An Analysis of the Intention of Students Studying at Physical Education and Sports School to Use Synchronous Virtual Classroom Environments During the Covid-19 Pandemic Period

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ABSTRACT
This study aims to analyze the intention of students studying at physical education and sports school to use synchronous virtual classroom environments during the Covid-19 pandemic period. The research was designed in a descriptive survey model with a quantitative approach. The study group of the research consists of 193 voluntary students studying at School of Physical Education and Sports in a State University in the spring semester of the 2020-2021 academic year. The data of the research were collected with the "Personal Information Form" and the "Synchronous Virtual Classroom Acceptance Scale" in order to determine the students' intention to use synchronous virtual classroom environments. It has been determined following the study that the intention of students to use synchronous virtual classroom environments is generally positive and these intentions are at higher level in the "Subjective Norm" and "Self-efficacy" sub-dimensions, and lower in the "Perceived Ease of Use" sub-dimension. We have found that the students' intention to use synchronous virtual classroom environments does not change significantly according to the variables of gender and the department they study, but changed significantly according to the variable of the class they studied while the students studying in the first year have more positive intentions to use the synchronous virtual classroom environments than the students studying in other classes. In addition, it has been concluded that the intention of using the synchronous virtual classroom environments of the students who have a personal computer and an internet-connected smart phone and the students who access the lessons from their home with a laptop computer is more positive than the other groups.
Keywords: Physical education and sports, student, synchronous virtual classroom, usage intention

INTRODUCTION

The Covid-19 epidemic due to the SARS-Coronavirus-2 agent, which emerged on December 31, 2019 in Wuhan city of China and showed rapid contagion, affected the whole world especially European countries. In the same period when the World Health Organization (WHO) declared a pandemic, the first case was reported in our country on March 11, 2020 and announced to the public by the Ministry of Health (İskit et al., 2021). Various measures have been taken and implemented in Turkey as in the whole world in order to reduce the speed of the epidemic. One of these measures is to interrupt formal education for a long time with the recommendation of the relevant health boards and the decision of the competent public authorities and to switch to online distance education in educational institutions at all levels. In addition to all the arrangements to prevent contagion by creating social distance in the Covid-19 epidemic, the best practice that can provide this in the field of education has been accepted to be the distance education environment, especially in all countries with a high viral distribution, and it has become the most preferred channel by administrators and experts in education (Yamamoto and Altun, 2020). As a matter of fact, distance education around the world has started to be used as an alternative education system in almost every institution, especially in universities and K-12 level schools, due to the risk of Covid-19 disease.

As in all primary and secondary education levels in Turkey, distance education has been started for three weeks in universities as of March 16, 2020 with the decision of the Higher Education Council (YÖK, 2020a). Afterwards, it was agreed with a new decision taken on March 26, 2020 that the spring semester education for 2019-2020 academic year would only be carried out with distance education, open education and digital education opportunities due to the increasing course of the epidemic (YÖK, 2020b). For the 2020-2021 academic year, YÖK (2000c) took a new decision, it paved the way for universities to plan their education calendars to start after October 1, 2020 to make different applications on the basis of faculty and program by providing wide opportunities for the decision-making processes of universities to "dilute students on campuses and reduce mobility". At this point, the relevant committees of the universities were asked to decide on the applications to be made for different programs according to the regional and local course of the epidemic. Upon this decision, it is observed that the 2020-2021 academic year was completed by switching to the distance education system in almost all universities. With the onset of the epidemic process, 72.6% of state universities and 60.6% of foundation universities started distance education as of March 23, 2020 and 27.5% of state universities and 39.5% of foundation universities completely

started distance education on a gradual basis as of March 31 – April 6, 2021 (YÖK Uzaktan Öğretim Anketi, 2020). Concerning the distance education practices of universities, we can observe that more than 99% of both state and foundation universities carried the theoretical courses to distance education. Along with the theoretical courses, the decision to teach the theoretical parts of the applied courses by distance education was approved by approximately 88% of state and foundation universities (YÖK Uzaktan Öğretim Anketi, 2020).

Distance education is defined as an education system where the teacher and the learner do not have to be in the same environment, and educational activities are carried out through information and communication technologies (İşman, 2011). Distance education can be performed synchronously and asynchronously. The educational environment in which the student and the teacher interact with each other in different places at the same time is called synchronous (simultaneous) while the educational environment where there is no communication between the student and the teacher at the same time, and the materials necessary for the course are shared with the student on the web regardless of the place and time is called asynchronous (not simultaneous) (Yorgancı, 2015). Universities carry out online learning or in short e-learning activities by using various teaching management systems (Adobe Connect, Academic LMS, Google Meet, Microsoft Teams, Perculus, Zoom etc.) according to their capacity and technological infrastructure in the distance education process. We may not define e-learning as a type of learning that is offered in electronic environment by using different technologies according to the time available (synchronous and/or asynchronous) (Yamamoto et al., 2010). Undoubtedly, there are many factors that affect e-learning carried out in the virtual environment synchronously and/or asynchronously. Among these factors, we can count the technological equipment of the students – being the basic input of education services – for online teaching, their ability to use technology, their perceptions, expectations and attitudes towards online learning. Regarding the courses conducted in the distance education process, the meaning of students' having the necessary technological equipment, skills, awareness, innovation and development in online learning largely depends on their intention to accept and use these technological systems, in short, their adoption of technology.

In the literature, many models have been generated in order to explain the technology acceptance and usage intentions of individuals. The most widely used of these models is the "Technology Acceptance Model (TAM)", which was developed by Davis (1985) to explain and predict the behavior of technology users. According to this model, it is predicted that the behaviors developed by the users towards the information system are affected from the perceived ease of use and perceived usefulness of the system. In the model, the efforts were made to explain the actions of users towards information technologies based on the causal relationships among six factors namely external variables, perceived usefulness, perceived ease of use, attitude towards use, behavioral intention to use and actual use. The model argues that the determinant of the adoption and use of new information technology is intention and the "perceived usefulness" and "ease of use" being two behavioral beliefs are effective on this intention. "Perceived usefulness" and "perceived ease of use", which correspond to process expectation and outcome expectation, respectively show the path of intention regarding the actual use of technologies (Çakır and Arslan, 2020).

Looking into the literature, it is seen that national and international studies are reported in which university students' use of technology in distance education e-learning environments is examined from various dimensions during the Covid-19 pandemic process (Adeyemi and Isaa, 2020; Atasoy et al., 2020; Dhawan, 2020; He et al., 2021; Kahya, 2021; Karatepe et al., 2020; Keskin and Özer, 2020; Korkmaz and Toraman, 2020; Latorre-Cosculluela et al., 2021; Papouli et al., 2020; Sarıtaş and Barutçu, 2020; Vargo et al., 2021). Again, it has been observed that there are some studies examining the attitudes of physical education and sports students towards distance education (Aktaş et al., 2020; Ekiz, 2020) during the pandemic process. However, no study was found in which the intentions of students studying in the field of physical education and sports sciences to use synchronous virtual classroom environments during the Covid-19 pandemic process were examined. In this regard, it is anticipated that this study will contribute to the relevant literature regarding the Covid-19 pandemic period. The purpose of this study is to examine the intentions of physical education and sports school students to use synchronous virtual classroom environments during the Covid-19 pandemic process.

METHOD
This research, which analyzes the intentions of physical education and sports school students to use synchronous virtual classroom environments during the Covid-19 pandemic process, were designed in a descriptive scanning model with a quantitative approach. The study group of the research consists of 193 voluntary students studying at a State University's School of Physical Education and Sports in the spring semester of the 2020-2021 academic year. The data of the research were collected with the "Personal Information Form" and the "Synchronous Virtual Classroom Acceptance Scale" used to determine the students' intention to use synchronous virtual classroom environments. "Synchronous Virtual Classroom Acceptance Scale" developed by Kang and Shin (2015) and adapted into Turkish by Bulutlu (2018) has a total of 24 items and 7 sub-dimensions namely "Self-Efficacy (SE-3

items), Systematic Lecture Content (SLC-3 items), Subjective Norm (SN-3 items), System Accessibility (SA-4 items), Perceived Usefulness (PU-4 items), Perceived Ease of Use (PEU-4 items), and Behavioral Intention (BI-4 items)". Together with the scale, the "Personal Information Form" developed by Kang and Shin (2015) and adapted into Turkish by Bulutlu (2018) contain 7 demographic questions about the students' age, gender, department, the devices they have and the place where they access the synchronous virtual classrooms.

The Cronbach's alpha reliability coefficients of the scale, which was subjected to exploratory and confirmatory factor analysis by Bulutlu (2018), were found between 0.76 and 0.86 in the sub-dimensions. In the current study, Cronbach's alpha reliability coefficients calculated by preserving the factor structure of the scale were found to be between 0.75 and 0.92 for the sub-dimensions, and 0.95 for the whole scale. There is no reverse item in the scale, and the scale items are graded in 5-point Likert type as "I totally disagree", "I partially disagree", "I am not sure", "I partially agree" and "I totally agree". The data obtained from the research were analyzed by using the SPSS-22 statistical package program. Independent sample t-test (Independent Sample t-Test) and one-way analysis of variance (One-Way ANOVA) were used to measure whether the difference between groups was significant. Bonferroni test was used to determine from which groups the significant differences determined as a result of ANOVA originated.

FINDINGS

Table 1. Distribution of students' demographic characteristics

Demographic Characteristics	Group	n	%
Gender	Male	90	46.6
	Female	103	53.4
Department	Physical Education and Sports	64	33.2
	Coaching Education	69	35.8
	Sports Management	60	31.1
Grade	1st Grade	57	29.5
	2nd Grade	63	32.6
	3rd Grade	41	21.2
	4th Grade	32	16.6
Personal Computer	Yes	51	26.4
	No	142	73.6
Smartphone with Internet Connection	Yes	183	94.8
	No	10	5.2
Device Used to Access Courses in E-Learning Environment	Laptop	51	26.4
	Smartphone	142	73.6
Place to Access Courses in the E-Learning Environment	Home	163	84.5
	Other	30	15.5

According to Table 1, 90 (46.6%) of the students participating in the research are male and 103 (53.4%) are female. 64 (33.2%) of the students study in Physical Education and Sports, 69 (35.8%) in Coaching Education and 60 (31.1%) in Sports Management department. 57 (29.5%) of the students are 1st graders, 63 (32.6%) are 2nd graders, 41 (21.2%) are 3rd graders, 32 (16.6%) are 4th graders. 51 (26.4%) of the students have a personal computer, 142 (73.6%) of them do not have a personal computer, 183 (94.8%) of the students have a smart phone with internet connection, 10 of them (5.2%) have stated that they do not have any smart phone with internet connection. 51 of the students (26.4%) use laptop computers to access the courses in the e-learning environment, and 142 (73.6%) use their smart phones, and 163 (84.5%) of the students access the courses in the e-learning environment from their homes, 30 (15.5%) access the courses from other places.

Table 2. Descriptive statistical results of students' intention to use synchronous virtual classroom environments

	Aver.	SD	Skewness	Kurtosis	Min.	Max.
Self-efficacy (SE)						
Systematic Lecture Content (SLC)	9.77	3.48	-0.48	-0.76	3.00	15.00
Subjective Norm (SN)	10.83	3.58	-0.86	-0.28	3.00	15.00
System Accessibility (SA)	12.70	4.94	-0.29	-1.06	4.00	20.00
Perceived Usefulness (PU)	12.30	5.30	-0.32	-1.14	4.00	20.00
Perceived Ease of Use (PEU)	12.14	4.82	-0.19	-1.00	4.00	20.00
Behavioral Intention (BI)	7.88	4.04	0.26	-1.28	3.00	15.00

Overall Average of Scale	75.66	24.23	-0.33	-0.73	24.00	120.00

According to Table 2, it is observed that the students' intention to use synchronous virtual classroom environments is generally positive (75.66±24.23) considering the lowest and highest mean scores that can be obtained from the scale. Regarding the sub-dimensions of the scale, students' intentions to use synchronous virtual classroom are high in the sub-dimensions of "Subjective Norm (10.83±3.58) and "Self-efficacy (10.04±3.17)" while the students' intentions to use synchronous virtual classroom environments are at a low level in the sub-dimension of "Perceived Ease of Use" (12.14±4.82). In addition, when Table 2 is examined, it is assumed that the skewness and kurtosis values of the data in all sub-dimensions remain between ±1.5; therefore, the data obtained from the scale show a normal distribution (Tabachnick and Fidell, 2013).

Table 3. Evaluation of students' intention to use synchronous virtual classroom environments according to demographic variables

Demographic Variable	Group	Intention to Use Synchronous Virtual Classroom Environments (n=193)		
		n	Aver±SD	Test value, p
Gender	Male	90	74.38±24.47	t: -0.682
	Female	103	76.77±24.086	$^a p: 0.49 > 0.05$
Department	Physical Education and Sports	64	77.06±25.27	F: 0.406
	Coaching Education	69	73.56±24.33	$^b p: 0.66 > 0.05$
	Sports Management	60	76.58±23.21	
Grade	1st Grade	57	82.59±23.67	F: 3.344
	2nd Grade	63	69.15±25.18	$^b p: 0.02 < 0.05$
	3rd Grade	41	74.14±24.38	$^c p < 0.01$
	4th Grade	32	78.06±20.13	Difference 1>2
Personal Computer	Yes	51	86.49±22.03	t: 3.851
	No	142	71.77±23.87	$^a p: 0.00 < 0.05$
Smartphone with Internet Connection	Yes	183	77.24±23.48	t: 4.017
	No	10	46.80±19.98	$^a p: 0.00 < 0.05$
Device Used to Access Courses in E-Learning Environment	Laptop	51	88.01±17.50	t: 5.222
	Smartphone	142	71.22±24.82	$^a p: 0.00 < 0.05$
Place to Access Courses in the E-Learning Environment	Home	163	77.19±22.94	t: 2.066
	Other	30	67.33±29.38	$^a p: 0.04 < 0.05$

^{a}Student t-Test; ^{b}Oneway ANOVA Test; ^{c}Post Hoc: Bonferroni Test

Looking at Table 3, it is seen that the students' intention to use synchronous virtual classroom environments do not change significantly according to the variables of gender ($t_{(191)}=0.682$; p>0.05) and the department they study (F (2, 190)=0.406; p>0.05). According to other demographic variables, it has been determined that the students' intention to use synchronous virtual classroom environments differ significantly in the class variable (F (3, 189) =3.344; p<0.05). As a result of the Post Hoc analyzes applied by using Bonferroni correction to understand which groups the differentiation is between, we have determined that the intention to use virtual classroom environments of the 1st grade students is more positive than the 2nd grade students (p<0.01). Another point indicated in Table 3 is that the students' intention to use virtual classroom environments significantly differ in favor of students with a personal computer according to the variable of whether they have a personal computer ($t_{(191)}=3.851$; p<0.05), in favor of the students with an internet-connected smart phone according to the variable of having a smartphone with an internet connection ($t_{(191)}=4.017$; p<0.05), in favor of the students who access the lessons with a laptop computer according to the variable of type of device they access the lessons ($t_{(191)}=5.222$; p<0.05) and in favor of students accessing virtual classroom lessons from home by the variable of the place they access the lessons ($t_{(191)}=2.066$; p<0.05).

CONCLUSION
In this study which analyzes the intentions of physical education and sports school students to use synchronous virtual classroom environments during Covid-19 pandemic process, it has been concluded that the students' intention to use synchronous virtual classroom environments is generally positive, the level of students' intention to use synchronous virtual classroom is higher in the "Subjective Norm" and "Self-efficacy" sub-dimensions, and lower in the "Perceived Ease of Use" sub-dimension. Another result obtained in the study is that the students' intention to use the virtual classroom environments does not change significantly according to the variables of

gender and the department they study. According to other demographic variables, the intention of using the synchronous virtual classroom environments for the students studying in the first grade is more positive than the students studying in other classes. In addition, we have concluded that the intention of using the synchronous virtual classroom environments of the students who have a personal computer and an internet-connected smart phone and the students who access the lessons from their home with a laptop computer is at a more positive level than the other groups. When the literature is scanned, it is observed that there are many studies examining the different dimensions of the Covid-19 epidemic, its effects and results on education and training activities, but there are no similar studies directed to determine the intention of university students studying in the physical education and sports program to use synchronous virtual classroom environments. At this point, the results of this study were also examined in the light of the results of close research in the relevant field during the Covid-19 epidemic.

In the study of Bulutlu (2018), who adapted the data collection tool used in this study into Turkish, he states that the subjective norm levels of university students have a positive and significant effect on their perceptions of utility and ease of use and accordingly, as the subjective norm levels of students increase, their perceived usefulness and perceived ease of use also increases. In the study of Sarıtaş and Barutçu (2020) which examines digital transformation in teaching and students' readiness for online learning, they have generally evaluated students' readiness for online teaching positively. Moreover, they have found that the students' self-management skills, motivation, communication skills and computer/internet use self-efficacy regarding online learning are sufficient for online learning activities, but they need a control mechanism in the online learning process. In the study of Çetin et al. (2021) in which they have discussed distance education with a qualitative approach during the Covid-19 pandemic process from the perspective of physical education and sports teachers, within the scope of distance education advantages of some participants; they have reached conclusions that the 21st century in education and ICT use skills have improved and offered students an experience of conducting research and enabled individual teaching opportunities. Similarly, Serçemeli and Kurnaz (2020) have stated that students' self-efficacy is sufficient in understanding and using the distance education system, uploading their homework and searching internet resources. On the other hand, Altuntaş et al. (2020) have stated that they find the distance education provided online at the university during the pandemic process to be beneficial as it technically improves the abilities of the students. Turan and Gürol (2020) have determined to think that online education provides flexibility in the learning of students, the opportunity to watch the recorded lecture videos over the system is very good in terms of time management. The positive perceptions and intentions of students concerning their willingness to use digital environments such as virtual classroom, online learning etc. largely coincide with our study findings.

It has been observed in our study that the students' intention to use synchronous virtual classroom environments does not change according to gender. In their study, Çakır and Arslan (2020), who collected data with the scale used in this research, have examined the intentions of a group of distance education university students to use synchronous virtual classroom environments and their attitudes towards distance education, they have found that the students' intention to use synchronous virtual classroom environments is generally positive, the "subjective norm" sub-dimension average score is higher, and the students' intention to use synchronous virtual classroom environments does not differ statistically according to gender. In the study of Yılmaz (2020) examining the integration of the Google classroom distance education system and student satisfaction levels during the pandemic process, it has been found that the satisfaction levels of the students do not differ according to gender. These findings of the studies are largely in line with our study findings. Another result we reached in our research is that the students' intention to use virtual classroom environments does not change according to the department they study. We can utter that the admission of students to all departments with the same special talent exam, the almost homogeneous structure of student profiles for all departments, and the transition to online distance education in all departments at the same time have led to this result. However, the intention of students studying in the first year to use the synchronous virtual classroom environments is more positive than the students studying in other classes. It is thought that this result is due to the fact that first-year students have started their education in online virtual classroom environments due to the pandemic and have not yet met with university formal education. As a matter of fact, in their research, Sarıtaş and Barutçu (2020) have determined a significant relationship between students' readiness for online learning activities and their attitudes towards online teaching activities during the pandemic period, and students' readiness for online learning activities have also positively affected their attitude towards compulsory online learning applications due to the unexpected pandemic.

In our study, the intention of using synchronous virtual classroom environments of the students who have a personal computer and an internet-connected smart phone and the students who access the lessons from their home with a laptop computer has been found to be more positive as an expected result of the research. It is expected that the attitudes of the students who have the necessary technical equipment and system infrastructure will be positive at this point. Karatepe et al. (2020) have determined in their research that the vast majority of pre-service teachers can access sufficient cognitive devices and the internet to participate in synchronous education, the most used

communication tool by pre-service teachers after smartphones is laptop computers while desktop computers and tablet computers are the least used cognitive communication tools. Serçemeli and Kurnaz (2020) state that the majority of students (75%) attend online/distance education courses with their own smart phones, Yılmaz (2020) states that the fact that students have devices that can access the distance education system affects students' satisfaction levels, and the mean satisfaction score of students who can access the internet with a device increases significantly. Thus, according to the distance education survey conducted by YÖK regarding the pandemic process, 83% of the students have reported to have electronic devices that provide access to distance education, and 97% of the students have sufficient internet access (YÖK Uzaktan Öğretim Anketi, 2020). It is predicted that a large part of the student population in Turkey will adapt to online education. Technology adaptation of X, Y and Z generations is considered as the most important advantage of our country, which has a young population, in this transition (Yamamoto and Altun, 2020).

In conclusion, it has been observed that physical education and sports school students' intention to use synchronous virtual classroom environments is positive, and the vast majority of students have sufficient cognitive devices and internet infrastructure to participate in synchronous virtual classroom lessons. Since the results of the research are limited to the opinions of the students studying at one Physical Education and Sports School of a State University, it is recommended that the research must be conducted on a large sample group, and the research should be handled with a qualitative approach to obtain more in-depth results as well as quantitative approaches.

REFERENCES
Adeyemi, I.O. and Issa, A.O. (2020). Integrating information system success model (ISSM) and technology acceptance model (TAM): Proposing Students' Satisfaction with University Web Portal Model. *Record and Library Journal,* 6(1), 69-79.
Aktaş, Ö., Büyüktaş, B., Gülle, M. and Yıldız, M. (2020). Sports science students' attitudes towards distance education during isolation days caused by Covid-19 virus. *Sivas Cumhuriyet University Journal of Sport Science*, 1(1), 1-9.
Altuntaş, Y.E., Başaran, M., Özeke, B. and Yılmaz, H. (2020). Perception levels of university students about remote learning strategies and learning experiences in the Covid-19 pandemic process. *International Journal of Public Relations and Advertising Studies*, 3(2), 8-23.
Atasoy, R., Özden, C. and Kara, D.N. (2020). Evaluation of the effectiveness of E-course practices during the Covid-19 pandemic from the students' perspective. *Electronic Turkish Studies*, 15(6), 95-122
Bulut, E. (2021). Distance learning experiences of university students in the epidemic period: Ordu University Department of Sociology and PESVS sample. *ODU Journal of Social Sciences Research*, 11(2), 533-548.
Bulutlu, Ö. (2018). *Examination of intention to use synchronous virtualclassroom environments of university students in distance education programs*. (Tez No. 531292) [Yüksek lisans tezi, Hacettepe Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezinden edinilmiştir.
Çakır, R. and Arslan, F. (2020). Investigation of distance education students' intention to use synchronous virtual classroom environments and their attitudes towards distance education. *International Journal of Turkish Educational Studies,* 8(15), 114-133.
Çetin, M., Yılmaz, S.H. and İlhan, L. (2021). Distance education during Coronavirus (Covid-19) pandemic; A qualitative research from the perspective of Physical Education and Sports teachers. *Gaziantep University Journal of Sport Science*, 6(2), 136-161.
Davis, F.D. (1985). *A Technology acceptance model for empirically testing new end-user ınformation systems: Theory and results*. (Doctoral theses), Massachusetts Institute of Technology, Sloan School of Management, From> https://dspace.mit.edu/handle/1721.1/15192. Retrieved from: 15.05.2021
Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5-22.
Doğan, D., Çınar, M. and Tüzün, H. (2020). Uzaktan eğitimde 2B grafiklerden 3B modellere. Odabaşı, H.F., Akkoyunlu, B. ve İşman, A. (Ed), *Eğitim Teknolojileri Okumaları 2020, içinde (p. 669-681)*. Pegem Akademi.
Ekiz, M.A. (2020). The views of Physical Education and Sports School students about distance education in the quarantine period (a qualitative research), *Journal of Sport and Recreation Researches*, 2(SI-1), 1-13.
He, W., Zhang, Z.J. and Li, W. (2021). Information technology solutions, challenges, and suggestions for tackling the COVID-19 pandemic. *International Journal of İnformation Management*, 57, 102287.
İskit, A.T., Tanrıöver, M.D. and Uzun, Ö. (2021). *Covid-19 pandemi raporu (20 Mart-20 Kasım 2020)*. Hacettepe İç Hastalıkları Derneği Yayınları No: 6, Uzerler Matbaası.
İşman, A. (2011). *Uzaktan eğitim (*4. Baskı). Pegem Akademi.

Kahya, V. (2021). Investigation of compulsory distance education practices with integrated technology acceptance models during the coronavirus (COVID-19) pandemic. *Business&Management Studies: An International Journal (BMIJ)*, 9(2), 737-750.

Kang, M. and Shin, W.S. (2015). An empirical in investigation of student acceptance of synchronous learning in an online university. *Journal of Educational Computing Research,* 52(4), 475-495.

Karatepe, F., Küçükgençay, N. and Peker, B. (2020). What are the perspectives of teacher candidates on synchronous distance education? A survey study, *Journal of Social and Humanities Sciences Research*, 7(53), 1262-1274.

Keskin, M. and Özer, D. (2020). Evaluation of students' feedbacks on web-based distance education in the COVID-19 process. *İzmir Katip Çelebi University Faculty of Health Science Journal*, 5(2), 59-67.

Korkmaz, G. and Toraman, Ç. (2020). Are we ready for the post-COVID-19 educational practice? An investigation into what educators think as to online learning. *International Journal of Technology in Education and Science (IJTES)*, 4(4), 293-309.

Latorre-Cosculluela, C., Suárez, C., Quiroga, S., Sobradiel-Sierra, N., Lozano-Blasco, R. and Rodríguez-Martínez, A. (2021). Flipped classroom model before and during COVID-19: Using technology to develop 21st century skills. *Interactive Technology and Smart Education*. Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/ITSE-08-2020-0137

Papouli, E., Chatzifotiou, S. and Tsairidis, C. (2020). The use of digital technology at home during the COVID-19 outbreak: Views of social work students in Greece. *Social Work Education*, 39(8), 1107-1115.

Sarıtaş, E. and Barutçu, S. (2020). Digital transformation in education and students' readiness to learn online: A research on Pamukkale University students in the period of pandemic. *Journal of Internet Applications and Management*, 11(1), 5-22.

Serçemeli, M. and Kurnaz, E. (2020). A research on students' perspectives to distance education and distance accounting education in the Covid-19 pandemia period. *Journal of International Social Sciences Academic Researches*, 4(1), 40-53.

Tabachnick, B.G. and Fidell, L.S. (2013). *Using Multivariate Statistics* (sixth ed.), Pearson.

Turan, Z. and Gürol, A. (2020). Emergency transformation in education: Stress Perceptions and views of university students taking online course during the Covid-19 pandemic. *Journal of Hasan Ali Yücel Faculty of Education*, 17(2), 222-242.

Vargo, D., Zhu, L., Benwell, B. and Yan, Z. (2021). Digital technology use during COVID-19 pandemic: A rapid review. *Human Behavior and Emerging Technologies*, 3(1), 13-24.

Yamamoto, G.T. and Altun, D. (2020). The Coronavirus and the rising of online education. *Journal of University Research*, 3(1), 25-34.

Yamamoto, T.G., Demiray, U. and Kesim, M. (Ed.). (2010). *Türkiye'de e-öğrenme: Gelişmeler ve uygulamalar*. Eflatun Yayınevi.

Yılmaz, E.O. (2020). The integration of google classroom distance education system and investigation of student satisfaction levels in pandemic process. *Future Visions Journal*, 4(3), 42-55.

Yorgancı, S. (2015). The effects of web based distance education method on students' mathematics achievements. *Kastamonu Education Journal*, 23(3), 1401-1420.

YÖK (2020a). Koronavirüs (Covid-19) Bilgilendirme Notu: 1, https://covid19.yok.gov.tr/Documents/alinan-kararlar/02-coronavirus-bilgilendirme-notu-1.pdf, Accessed: 10.07.2021

YÖK (2020a). Koronavirüs (Covid-19) Bilgilendirme Notu: 1, https://covid19.yok.gov.tr/Documents/alinan-kararlar/04-uzaktan-egitim-ve-yks-ertelenmesine-iliskin.pdf, Accessed: 10.07.2021

YÖK (2020c). Yükseköğretim kurumlarımızdaki 2020-2021 eğitim ve öğretim dönemine yönelik açıklama. https://covid19.yok.gov.tr/Documents/alinan-kararlar/28-yuksekogretim-kurumlari-2020-2021-egitim-ve-ogretim-donemine-yonelik-aciklama.pdf, Accessed: 10.07.2021

YÖK Uzaktan Öğretim Anketi (2020). https://www.yok.gov.tr/Sayfalar/Haberler/2021/yok-un-yaptigi-anket-sonuclari-aciklandi.aspx, Accessed: 10.07.2021