Research Article
Received: 10.03.2023
Accepted: 12.06.2023
Published: 30.06.2023

Citation: Uysal, B., Mercan, N., & Ulusinan Çubukçu, E. (2023). Mixed method analysis of university students' perspectives on distance education in the COVID-19 pandemic**.** *International Journal of Scholars in Education*, *6*(1), 52-68. https://doi.org/10.52134/ueader.1263363

Yüksek Öğrenim Öğrencilerinin COVID-19 Pandemisinde Uzaktan Eğitime İlişkin Görüşleri: Karma Yöntem

Burhanettin UYSAL*, Neşe MERCAN**, Ebrar ULUSİNAN ÇUBUKÇU***

***Öz*:** Bu araştırma, sağlık bilimleri fakültesi öğrencilerinin COVID-19 pandemisi sürecinde uzaktan eğitime ilişkin görüşlerini değerlendirmek için yapılmıştır. Bu çalışma, yakınsak paralel karma yöntem ile tasarlanmıştır. Nicel veriler; sosyo-demografik form ve Uzaktan Eğitime İlişkin Görüşler Ölçeği kullanılarak web tabanlı olarak uygulanmıştır. Nitel veriler video konferans aracı kullanılarak bilgisayar görüşmeleri yoluyla toplanmıştır. Analizlerde parametrik olmayan test tekniklerinden faydalanılmıştır. İkili karşılaştırmalarda Mann-Whitney U testi, iki grup üzerindeki karşılaştırmalarda Kruskal-Wallis H testi kullanılmıştır. Boyutlar arasındaki ilişki, Spearman Korelasyon testi kullanılarak analiz edilmiştir. Nitel kısımda içerik analizi yöntemi tercih edilmiştir. Sosyodemografik özellikler ile ölçek toplam boyutu ve alt boyutları için yapılan karşılaştırma analizinde anlamlı farklılıklar bulunmuştur ($p<0,05$). Araştırmanın nitel bölümünde öğrencilerin uzaktan eğitime ilişkin görüşlerinin analizinde altı tema ortaya çıkmıştır. Nicel kısımda belirlenen uzaktan eğitime yatkınlık ve uygunluk sonuçlarının nitel verilerin sonuçlarıyla paralellik gösterdiği görülmüştür.
Anahtar Kelimeler: Covid-19, Pandemi, Yükseköğretim, Uzaktan eğitim, Karma yöntem.

Mixed Method Analysis of University Students' Perspectives on Distance Education in the COVID-19 Pandemic

***Abstract*:** This study, designed with a convergent parallel mixed method, was conducted to assess the views of health sciences faculty' students on distance education during the COVID-19 pandemic. Quantitative data were applied in a web-based form with the socio-demographic form and the Views on Distance Education Scale. Qualitative data were collected by computer interviews using a video conference tool. Analyses were conducted using nonparametric test methods. For comparisons involving more than two groups, the Kruskal-Wallis H test was applied, and the Mann-Whitney U test was applied for comparisons involving two groups. The Spearman Correlation test was used to examine how the dimensions related. In the qualitative section, the content analysis method was preferred. Comparative analyses of the total scale dimension, sub-dimensions, and socio-demographic characteristics revealed significant differences ($p<0.05$). In the qualitative part of the study, six themes emerged in analyzing students' views on distance education. It was seen that the results of predisposition and eligibility for distance education determined in the quantitative part were parallel to the results of qualitative data.
Keywords: COVID-19, Pandemic, Higher education, Distance education, Mixed methods.

* Asst. Prof., Bilecik Seyh Edebali University, Faculty of Health Sciences, Healthcare Management Department, Bilecik, TR, ORCID: 0000-0003-2801-9726, e-posta: burhanettin.uysal@bilecik.edu.tr
** Asst. Prof., Bilecik Seyh Edebali University, Faculty of Health Sciences, Nursing Department, Bilecik, TR, ORCID: 0000-0003-3378-6786, e-posta: nese.mercan@bilecik.edu.tr
*** Res.Asst., Bilecik Seyh Edebali University, Faculty of Health Sciences, Healthcare Management Department, Bilecik, TR, ORCID: 0000-0002-1182-7578, e-posta: ebrar.ulusinan@bilecik.edu.tr

Introduction

With the COVID-19 Pandemic, most countries have entered an extraordinary process of change to prevent the spread of the pandemic and transition to distance education by interrupting face-to-face education (Brooks et al., 2020; Daniel, 2020; Viner et al., 2020). Turkey, one of these countries, made a rapid transition to a distance education system accompanied by the appearance of the first cases on March 11, 2020 (WHO, 2020). Moreover, as of March 23, the transition to distance education in universities started (CHE, 2020). In this process, accepted as a crisis, distance education was a significant opportunity to prevent the unfavourable effects experienced in education (Sahu, 2020). It has made it possible to continue learning through distance education, which allows one to take advantage of modern technology while interacting with classmates, instructors, and course materials in various settings (Özgöl et al., 2017). As such, significant steps were taken to manage the process effectively, and attempts were made to prevent students from experiencing complaints such as not graduating and losing a semester (Kürtüncü & Kurt, 2020).

The rapid transition to distance education requires a rapid adaptation phase. It is inevitable to worry during this stage of harmony (Hodges et al., 2020; Owusu-Fordjour et al. 2020). The management process of distance education, among the factors causing concern, is limited from one day to a week while wanting to take six to nine months (Hodges et al., 2020). Even with a limited time frame, there are many elements to make distance education better (Hodges et al., 2020; Owusu-Fordjour et al., 2020). Ensuring interaction in distance education is one of these factors. Active and effective interaction between students and instructors is necessary for better learning (Utomo et al., 2020; Titan et al., 2017). The quality and availability of the network system is other crucial factor. The fact that it allows face-to-face meetings, discussion forums, homework, and exams via mobile and desktop devices via video conferencing shows the system's quality. Also, being appropriate for Internet infrastructure and cost will provide access to the system (Owusu-Fordjour et al., 2020). Distance learning, where significant interaction is established and accessible, can enable independent learning and improve students' ability to use online resources (Keskin & Özer Kaya, 2020). Ensuring that the student takes responsibility for the course is an essential element of distance education. Success is known to be directly proportional to the student's guilt (Cabı, 2016). Besides, students' feelings about distance education should be addressed in all educational environments. As a justification, like other elements, distance education's positive feeling is seen as providing learning (Anderson, 2020). When those mentioned above and similar elements related to distance education are fulfilled, the decision can be achieved, and student satisfaction increases (Karakuş et al., 2020; Yıldız & Seferoğlu, 2020). Otherwise, learning is negatively affected, and reluctance to distance education arises (Aktaş et al., 2020).

The impact of distance learning on students has been the subject of numerous studies (Owusu-Fordjour et al., 2020; Doğan & Tatık, 2015; Öztaş & Kılıç, 2017; Kör et al., 2013), there are no studies in the literature that describe how students feel about distance education in light of the COVID-19 pandemic. In light of this information, it is important to determine the experiences of students regarding distance education both quantitatively and qualitatively, and to reveal guiding information for preventing factors that affect the desired elements in distance education. This study was designed to test the students' perceptions of distance education during the COVID-19 pandemic and used a mixed-method approach to collect data.

Materials and Methods

The study was designed with a convergent parallel mixed method. Using two or more analysis or data collection methods in the same study is mixed. The use of quantitative and

qualitative methods is widespread in studies planned as a mixed-method (Creswell, 2017). In this study, quantitative and qualitative data were collected together and analyzed separately.

The case study method, one of the qualitative research designs, was used to conduct the qualitative portion of this study. A case study comprehensively analyzes a situation's circumstances, including its environment, people, events, and processes (Merriam, 2013; Ekiz, 2009; Yildirim & Simsek, 2013).

Ethical Consent

The Ethics Committee of Bilecik Şeyh Edebali University was applied to prior to the study, and ethics committee approval was obtained with decision no 19 of the meeting numbered 8, dated 29/06/2020.

Sampling

In the quantitative part of the study, the research universe comprises the students of Bilecik Şeyh Edebali University Faculty of Health Sciences. The universe of the study consists of 1120 students. The sampling selection method was not used to reach every population member. There were 239 surveys completed. Due to errors and incompleteness, sixteen questionnaires were not evaluated. Thus, a study involving 223 students was carried out. Purposeful sampling was preferred for the qualitative portion of the study. Twenty faculty of health sciences students who agreed to participate in the study made up the sample. Training in the COVID-19 pandemic process was delivered asynchronously through distance learning at the university where the study was conducted. These students continued their education after being part of the study sample.

Data collection process

For quantitative data, surveys were applied as web-based between 08.07.2020 and 26.08.2020 because of the COVID-19 pandemic. Since the survey was voluntary, no coercion was imposed on the participants. The principle of volunteerism in the informed consent form before conducting the survey was reported to the writing participants.

For qualitative data, interviews with the participants were done in a computer environment with a video conference tool. Each interview lasted approximately 30 minutes. Audio records were received during the interview, the audio descriptions were listened to, and the data were converted into Microsoft Word documents. The written documents were checked by listening to the audio records repeatedly by the researchers.

Data collection tools

The socio-demographic form comprises nine questions, such as the age, gender, and grade of the students. The Views on the Distance Education Scale was developed by Yıldırım et al. (2014), and the internal consistency coefficient (Cronbach’s alpha) was found as 0.864 (Yıldırım et al. 2014). The scale comprises 18 items and four sub-dimensions. The four sub-dimensions are Personal Convenience, Effectiveness, Instructiveness, and Predisposition. The total scores were used in the evaluation.

Semi-structured questionnaire

The researchers created a five-question semi-structured questionnaire with support from the literature to ascertain the opinions of students who continue their distance education during the COVID-19 pandemic. The questions in this form are as follows:

(1) Could you tell us about your experience in the distance education process?
(2) What are the repercussions of the distance education process on your learning motivation?
(3) What are the reflections of the distance education process on your learning?
(4) Could you tell us about your feelings before, during, and after watching any course videos as part of distance education?
(5) What would have been expected of you if you had completed this period with face-to-face education?

Data analysis

The SPSS 22.0 program was used to analyze and interpret the data gathered for the study's quantitative component. Nonparametric test methods were used (Table 2) because the analysis indicates that the distribution is not normal. When comparing two groups, the Kruskal-Wallis H test was applied, and the Mann Whitney-U test was used for paired comparisons. The Spearman Correlation test was used to examine how the dimensions related.

In order to thoroughly and systematically analyze and interpret the data to identify the patterns, themes, biases, and meanings pertinent to the study's core, the content analysis method was preferred in the qualitative portion of the study. Following the steps below enabled the content analysis of the interview-based data to be carried out:

(1) Encoding
(2) Finding codes, categories, and themes
(3) Editing of codes, categories, and themes
(4) Description and interpretation of the findings

Validity and reliability of the study

To ensure validity and reliability in the qualitative process of this study;

Research on the study's method, process, and results with the transferability phase are explained clearly and in detail. By this stage, it has been ensured that our study results can be generalized to similar environments. All researchers took part in the analysis phase so that the data collected in this study reflects the truth and contributes to the research results' validity. Analysis by researchers was carried out again a month later to ensure immutableness. The researchers queried the knowledge of expertise in the study's subject with a critical eye by doing a literature review and consulting a specialist.

An interrelated and consistent process has been followed, from collecting data to analyzing and reaching conclusions.

In the study's quantitative process, the reliability analysis results regarding the total and sub-dimension scores of the Views on Distance Education Scale are presented in Table 2 in the findings section.

Results

The study's findings are mentioned in two parts parallel with the quantitative and qualitative data.

Quantitative findings

Table 1.
Sociodemographic Information about the Participants

Age	***n***	***%***	***Grade level***	***n***	***%***
18-22	182	81.6	First class	97	43,5
23 and over	41	18.4	Second class	48	21,5
Gender	***n***	***%***	Third grade	48	21,5
Male	41	18.4	Fourth grade	30	13,5
Female	182	81.6	***Connection to the Internet***	***n***	***%***
Marital status	***n***	***%***	3G	26	11,7
Single	218	97.8	4,5G (LTE)	69	30,9
Married	5	2.2	I do not have Internet	12	5,4
Department	***n***	***%***	Fixed Internet	116	52,0
Child Development	58	26.0	Total	223	100,0
Nursing	113	50.7			
Healthcare Management	27	12.1			
Social Service	25	11.2			

The participants are mostly between the ages of 18 and 22, with an average age of 21. Also high is the percentage of people who are over 23. Male participants make up 18.4% of the total population, compared to female participants, who make up 81.6%. Only five of the participants are married. The nursing department accounts for more than half of the participants.

Regarding grade level, first graders' participation rate is higher than in other grades (43.5%). More than half of the participants use the fixed Internet (52%) (Table 1). Among the resources used for distance education, almost half of the participants (47.1%) stated that they only used online training documents. The participants who benefit from the books and online training documents are in second place, with 17.9%. It was observed that approximately 2/3 of the participants benefited from books and online training documents. The utilization rate of both sources is undeniably high. It is among the critical indicators that books and online education documents come to the fore in distance education.

Table 2.
Reliability, Normality Test, Descriptive Statistics, and Correlation Analysis of the Scale and Its Sub-Dimensions

Scale and Sub Dimensions	Number of statements	Cronbach ***α***	Shapiro Wilk* *p*	Min	Max	x̄±sd	1.1.	1.2.	1.3.	1.4.
1.Views on Distance Education	18	.724	.000	19	79	46.50±9.46	.880**	.823**	-.464**	.222**
1.1. Personal Convenience	6	.904	.000	6	30	14.28±6.70	-	.817**	-.667**	-.046
1.2. Effectiveness	5	.927	.000	5	25	9.90±5.34		-	-.665**	-.104

1.3. Instructiveness	4	.880	.000	4	20	16.81±4.22	-	.100
1.4. Predisposition	3	.817	.000	3	15	5.51±2.89		-

The Shapiro Wilk test was used for the normality of the distribution of quantitative data because the number of study groups was more than 20 (Büyüköztürk, 2017). When Cronbach's alpha (α) values are examined according to the scale's reliability analysis and its sub-dimensions, it is 0.904 in the personal convenience dimension, 0.927 in the effectiveness dimension, and 0.880 in the instructiveness dimension. It was found to be 0.817 in the predisposition dimension and 0.724 in the total scale dimension (Table 2).

When considering descriptive statistics, the dimension with the highest average is the dimension of instructiveness (16.81 ± 4.22). The lowest average is the predisposition dimension (5.51 ± 2.89).

Results of the correlation analysis revealed a statistically significant positive correlation between personal convenience and effectiveness (r=.817; p<0.01).

A negative and meaningful relationship between personal convenience and instructiveness was found statistically (r=-.667; p<0.01). It was found a negative and statistically significant relationship between effectiveness and instructiveness (r=-.665; p<0.01) (Table 2).

Table 3.
Comparison Analysis

Variables	N	Views on Distance Education	Personal Convenience	Effectiveness		Instructiveness	Predisposition
Age							
p for difference		***.011****	***.008****	*.152*		*.662*	***.010****
18-22	182	x̄	117.21	117.42	114.91	111.14	117.16
23 and over	41		88.87	87.93	99.07	115.80	89.07
Gender							
p for difference		*.652*	*.593*	*.284*		*.118*	*.232*
Female	182	x̄	112.92	113.09	114.18	115.06	109.60
Male	41		107.90	107.15	102.34	98.41	122.63
Department							
p for difference		*.853*	*.746*	*.602*		*.750*	*.261*
Child Development	58	x̄	111.54	112.33	115.09	117.80	102.56
Nursing	113		109.23	108.45	106.55	109.79	119.00
Healthcare Management	27		120.26	123.26	121.07	104.43	98.80
Social Service	25		116.64	115.12	119.66	116.72	116.52

Grade level							
p for difference		*.288*	*.530*	*.778*		*.179*	***.037****
First class	97		120.65	11926	116.81	111.08	121.94
Second class	48		109.36	107.33	106.39	127.65	113.61
Third grade	48	x̄	99.33	105.39	110.79	106.59	89.70
Fourth grade	30		108.52	106.57	107.35	98.58	112.97
Connection to the Internet							
p for difference		*.492*	***.030****	*.079*		*.251*	***.014****
3G	26		121.90	121.75	115.52	115.73	101.94
4,5G (LTE)	69		102.99	108.96	103.63	108.34	107.54
Fixed Internet	116	x̄	115.66	116.91	119.88	109.84	111.07
I do not have Internet	12		107.04	60.96	76.29	145.83	168.46

According to the Mann-Whitney U test conducted between age groups, there is a statistically significant difference between the total scale dimension and the personal convenience and predisposition dimensions ($p<0.05$). In the total scale dimension, the mean of the 18-22 age group (117.21) is higher than the score of the 23 and over age group (88.87). The average score of the 18-22 age group (117.42) in the personal convenience dimension is higher than the 23 and over (87.93). The mean score of the 18-22 age group (117.16) on the predisposition dimension is higher than the score of 23 and over (89.07) (Table 3).

In terms of the overall scale dimension and its sub-dimensions according to gender (as determined by the Mann-Whitney U test) and department (as determined by the Kruskal-Wallis H test), there is no statistically significant difference ($p>0.05$) (Table 3).

The Kruskal-Wallis H test performed between grade levels found that only the predisposition dimension ($p<0.05$) showed a statistically significant difference. The first and third grades were found to be the cause of the difference in the predisposition dimension as a result of the Bonferroni correction test ($p=0.004$), which was used to identify the difference's source (Table 3).

There is a statistically significant difference in personal convenience and predisposition, as determined by the Kruskal-Wallis H test on the students' Internet connection status ($p<0.05$). The difference in the personal convenience dimension was caused by Fixed Internet and No Internet ($p=0.004$), according to the Bonferroni correction test used to identify the source of the difference. The lack of Internet with 3G was the difference, according to the Bonferroni correction test used to identify the cause of the difference in the predisposition dimension ($p =0.005$). It was discovered that it came from people who do not have access to fixed Internet ($p =0.002$) or 4.5G (LTE) Internet ($p =0.002$) (Table 3).

Quantitative part discussion

In the study, students see distance education as instructive but are not inclined to distance education. In a study by Sun, Tang & Zuo (2020) on 39,854 students, nearly half said that the distance education model achieved the planned teaching goals. The research conducted

by Doğan & Tatık (2015) revealed that students regard distance education as disadvantageous because they cannot enter the system because of technical problems. Peloso et al. (2020), it was concluded that most of the students (51.4%) believed that education could be substituted with distance education (Peloso et al., 2020). However, in the study conducted by Al-Balas et al. (2020) on medical school students, distance education would be a significant challenge in obtaining clinical medical skills for most students (78.6%). This situation shows that it is impossible to replace education and training offered in disciplines requiring education, such as clinical practice and internship, with a distance education model. In the study conducted by Zavizion et al. (2020), it was concluded that long-term distance education causes a loss of motivation and burnout in students. As seen, the distance education model's low level of effectiveness and instructiveness reveals the importance of face-to-face education. Although it is acknowledged that the distance education model is beneficial and instructive in some fields (particularly the social sciences), it cannot be used to replace in-person instruction in the sciences, including the medical, health, and natural sciences. It was concluded that the distance education model negatively affected students in the health sciences, especially those with an application course. This negativity must be completed before starting their profession.

There is a parallel between personal suitability and the effectiveness of distance education. Distance education is more effective for students who have individual suitability. A study of Ghanaian students found that the pandemic harmed students' learning (Owusu-Fordjour et al., 2020). Despite being appropriate for the individual, distance education in teaching creates a negative image for students. According to Adnan and Anwar (2020), the majority of students (71.4%) believe that distance education is less motivating than face-to-face learning (Adnan & Anwar, 2020). Over half of the students (50.8%) believe it will only be possible to complete some courses with distance education. Face-to-face education is more effective than online or distance education. In a study conducted on medical school students by Al-Balas et al. (2020), 52.2% of the students stated that distance education could replace face-to-face education in theoretical knowledge presentation.

The personal suitability and predisposition of the younger ones for distance education are high. It has been observed that first-year students who have just started university life have adopted distance education more. They have started a new educational life because they are in an education system in which they are foreigners; maybe some motivational factors require students to adapt to the education and training system. It is thought that there may be exam and course passing anxiety, particularly, which may make them more prone to the distance education system.

Students who have access to the Internet are the only candidates for the model of distance education. Nonetheless, those without the Internet are significantly more inclined to remove training than those with the Internet. Students have adopted distance education in light of this result. In the study conducted by Öztaş & Kılıç (2017) with 2781 students, 45.04% of the students stated that the success of reaching the course outcomes with distance education depends on the student’s infrastructure and effort. At the same time, there is a very high opinion that there is a communication gap between faculty members and students in distance education. As seen in this study, it seems very difficult for students to be successful without the Internet in distance education. The educational connection established by the Internet is insufficient in the face-to-face education model.

Findings and discussion of the qualitative part of the study

In this section, the analysis of qualitative data is discussed. Twenty students in the Child Development, Nursing, Healthcare Management, and Social Work departments participated. There are 17 girls and three boys, and their average age is 20.57. As a result of the data analysis,

the participants' statements during the interviews were collected under six major themes and 17 sub-themes (Table 4).

Table 4.
Main Theme and Sub-Themes

Categories	Codes
Decrease In Interaction	The decrease in interest in education Inability to ask questions Limited time to reflect on the feeling of the teaching staff and to explain his/her experience
Current Situation	In the home environment; Lack of Internet Inability to focus Different responsibilities loaded
Awareness of Responsibility	Not feeling responsible Willingness to postpone responsibility and not being able to plan lessons Thinking that s/he is in control of the process
Gains	Learning to research Watching video recordings again To be able to reconcile the learned knowledge with real life Learning independent of time and space
Requirements	Learning methods specific to face-to-face education and application area requirements Self-improvement End of distance education or simultaneous distance education
Emotion Revealed	Anxiety, fear, excitement, and anger

Decrease in interaction

During the pandemic, students who switched from in-person instruction to distance learning reported less interaction with their friends and teachers. It was observed that the decrease in interaction reduces the desire to listen to the lesson. The reason for the decline in demand was that the teaching staff could not reflect her/his feelings as in face-to-face education, and the time to express her experiences was limited. Besides, it was determined that the students could not ask questions about the lessons, which caused a decrease in the request.

When examining the literature, similar to our study findings, it was noted that there is no tutorial in distance education where students may interact face-to-face, and their interest in courses decreases because they feel alone (Tunga & İnceoğlu, 2016). In a similar study, half of 652 university students stated that their interactions with instructors in distance education decreased (Keskin & Özer Kaya, 2020). Besides, in the study of Şenyuva (2013), it was determined that in addition to the decrease in interaction during distance education, students could not solve the learning difficulties they encountered during learning. Different communication activities are needed to continue the interaction in distance education (Al & Madran, 2004). Communication activities include discussion forums, lectures, and meetings via

videoconferencing and asynchronous online tools (Owusu-Fordjour et al., 2020; Yıldız & Seferoğlu, 2020). Students need to effectively use these communication activities (Reime et al., 2004), and the instructor has essential responsibilities to eliminate this need (Titan et al., 2017). It is known that quality communication environments contribute positively to the effectiveness and efficiency of learning (Karakuş & Yanpar Yelken, 2020). The comparative study by Titan et al. (2018) supported this finding, and it was observed that the academic score of the class with higher interaction was higher than that of the other class.

Current situation

As a result of the analysis, it was determined that the student's environment's qualities affect the learning perceived by the students. It was found that the students taking part in the study assume more responsibilities in the home environment, unlike the university environment, some stimuli would make it difficult to focus, and they had limited access to distance education.

Similar to our study findings, Keskin & Özer Kaya (2020) found that 53.9% of the students continuing with distance education during the pandemic had problems attending their lessons because of technical issues. Similarly, the study conducted by Doğan & Tatık (2015) revealed that students could not enter the system because of technical problems and saw this as a disadvantage of distance education. In Alvarez's (2020) study, most participants define internet accessibility as a challenge rather than an advantage. Erfidan's (2019) study examined the opportunities for access to lessons and found that 28% of students had to use Internet cafes and similar environments. In our study, it was not possible to use cafes and similar environments because of the pandemic process for students who do not have Internet in their home environment. One of the disadvantages of distance education, according to the studies, is not having access to the Internet (Özgöl, Sarıkaya & Öztürk, 2017; Kırmacı & Acar, 2018).

An unprepared and forced rapid transition to distance education, as well as the family's and the student's lack of experience in distance education, are two of the factors that contribute to the students in our study's findings' inability to concentrate independently of their home environment and to take on additional responsibilities. Students' inability to focus, depending on the home environment, is among the difficulties experienced in distance education (Zhang et al., 2020). In the literature, there was no data on taking on different responsibilities in studies in which student opinions on distance education were taken (Özgöl et al., 2017; Erfidan, 2019; Kırmacı & Acar, 2018; Süt & Küçükkaya, 2016). This difference is thought to be the result of the students in our study not applying to the distance education system in accordance with their preferences and being involved in the pandemic process. In light of this information, students have different responsibilities to be undertaken in an environment where the Internet cannot be accessed, and distractions affect the student's learning process. This environment with negative qualities can cause students to fail (Titan et al., 2017; Altıparmak et al., 2011).

Awareness of responsibility

As a result of the study's analysis, students were found to be not feeling responsible, unable to make appropriate work plans, willing to postpone their responsibilities, and being in control of the process. Besides, it has been determined that distance education allows students to feel responsible, get to know themselves, and give feedback.

Not feeling responsibility, one of our study findings can be explained by students' inability to adapt immediately due to the sudden decision to distance education depending on the pandemic process. There are studies in the literature that express that the student is motivated by self-discipline, takes responsibility, works regularly, and depends on his infrastructure and effort to achieve the desired success in distance education (Cabı, 2016; Öztaş

& Kılıç, 2017; Celen et al., 2018). It is said that an essential factor in achieving this success is the process the student is in (Somuah et al., 2018). In a pandemic and similar process, it is crucial to identify the factors that cause students to be unable to take responsibility and develop their skills for taking responsibility (Cabı, 2016).

Gains

This study took place in the students' statements that they learned by searching for the answers to the questions they wanted to ask with distance education and thus discovered the literature review. In particular, the ability to re-watch video recordings and stop them when they need them during the viewing of the tapes, and to be able to research the subjects they want, has been among the gains that make learning easier. Besides, being in a family environment allowed them to reconcile the information with real life. Distance education positively affects learning, especially for students who prefer to learn independently of time and place.

These results have shown that distance education allows us to do research with independent learning and learn the desired information. Some studies support this finding (Özgöl et al., 2017; Keskin & Özer Kaya, 2020; Altıparmak et al., 2011; Gök, 2015). In the study conducted by Süt & Küçükkaya (2016), students' views on the benefits of distance education include "supporting individual learning" and "minimizing time and space limitations." In another study, 39.8% of the participants think distance education improves the researcher's spirit (Serçemeli & Kurnaz, 2020).

Requirements

This study concluded that this process shapes the needs of students who continue their distance education during the pandemic. As a result of the data analysis, these requirements are 1) Learning methods and application area requirements specific to face-to-face education, 2) Self-improvement and 3) Ending of distance education or simultaneous distance education.

(1) Learning methods specific to face-to-face education and application area requirements

In the study's findings, there are expressions from the students regarding the use of learning methods specific to face-to-face education and their need for the application area. Besides, it was determined that the learning perceived by the students was negatively affected.

As a result of these findings, it was determined that students, especially in applied units, needed face-to-face education. This need arises due to the negative effect of the student's perceived learning. Studies support our study finding (Kürtüncü & Kurt, 2020; Keskin & Özer Kaya, 2020; Aktaş et al., 2020; Süt & Küçükkaya, 2016; Forehand, 2010). This result can be explained by learning knowledge resulting from gaining affective and psycho-motor behaviors (Korhan et al., 2020). Besides, evidence that distance education will not be sufficient in applying, synthesizing, analyzing, and interpreting information supports this result (Forehand, 2010; Polat et al., 2019). It is suggested that some lessons can be delivered more effectively via distance education rather than all lessons in programs with application areas in the recommendations on this topic (Şenyuva, 2013; Süt & Küçükkaya, 2016). Another suggestion is the addition of distance education in a supportive manner to theoretical and practical courses. Also, it is among the recommendations the post-graduation to continue the education process through distance education (Süt & Küçükkaya, 2016; Gürpınar & Zayim, 2008).

(2) Self-improvement

Considering that this study was conducted during the pandemic, it was observed that the students taking part in the study could not do activities that would contribute to their development because of their social isolation.

The concept of personal development means developing one's skills, abilities, knowledge, or other qualities (Kamiloğlu & Uluğ Yurttaş, 2014). An individual who wants to improve herself/ himself can continue this development by participating in clubs or department activities while she is a student and in business life (Balaban & Çakmak, 2016). The opportunities for students to develop themselves have become incredibly scarce since the pandemic began.

(3) Ending of distance education, or simultaneous distance education

This study determined that students who have difficulty in distance education and self-improvement, do not take responsibility, and do not feel successful want distance education to end as soon as possible. Besides, it was determined that students think that distance education should be simultaneous and more interactive if the pandemic continues.

Studies support the findings obtained regarding the completion of distance education or simultaneous distance education needs (Özgöl et al., 2017; Johnson et al., 2000; Özkul & Aydın, 2012). Similarly, in the study done by Aktaş et al. (2020) with 593 university students, 454 answered no to the question, "Would you want distance education under normal circumstances if it were not for isolation days?" Unlike our study finding, it is seen that more than half of the university students taking part in the study conducted by Erfidan (2019) preferred distance education.

Emotion revealed

This study discusses the emotions experienced by students in distance education. Students were asked about their feelings before watching any lesson videos, while watching a lesson video, and after watching a lesson video as part of distance education. It was determined that anxiety, fear, excitement, and anger appeared in students. Besides, the students shared their feelings related to the pandemic process.

The positive feelings of the students facilitate the achievement of a quality learning process (Marın, Bocoș, Călın & Cordoș, 2020). Therefore, whenever the educational environment is evaluated, the student's emotional process should be considered (Karakuş & Yanpar Yelken, 2020). It is impossible to deny the impact of the pandemic process on the development of the emotions exhibited by students in this study. Studies examining the feelings felt during the pandemic have shown that students exhibit anxiety related to uncertainty and self-preservation and describe the process as traumatic (Bozkurt, 2020; Cao et al., 2020; Wang et al., 2020). A study determined that distance education is a new method that causes psychological problems in students (Marın et al., 2020). Besides, another study found that the stress and anxiety experienced because of the pandemic made it challenging to follow the lessons (Kürtüncü & Kurt, 2020). In studies that did not include the pandemic process, a sense of anxiety emerged, but it was observed that there were differences in its cause. These reasons include encountering technical problems and not knowing or feeling inadequate to use the Internet or computer (Aktaş et al., 2020; Tasocak et al., 2014).

Conclusions

According to the findings of the quantitative part of the study and the evaluation done within the framework of the discussion, although distance education is instructive, students' not being prone to distance education may have negative consequences in their preparation for the lesson and their participation in the lesson. Because of the inadequate technical infrastructure in s, low internet speed, disadvantaged student groups (no internet, no computer, Etc.), and lack of motivation in students, the distance education model needs to be improved for students. In the qualitative part of the study, six themes emerged in the analysis of students' views on distance education and were named as a decrease in interaction, current situation, awareness of responsibility, gains, requirements, and emotion revealed. It has been determined that there is a decrease in interaction in asynchronous distance education and that the current situation and emotions affect the education process. It was also determined that there are gains in this education system, and individual awareness and needs regarding responsibility are formed. It was observed that the predisposition and eligibility results for distance education determined in the quantitative part were parallel to the results of qualitative data.

Limitations of the Study

The study was applied only to the Faculty of Health Sciences students. The study gives the findings of asynchronous distance education and cannot be generalized to the distance education system's different methods. Due to data collection of on a web-based page, students without Internet could not be reached.

Suggestions

It is necessary to take measures to increase students' susceptibility and suitability to distance education; it is recommended to interact with distance education students, to ensure that the student takes adequate responsibility, and to understand the students' needs and feelings. Since only the Faculty of Health Sciences students were considered in this study, it is recommended to be done in other faculties, universities, and educational institutions. In this respect, comparing this study with other studies will increase the validity of the results of each study.

References

Adnan, M, & Anwar K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. *Journal of Pedagogical Sociology and Psychology, 2(*1), 45-51. http://www.doi.org/10.33902/JPSP. 2020261309

Aktaş, Ö., Büyüktaş B., Gülle, M., & Yıldız, M. (2020). Covid-19 virüsünden kaynaklanan izolasyon günlerinde spor bilimleri öğrencilerinin uzaktan eğitime karşı tutumları [Sports scıence students' attitudes towards distance education during isolation days caused by covıd-19 virus]. *Sivas Cumhuriyet Üniversitesi Spor Bilimleri Dergisi*, *1*(1), 1-9.

Al, U., & Madran, R.O. (2004). Web tabanlı uzaktan eğitim sistemleri: sahip olması gereken özellikler ve standartlar [Web-based distance education systems: required features and standards]. *Bilgi Dünyası Dergisi, 5*(2), 259-271.

Al-Balas M., Al-Balas H. I., Jaber, H. M., et al. (2020). Distance learning in clinical medical education amid COVID-19 pandemic in Jordan: current situation, challenges, and perspectives. *BMC Med Educ*; 20, 341. https://doi.org/10.1186/s12909-020-02257-4

Altıparmak, M., Kurt, İ. D. & Kapıdere, M. (2011). E-Öğrenme Ve Uzaktan Eğitimde Açık Kaynak Kodlu Öğrenme Yönetim Sistemleri [E-Learning and open source code management systems in education]. *XI. Akademik Bilişim Kongresi*.

Alvarez, A. Jr. (2020). The phenomenon of learning at a distance through emergency remote teaching amidst the pandemic crisis. *Asian Journal of Distance Education*, *15*(1), 144-153. https://doi.org/10.5281/zenodo.3881529

Anderson, L. (2020). 'Smilesareinfectious': What a schoolprincipal in Chinalearned from going remote. *EdSurge*. https://www.edsurge.com/news/2020-03-20-smiles-are-infectious-what-a-school-principal-in-china-learned-from-going-remote.

Balaban, Ö., & Çakmak, D. (2016). Üniversite öğrencilerinin kişisel gelişim eğitimlerine yönelik algılarının incelenmesi [Examination of university students' perception of personal development training]. *Sakarya İktisat Dergisi*, *5*(1), 1-17.

Bozkurt, A. (2020). Koronavirüs (Covid-19) pandemi süreci ve pandemi sonrası dünyada eğitime yönelik değerlendirmeler: Yeni normal ve yeni eğitim paradigması [The coronavirus (Covid-19) pandemic process and evaluations on education in the post-pandemic world: New normal and new education paradigm], *Açıköğretim Uygulamaları ve Araştırmaları Dergisi AUAd*, *6*(3), 112-142.

Brooks, S. K., Smith, L. E., Webster, R. K., Weston, D., Woodl, L., Hall, I. & Rubin, G. J. (2020). The impact of unplanned school closure on children's social contact: rapid evidence review. *Euro Surveilliance*, *25*(13). http://doi.org/10.2807/1560-7917.ES.2020.25.13.2000188

Büyüköztürk, Ş. (2017). *Sosyal bilimler için veri analizi el kitabı [Manual of data analysis for social sciences]* (23. Ed.). Pegem A Yayıncılık.

Cabı, E. (2016). Uzaktan eğitimde e-değerlendirme üzerine öğrenci algıları [The perception of students on e-assessment in distance education]. *Journal of Higher Education & Science/Yükseköğretim ve Bilim Dergisi*, *6*(1), 94-101.

Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, *287*, 112934. http://doi.org/10.1016/j.psychres.2020.112934

Celen, F. K., Celik, A. & Seferoglu, S. S. (2018). Yükseköğretimde çevrim-içi öğrenme: Sistemde yaşanan sorunlar ve çözüm önerileri. *Journal of European Education*, *1*(1), 25-34.

Creswell, J. W. (2017). *Qualitative, ouantative, and mixed methods approaches.* Translation editor: Demir Beşir S.. Girisim Publishing.

Daniel, S. J. (2020) Education and the COVID-19 pandemic. *Prospects*. https://doi.org/10.1007/s11125-020-09464-3

Doğan, S. & Tatık, R. Ş. (2015). Marmara Üniversitesi'ndeki uzaktan eğitim uygulamasının öğrenci görüşleriyle değerlendirilmesi [Evaluation of distance education program in Marmara University according to the views of students]. *Route Educational and Social Science Journal*, *2*(1), 497-502. https://doi.org/10.30964/auebfd.822101

Ekiz, D. (2009). *Scientific research methods*. Anı Publishing.

Erfidan, A. (2019). Derslerin uzaktan eğitim yoluyla verilmesiyle ilgili öğretim elemanı ve öğrenci görüşleri: balıkesir üniversitesi örneği [Perspectıves of lecturers and undergraduate students on unıversıty dıstance educatıon courses: the case of Balıkesır Unıversıty]. Unpublished Master's Thesis. Balıkesir University, Institute of Science.

Forehand, M. (2010) Bloom's taxonomy. *Emerging Perspectives on Learning, Teaching, And Technology, 41*(4), 47-56.

Gök, T. (2015). The evaluations of the college students' perceptions on distance education from the point of the technical and educational factors. *The Turkish Online Journal of Distance Education, 16*(2), 84-93. https://doi.org/10.17718/tojde.19025

Gürpınar, E., & Zayim, N. (2008). Tıp eğitimi ve E-öğrenme. [Medical education and e-learning] *Tıp Eğitimi Dünyası*, *27*(27), 19-25.

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning |EDUCAUSE. https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Johnson, S. D., Aragon, S. R., & Shaik, N. (2000). Comparative analysis of learner satisfaction and learning outcomes in online and face-to-face learning environments. *Journal of Interactive Learning Research, 11*(1), 29-49.

Kamiloğlu, F., U. & Yurttaş, Ö. (2014). Sosyal medyanın bilgi edinme ve kişisel gelişim sürecine katkısı ve lise öğrencileri üzerine bir alan çalışması [The contribution of social media on obtaining information and self-improvement, and an fieldwork on high-school students]. *Galatasaray Üniversitesi İletişim Dergisi, 21*, 129-150. https://doi.org/10.16878/gsuilet.96678

Karakuş, İ., & Yanpar Yelken, T. (2020). Uzaktan eğitim alan üniversite öğrencilerinin sosyal bulunuşluk ile işlemsel uzaklıkları arasındaki ilişkinin incelenmesi [Investigation of the relationship between social ıncidence and transactional distance of students university receiving distance education]. *Kastamonu Education Journal, 28*(1), 186-201. https://doi.org/10.24106/kefdergi.3506

Keskin, M., & Özer Kaya, D. (2020). COVID-19 sürecinde öğrencilerin web tabanlı uzaktan eğitime yönelik geri bildirimlerinin değerlendirilmesi [Evaluation of students' feedbacks on web-based distance education in the covid-19 process]. *İzmir Kâtip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi*, 5(2), 59-67.

Kırmacı, Ö., & Acar, S. (2018). Kampüs öğrencilerinin eşzamanlı uzaktan eğitimde karşılaştıkları sorunlar [The problems of campus students in simultaneous online distance education]. *Eğitimde Kuram ve Uygulama, 14*(3), 276-291. https://doi.org/10.17244/eku.378138

Korhan, E. A., Yıldırım, D., Özçiftçi, S. et al. (2020). Hemşirelik birinci sınıf öğrencilerinin palyatif bakımda ilk klinik uygulama deneyimleri [First clinical practice experiences of nursing first class students in palliative care]. *Kocaeli Üniversitesi Sağlık Bilimleri Dergisi*, *6*(1), 1-6.

Kör, H., Çataloğlu, E., & Erbay, H. (2013). Uzaktan ve örgün eğitimin öğrenci başarısı üzerine etkisinin araştırılması [Investigation of the effects of distance education and formal education into student success]. *Gaziantep University Journal of Social Sciences, 12*(2) Technology Special Issue, 267-279.

Kürtüncü, M., & Kurt, A. (2020). COVID-19 pandemisi döneminde hemşirelik öğrencilerinin uzaktan eğitim konusunda yaşadıkları Sorunlar [Problems of nursing students in distance education in the covid-19 pandemia period]. *Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi* (ASEAD), *7*(5), 66-77.

Marin, D. C., Bocoș, M., Călin, C. V., & Cordoș, I. (2020). Parents'opinion regarding the use of distance learning during covid-19 pandemic. Studia Universitatis Babes-Bolyai, *Psychologia-Paedagogia, 65*(1). https://doi.org/10.24193/subbpsyped.2020.1.04

Merriam, S. B. (2013). *A guide for qualitative research, design, and practice*. (S. Turan, Çev.) Nobel Publishing.

Owusu-Fordjour, C., Koomson, C., & Hanson, D. (2020). The impact of Covid-19 on learning-the perspective of the Ghanaian student. *European Journal of Education Studies*, *7*(3), 88–101. http://doi.org/10.5281/zenodo.3753586

Özgöl, M., Sarıkaya, İ., & Özürk, M. (2017). Örgün eğitimde uzaktan eğitim uygulamalarına ilişkin öğrenci ve öğretim elemanı değerlendirmeleri [Students' and teaching staff's assessments regarding distance education applications in formal education]. *Yükseköğretim ve Bilim Dergisi, 7*(2), 294-304. https://doi.org/10.5961/jhes.2017.208

Özkul, A.E., & Aydın, C. H. (2012), Öğrenci adaylarının açık ve uzaktan öğrenmeye yönelik görüşleri [Opinions of prospective students on open and distance learning]. *Akademik Bilişim Konferansı*, 1-3, February, Uşak, Turkey.

Öztaş, S., & Kılıç, B. (2017). Atatürk ilkeleri ve inkılâp tarihi dersi'nin uzaktan eğitim şeklinde verilmesinin üniversite öğrencilerinin görüşleri açısından değerlendirilmesi (Kırklareli Üniversitesi örneği) [The evaluation of university students' opinions of teaching the atatürk's principles and history of revolution course with distance education (Kirklareli University sample)]. *Turkish History Education Journal*, *6*(2), 268-293.

Peloso, R. M., Ferruzzi, F., Mori, A. A., Camacho, D. P., da Silva Franzin, L. C., Margioto Teston, A. M., & Salvatore Freitaset, K. M. (2020). Notes from the field: Concerns of health-related higher education students in Brazil pertaining to distance learning during the coronavirus pandemic. *Evaluation & the Health Professions*, *43*(3), 201–203. https://doi.org/10.1177/0163278720939302

Polat, Ş., Erkan, H. A., & Güldalı Çınar, Z. O. (2019). Hemşirelerin lisans tamamlama programı hakkındaki görüşleri [Nurses' ıdeas about the bachelor's degree completion program]. *Sağlık ve Hemşirelik Yönetimi Dergis*i, *6*(1), 42–54. https://doi.org/10.5222/SHYD.2019.30602

Reime, M. H., Harris, A., Aksnes, J., & Mikkelsen, J. (2008). The most successful method in teaching nursing students infection control–e-learning or lecture?. *Nurse Education Today*, *28*(7), 798-806.

Sahu, P. (2020). Closure of universities due to coronavirus disease 2019 (COVID-19): Impact on education and mental health of students and academic staff. *Cureus*, *2019*(4), 4–9. http://doi.org/10.7759/cureus.7541

Serçemeli, M. & Kurnaz, E. (2020). Covid-19 pandemi döneminde öğrencilerin uzaktan eğitim ve uzaktan muhasebe eğitimine yönelik bakış açıları üzerine bir araştırma [A research on students' perspectıves to distance education and distance accounting education in the covid-19 pandemia period]. *Uluslararası Sosyal Bilimler Akademik Araştırmalar Dergisi, 4*(1), 40-53.

Somuah, B.A., Itegi, F. M. & Kariuki, S. I. (2018). Financial roles and ıts effect on persistence of female students in distance education programs in Ghana. *Turkish Online Journal of Distance Education*, *19*(4), 104-115.

Sun, L., Tang, Y., & Zuo, W. (2020). Coronavirus pushes education online. *Nature Materials. 19*, 687. https://doi.org/10.1038/s41563-020-0678-8

Süt, H. K., & Küçükkaya, B. (2016). Hemşirelik Bölümü öğrencilerinin uzaktan eğitime ilişkin görüşleri [The views of nursing students on distance education]. *Hemşirelikte Eğitim ve Araştırma Dergisi, 13*(3), 235-243.

Şenyuva, E. (2013). Nursing student's view about distance education. *International Online Journal of Educational Sciences*, *5*(2), 409- 20.

Tasocak, G., Kaya, H., Senyuva, E., Isık, B., & Bodur, G. (2014). Relationship between nursing students' views about web-based patient education course and anxiety in Turkey. *Turkish Online Journal of Distance Education*, *15*(3), 197-214.

Titan Ferdianto G. G. F. P., & Desak, L. (2017). A comparative study of teaching styles in online learning environment," *2017 International Conference on Information Management and Technology* (ICIMTech) (pp. 25-30). https://doi.org/10.1109/ICIMTech.2017.8273505

Tunga, Y. & İnceoğlu, M. M. (2016). E-Öğrenme ortamlarında oyunlaştırma yaklaşımı kullanımının öğrenenlerin motivasyon durumlarına katkısının incelenmesi [An examination of effects of the use of gamification in e-learning environments on learners' academic achievement and participation]. *10th International Computer and Instructional Technologies Symposium* (pp. 620-625). Recep Tayyip Erdoğan University.

Utomo, M. N. Y., Sudaryanto, M. & Saddhono, K. (2020). Tools and strategy for distance learning to respond COVID-19 pandemic in Indonesia. *Ingénierie des systèmes d information, 25*(3), 383-390. https://doi.org/10.18280/isi.250314

Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., Mytton, O., Bonell, C., & Booy, R. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: a rapid systematic review. *The Lancet Child & Adolescent Health*. http://doi.org/10.1016/S2352-4642(20)30095-X

Wang, C., Cheng, Z., Yue, X.-G., & McAleer, M. (2020). Risk management of COVID-19 by universities in China. *Journal of Risk and Financial Management*, *13*(2), 36. http://doi.org/10.3390/jrfm13020036

World Health Organization (WHO). *Coronavirus disease 2019 (COVID-19): situation report*. World Health Organization.

Yıldırım, S., Yıldırım, G., Çelik, E. & Karaman, S. (2014). Uzaktan eğitim öğrencilerinin uzaktan eğitime yönelik görüşleri: bir ölçek geliştirme çalışması [Perception of distance education students about distance education: A scale development study]. *Eğitim ve Öğretim Araştırmaları Dergisi*, *3*(3), 365-370.

Yıldız, E. & Seferoğlu, S. S. (2020). uzaktan eğitim öğrencilerinin çevrim içi teknolojilere yönelik öz yeterlik algılarının incelenmesi [Examination of self-efficacy perception of distance education students about online technologies]. *Celal Bayar Üniversitesi Sosyal Bilimler Dergisi*, *18*(1), 33-46.

Yıldırım, A. & Simsek, H. (2013). Qualitative research methods in the social sciences (9. Ed.). Seçkin Publishing.

Yükseköğretim Kurulu (YÖK) (2020). Basın açıklaması. https://basin.yok.gov.tr/AciklamaBelgeleri/2020/03-uzaktan-egitime-iliskin-alinan-karar.pdf

Zavizion, V. F., Bondarenko, I. M., Avierin, D. I., Hojouj, M. I., Davlietova, N.O., Cherednychenlo, N. O. et al. (2020) Distance learning: Opportunities and challenges in quarantıne. *Theoretical Medicine*, *25*(2), 4-12. https://doi.org/10.26641/2307-0404.2020.2.206260

Zhang, W., Wang, Y., Yang, L., & Wang, C. (2020). Suspending classes without stopping learning: China's education emergency management policy in the COVID-19 outbreak. *J. Risk Financial Manag.* 2020, *13*(3), 55. https://doi.org/10.3390/jrfm13030055