

ONLAYN TƏHSİLİN MÜSBƏT VƏ MƏNFİ TƏRƏFLƏRİ: COVID-19 pandemiyası dövründə ali məktəb tələbələrinin qavrayışları

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ANNOTASIYA

Bu tədqiqat işində COVID-19 pandemiyası dövründə təhsilalanların onlayn təhsili necə qəbul etdiklərini araşdırmaq məqsədilə Şimali Kiprin müxtəlif universitetlərində təhsil alan təsadüfi seçilmiş 500 tələbədən toplanmış məlumatlar təhlil olunmuşdur. Tədqiqatda qarışıq araşdırma metodundan istifadə olunmuş, kəmiyyət məlumatlarını təhlil etmək üçün Anova və PostHoc testləri, keyfiyyət araşdırma məlumatlarını təhlil etmək məqsədilə isə təsviri analiz və məzmun təhlili üsulları tətbiq edilmişdir. Tələbələr onlayn təhsilin 11 fərqli faydasını qeyd etmişlər. Bunlar arasında bu təhsilalma formasının mövzuları daha yaxşı anlamağa imkan verməsi, dərslərin fərqli müəllimlər və universitetlər tərəfindən keçilməsi kimi məsələlər də var. Təhsilalanlar, həmçinin onlayn təhsilin zəif tərəfləri kimi 10 məsələni vurğulamışlar. Bunların arasında ev tapşırığı və imtahanların həddindən artıq çox olması, onlayn qiymətləndirmə qarşısında qorxu və passiv öyrənmə kimi məqamlar var. Bundan başqa, təhsilalanlar müxtəlif onlayn platformalardan istifadə barədə yenilənmiş biliklərin, onlayn kurslara daxil olmaq üçün yüksək keyfiyyətli rəqəmsal vasitələrin olmaması, internet kəsintiləri, dərslər oxumaq üçün rahat məkanın olmaması kimi 7 fərqli maneəni də qeyd ediblər. Tədqiqatdan əldə edilən nəticələr Şimali Kiprdəki universitetlərdə onlayn təhsildəki çatışmazlıqların müəyyənləşdirilməsi və aradan qaldırılması, tələbələrin bu istiqamətdəki müxtəlif ehtiyaclarının ödənilməsi məqsədilə onlayn təlim strategiyalarının yenilənməsi üçün faydalı ola bilər. Bənzər tədqiqat işini başqa ölkələrin universitetlərində də aparmaq mümkündür. Ali təhsilin hər bir səviyyəsi üzrə əldə edilən məlumatlar universitetlərdə bütün tələbələr üçün bərabər imkanlar yaradan onlayn təhsilin inkişafına kömək edə bilər.

Açar sözlər: COVID-19 pandemiyası, qiymətləndirmə, onlayn təhsil, ümumi keyfiyyət idarəetməsi, universitet tələbələri.

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PROS AND CONS OF ONLINE EDUCATION: Perceptions of Higher Education Students During COVID-19 Pandemic

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ABSTRACT

Universities cancelled in-person classes and shifted to online education in many countries due to COVID-19 Pandemic. This research aimed to investigate the perceptions of university students on online education during Pandemic COVID-19. In this mixed research design study, data were collected from randomly selected 500 students studying at various universities in North Cyprus. A mixed study was used in this research and frequency, Anova, and PostHoc tests were used to analyze quantitative data and descriptive analysis and content analysis techniques were used to analyze the qualitative research data. Students agreed with 11 different benefits of online education, such as allowing a better understanding of topics, being educated by different educators and universities. They stated 10 disadvantages such as overload of homework and exams, fear of online assessment, and passive learning. Students explained 7 different obstacles such as not having updated knowledge about using different online platforms, not having a high-quality digital tool to access online courses, internet interruptions, not having a suitable space to study. Data obtained from this research may help universities in North Cyprus to determine and eliminate their weaknesses in online education and in addition re-design their online instructional strategies to meet the various needs of their students. A similar type of research can be done at each university in other countries. Data obtained at each university level may help universities to improve their online education, which will be accessible by all students for equity in education.

Keywords: Pandemic Covid-19, Evaluation, Online education, Total Quality Management, University students

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INTRODUCTION

Due to outbreak Covid-19, all the universities cancelled in-person classes and shifted to online education globally to prevent the transmission of virus among the students because the number of deaths and infected people is increasing very rapidly on daily basis. In literature, there are few articles that searched the advantages and disadvantages of online education for students in higher education. There has been no research done in North Cyprus about this issue. Students are the primary stakeholders of education. Quality of online education can be improved by meeting the needs of students as the key element of Total Quality Management in Education. In this light, this research aimed to investigate the perceptions of university students on online education during Pandemic COVID-19.

The unexpected outbreak of Covid-19 was first reported in Wuhan in December 2019 in China and spread to other countries. COVID-19 was declared as a global public health emergency on 30th January 2020 and as a pandemic on 11th March 2020 by The World Health Organization. This Pandemic has been very serious effects on health, economy, and tourism also on education globally. In North Cyprus, all the universities cancelled in-person classes and have been experiencing online education since mid of March 2020 as other 61 countries in Europe, Africa, Asia, Middle East, South and North America after two week-interval. Except for the faculty members in the distance education branch of the universities, most faculty members had no online teaching experience and took support from the educational technology teams of their universities to teach online by using different platforms. Most of the students returned to their home countries and experienced online education by using their technological facilities without any previous knowledge. Evaluation of the quality of the online education delivered to the students, as the key of the Total Quality Management in Education, is a top priority and this needs to take the perceptions of the main stakeholders of education, students. Data obtained from this evaluation may help universities

to determine and then make rearrangements to eliminate their weaknesses in online education and achieve higher success to meet the needs of their students for the quality online education.

Although many digitally developed countries have made different effective attempts and successful delivery of online classes to their students (Basilaia & Kavadze, 2020; Zhou et al., 2020) online education was very ineffective in most of the developing and underdeveloped countries (Adnan & Anwar,2020). Few research analyzed the challenges and opportunities of online learning during Pandemic COVID-19 (Bao, 2020; Mailizar et al., 2020; Sintema, 2020; Yan, 2020). Dung (2020) emphasized the advantages of online learning experienced by the students during Pandemics such as protecting individual health and community safety, saving the travel time, exposing to new forms of learning, keeping up with the original plan of the semester, having extra time for self-study and having easy access to online resources. Gonzales et al.(2020) mentioned about positive impact of COVID-19 on performances and learning efficiency by the adoption of online learning strategies. Livari et al. (2020) claimed that some students enjoy and benefit from personalized, self-directed and independent learning due to digital transformation. In addition, there are few research which emphasized the problems faced by the students and teachers during online education in Pandemic such as lack of latest technology and unable to access internet (Adnan & Anwar,2020; Kapasia et al., 2020; Sintema J, 2020; Zhong, 2020), lack of face-to-face interaction with the instructors (Adnan & Anwar,2020; Zhong, 2020), lack of traditional classroom socialization (Adnan & Anwar, 2020), lack of resources in academic institutions (Zhong, 2020), long response time of instructors by e-mail (Zhong, 2020), depression, anxiety, and unfavourable study environment at home (Kapasia et al., 2020), discriminatory role of online education to poor and marginalized students such as hearing-impaired students (Manzoor, 2020). Online learning is not a new concept, however, it becomes a more prominent term in the higher education nowadays, and deserves more attention and adequate investment

from the institutions, teachers, and the students (Bao, 2020). Future research studies are needed to explore the challenges of online education that may hinder achievements of students (Mailizar et al., 2020) and the quality of online learning (Basilaia & Kvavadze, 2020). Based on the data of future research studies, universities may detect their deficiencies in online education and speed up reform of online education by designing innovative course content, efficient management, and the state-of-the-art technology (Sun et al., 2020).

Aim of the research

This research aimed to investigate the perceptions of university students on the online education they received during the Pandemic COVID-19. The data of this research will help faculty members and university administrators to test the strengths and weaknesses of their universities about online education, re-think and re-design their instructional strategies to ensure the effectiveness of online education to meet the needs of their students. In this light, the questions sought to be answered in the study were as follows;

RQ1: Which type of digital tools did the students use to support their education?

RQ2: Did the students receive online education before the pandemic COVID19?

RQ3: With which platform did the students receive online training during Pandemic?

RQ4: Which type of online education did the students take during COVID-19?

RQ5: What are the perceptions of students about the contributions of online education?

RQ6: Do the perceptions of the students about online education differ in terms of their age?

RQ7: What are the perceptions of the students about the disadvantages of online education?

RQ8: What are the obstacles faced by the students to get online education during Pandemic?

METHOD

Research Design

In this research, a mixed method research design was utilized. Mixed method research design comprises both quantitative and qualitative research methods for corroboration, broad breadth and depth of understanding and verification (Johnson et al. 2007, p. 123). Mixed method research best suits to answer research questions and to obtain detailed data about the pros and cons of online education from the perspectives of university students. The research design and process were summarized in Figure 1 below:

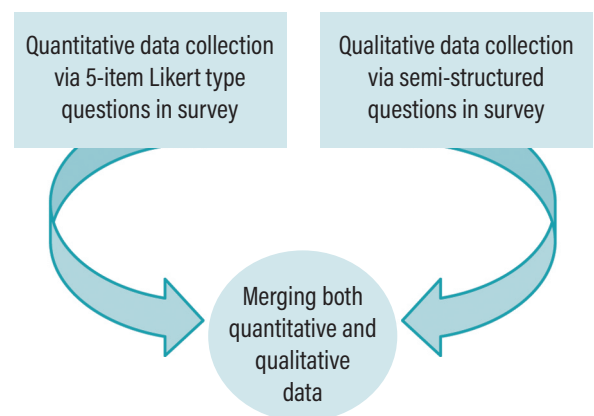


Figure 1 Research Design

Sample

The population for this research was the university students who took online lectures from various higher educational institutions in North Cyprus during Pandemic COVID 19. The survey comprising both quantitative and qualitative parts was sent to e-mails and WhatsApp accounts of the university students randomly. All students were informed about the purpose and process of the research via "Informed Consent Form" and volunteering students participated in the study. 500 out of 550 survey forms were responded. The response rate to the online survey is 91%

Table 1 Demographic Features of the Students

Gender	f	%
Female	20	41
Male	29	59
Age	f	%
21-25	26	52.2
26-30	203	40.6
31-35	29	5.8
36-40	5	1.0
41-45	2	0.4
Grade	f	%
Prep	1	0.2
First	96	19.2
Second	242	48.4
Third	67	13.4
Fourth	79	15.8
Fifth	15	3.0
Department	f	%
Health sciences	148	29.6
Sports sciences	93	18.6
Psychology	84	16.8
Engineering	69	13.8
Dentistry	44	8.8
Mathematics	20	4
Pre-school teaching	19	3.8
Economics	14	2.8
Architecture	9	1.8

which is an excellent value to continue with the analysis (Creswell & Poth, 2016). Table 1 illustrates that a significant part of the students in the sample (59%) are male and the rest are female (41%). Most of the participants (52.2%) were between the ages of 21-25; 48.4% were in second grade, 29.6% were from health sciences (Table 1).

Research Instrument and Procedures

Researchers used a survey for the collection of data which was prepared based on the literature about the online education in higher education

before and during Pandemic COVID-19. The survey comprises three parts. The first part comprises questions to determine the demographic features of the students, digital tools, and platforms that students used and, the type of online education that they received during Pandemic. In the second part of the survey, there are 16, Likert type test questions with five options: 1 (totally agree), 2 (agree), 3 (indecisive), 4 (disagree), 5 (totally disagree) to collect the perceptions of the students about the contributions of online education. In the third part of the survey, there are 2 semi-structured questions to determine the opinions of the students about

- the disadvantages of online education
- the obstacles faced by the students while they were receiving online education

Validity and Reliability of the Survey

To ensure the content validity of the survey, researchers took the opinions of three experts about the usefulness of the survey, directives, numbering, ordering, and convenience of 5-Likert test questions and script format. Then two Turkish language teachers checked the whole survey form in terms of clarity, conformity to grammar rules. Researchers made necessary changes to the survey form in terms of the suggestions of the experts.

For the qualitative analysis; researchers used the coding reliability formula of Miles and Huberman (1994, p. 64) : “P (% of Compromise) = [Na (Consensus) / Na (Consensus) + Nd (Disagreement)] X 100” and reached .87 value. Coding and writing the themes lasted until the researchers agreed to eliminate the bias of the researchers and to ensure the internal validity of the themes. These themes and related coding are presented as a whole in the text.

Pilot Study

The survey was administered to 10 randomly selected university students by the researchers in person to determine whether there were unclear items that needed clarification; the directive was understood and the application period was sufficient. Necessary changes were made on the survey

form, taking into consideration of the pilot study. Researchers completed the survey form comprising three parts and collected the data between March–August 2020.

DATA ANALYSIS

Quantitative Data Analysis

For the analysis of Quantitative data, researchers used version 23 of SPSS software to perform frequency, Anova, and PostHoc tests.

Qualitative Data Analysis

Descriptive analysis and content analysis techniques were used to analyze the qualitative research data. Answers of the participants were coded without assigning any names for confidentiality. Accordingly, university students were coded as 'S' and each participant was coded as 'S1, S2, S3, S4...'. The answer of each participant was given in quotation marks followed by the code of the participant in parenthesis. An example of the coding system is given below:

Example-1: '.....' (S(1))

S: Student and 1, 2, 3....: number of the student participant.

Ethical issues

All the participants were informed about aim of the study and informed that participation in this study is mandatory and they have right to refuse to participate or right to withdraw at any time without explanation. Also, they were informed that if they withdraw from the study, their answers will be not be used but if they agree to participate and complete the research survey, their answers will be kept confidential, they will not write their names on the survey and data obtained will be evaluated and a report based on the data will be published. M.Ç and F.Y.L. collected the data for this research and took permission from the ethics committees of their universities.

RESULTS

Results of the research are presented below within the framework of research questions.

Table 2 Digital tools used by the students

Digital tools	f	%
My own mobile phone	115	23.0
My own tablet	97	19.4
My own PC	145	29.0
My own laptop	126	25.2
PCs in the university	17	3.4

Table 3 Prior knowledge of online education

Prior knowledge	f	%
Yes	202	40.4
No	298	59.6

Table 4 Online platforms used by the students

Online platforms	f	%
Mic.teams	88	17.6
Zoom	58	11.6
Skype	80	16.0
Adobe Connect	91	18.2
Google hangout	152	30.4
Preply	22	4.4
Vedubox	9	1.8

RQ1: Which type of digital tools did the university students use to support their education?

Table 2 shows that most students (29%) used their own PC and the least used PCs in universities (3.4%).

RQ2: Did the university students receive online education before the pandemic COVID-19?

Table 3 illustrates that 40.4% of the students received online education before the pandemic but 59.6% didn't.

RQ3: With which platform did the students receive online education during Pandemic?

It was revealed that the most used platform during online education was 30.4% Google Hangout Meet program (Table 4).

Table 5 Type of online education received

Synchronous				Asynchronously			
One-way passive		Bidirectionalinteractive		One-way passive		Bidirectionalinteractive	
f	%	f	%	f	%	F	%
172	34,4	52	10,4	26	5,2	250	50,0

Table 6 Perceptions of the students about the contributions of online education

	Totally Agree		Agree		Indecisive		Disagree		Totally Disagree	
	f	%	f	%	f	%	f	%	f	%
1. Online education increases my desire to study	23	4.6	74	14.8	163	32.6	164	32.8	76	15.2
2. Online education allows me to understand better what I couldn't fully learn at school	200	40	225	45	64	12.8	9	1.8	2	0.4
3. I can learn whenever I want	82	16.4	194	38.8	114	22.8	82	16.4	28	5.6
4. I can learn wherever I want	140	28	178	35.6	107	21.4	51	10.2	24	4.8
5. Online education improves my communication skills	1	0.2	59	11.8	171	34.2	195	39	74	14.8
6. Online education increases my technology skills	82	16.4	194	38.8	114	22.8	82	16.4	28	5.6
7. More visuals keep the information in my memory longer	160	32	162	32.4	88	17.6	66	13.2	24	4.8
8. I reach the information in a short time	167	33.4	167	33.4	79	15.8	63	12.6	24	4.8
9. I can easily keep the information	180	36	174	34.8	71	14.2	54	10.8	21	4.2
10. Online education improves my success at school	160	32	162	32.4	88	17.6	66	13.2	24	4.8
11. I can access information at very low cost	24	4.8	99	19.8	135	27	191	38.2	51	10.2
12. I can find a program suitable for my learning speed	1	0.2	59	11.8	171	34.2	195	39	74	14.8
13. I can get educated from different universities	116	23.2	288	57.6	38	7.6	47	9.4	11	2.2
14. I can get educated from different educators	108	21.6	271	54.2	55	11	57	11.4	9	1.8
15. Online education helps to consolidate the subjects as I can access them repeatedly	112	22.4	222	44.4	143	28.6	22	4.4	1	0.2
16. Online education allows me to socialize	20	4	148	29.6	207	41.4	101	20.2	24	4.8

RQ4: Which type of online education did the students take during Pandemic COVID-19?

Table 5 illustrates that 55.2 % of the students took Asynchronous and 44.8% took Synchronous type of online education during Pandemic.

RQ5: What are the perceptions of students about the contributions of online education?

As seen in Table 6, students agree in a high rate in item 2 (85%), item 13 (80.8%), item 14 (75.8%), item 9 (70.8%), item 8 (66.8), item 15 (66.8%), item 7 (64.4%), item 10 (64.4%), item 4 (63.6%), item 3 (55.2%), item 6 (55.2%). They are unstable about the item 16 (41.4%) and they disagree in item 1 (%48), item 5 (53.8%), item 11 (48.4%) and item 12 (53.8%).

Table 7 Perceptions of the students about online education in terms of their age

		N	Mean	Sd	Sig
1. Online education increases my desire to study	21-25	261	3,27	1,05	0,00*
	26-30	203	3,44	1,00	
	31-35	29	3,79	1,20	
	36-40	5	4,60	0,54	
	41-45	2	4,50	0,70	
	Total	500	3,39	1,05	
2. Online education allows me to understand better what I couldn't fully learn at school	21-25	261	1,73	0,69	0,00*
	26-30	203	1,88	0,85	
	31-35	29	1,34	0,48	
	36-40	5	2,40	0,54	
	41-45	2	1,50	0,70	
	Total	500	1,77	0,76	
6. Online education increases my technology skills	21-25	261	3,76	0,79	0,01*
	26-30	203	3,65	0,83	
	31-35	29	3,93	0,52	
	36-40	5	4,40	0,54	
	41-45	2	5,00	0,00	
	Total	500	3,74	0,80	
10. Online education improves my success at school	21-25	261	3,30	0,73	0,05*
	26-30	203	3,16	0,77	
	31-35	29	3,37	0,67	
	36-40	5	3,80	0,44	
	41-45	2	2,50	0,70	
	Total	500	3,25	0,74	
11. I can access information at very low cost	21-25	261	3,18	0,97	0,02*
	26-30	203	3,45	1,08	
	31-35	29	3,17	1,00	
	36-40	5	3,40	2,19	
	41-45	2	2,00	1,41	
	Total	500	3,29	1,04	
15. Online education helps to consolidate the subjects as I can access them repeatedly	21-25	261	2,15	0,77	0,00*
	26-30	203	2,08	0,81	
	31-35	29	2,44	1,08	
	36-40	5	3,40	0,89	
	41-45	2	2,00	0,00	
	Total	500	2,15	,82	

RQ6: Do the perceptions of the students about online education differ in terms of their age?

Table 7 illustrates that perceptions of the university students differ in item 1, item 2, item 6, item 10, item 11, and item 15 in terms of their

age. Students between the age of 36-40 have higher scores from items 1, 2, 10, and 15 than other ages. For item 6, students between the age of 41-45 have higher scores than other ages and for item 11, students between age of 26-30 have higher scores than the others.

Table 8 The opinions of the students about the disadvantages of online education

Opinions	no of students	%	Rank
Concentration loss due to long hours of lectures	342	68.4	5
Not seeing instructors on the screen	102	20.4	10
Overload of homework and exams	491	98.2	1
Not having a laboratory study	254	50.8	8
Mostly having one type of online education	231	46.2	9
Long duration of staring at screens of digital tools	305	61	7
Lack of body movements	363	72.6	4
Less social interaction between students	326	65.2	6
Passive learning	402	80.4	3
Fear of online assessment	459	91.8	2

Table 9 Obstacles that the students faced to get online education during pandemic

Obstacles	no of students	%	Rank
Not having a high quality digital tool to access online courses	259	51.8	2
Difficulty to access lecture materials and assessments with mobile phones	116	23.2	5
Not having suitable space for studying at home	142	28.4	4
Internet interruptions	214	42.8	3
Difficulty in hearing voice of peers and instructors	74	14.8	6
Not having updated knowledge about using different online platforms	317	63.4	1
Shut down of the online education platform due to overload	13	2.6	7

RQ7: What are the perception of the students about the disadvantages of online education?

In this section, university students explained 10 different disadvantages of online education they received during Pandemic (Covid-19) as shown in table 8 below.

According to the university students, the top five disadvantages of the online education are overload of homework and exams (98.2%), fear of online assessment (91.8%), passive learning (80.4%), lack of body movements (72.6%), concentration loss due to long hours of lectures (68.4%), and less social interaction between students (65.2).

One student stated that: *"I was more excited and scared of online exams. After answering the exam questions, I terrified that I could not send my paper to my teacher or my answers would be deleted from the system. The teachers gave very long hours of lectures to complete the course topics.*

We couldn't take part in the courses orally and discuss the topics with our teachers sufficiently" (S (25)).

Another student reflected on this topic: *"I have not received online training before. Our teachers used the Microsoft teams platform. I did not know how to use this platform. I had a hard time. Sometimes, when I had 4 different courses, I sat in front of the computer for 8 hours without getting up. It was very tiring to stay still and looking at the screen for a long time; I lost my concentration. Teachers gave a lot of homework and quizzes to fill that two-week gap"* (S (6)).

RQ8: What are the obstacles faced by the students to get online education during the Pandemic?

In this section, university students explained 7 different obstacles that they faced during online lectures as shown in Table 9.

The obstacles that the students faced during

online courses are not having updated knowledge about using different online platforms (63.4%), not having a high quality digital tool to access online courses (51.8%), internet interruptions (42.8%), not having suitable space for studying at home (28.4%), difficulty to access lecture materials and assessments with mobile phones (23.2%), difficulty in hearing voice of peers and instructors (14.8%) and shut down of the online education platform due to overload (2.6%).

One student explained the obstacles during online courses as follows: *"I have a smart phone, but I have not attended online classes by using a phone before. My home is in a village, and we always have internet problems in the village. I always had to go to the city centre and go to the internet cafe when I had an online class. In the first weeks, I had a hard time connecting to online classes and downloading course materials. With the help of my teachers and friends, I can now attend online classes more comfortably"* (S (408)).

Another student reflected his/her ideas about this topic as follows: *"I have a computer, but the camera of my computer does not work. I attended online classes, but my teachers and friends never saw me. I have not taken online lessons before. Some of our teachers used zoom and some used Google hangout to teach the topics. I hope this pandemic ends and we start training face to face. I think that technology curriculum should be added to university curricula. All the students need be educated about online platforms and learning"* (S (300)).

DISCUSSION, CONCLUSION and RECOMMENDATIONS

Due to Pandemic COVID-19, all the universities cancelled in-person classes to prevent spread of COVID-19 and shifted to online education in North Cyprus like many countries globally. Few recent research analyzed the challenges and also the opportunities of online learning during Pandemic COVID-19 in the literature. In this light, this research aimed to investigate the perceptions of university students on the online education they received during the Pandemic COVID 19 from

various universities in North Cyprus. Researchers prepared a survey comprising three parts to collect both quantitative and qualitative data and from randomly selected 500 students.

The results of this research showed that most of the students took part in the online lessons by using their PC. 59.6% didn't have any knowledge about online education before Pandemic. It was determined that most of the universities used the Google Hangout Meet program and Asynchronous online education as the highest rate during the Pandemic. University students agreed with 11 different contributions of online education such as allowing them to understand better what they couldn't fully learn at school, getting educated from different universities and from different educators, easily keeping the information, reaching the information in a short time, helping to consolidate the subjects as they can access the information repeatedly. The positive contributions of online education were supported by many researchers who believe that online technology offers proper and efficient ways to students for achieving their learning goals (Parsad & Lewis, 2008; Chen et al., 2010; Junco et al., 2013; Henrie et al., 2015; Kent et al., 2016). Additionally, the participants do not believe that online education would increase their desire to study, improve their communication skills, and they don't believe that they can access online education at a low cost and find a program suitable for their learning speed. These results may be due to the fact that most of the participants are between the age of 21-25, in second grade, and experienced online education for the first time during the Pandemic. Accessing online education needs not only internet access, also a digital tool that would increase the cost. Also, perception of access to online education as it is expensive maybe because of the poor economic status of the many participants, too. The high cost of participating in online learning is supported by Demuyakor (2020). Students stated that they couldn't find time to communicate with their friends during the online classes because of the traditional method of teaching and overload of homework and quizzes. This may be the result of the limited time for instructors to complete

the course content. It is believed that the use of information and communication technologies in the work of a student increases the motivation of learning; the development of information and communication competence of students (Abdurahimovna, 2020). But experiencing online education for the first time may cause an accumulation of stress, fear, and anxiety (Wang et al., 2001) and this may lead to a negative perception of students about online education. Check-in quizzes (Clair, 2015) and humour exhibited by the instructors may reduce anxiety and increase self-esteem and self-motivation of the students (Eskey, 2010) in online courses. The perceptions of the university students differ only about items 1(Online education increases my desire to study), 2 (Online education allows me to understand better what I couldn't fully learn at school),6 (Online education increases my technology skills),10 (Online education improves my success at school),11 (I can access information at very low cost), and 15 (Online education helps to consolidate the subjects as I can access them repeatedly) in terms of their age. This is because of having longer experience in online education of students who are older than others. Perceptions of the students may differ depending on the amount of their experience with online learning (Waldman et al, 2006).

According to the university students, the disadvantages of the online education are the overload of homework and exams, fear of online assessment, passive learning, lack of body movements, concentration loss due to long hours of lectures, less social interaction between students, long duration of staring at screens of digital tools, not having laboratory study, mostly having one type of online education, and not seeing instructors on the screen. Many researchers reported negative perceptions of the students for online education, like the data obtained in this research. In one of the study, with first-year and senior students, data showed that students exposed to the low quality of interactions and less effective teacher practices (Dumford & Miller, 2018). Results of a study done in Pakistan also supports the results of the current study. Although most of the students had internet facility and well-qualified computer use skills,

78.6% of the students declared that online learning was less effective than conventional classes. Also, students reported other difficulties such as lack of interaction with the instructor, response time and absence of traditional classroom socialization, difficulties to do group projects, and lack of face-to-face contact with their instructor in distance learning mode (Adnan & Anwar, 2020). Interaction between teachers and students improves enthusiasm and concentration and also the learning of the students, but online platforms have few settings for teaching interaction. The two-way interaction of teaching has to be improved to promote effective learning and improve the quality of education by developing different interactive formats (such as "real-time lecture", "students record learning videos", "face to face" and "you ask me to answers" (Chen et al., 2020).

The obstacles that the students had are not having updated knowledge about using different online platforms, not having a high-quality digital tool to access online courses, internet interruptions, not having suitable space for studying at home, difficulty to access lecture materials and assessments with mobile phones, difficulty in hearing the voice of peers and instructors, and shutdown of the online education platform due to overload. These obstacles were supported by many researchers. In one study, Adnan & Anwar (2020) reported that students couldn't access to a significant amount of online content via their smart phones. In another study, it was reported that students couldn't participate in online learning successfully due to insufficient availability and access to the internet, lack of proper interaction with teachers and instructors, and lack of the latest technology and resources of academic institutions (Zhong, 2020). Improving the technology of online platforms is the major problem to be solved because the technical problems in online platforms are the main factors that lead to students' dissatisfaction and significantly reduce the quality of effective teaching (Chen et al., 2020). Restauri et al. (2001) suggested that improper functioning of technology hinder learning and engagement of students, students are frustrated and have a negative perception of the online course when

technological aspects of online courses fail (Pollack and Wilson, 2002). There are several factors that influence the satisfaction of students with online learning such as perceived quality of the course, time commitment to complete the course, student, and instructor interaction, level of support by the instructors and institutions (Waldman et al., 2006). The motivation for participation in online studies is one of the vital components of student satisfaction and motivating the students in online studies will aid in overcoming the challenges of online learning and improving success (Daniels, 2010; Nonis, & Hudson, 2010; Russell, 2013; Robb & Sutton, 2014).

Recommendations

Considering the disadvantages of online education and obstacles that students faced during the COVID-19 Pandemic, researchers recommend that.

Instructors can

- Use different forms of online education (Synchronous and Asynchronous) interchangeably.
- Use different teaching methods to attract students' attention to the course and to enhance interaction between students.
- Designing instructional materials and assessment suitable for the student to work with different technological devices.
- Design self-study course materials such as homework and projects for students in the time of failure or poor internet connection.
- Improve two-way interaction of teaching.

Universities can

- Conduct regular and continuous teacher training about online education.
- Add technology course to the curricula of each program to help students with online learning difficulties.
- Evaluate their online education and make improvements.

Implications for research and practice

This research evaluated the quality of online education based on the perspectives of university students who received online education from

various universities in North Cyprus. Based on the collected data from this research, faculty members and university administrators at the universities in North Cyprus may re-think and re-design their online instructional strategies to ensure the effectiveness of online education to meet the needs of their students and improve the quality of online education incorporation with the government. Also, a similar type of research can be done at each university in other countries. Data obtained at each university level may help universities to improve their online education, which will be accessible by all students for equity in education.

Suggestions for further research

Researchers can compare the perspectives of university students studying in different universities in both digitally developed and not developed countries to get a global understanding of the quality of online education during the Pandemic.

Limitations

This study was limited with randomly selected 500 university students from 9 different departments of various universities in North Cyprus and with the data collected between 15 March–30 August 2020.

Conclusion

This study showed that the students receiving online education from universities in North Cyprus agree with some of the contributions of online education as stated in the literature but also they stressed many disadvantages of online education. In addition, students mentioned the obstacles that they faced during online lectures. Problems of the students related to online education can be solved by the universities and the government in cooperation. It is believed that students will be able to benefit more from online education as their problems solved and they experience online education more.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

Contribution of Authors

H.Ş. designed the study, prepared the survey form, searched the literature and wrote the manuscript. H.Ş. and F.Y.L. did the statistical analysis. M.Ç. and F.Y.L. collected the data from the participant students by taking their consent. All the authors interpreted data.

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