,” “self-regulation,” and “time.”

**We are not sick:** Students shared their opinion that receiving their education remotely due to the COVID-19 pandemic was a positive feature in terms of their protection from the epidemic, and they expressed their views as follows:

"Distance education prevented and alleviated the spread of the virus." (19y, F, Medical Secretary, First grade).

**Home Comfort:** Students stated that it is comfortable to receive their education remotely at home conditions during the pandemic process with the following expressions:

"It was a great advantage to be with our family, that we didn’t need to wake up too early to listen to lectures. It used to take almost 1–1.5 hours to get up early, get ready and go to school, but now we could even have breakfast while listening to the lesson, and at the same time it was a great comfort to have the opportunity to listen to the lesson again." (20y, F, Medical Faculty, Second grade).

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Table 1. **Demographic Characteristics of the Participants**

| Department | Medicine ($n = 205$) | Dentistry ($n = 101$) | PR ($n = 186$) | Nursing ($n = 160$) | Midwifery ($n = 60$) | VS ($n = 129$) | Total ($n = 841$) |
|------------|---------------------|----------------------|---------------|---------------------|---------------------|----------------|------------------|
| Age (Years) | $21 \pm 2$          | $20 \pm 2$           | $22 \pm 3$    | $21 \pm 2$          | $21 \pm 2$          | $20 \pm 1$     | $21 \pm 2$       |
| Gender     |                     |                      |               |                     |                     |                |                  |
| Female     | $126 (61.5\%)$      | $63 (62.4\%)$        | $145 (78.0\%)$| $136 (85\%)$        | $60 (100\%)$        | $110 (85.3\%)$ | $638 (76.1\%)$   |
| Male       | $79 (38.5\%)$       | $38 (37.6\%)$        | $41 (22\%)$   | $24 (15\%)$         |                     | $19 (14.7\%)$  | $200 (23.9\%)$   |
| Stage in Graduate School (Grade) | $61 (29.8\%)$ | $58 (57.4\%)$ | $40 (21.5\%)$ | $45 (28.1\%)$ | $17 (28.3\%)$ | $75 (58.1\%)$ | $294 (35.1\%)$ |
|            | $33 (16.1\%)$       | $43 (42.6\%)$        | $26 (14\%)$   | $71 (44.4\%)$       | $6 (10\%)$          | $54 (41.9\%)$  | $232 (27.7\%)$   |
|            | $38 (18.5\%)$       | -                    | $55 (29.6\%)$ | $35 (21.9\%)$       | $25 (41.7\%)$       | -              | $153 (18.3\%)$   |
|            | $26 (12.7\%)$       | -                    | $65 (34.9\%)$ | $9 (5.6\%)$         | $12 (20\%)$         | -              | $112 (13.4\%)$   |
|            | $16 (7.8\%)$        | -                    | -             | -                   | -                   | -              | $16 (1.9\%)$     |
|            | $31 (15.1\%)$       | -                    | -             | -                   | -                   | -              | $31 (3.7\%)$     |

Note: Data were given as mean ± SD, median [interquartile range].
PR = physiotherapy and rehabilitation; VS = vocational school.
Table 2.
The Experiences of Health Sciences Students in the Distance Education Process

| Department | Medicine (n = 205) | Dentistry (n = 101) | PR (n = 186) | Nursing (n = 160) | Midwifery (n = 60) | VS (n = 129) | Total (841) | p     |
|------------|-------------------|---------------------|-------------|-----------------|-------------------|-------------|------------|-------|
| How many lessons did you attend during the distance education process? | | | | | | | | |
| 0–25% | 7 (33.3%) | 1 (4.8%) | 5 (23.8%) | 0 | 1 (4.8%) | 7 (33.3%) | 21 (2.5%) |       |
| 25–50% | 19 (9.3%) | 2 (2.0%) | 16 (8.6%) | 10 (6.2%) | 1 (1.7%) | 21 (16.2%) | 48 (5.7%) | .001* |
| 51–75% | 32 (15.6%) | 10 (9.9%) | 30 (16.1%) | 36 (22.5%) | 12 (20.0%) | 17 (13.2%) | 137 (16.3%) |       |
| 76–100% | 154 (75.1%) | 89 (88.1%) | 140 (75.3%) | 114 (71.3%) | 47 (78.3%) | 91 (70.6%) | 635 (75.5%) |       |
| What problems do you experience with distance education? | | | | | | | | |
| Problems related to the internet | 58 (28.3%) | 30 (30%) | 49 (26.3%) | 62 (38.8%) | 27 (45.0%) | 58 (45.0%) | 284 (33.8%) | .001* |
| Problems related to the system | 15 (7.3%) | 4 (4.0%) | 21 (11.3%) | 15 (9.4%) | 8 (13.3%) | 9 (7.0%) | 72 (8.6%) |       |
| Own problems | 75 (36.6%) | 38 (38%) | 62 (33.3%) | 49 (30.6%) | 13 (21.7%) | 41 (31.8%) | 278 (33.1%) |       |
| Problems related to the hours of the lessons | 41 (20.0%) | 20 (20%) | 38 (20.4%) | 28 (17.5%) | 8 (13.3%) | 18 (14.0%) | 153 (18.2%) |       |
| Others | 7 (3.4%) | 0 | 12 (6.5%) | 4 (2.5%) | 1 (1.7%) | 1 (0.8%) | 25 (3.0%) |       |
| Never experienced a problem | 9 (4.4%) | 8 (8.0%) | 4 (2.2%) | 2 (1.3%) | 3 (5.0%) | 2 (1.6%) | 28 (3.3%) |       |
| Were you able to ask questions to the lecturer? | | | | | | | | |
| Yes | 190 (92.7%) | 97 (96.0%) | 164 (88.2%) | 140 (87.5%) | 54 (90.0%) | 110 (85.3%) | 755 (89.8%) | .063* |
| No | 15 (7.3%) | 4 (4.0%) | 22 (11.8%) | 20 (12.5%) | 6 (10.0%) | 19 (14.7%) | 86 (10.2%) |       |
| Did you get technical support when you needed it? | | | | | | | | |
| Yes | 149 (72.7%) | 48 (47.5%) | 126 (67.7%) | 94 (58.8%) | 36 (60%) | 80 (62.0%) | 533 (63.4%) | .001* |
| No | 56 (27.3%) | 53 (52.5%) | 60 (32.3%) | 66 (41.3%) | 24 (40.0%) | 49 (38.0%) | 308 (36.6%) |       |
| How effective do you think the lessons given in the distance education process are? | | | | | | | | |
| 0–25% | 33 (16.1%) | 15 (14.9%) | 41 (22.0%) | 30 (18.8%) | 15 (25.0%) | 37 (28.7%) | 171 (20.3%) | .035* |
| 26–50% | 39 (19.0%) | 28 (27.7%) | 52 (28.0%) | 43 (26.9%) | 13 (21.7%) | 23 (17.8%) | 198 (23.5%) |       |
| 51–75% | 69 (33.7%) | 36 (35.6%) | 58 (31.2%) | 56 (35.0%) | 17 (28.3%) | 45 (34.9%) | 281 (33.4%) |       |
| 76–100% | 64 (31.2%) | 22 (21.8%) | 35 (18.8%) | 31 (19.4%) | 15 (25.0%) | 24 (18.6%) | 191 (22.7%) |       |

Note: *Fischer’s exact test.
* statistically significant (p < .05), n: participant count.
PR = physiotherapy and rehabilitation; VS = vocational school.
Ease of access: Students stated that due to the COVID-19 pandemic, having distance education had a positive effect in terms of ease of access, with the following expressions:

“I was able to attend the lesson whenever I wanted. I used to have an absenteeism problem at school and used to be at risk of remaining in some classes due to absenteeism. There was no problem in this system, I could enter the class whenever I wanted.” (21y, F, Physiotherapy, Third grade).

Cheap: Some of the students stated that due to the pandemic, receiving their education remotely is cheaper in terms of their budget compared to receiving face-to-face education, with the following expression:

“We were able to attend classes in more comfortable conditions. For example, we spent less money, no commuting to school, time savings. I was able to work more comfortably at home. Studying in the dormitory used to be troublesome sometimes. I benefited from being at home by myself.” (20y, F, Midwifery, Second grade).

Self-regulation: Some students stated that taking their education remotely had a positive effect on their self-regulation with the following expressions.

“During the quarantine, we had the opportunity to listen to our own inner voices. If there were any issues that we postponed, we had the opportunity to do all of them. I acquired different hobbies for myself.” (21y, F, Nursing, Third grade).

Time: Some of the students stated that receiving distance education had a time-saving effect for them with the following expressions.

“It is a great convenience to be able to attend classes instantly at home for it saves time without going through processes like commuting to school, etc.” (20y, F, Medical Secretary, Second grade)

Theme 2. Face-to-Face Training is Better! (Disadvantages)

The theme (negative aspects) defines the negative experiences of students in the distance education process, and includes the categories of “internet shortage,” “system problems,” “there was no interaction,” “the application remained incomplete,” “home environment,” “our psychology has deteriorated,” and “the exams were unfair.”

Internet shortage: Many of the students expressed their problems with the internet while receiving their education remotely due to the COVID-19 pandemic.

“In the first stage, I was afraid, I was nervous about how this process would go, there was no internet at home. I was worried that I would fall behind my lessons, I was very stressed, I was waking up early so I could connect to the lesson. When I looked and there was no problem I was relieved. My tension increased during the exam periods again, I saw that everything was progressing well. How we worked and progressed before the pandemic, there were problems and they were resolved, but it was a good process.” (21y, F, Nursing, Third grade).

System problems: Some students explained the system-related problems they experienced while receiving distance education during the pandemic period.

“There was no interaction: Many of the students expressed the inadequacy of interaction in the distance education process with the following statements:

“I think face-to-face training is better. It is better to make eye contact with the teacher. You are asking via messages, but you cannot express yourself adequately. You express yourself more easily by raising your hand in class.” (19y, F, Midwifery, First grade).

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System problems: Some students explained the system-related problems they experienced while receiving distance education during the pandemic period.

“As the system works slowly at some hours, the connection time for the lessons to be taught at those hours was prolonged. Sometimes the voices of our professors were going back and forth. I could not even hear the voice once in a lesson.” (22y, M, Faculty of Medicine, Fourth grade).

There was no interaction: Many of the students expressed the inadequacy of interaction in the distance education process with the following statements:

“I think face-to-face training is better. It is better to make eye contact with the teacher. You are asking via messages, but you cannot express yourself adequately. You express yourself more easily by raising your hand in class.” (19y, F, Midwifery, First grade).

“It has ensured that face-to-face communication between student and teacher is at a limited level. This situation caused the master–apprentice relationship, which is the basis of medical education,
to remain weak, making it impossible to transfer the clinical experiences of the professors” (22y, M, Faculty of Medicine, Fifth grade).

**The application remained incomplete:** Many of the students stated that due to the COVID-19 pandemic, their education in the distance mode was negative and incomplete in terms of practical application.

“I think it was productive in theoretical lessons, but in practical applied lessons the opposite happened, it remained very abstract. We tried to understand through the pictures. I tried to make up for it myself by watching videos, but it didn’t work.” (20y, F, Physiotherapy, Second grade).

“The system itself does not have a negative side, there were no problems in the lessons, there were deficiencies in the efficiency of the lessons since we are a department based on practice.” (19y, F, Emergency and first aid, First grade).

“Since the midwifery profession is applied, it is very valuable for us to do the application of the course, even though we have theoretical training.” (21y, F, Midwifery, Third grade).

“Distance education was not pleasant, it was inadequate. In my opinion, our lessons were not effective since they are practical.” (20y, M, Dentistry, Second grade).

**Home environment:** Some of the students expressed the negative aspects of receiving home education due to home conditions with the following statements:

“The presence of too many distracting items around (telephone, family conversations, etc.) prevented me from attending class.” (22y, M, Faculty of Medicine, Fourth grade).

**Our psychology has deteriorated:** The students stated that due to the COVID-19 pandemic, their education through the distance mode affected their psychology negatively.

“During that time, we missed the experiences with our friends and our professors to sit and meet personally, and this was the biggest negative factor. We yearned for that; our psychology was affected. We couldn’t go out when we wanted to.” (21y, F, Nursing, Third grade).

**The exams were unfair:** Some students stated that they thought online exams during the distance education process were not sufficient or fair in measuring the student.

“Exams shouldn’t be remote. Those who took lessons with distance education passed by copying. Taking the applied lessons with distance education is like graduating from high school, I don’t think it is successful.” (21y, M, Physiotherapy, Third grade).

**Theme 3. It Could be Better! (Suggestions)**

**It could be better! (Suggestions):** This theme includes the suggestions of students regarding their experiences in the distance education process, such as “lesson duration should be short,” “there should be pre-lesson information,” “there should be visual materials in the courses,” “it should be interactive,” “documents/resources should be uploaded to the system,” “system/internet problems should be solved,” and “self-evaluation” categories.

**Lesson duration should be short:** Some of the students expressed their suggestions that lesson time should be shorter for distance education lessons with the following statements:

“The duration of the course hours should be determined and it should be ensured that it is a standard for each course. Slides which are used to teach the lesson should contain brief and concise information.” (22y, M, Faculty of Medicine, Fifth grade).

**There should be pre-lesson information:** Students stated that there should be pre-lesson information while receiving distance education, with the following expressions:

“Sometimes the time of the lessons can be changed or we can forget or we are not informed, so it might be better if we get a message before the lessons start.” (20y, F, Emergency and Medical Aid, Second grade).

**There should be visual materials in the courses:** Students have confirmed their suggestions about
including visual materials in the course contents in distance education.

“In terms of practices, teachers should show videos, maybe we can then understand better.” (19y, F, Emergency and Medical aid, First grade).

“Instead of processing the lessons with slides, some more animation and video could be added. I want it to be visual. It would be better if our teacher shows something applied on the model to be shown. If our teachers do that, we can learn the correct application. There are a lot of videos on the internet, but they all tell things differently, we don’t know what’s best.” (21y, F, Midwifery, Third grade).

It should be interactive: Most of the students expressed their suggestions that the lessons given in distance education mode should be interactive, with the following expressions:

“In order to communicate with the student and measure the level of knowledge, questions should be asked frequently and the level of interest in the lesson should be determined by chatting with the student and the lesson should be guided accordingly. Creating a communication network with the student within the lesson ensures the continuity of the student’s learning after the lesson. In order to complete the insufficient parts, the student should be given tasks such as homework and presentation” (20y, M, Faculty of Medicine, Second grade).

“More questions can be asked, surveys can be done, and students can be active while explaining the lesson. At school, we break away from the lesson from time to time, but we come back with questions.” (20y, F, Physiotherapy, Second grade).

Documents/resources should be uploaded to the system: Students have expressed their suggestions for uploading documents related to the course to the system while receiving distance education.

“Teachers should share the resources they have with the students so that the student has more information about the lesson.” (19y, F, Emergency and first aid, First grade).

System/internet problems should be solved: The students expressed their suggestions for solving system/internet problems in case of remote education.

“Sometimes there are system malfunctions. The teachers worked very hard. We were bored on the phone. There were many people with internet shortages. It would be great if internet support could be provided through the system.” (20y, F, Midwifery, Second grade).

Self-evaluation: Most of the students conducted their own self-evaluation during the period they were receiving distance education and made suggestions themselves with the following statements.

“Students should sit down and talk with their families and say, I have to pass these lessons, and be tolerant about studying in families.” (19y, F, Medical Secretary, First grade).

Discussion

When the quantitative findings of the study were examined, it was determined that 75.5% of the students (n = 635) attended 76–100% of the lessons, but 43.9% stated that the effectiveness of distance education lessons was below 50%. In a study conducted before the pandemic period, it was reported that the rate of completing online courses was quite low (10–15%) (Garrison, 2011). While Jang’s (2005) study conducted with nursing students stated that there was no difference between distance education and face-to-face education, Keskin and Özer Kaya’s (2020) study found that most university students (84.4%) did not find distance education as effective as face-to-face education. In the study by Singh and his colleagues, an average of 50% of medical students reported that face-to-face education was more effective (Singh et al., 2020). These results may differ from country to country, from university to university, and even between departments of the same university. These differences may be due to differences in technological infrastructure, the characteristics and requirements of the department, or the possibilities and experiences of the learner and the educator groups.

When the qualitative findings of the study are examined, for the “Better than nothing!” theme, which describes the students’ positive experiences with distance education, many of the students stated that spending the epidemic period at home made them feel safe and thus protected from the epidemic. In the study by Hung et al. (2020), 83% of dentistry students stated that social distance enabled by online
education reduced the risk of COVID-19 transmission. In addition, while some of the students talked about the negative aspects of being at home, some of them stated that it was more comfortable. In this context, they said that it saves them time since they do not have to travel to school since they are at home. Of course, students coming from different regions of the country and completing their education in another city within the framework of their own possibilities have a burden of time and cost. In this sense, continuing education and accessing from home is seen as cheap, easy and most importantly “safe.” In addition, being at home and having to do their own planning have both contributed to the development of their “self-regulation” skills and enabled them to perform activities that they wanted to do but could not do. Mukhtar et al. (2020) stated that medical and dentistry students through online education have advantages such as remote control, convenience and accessibility. In addition, it has been determined that distance learning provides easy access to abundant and diverse information and allows a personalized approach to learning. In this way, it has been reported that students can have more control over learning (Freeze et al., 2020). Thus, the learners having the opportunity to create their own personal and autonomous learning environments which supports their self-directive and self-management skills (Dabbagh, 2007). Studies have found a moderate positive correlation between nurses’ perceptions of sociality regarding distance online learning environment, online learning environments, and the social perception of the online learning environment (Şenyuva & Bodur, 2016).

In this study, in the theme of “face-to-face education is better,” which includes the negative experiences of students about distance education, 33.8% of the students stated that they had internet problems and 8.6% had system problems, while 63.4% of them could get technical support when they had problems. These rates seem quite good for a university established in 2018. Although rooted in the experience of distance education universities in Turkey, it shows that many universities have deficiencies in terms of infrastructure, equipment, and experience. It has been stated that most universities had to use online courses or teaching programs such as Google Classroom, Edmodo or Microsoft Teams, since there was no online education portal (Telli & Altun, 2020). In the literature, the most common problems experienced during online lessons are the delay in the starting time of the lessons and poor image and connection quality (Karakuş et al., 2020; Sindiani et al., 2020). In the study by Bakioğlu and Çevik (2020), they reported the biggest problem experienced with computers was that disconnection of the internet resulted from students not knowing how to use computer programs. In the same study, it was stated that students could not access the internet or computer, therefore their participation in live lessons was low and this situation lowered the motivation of the students.

In the present study, the students stated that the interaction was lacking. The students stated that they could not express themselves in virtual classrooms, they could not make eye contact, the virtual environment was insufficient to ask questions and the master–apprentice relationship, which has an important place in health sciences, was insufficient. Studies have shown that “perceived teacher presence” (the presence of a teacher/lecturer in an educational environment) is a critical factor in online student success and satisfaction (Sheridan & Kelly, 2010). While “interaction” is one of the important elements to ensure educational effectiveness in both face-to-face and online learning environments, another is feedback. However, in the literature, people who teach state that they cannot achieve interactive and dynamic learning in virtual environments, which they can create in a face-to-face classroom environment, for various reasons (Sindiani et al., 2020). Activities such as short videos, animations, dynamic illustrations, concept maps, forums, websites and portfolios, online tests, collaborative work exercises, quizzes, etc. that can engage the student can be useful for interactive learning (Bower & Torrington, 2020; Lorenzo-Alvarez et al., 2018).

The fact that only the theoretical parts of the courses can be conveyed in departments such as health sciences, where the learning objectives of practice are fundamental, has led to the fact that no activities can fully replace the application activities. In this study, the students stated that the implementation of the lessons is very valuable for them and they are worried that they will be missing material from the applied lessons. In different studies, it was stated that students were worried about the disruption of clinical internship practices (Hung et al., 2020; Shehata et al., 2020). In the study by Keskin and Özer Kaya (2020), it was reported that students who receive education in applied units need face-to-face education more.
Loh et al. (2020) emphasized that it may be beneficial for medical students to attend patient examinations through the teleconferencing method, but this method cannot replace bedside education. To eliminate these concerns of students and lecturers and to complete the application gap in the online learning process, activities such as electronic performance support systems, videos with personalized feedback, simulation applications, scenario-based problem-based learning sessions that can be planned synchronously or asynchronously, educational games, animations, interactive books, virtual classroom environments, and augmented reality applications could be used (Bower & Torrington, 2020; Lorenzo-Alvarez et al., 2018).

Due to the pandemic, students had to attend online classes from home, but this negatively affected some students. Students state that the home environment is not suitable for studying and participating in online education. This situation may negatively affect their participation and academic success. In this study, students explained that they could not follow their classes regularly in crowded families and they had to help their families with household chores. In a study conducted in China, it was found that students had problems in participating in distance education lessons due to inadequacy or inconvenience in home conditions (crowded environment or culture-based lifestyles) (Lau et al., 2020).

On the other hand, in this study, students stated that they stayed away from their friends, did not socialize, and their psychology was negatively affected during this process. Many students reported that they felt lonely and worried about their social relations, and physical and emotional health (Hung et al., 2020). Like every natural disaster, the pandemic has led to many psychological changes, from the increase in people's anxiety to serious trauma (El Maarouf et al., 2020). During the pandemic, the loss of people's relatives or being constantly exposed to this news caused students to think that their own lives and the lives of their loved ones were in danger, they were unable to socialize with their peers due to quarantine practices, and thus, they had a process full of anxiety (Allen et al., 2020). In this context, it is important to develop approaches to reduce students' anxiety levels and to create platforms that can address their social and affective areas (Baran & Al Zoubi, 2020).

In this study, one of the negative aspects expressed by students is that they think exams are unfair. In this process, different infrastructure and facilities in universities have been the determinants of measurement and evaluation methods to be used in distance education. During the pandemic period, the subject of measurement and evaluation has come to the fore in other countries, and some changes have been made in the grade-evaluation systems (Sari, 2020). The University of North Carolina in the United States made its evaluations in the form of “pass/fail” rather than a letter grade and did not include the averages of this semester in the students’ GPA (UNC, 2020).

In Turkey, the Council of Higher Education provided information covering the principles to be applied, from providing technical support to students to exam safety. With this information, it is up to the educators to make the exams in line with the university infrastructure and facilities, through online exams or homework/activities (Yükseköğretim Kurulu, 2020b). During the pandemic, questions that require high-level thinking skills such as synthesizing information, converting information into practice, problem solving, presenting examples, sharing comments, comparing different thinking styles, perspectives, experimenting and reporting results should be planned for remote exams.

In the current study, the students made some suggestions in case of continuing distance education with the theme “Could have been better!" These included short online course times, pre-lesson information, visual materials in lessons, interactive training, uploading documents/resources to the system, and solving system/internet problems. In addition, students conducted self-evaluations and made suggestions for themselves and their peers for improvement of the process. In this sense, these suggestions made by students based on their own experiences are very valuable and emphasized in the literature.

All over the world, while educational approaches are undergoing a digital transformation, it would not be right to continue the lessons with the traditional methods and approaches that we have used (Bozkurt & Sharma, 2020). It is recommended that lecturers teaching the course use different educational methods, increase interactive communication and plan to reduce cognitive load (Mukhtar, 2020). Also, it can be recommended to update course content materials and share them before the day of the class, to create and use virtual cases, and to use options that involve students in the telehealth
environment (Rose, 2020). Nursing students stated that the use of simulated video consultations in education is effective (Jiménez-Rodríguez et al., 2020). It has been stated that simulated human and virtual reality applications in distance education increase the learning abilities of students (Peisachovich et al., 2020).

Conclusion and Recommendations

It was determined that the contents of distance education in health sciences for theoretical and applied courses should be developed using technological approaches. It may be beneficial to organize training on developing course material in an electronic environment and to support students in access to distance education. Considering that online education will continue for a while, it is thought that solving the technical problems of the system and planning by considering student views will increase the quality of education.

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