ARAŞTIRMA MAKALESİ / *RESEARCH ARTICLE*

Online Tools and Instructional Methods Used in Distance Learning on the Motivation and Attitudes of Nursing Students During COVID-19 Pandemic: A Cross-sectional Study

COVID-19 Pandemisi Sırasında Uzaktan Eğitimde Kullanılan Çevrimiçi Araçlar ve Öğretim Yöntemlerinde Hemşirelik Öğrencilerinin Motivasyon ve Tutumları: Kesitsel Bir Çalışma

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ABSTRACT

Aim: *This study aims to determine the effects of online tools and instructional methods used in distance education on the motivation and attitudes of nursing students.*

Material and Method: *This descriptive and cross-sectional study was carried out with 280 students studying in the nursing department of a university in Turkey. Data were collected between March and June 2021 through Google docs, including the Demographic form, The Instructional Materials Motivation Survey, and The Attitude Scale towards Distance Education.*

Results: *It was found that the satisfaction of nursing students from distance education (5±2.42), their motivation for instructional materials (81.50±15.92), and their attitudes towards distance education (98.96±20.32) were at a moderate level. Among instructional methods of distance education, video assignment was found to have a significant relationship with motivation for instructional materials (t=2.534, p=0.012), and case study was found to be significantly correlated with the attitude towards distance education (z=-2.262, p=0.024). The attitudes of students towards distance education were found to be positively correlated with their motivation for instructional materials (r=0.521, p=0.000), age (r=0.158, p=0.008), satisfaction (r=0.665, p=0.000) and grade (r=0.154, p=0.010). They were found to be negatively correlated with online class hours (r=-0.129, p=0.031).*

Conclusion: *The results of this study showed that the students' attitudes towards distance education were more positive as their motivation for instructional materials, age, satisfaction, and grades increased, and their attitudes were more negative as their online class hours were prolonged.*

Key words: *attitude; distance education; motivation; nursing student; online tools*

ÖZET

Amaç: *Bu çalışmanın amacı, uzaktan eğitimde kullanılan çevrimiçi araç ve öğretim yöntemlerinin hemşirelik öğrencilerinin motivasyon ve tutumlarına etkisini belirlemektir.*

Materyal ve Metot: *Tanımlayıcı ve kesitsel tipteki bu araştırma, Türkiye'de bir üniversitenin hemşirelik bölümünde öğrenim gören 280 öğrenci ile gerçekleştirilmiştir. Veriler, Demografik form, Öğretim Materyalleri Motivasyon Anketi ve Uzaktan Eğitime Yönelik Tutum Ölçeği ile Google dokümanları aracılığıyla Mart ve Haziran 2021 arasında toplanmıştır.*

Bulgular: *Hemşirelik öğrencilerinin uzaktan eğitimden memnuniyetlerinin (5±2,42), öğretim materyallerine yönelik motivasyonlarının (81,50±15,92) ve uzaktan eğitime yönelik tutumlarının (98,96±20,32) orta düzeyde olduğu belirlenmiştir. Uzaktan eğitim öğretim yöntemlerinden video çekiminin öğretim materyallerine yönelik motivasyon ile (t=2,534, p=0,012) ve vaka çalışmasının uzaktan eğitime yönelik tutumla (z=-2,262, p=0,024) anlamlı şekilde ilişkili olduğu bulunmuştur. Öğrencilerin uzaktan eğitime yönelik tutumları ile öğretim materyallerine yönelik motivasyon (r=0,521, p=0,000), yaş (r=0,158, p=0,008), memnuniyet (r=0,665, p=0,000), sınıfları (r=0,154, p=0,010) arasında pozitif yönde, çevrimiçi ders saatleri (r=-0,129, p=0,031) ile negatif yönde istatistiksel olarak anlamlı bir ilişkili bulunmuştur.*

Sonuç: *Bu çalışmanın sonuçları, öğrencilerin öğretim materyallerine yönelik motivasyon, yaş, memnuniyet ve notları arttıkça uzaktan eğitime yönelik tutumlarının daha olumlu olduğunu ve çevrimiçi ders saatleri arttıkça tutumlarının daha olumsuz olduğunu göstermiştir.*

Anahtar kelimeler: *tutum; uzaktan eğitim; motivasyon; hemşirelik öğrencisi; çevrimiçi araçlar*

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Introduction

COVID-19 pandemic has been characterized by severe acute respiratory failure and quickly spread to many parts of the world[1]. During this period, several restrictions that limit daily life such as lockdown have been implemented all over the world to alleviate the spread of disease. The universities have interrupted their face-to-face activities in the scope of these precautions and distance e-learning strategies have become the most accessible tool for education[2]. Also in our country, Yüksek Öğretim Kurumu (Council of Higher Education) announced that spring term of 2020 would be completely carried out through distance education to manage pandemic period effectively and to prevent victimization of the students such as getting unable to graduate and losing time[3]. The universities were not prepared for this period that was developed suddenly and very quickly due to COVID-19 and shifted to distance education from face-to-face education without distinction between theory and practice[4].

Distance education includes all learning activities that are carried out to promote communication and interaction between learners, teachers and learning sources at various locations and times through information and communication technologies[5]. During this process, universities have continued their education as online/synchronous, online/asynchronous or hybrid to the extent possible[4]. Educators have managed distance education by using global learning platforms such as Microsoft Teams, Zoom and Google Classroom or e-learning platforms of their own universities[6–7]. In nursing education, quarantine restrictions due to COVID-19 have denied the students' access to the patients and medical staff[8]. In this context, transition to distance education has created a difficulty for nursing education since it includes traditional classroom and clinical practice[9]. Designing and assessing distance education in a good way is very crucial for the success and stability of the system. This is associated with educators' opportunities to interact with the students, learning styles of the students, effective use of materials and environments by the educators and students and the needs, interest, attitudes and motivation of the educators and students[10]. Technologies with various functions have been described as the factors that may promote motivation of the students[11]. It has been considered that a distant learner, who is or has been motivated, may catch up with the opportunity to overcome place and time limitations quickly by distance education and to become successful by acquiring targeted learning achievements[12]. The motivation of students in learning may affect online learning experiences and persistence[13]. Even though the components such as the teachers creating distance education environment, the environment itself and content are developed as ensuring all standards, the most important factor in success is the attitudes and approaches of the learners towards these environments[14]. The attitude of the individual towards distance education and technologies may be directly associated with individual's learning. From this perspective, it is highly important to know the thoughts and feelings of the students regarding distance education environments to improve their attitudes towards these[15]. In a study, the attitudes of the nursing students towards distance education they had during COVID-19 pandemic were found to be at a moderate level. The students stated that they felt safe and experienced less stress since they were not in class environment and they did not have an internship during the pandemic[16].

However, in some other studies, it was indicated that most of the students experienced negative feelings such as anxiety and stress due to the pandemic and they had difficulty in coping with these emotional states; and thus, they had difficulty in following the lessons[17–19].

Motivating students and keeping this motivation alive is an issue that needs attention for teachers in distance education. There are too many online tools and instructional methods that may be used for teaching-learning process; however, less is known about the preferences of the students regarding these tools and methods. It is highly important to include successful features of online education in the education planning and to identify teaching tools that improve motivation and attitudes of the students during this period.

The aim of this study was to determine the effects of online tools and instructional methods used in distance education on the motivation and attitudes of nursing students. In this study, the following questions were addressed:

1) What is the level of satisfaction, attitude, and motivation for instructional materials among the nursing students during the pandemic?
2) Is there a relationship between sociodemographic data of the nursing students and their attitudes towards distance education and motivation for instructional materials?

Material and Methods

Study Design

A descriptive and cross-sectional design was used. STROBE Statement checklist was used for assuring the rigour of research methodology[20].

Setting and Participants

The study was conducted with the students who were studying in the nursing department of a university in Turkey. During the lockdown, university and undergraduate nursing program were carried out as online/asynchronous. Video recordings were prepared about the content/subjects of the courses and they were shared by the students by uploading to online system. Students were asked to watch course presentations and videos uploaded on the system before online/synchronous course and to attend the course as ready. A course legally lasts forty-five minutes. Online tools such as the university's live virtual classroom system (BigBlueButton), Zoom and Microsoft Teams were used for online courses. All courses including clinical ones were held by using methods such as video watching, powerpoint presentations, case discussions and homework preparation. While 1 st, 2nd and 3rd graders carried out clinical practices online, 4th graders (interns) had face-to-face clinical practices.

The universe of the study was composed of 802 nursing students who were studying in a nursing department during the spring term of 2020–2021 academic year. Inclusion criteria of the study were being a nursing student and being volunteer to participate in the study. A confidence interval of 95% and an error rate of 5% were used to determine sample size, and it was aimed to attain 260 nursing students. The study was conducted with 280 students who approved to participate in the study and data obtained from these students were analyzed.

Data Collection

The study, which was designed as an online survey, was conducted between March and June 2021. After obtaining ethics committee approval and institutional permission, the links of the questionnaires were sent to all students through e-mail. Participants completed the survey via Google Forms, which is a safe online survey platform. Each participant has one right to fill the survey. It took approximately 15–20 minute to complete the questionnaires.

Data Collection Tools

The data were collected with the Demographic Form, The Instructional Materials Motivation Survey and The Attitude Scale towards Distance Education.

Demographic form: The demographic form included sociodemographic data of the students (such as age, sex, working status, grade, grade point average (GPA), online class hours), satisfaction level during/from distance learning (1–10) and the questions for identifying online tools used in creating a virtual classroom and instructional methods used in distance education.

The Attitude Scale towards Distance Education: This 5-point Likert type scale was developed by Kişla (2016) and included 35 items and one dimension[21]. It was aimed to identify the attitudes of participants towards distance education. The total score that can be taken from the scale was between 35–175. High scores indicated more positive attitudes towards distance education. In reliability analysis of the scale, internal consistency coefficient (Cronbach's Alpha) was determined as 0.89; and it was found to be 0.88 in this study.

The Instructional Materials Motivation Survey (IMMS): It was developed by Keller in 1987 and it was adapted to Turkish by Kutu and Sözbilir (2011)[22]. Rather than determining motivation levels of the students, the scale aims to identify how much instructional materials used motivate students for the course. It is composed of 2 subscales including Attention-Relevance (11 items) and Confidence-Satisfaction (13 items) and 24 items. The scale is graded as 5-point likert type. Cronbach Alpha reliability coefficient of the scale was determined as 0.83, and it was found to be 0.92 in this study.

Data Analysis

Data were analyzed by using SPSS 25.0 (IBM SPSS Statistics 25 software (Armonk, NY: IBM Corp.)) package program. Continuous variables were given as mean (± standard deviation), and categorical variables were expressed as number and percentages. When parametric test assumptions were ensured, groups were compared by Independent Samples T-test and the comparison was made by Mann-Whitney U test when parametric test assumptions were not met. Repeated Measures Analysis of Variance was used for the comparison of parametric data and Friedman Test was used for comparing nonparametric ones. Moreover, the correlations between continuous variables were tested by Spearman or Pearson correlation analyses and the

differences between categorical variables were analyzed by Chi-Square test.

Ethical Considerations

An ethics committee approval was taken from Pamukkale University Non-interventional Clinical Trials Ethics committee to conduct the study (Date: 03.16.2021, No: 2021/06). The students who approved to participate in the study were informed about the aim of the study and that the study was on a voluntary basis and all personal data would be confidential; and the study was carried out in compliance with the principles of Helsinki Declaration. Participation in the study was on a voluntary basis and written consents were obtained from all participants prior to enrollment. A permission to use was taken from the authors of all data collection tools used in the study.

Results

Most of the students in the study were females (81.80%); and 8.20% were working outside school hours. A comparable number of students from each grade (1, 2, 3, 4) participated in the study. Grade point average of more than half of the participants (68.20%) was between 3.49–2.75 and 53.6% of them took online courses between 16–30 hours per week. During distance education period, the most used online tools for virtual classroom was Microsoft teams (67.90%); and the most frequently used instructional methods were homework preparation (92.90%), question-answer method (83.20%) and powerpoint presentation (82.10%) (Table 1). At the end of this study, it was found that students' satisfaction from distance education (5±2.42), their motivation for instructional materials (81.50±15.92) and their attitudes towards distance education (98.96±20.32) were at a moderate level (Table 2). No statistically significant

Table 1. *Personal and distance education characteristics of the participants (n=280)*

Variables	N	%
Age group		
18–20	127	45.4
21–34	153	54.6
Sex		
Female	229	81.80
Male	51	18.20
Working		
Yes	23	8.20
No	257	91.80
Class/year		
1st grade	70	25.00
2nd grade	80	28.60
3rd grade	68	24.30
4th grade	62	22.10
Grade point average		
3.50–4.00	54	19.30
3.49–2.75	191	68.20
2.74 and below	35	12.50
Online class hours		
1–15	86	30.70
16–30	150	53.60
31 and above	44	15.70
Online tools*		
Microsoft teams	190	67.90
University's live virtual classroom system (BigBlueButton)	70	25.00
Google classroom	23	8.20
Moodle	16	5.70
Zoom	20	7.10
Blackboard	14	5.00
Instructional method*		
Question-answer	233	83.20
Brainstorming	118	42.10
Video watching	145	51.80
Video assignment	111	39.60
Case study	172	61.40
Powerpoint presentation	230	82.10
Homework	260	92.90

* Participants gave more than one answer.

Table 2. *Participants' Satisfaction with Distance Education, The Instructional Materials Motivation Survey and The Attitude Scale towards Distance Education scores*

Scales	Mean ± standard deviation	Minimum value	Maximum value
Satisfaction level during/from distance learning (1–10)	5±2.42	1	10
The Instructional Materials Motivation Survey	81.50±15.92	32	116
The Attitude Scale towards Distance Education	98.96±20.32	61	151

differences were found between instructional materials motivation survey and the attitude scale towards distance education based on online virtual classroom tools (Microsoft Teams, BigBlueButton, Google Classroom, Moodle, Zoom, Blackboard) used in this study. There are statistically significant differences were found between instructional materials motivation survey and the attitude scale towards distance education based on video assignment, case study (p>0.05). In terms of instructional methods, the mean IMMS score of the students using video assignments method was found to be lower than those who were not using this method (t=2.534, p=0.012). Moreover, the mean score of the students using case discussion method from the attitude scale towards distance education was found to be higher than the ones who were not (z=-2.262, p=0.024) (Table 3). A positive correlation was found between mean score of the students from the attitude scale towards distance education and their mean score from IMMS (r=0.521, p=0.000). Attitude score towards distance education was found to be increased as age (r=0.158, p=0.008), satisfaction (r=0.665, p=0.000) and grade (r=0.154, p=0.010) increased and decreased as online class hours increased (r=-0.129, p=0.031). As online class hours increased (r=-0.147, p=0.014), mean score from IMMS was also found to be decreased (Table 4).

Table 3. *Comparison of the scores obtained from The Instructional Materials Motivation Survey and The Attitude Scale towards Distance Education according to online tools and teaching methods used in distance education*

Scales	The Instructional Materials Motivation Survey			The Attitude Scale towards Distance Education		
Online tools	Yes Mean ± SD	No Mean ± SD	p value (test value)	Yes Mean ± SD	No Mean ± SD	p value (test value)
Microsoft teams	80.37±16.67	83.88±14.02	0.085 (t=1.728)	98.72±20.90	99.49±19.12	0.687 (z=-0.403)
University's live virtual classroom system (BigBlueButton)	80.53±14.92	81.82±16.27	0.558 (t=0.586)	94.51±18.11	100.45±20.83	0.071 (z=-1.803)
Google classroom	82.35±17.09	81.42±15.85	0.79 (t=-0.267)	99.30±20.02	98.93±20.38	0.891 (z=-0.137)
Moodle	88.06±10.27	81.10±16.13	0.089 (t=-1.704)	103.94±21.04	98.66±20.28	0.352 (z=-0.93)
Zoom	80.80±15.76	81.55±15.97	0.84 (t=0.203)	103±22.68	98.65±20.14	0.444 (z=-0.765)
Blackboard	86.43±14.90	81.24±15.96	0.235 (t=-1.19)	105.93±19.75	98.60±20.32	0.189 (t=-1.318)
Instructional method						
Question-answer	82.15±16.01	78.26±15.26	0.126 (t=-1.533)	98.97±20.88	98.94±17.46	0.992 (t=-0.01)
Brainstorming	83.21±16.04	80.25±15.77	0.124 (t=-1.542)	100.40±19.07	97.92±21.18	0.314 (t=-1.008)
Video watching	81.86±15.97	81.86±15.97	0.959 (z=-0.052)	99.79±20.26	98.08±20.42	0.478 (z=-0.709)
Video assignment	78.55±15.32	83.43±16.06	0.012 (t=2.534)	96.42±20.01	100.63±20.4	0.115 (z=-1.578)
Case study	81.92±15.68	80.80±16.35	0.867 (z=-0.167)	100.88±19.51	95.91±21.29	0.024 (z=-2.262)
Powerpoint presentation	81.70±15.39	80.56±18.32	0.647 (t=-0.458)	98.55±19.03	100.88±25.56	1 (z=0)
Homework	81.45±15.85	81.45±15.85	0.872 (t=0.161)	98.55±19.91	104.35±25.05	0.219 (t=1.231)

Table 4. *Correlation of the scores obtained from The Instructional Materials Motivation Survey and The Attitude Scale towards Distance Education and some variables (n=280)*

Scales	The Instructional Materials Motivation Survey		The Attitude Scale towards Distance Education	
Variables	r	p	r	p
The Attitude Scale towards Distance Education	0.521**	0.000	-	-
Age	-0.021	0.721	0.158**	0.008
Grade point average	0.101	0.092	0.006	0.924
Online class hour	-0.147*	0.014	-0.129*	0.031
Satisfaction level during/from distance learning (1–10)	0.570**	0.000	0.665**	0.000
Grade	-0.006	0.914	0.154**	0.010

Discussion

Determination of the attitudes of nursing students towards distance education and their motivation for instructional materials used in distance education during COVID-19 pandemic will allow the identification of the strategies required for more efficient and effective conduction of education and the use of instructional methods with proven efficacy and easy-to-use/access technological tools more actively. Again, it may allow more efficient use of constantly evolving and changing technology within instructional activities by enabling the correct positioning of its place in educational activities.

The study was carried out during the pandemic period; and data were collected while students were having distance education actively. Distance education was carried out through online tools. Besides the virtual classroom included in the own information system of the university, several free web tools (MS Teams, Google Classroom, Moodle, Zoom, etc.) were used in the school where study was conducted. Students' attitudes and satisfaction for the instructional methods and online virtual classroom tools used in distance education and their motivation for instructional materials were found to be at a moderate level. In a study, it was indicated that students were generally satisfied with distance education during the pandemic but there were some problems such as lack of announcement of the instructional materials by the educators beforehand and deficiencies in internet access and online system, [23] results of another study showed that nursing students had some sort of positive attitudes towards e-learning as well as they were willing to have e-learning[24]. In some other studies, it was reported that nursing or medical faculty students had negative perception and attitudes towards e-learning during COVID-19 pandemic[25]. The students also stated that online learning environment decreased motivation and the most common problem in managing individual learning process was attention deficit[26]. In a study evaluating the effect of teaching through an online tool (Zoom) on the perception of students, participants reported that these online sessions disturbed monotonous routine and they felt themselves motivated for reading the topics[27]. In another study, students reported the use of several strategies including the recording of powerpoint presentations uploaded to the platforms such as Moodle, Zoom and Microsoft Teams during online education and indicated that online learning was not easy; but motivated them to improve their thinking and problem-solving skills[7].

Lack of other options than using web tools to continue education during the pandemic might have accelerated the students' adaptation in this study. No statistically significant differences were found between instructional materials motivation survey and the attitude scale towards distance education based on online virtual classroom tools used in this study.

In nursing education, various instructional methods are used alone or together at each stage of teaching. More than one method was used together in the university where study was conducted to make distance education more effective during the pandemic. These methods were question-answer, brain storming, video watching, case study, video assignments and homework preparation. Different from these, demonstration is actively used during normal education process. All these methods are used actively in the theoretical courses held in the classroom, in skill laboratories and during clinical practice. While theoretical courses have been carried out easily in the classrooms created by web tools during the pandemic, occupational skill laboratory and clinical practices were also performed through web tools. Teaching skills requires to make learner and educator work together in the same environment. In this context, students were asked to make a video showing that they could learn the skill and perform it. This method was used actively in some courses. The motivation of the students, who video assignments within the scope of the course, was found to be higher than those who did not. In a scoping review examining the effect of Video Making for Situated Learning, most of the participants stated that they welcomed the opportunity to make skill videos and rewatch them; and they found it as a dynamic tool for feedback. However, some participants stated that the use of video feature of smartphones to teach and learn a skill had difficiulties in terms of sustaining access, ethics, and privacy, and trying to learn how to use video feature of smartphone effectively created a distressful situation[28]. In a study investigating the effects of video assignments by yourself during COVID-19 pandemic, students reported that they experienced less stress since they had the opportunity to replay the recording before the final submission; but they felt a sort of or excess pressure to "do the right thing"[29]. At this point, being in an environment

different from skill laboratory and far from reality and, the obligation to perform repeated and time-consuming practices such as video making for many courses might have decreased the motivation of the students.

Case study is used actively in the planning, implementation, and teaching of nursing care. It is also actively used in teaching care during the pandemic period as in normal education process. Mean scores of the students, who were using case study method, were found to be more positive for the attitudes towards distance education compared to those who were not using that. In a qualitative study, Family Nursing Practitioner students stated that they had a more realistic view regarding disease and conditions following education given by experiencing case-based discussions[30]. Although there are many approaches for online learning, using case presentation method may provide students different social and cultural environments for challenge. Case study discussion is an effective teaching method to involve students in a challenging environment[31].

A positive correlation was found between instructional materials motivation survey and the attitude scale towards distance education. The more the instructional materials motivate the students for the course, the more the attitudes towards distance education enhance. Students with low motivation are not prepared for learning[32]. Learning motivation is one of the predictors of academic success and well-being[32,33].

Again, attitude scores of students towards distance education were found to increase as their ages increased. At this point, working in a job outside school hours might be a factor. There are also students coming to nursing department from other graduate programs, and they work at various fields in line with their graduation.

The grade of the students also affected their attitudes towards distance education. The satisfaction from distance education increased as they approached to last grade. The presence of a smaller number of courses and more clinical practice hours at last year and the continuation of clinical practice in line with pandemic conditions during the dates when data were collected might be an important fact at this point.

In the study, it was also found that the attitude score towards distance education and motivation for instructional materials decreased as online class hours increased. In a study examining students' views on distance education in the COVID-19 pandemic, 73% of the participants stated that they wanted a maximum of 50 minutes of asynchronous video recordings and synchronous course duration of 30–40 minutes[34]. Another study examines the relationship between distance education students' cognitive flexibility levels and their distance education motivations, it has been stated that the time spent in the distance education environment and the frequency of participation in synchronized classes are factors affecting motivation[35]. Being continuously online, class attendance responsibility and pandemic-associated conditional and environmental problems (such as lockdown of all family members due to the restrictions, noise, housework, inadequacy in the number of technological devices and internet access problems) might have led to this situation[36].

Study Limitations and Strengths

There were some limitations in the study. Since the participants of the study were the students studying in the Nursing Department of a Faculty of Health Sciences within a state university in Turkey, the results can not be generalized to whole universe. For this reason, there is a need for new studies that will include a greater number of participants from various institutions and countries.

Conclusions

At the end of this study, nursing students' satisfaction by distance education, their motivation for instructional materials and their attitudes towards distance education were found to be at a moderate level. The instructional method of video assignments was found to be significantly correlated with instructional materials motivation; and case discussion was found to be significantly correlated with the attitude towards distance education. As students' motivation for instructional materials, age, satisfaction, and grades increased, their attitudes towards distance education were found to be more positive; but their attitudes were more negative as online class hours increased. This was a descriptive and cross-sectional study. Considering that distance education has been used for limited number of courses in the nursing curricula until now, it was used actively during the pandemic and will be used at certain conditions later on, this study is suggested to guide promotion and development studies that will be carried out for distance learning to be used in nursing education which focus on people and their care.

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Declaration of Interest

None

Ethical Considerations

The research protocol has been approved by the ethics committee of Pamukkale University Medical Ethics Committee (Date: 03.16.2021, No: 2021/06). Permission has been obtained from the nursing school where the study was planned to be conducted. Written consent has been obtained from the participants who voluntarily accepted to participate in the study. The study was conducted according to Helsinki Declaration to protect participants. Permission was obtained from the scale authors for the use of the scales. No ethical issues arose in the study.

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Author Contributions

Arife Sanlialp Zeyrek: Conceptualization, Methodology, Software, Formal analysis, Data curation, Writing - Original draft preparation, Project administration.

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Sumeyye Arslan: Conceptualization, Supervision, Visualization, Writing - Original draft preparation, Writing - Reviewing and Editing.

References

1. World Health Organization. Rolling updates on coronavirus disease (COVID-19) Events as they happen, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen; 2019 [accessed 31.07.2020]
2. Kaup S, Jain R, Shivalli S, Pandey S, Kaup S. Sustaining academics during COVID-19 pandemic: the role of online teaching-learning. Indian J Ophthalmol 2020;68(6):1220. doi: 10.4103/ijo.IJO_1241_20
3. Council of Higher Education. Press briefing (March 26, 2020). https://www.yok.gov.tr/Sayfalar/Haberler/2020/YKS%20Ertelenmesi%20Bas%C4%B1n%20A%C3%A7%C4%B1klamas%C4%B1.aspx; 2020 [accessed 20.05.2022]
4. Mucuk S, Ceyhan Ö, Kartın PT. COVID-19 Pandemi Sürecinde Uzaktan Hemşirelik Eğitimi: Ulusal Deneyim. İzmir Kâtip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi 2021;6(1):33–6.
5. Allen IE, Seaman J. Changing course: Ten years of tracking online education in the United States. Newburyport, MA: Sloan Consortium; 2013.
6. Dhawan S. Online learning: A panacea in the time of COVID-19 crisis. Journal of Educational Technology Systems 2020;49(1): 5–22. doi: 10.1177/0047239520934018
7. Suliman WA, Abu-Moghli FA, Khalaf I, Zumot AF, Nabolsi M. Experiences of nursing students under the unprecedented abrupt online learning format forced by the national curfew due to COVID-19: A qualitative research study. Nurse Educ Today 2021;100:104829. doi: 10.1016/j.nedt.2021.104829
8. Dost S, Hossain A, Shehab M, Abdelwahed A, Al-Nusair L. Perceptions of medical students towards online teaching during the COVID-19 pandemic: a national cross-sectional survey of 2721 UK medical students. BMJ Open 2020;10(11): e042378. doi: 10.1136/bmjopen-2020-042378
9. Langegård U, Kiani K, Nielsen SJ, Svensson PA. Nursing students' experiences of a pedagogical transition from campus learning to distance learning using digital tools. BMC Nurs 2021;20(1):1–10. doi: 10.1186/s12912-021-00542-1
10. Boling EC, Hough M, Krinsky H, Saleem H, Stevens M. Cutting the distance in distance education: Perspectives on what promotes positive, online learning experiences. Internet High Educ 2012;15(2):118–26. doi: 10.1016/j.iheduc.2011.11.006
11. Becerra BLG, Almendra MPR.Measuring student motivation in a statistics course supported by podcast using Reduced Instructional Materials Motivation Survey (RIMMS). In 2020 X International Conference on Virtual Campus (JICV), pp. 1–4. IEEE. doi: 10.1109/JICV51605.2020.9375823
12. Ucar H, Kumtepe AT. Use of ARCS-V motivational design model in online distance education. In Society for Information Technology & Teacher Education International Conference 2016; pp. 55–60. Association for the Advancement of Computing in Education (AACE).
13. Zhu Y, Zhang JH, Au W, Yates G. University students' online learning attitudes and continuous intention to undertake online courses: A self-regulated learning perspective. Educ Technol Res Dev 2020;68(3):1485–519. doi: 10.1007/s11423-020-09753-w
14. Tavşancıl E. Tutumların ölçülmesi ve SPSS ile veri analizi. 5. Basım. Nobel Yayın Dağıtım; 2014:1–230.
15. Yıldırım S, Yıldırım G, Çelik E, Karaman S. Uzaktan Eğitim Öğrencilerinin Uzaktan Eğitime Yönelik Görüşleri: Bir Ölçek Geliştirme Çalışması. Eğitim ve Öğretim Araştırmaları Dergisi 2014;3(3):365–70.

16. Keskin Kızıltepe S, Kurtgöz A. Determination of nursing students' attitudes and views towards distance learning during the covid-19 pandemic process. Journal of International Social Research 2020;13(74):558–66.
17. Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, Zheng J. The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry Res 2020;287:112934. doi: 10.1016/j.psychres.2020.112934
18. Lee J. Mental health effects of school closures during COVID-19. Lancet Child Adolesc Health 2020;395:912–20. doi: 10.1016/S2352-4642(20)30109-7
19. Wang C, Cheng Z, Yue XG, McAleer M. Risk management of COVID-19 by universities in China. Journal of Risk and Financial Management 2020;13(2):36. doi: 10.3390/jrfm13020036
20. Wang X, Cheng Z. Cross-sectional studies: strengths, weaknesses, and recommendations. Chest 2020;158(1):S65–71. doi: 10.1016/j.chest.2020.03.012
21. Kışla T. Uzaktan Eğitime Yönelik Tutum Ölçeği Geliştirme Çalışması. Ege Eğitim Dergisi 2016;17(1):258–71.
22. Kutu H, Sözbilir M. Öğretim Materyalleri Motivasyon Anketinin Türkçeye Uyarlanması: Güvenirlik ve Geçerlik Çalışması. Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi 2011;5(1):292–312.
23. Allo MDG. Is the online learning good in the midst of Covid-19 pandemic? The case of EFL learners. Jurnal Sinestesia 2020;10(1):1–10.
24. Guven Ozdemir N, Sonmez M. The relationship between nursing students' technology addiction levels and attitudes toward e-learning during the COVID-19 pandemic: A cross-sectional study. Perspect Psychiatr Care 2021;57(3):1442–48. doi: 10.1111/ppc.12710
25. Oducado RM, Estoque H. Online learning in nursing education during the COVID-19 pandemic: stress, satisfaction, and academic performance. Int J Clin Prac 2021;4(2):143–53. doi:10.30994/jnp.v4i2.128
26. Nayci Ö. Online learning readiness of associate degree students and their experiences regarding online learning process. International Journal of Eurasian Education and Culture 2021;6(12):235–85. doi: 10.35826/ijoecc.324.
27. Agarwal S, Kaushik JS. Student's perception of online learning during COVID pandemic. Indian J Pediatr 2020;87(7):554. doi: 10.1007/s12098-020-03327-7
28. Epstein I, Baljko M, Thumlert K, et al. "A video of myself helps me learn": a scoping review of the evidence of video-making for situated learning. International Journal for the Scholarship of Teaching and Learning 2020;14(1):9. doi: 10.20429/ijsotl.2020.140109
29. Palmer TJ, Chisholm LJ, Rolf CG, Morris CR. Deliberate practice and self-recorded demonstration of skill proficiency: One baccalaureate nursing school's response to the COVID-19 pandemic. Nurse Education in Practice 2021;53:103071. doi: 10.1016/j.nepr.2021.103071
30. Calloway SJ, Young CS, Ward-Smith P, Paulsen L. Management of mental disorders in primary care: The impact of case based learning on nurse practitioner student role perception and stigmatizing attitudes. Nurse Education in Practice 2017;25:43–9. doi: 10.1016/j.nepr.2017.04.009
31. Mackavey C, Cron S. Innovative strategies: Increased engagement and synthesis in online advanced practice nursing education. Nurse Educ Today 2019;76:85–8. doi: 10.1016/j.nedt.2019.01.010
32. Karabulut N, Aktaş YY, Alemdar DK. The relationship of clinical learning environment to nursing students' academic motivation. Kontakt 2015;17(1):6–12. doi: 10.1016/j.kontakt.2015.01.003
33. Yardimci F, Bektaş M, Özkütük N, Muslu GK, Gerçeker GÖ, Başbakkal Z. A study of the relationship between the study process, motivation resources, and motivation problems of nursing students in different educational systems. Nurse Educ Today 2017;48:13–8. doi: 10.1016/j.nedt.2016.09.017
34. Afşar B, Büyükdoğan B. COVID-19 Pandemisi döneminde İİBF ve SBBF öğrencilerinin uzaktan eğitim hakkındaki değerlendirmeleri. Karatay Sosyal Araştırmalar Dergisi 2020;(5):161–82.
35. Bertiz Y, Karoğlu AK. Distance education students' cognitive flexibility levels and distance education motivations. IJRES 2020;6(4): 638–48. doi: 10.46328/ijres.v6i4.1022
36. Aguilera-Hermida AP, Quiroga-Garza A, Gómez-Mendoza S, Del Río Villanueva CA, Avolio Alecchi B, Avci D. Comparison of students' use and acceptance of emergency online learning due to COVID-19 in the USA, Mexico, Peru, and Turkey. Education and Information Technologies 2021;26(6):6823–45. doi: 10.1007/s10639-021-10473-8