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Obstacles to Using E-learning and Distance Learning in Jordanian Universities in the light of the Coronavirus Pandemic from the Students' Point of View

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Abstract: This study aims to identify barriers to the use of e-learning and distance learning in Jordanian universities from the perspective of students in Jordan during the outbreak of the COVID-19 pandemic. The study used descriptive methodology to develop a questionnaire with 50 items, all of which were arranged in a behavioral order to match the structure of the interview items. Validity and reliability of the instrument were evaluated, and the instrument was applied to a sample of students (716), who were randomly selected. The results of the study showed that there are barriers to using e-learning and distance learning in Jordanian universities according to students' opinions about the coronavirus pandemic. The results also show that there are significant differences in student responses regarding barriers to online learning. It also covered the barriers and challenges that prevent this change, such as poor internet connection and lack of interest, showing the need for new courses to improve students' experience in online learning.

Keywords: Obstacles to Using E-learning, Distance Learning in Jordanian Universities, Coronavirus Pandemic.

1 Introduction

Many efforts and international experiences have tried and wanted to spread and implement e-learning and distance learning by countries, governments, organizations and other educational and training institutions, especially universities, schools and schools, the COVID-19 epidemic, which beyond all borders. , walls and distances, have removed all the fears and fears that many people fear that online learning and distance learning can be canceled all the time and put the restrictions that the COVID-19 epidemic has overcome. It is undeniable that this disease can affect, even destroy, some parts, and can affect all the countries of the world without reason. However, at the same time, he created an idea and a way in society to solve any problem that may come to them in the future.

Also, the outbreak of the virus has set records for children and young suspended from schools and universities. By March 12, 2020. 61 countries in Asia, Europe, the Middle East, North America, South America and Africa have announced the closure of schools and universities or instituted general or partial closures. According to statistics from the World Health Organization (WHO), 39 countries have closed schools in all countries, affecting more than 421.4 million children and young people. In addition, 14 countries have closed schools in some areas to prevent or contain the spread of the virus. If these countries close schools and universities in all countries, it will affect the education of 500 million children and young people (Zayed, 2020) [1]. Because of this epidemic that has succeeded in disrupting activities in many universities around the world and connecting the educational gap that can result from this disease for a long time; Many educational institutions in Arab countries have started to study and distance learning in order to enable universities to continue to provide the content of their previously planned programs, which their students studied before entering different forces (Khairi et al., 2020) [2]. The promotion of E-Learning and distance learning by some universities has sparked discussion and debate among experts who are divided into supporters and opponents of this sudden decision for some of them, whether they are academic or otherwise. The reasons for their refusal include: the failure of the government to develop a clear plan in advance, the poor internet service in many places, and the ignorance of the economic situation of many poor families who cannot provide this service to their children. how long or who. may not have a calculator at all.

Despite the strong conflict, which showed the inconsistency of the vision, the opinion is combined in two ways: which

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supports the support of the system, whose instructions represent the experts of technology and computer science, which is defended with energy and enthusiasm. This is based on the well-understood impact of the information revolution that has begun as a result of the rapid expansion of digital technology into the details of our daily lives, including the way we communicate, learn and think; Another guideline, represented by many teachers, sociologists and anthropologists, advises caution and the need to be cautious in conducting environmental studies and other research, including those who are flexible and flexible, before making any decision on the possibility of adopting E-Learning. and distance education, the extent of its use and how it is used in higher education institutions in Jordan (Al Quda, 2020) [3].

Fortunately, we are seeing great innovation in this area in many countries around the world regarding online and distance learning experiences during this pandemic. Many ministers of education are afraid to rely solely on online programs that only rich kids will benefit from. The appropriate approach for most countries is to use whatever means available to provide the resources available to provide the service. Online tools can be used to create lesson plans, videos, tutorials and other resources for specific students and multiple teachers. However, blogs, audios and other resources that consume less data should also be used. There should be collaboration with the telecommunications and information technology companies to implement a cost reduction plan to support the download of educational materials on smartphones, which many students have (Saavedra, 2020) [4]. Although in the Arab world there is a visible gap in the implementation of e-learning and distance learning, both in terms of ready technology or faith or belief that it is necessary to use the principles of e-learning-Learning or just words. because it is important, sometimes they do it in a twisted way. However, many people in the Arab world believe that the implementation of e-learning and distance learning is a "surprise" even for parents, who see themselves and their children. as the goal of the general education system (Nathan, 2020) [5]. Considering the evolution of the Internet and distance learning due to the coronavirus pandemic, which has led to general education and educational institutions in Jordan to accept it as an alternative to traditional education. There has been much discussion and debate about the importance of including it in the curriculum. For this reason, this study seeks to discuss the difficulties and challenges encountered in the implementation of online and distance learning in which the end user is a student or learner. In simple terms, the main objective of this study is to examine the barriers to using online learning tools and distance learning tools in Jordanian universities according to students' opinions about infectious diseases.

The Study Problem and Questions

It seems that higher education officials in the Middle East and neighboring regions are generally optimistic about the results of online education affected by the COVID-19 pandemic. Nevertheless, many say that the experience has also revealed many issues that need to be addressed in order to take full advantage of e-learning (Nathan, 2020) [5]. It is no secret that the higher education sector has been affected by the complete shutdown decision that was put in place to stop the spread of the disease caused by the emergence of the coronavirus (COVID-19); These areas include online learning, changes in university registration rules, services for new graduates, new programs and specializations, international students and labor mobility.

The researchers reviewed studies that examine the difficulties and challenges of using the Internet in the teaching and learning process because universities have stopped accepting students from schools. Also, because the researchers themselves do and use this kind of education for students, whether they are with their children in the university or school or teach their students in the university; This study aims to identify barriers to the use of the Internet and distance learning tools in Jordanian universities due to the coronavirus pandemic, to share its findings with policy makers to overcome and adapt. . . education also meets the needs of students, faculty and parents. In light of the above, the study will try to answer the following question: What are the barriers to using online and distance learning tools in Jordanian universities due to the coronavirus pandemic in Jordan?

The objective of the Study

This study is aimed at identifying the obstacles facing students of Jordanian public and private universities in the use of all forms and applications of E-Learning and Distance Learning, which was suddenly used for most students due to the disruption of universities and their inability to receive students due to the outbreak of the Coronavirus in the world in general, and in Jordan in particular.

The Importance of the Study

This study is included because of the current research process and barriers to the use of e-Learning and distance learning in Jordanian universities in the middle of the coronavirus pandemic. The importance of this study is based on the results of previous studies and the importance of online and distance learning in the work of the educational system. Therefore, the importance of this study appears in identifying the obstacles, challenges, difficulties and problems that students face in this type of education, which can help to create effective solutions to solve them and go to 'face receiving education and learning, and without interruption. of those who study through their classes, teaching and learning although the disease will last for months and stay longer.

This study also provides a modest addition to the pedagogical literature in the field of E-Learning and Distance Learning, which every student and teacher must inevitably master and become able to deal with because it is the only solution through which the student can communicate with their teacher. Furthermore, this study may provide policymakers (of both educators and politicians) with a glimpse into some of the obstacles that students and teachers may face in this type of learning to be corrected and search for solutions to reach the quality of E-Learning that is in line with international standards for E-Learning, especially in light of the spread of this pandemic globally, regionally, and locally.

Theoretical Framework and Relevant Previous Studies

This part covers a review of the theoretical framework regarding the obstacles to the use of E-Learning and Distance Learning applications; it also includes a review of several previous relevant studies.

(I) Theoretical Framework

E-Learning and Distance Learning

Traditional education is how we get our education - most if not all of us. It was widespread in the past - and still is - to varying degrees and levels. As for e-learning, it is the entire electronic learning process, in all its forms and at all its levels. This process is new for many Arab countries; Palestine International E-Learning University has been a pioneer in this field, being the first university in the Arab world since 2003. Finally, the concept of e-learning has spread to some universities in Arab countries, including the Saudi Electronic University. The e-Learning system is based on technology at all levels so that students can attend all their classes electronically so that they can switch to traditional learning by meeting the teacher directly on campus, but they go electronically from their hall to their house, companies and workplaces (Al Quda, 2020) [3]. The process of checking presence and absence happens on the screen, because the speaker can see everyone, and everyone can see the speaker and talk to him. They can communicate and argue among themselves as we see now in the direct meeting that happens through the screen of the airport. The teacher in charge of the class does not allow anyone to leave or leave the camera open to escape or run away, but he guides it with the utmost discipline and interaction. (Al -Khatib, 2020) [6].

E-Learning and distance learning in Jordan during the Coronavirus pandemic

In early June 2020, the Ministry of Higher Education of Jordan released a report, which concluded that the number of computer science studies in public universities since the beginning of the epidemic stood at 20,258 studies. These courses accounted for 82.21% of the courses offered in the curriculum for the second semester of 2019/2020 in public universities in Jordan, while the number of computer courses and courses offered in private universities for the same semester reached 93.94% The newly released report also shows that the number of people entering the electronic application of public universities is 326,643 students, which is 77.07% of the registered students, while 133,749 students entered. University, representing 88.81% of the students at these universities (Hamdan, 2020) [7].

The report showed that these percentages continued to increase, until the sixth week of e-Learning, in the case of computer science studies, with 94.5% in public universities and 99.27% in universities. privacy, an increase of 12.29% for the study. public. university and 4.34%. % for private universities. According to this report, the number of students who benefit from computer training is 417,373 students in public universities and 168,294 students in private universities, an increase of 90,730 students, and the percentage of students who benefit and in the sixth week reached 86.49% of the audience university and 85.52% in private universities. The report also showed that the academic topics discussed at Jordanian universities through distance communication methods at the end of last April reached 286, including 207 master's theses and 79 doctoral theses. The report highlighted that e-learning and distance learning in Jordanian universities have been reviewed by the Ministry of Higher Education of Jordan.

The report also shows that the level of student satisfaction with the effectiveness of online and distance learning is 54.4% according to a study conducted by the Ministry of Higher Education of Jordan. It is organized around four themes, namely methods and technology with a satisfaction rate of 55.93%, electronic content with a satisfaction rate of 52.56%, effective teaching with a satisfaction rate of 56.83% and research with a satisfaction rate of 50.63 percent. The report showed that satisfaction with the effectiveness of online courses for master students reached 70.54% and 53.06% for high school students, while it reached 58.14% for middle school students.

(II) Relevant Previous Studies

It is noted that several recent studies discussed the subject of the research. The following is a presentation of those studies in sequential order from the most recent to the oldest. Yadav and Ghumre (2020) [8] conducted a study aimed at studying the depth and evaluation of E-Learning concepts. The study showed that technological developments during the past two decades had brought about a quantum leap in the modern education system. The developments in information and communications technology have changed the concept of traditional classrooms by which the teacher provides the educational materials to a limited number of students. Furthermore, the development of information and communication

technology has paved the way for E-Learning and Distance Learning by building virtual classes that provide an environment of knowledge and can deal with all levels of the students' knowledge. Therefore, E-Learning has gained popularity among a large number of people due to its multiple advantages such as flexibility and the use of multimedia and participatory outside the borders of countries. Despite all the efforts to take advantage of the digital tools, E-Learning still cannot replace traditional teaching in the classrooms, even though the learning standards have been improved to meet the lecture context standards. Not every student can find the appropriate E-Learning for his/her style. E-Learning cannot create a real university life and environment for students to enjoy, as in the classrooms (James, 2018) [9].

Wajdi et al. (2020) [10] conducted a study to discuss the Indonesian government's policy, especially on the education policy to deal with the Coronavirus. The results show that some government policies related to education during the time of the Coronavirus can reduce its spread. These policies include e-learning for students, e-lectures for university students, and the cancellation of national exams. Many Indonesian universities have implemented distance learning programs until the end of the current semester of 2020, including midterm exams, final semester exams, practical training, guidelines for final projects, journals and scientific papers. Students and faculty are invited to conduct learning activities using online tools such as video conferencing, email, social media and other related tools.

Crawford et al. (2020). This study shows the response to the so-called COVID-19 in time for university systems in 20 countries. This analysis shows different responses to complex challenges, with more accurate data. Similarly, one university has done little to respond and has chosen to follow the minimum government standards (for example 1.5 meters away or low social gatherings). On the other hand, universities have quickly stopped face-to-face work and moved to digital learning. Some universities, such as the University of Tasmania, are already well prepared for this effort because the university uses a combination of traditional education and fully online courses; Other universities have a long way to go to cover this. This study also examined university responses to supporting knowledge exchange projects in a sample of relevant universities. The study concluded that at this time, it is understood that the higher education sector must come together to imagine a better future in which students can receive digital support without compromising the quality of education and program standards. The study showed that there is no doubt that the status update for all university sites will change significantly in the coming months as the government implements different guidelines related to social gatherings, picnics -nicks, etc…

José Sá and Serpa (2020) [12] conducted a study in Portugal aimed at assessing the status of education provided under the epidemic. The study concluded that the Portuguese government has worked hard and quickly to overcome the potential negative impacts of the COVID-19 epidemic on education at all levels. The study also showed that there are difficulties that must be faced, mostly since digital competencies, computers, and access to the Internet are not widespread among the Portuguese population. The study concluded that the factual reality that the country is witnessing due to the Coronavirus is not to be seen as a set of obstacles, but rather as a challenge and an opportunity for change and innovation in the educational field. They indicated that people should wait to see whether Portugal is ready to fully embrace this challenge.

Al- Dafairi (2015) [13] conducted a study aimed at identifying the degree of awareness of graduate students in the educational technology program for self-learning, on the learning of educational software and the difficulties they face from their point of view, and the impact of each of the following factors: gender, age, workplace, first academic degree (bachelor), and computer skills. The researcher used the descriptive screening method by distributing the questionnaire that he developed to (227) male and female students of the Faculty of Educational Sciences at the University of Jordan. The researcher found that the degree of awareness among students was high and that the degree of difficulty in using self-learning was also high. The most prominent difficulties were the weakness of students in using some E-Learning and Distance Learning applications in accomplishing the educational tasks and the homework required from them. The study concluded that there were no statistically significant differences for all variables of the study.

After reviewing the previous studies, and by reviewing the approaches used therein, their goals and tools, and the results of those studies, the researchers concluded the following:

- Most of the previous studies looked at the obstacles to using E-Learning and Distance Learning applications but did not look at the obstacles of E-Learning and Distance Learning applications in light of crises that led to the complete transformation into E-Learning and Distance Learning as the current crisis of the Coronavirus pandemic.
- The previous studies were classified according to the obstacles to using E-Learning and Distance Learning applications, as follows: (Saavedra, 2020; James, 2018; José Sá & Serpa, 2020) [4] [9] [12], which identified the challenges related to the use of E-Learning and Distance Learning applications.
- Most of the previous studies looked at the obstacles to using E-Learning and Distance Learning on several variables, but they did not look at the obstacles of E-Learning and Distance Learning from the students' point of view, as they are the primary beneficiaries of E-Learning and Distance Learning.

- All previous studies reviewed by the researchers formed a database that was used to design and develop the study tool and define its procedures. Furthermore, this study is different from previous studies in terms of the individuals of the study, the procedures related to thereto, and the location of the study. The current study is one of the first studies to research the obstacles to using E-Learning and Distance Learning applications in Jordanian universities in the light of the Coronavirus pandemic.

2 Methodologies

In their study, the researchers relied on the descriptive method which is the appropriate method for the purpose of this study because it aims to create an accurate numerical description of the object as it really is and presents it qualitatively. The study population includes students of all academic levels in Jordanian universities who are enrolled in the university in the second semester of the 2019/2020 academic year. The sample of the study is qualified students in public universities of Jordan at all study levels (bachelor, master, doctorate) during the coronavirus pandemic in the second semester of the academic year 2019/2020. The study subjects were (716) male and female students; as shown in table (1).

Table 1: Distribution of the study sample

		Count	Percent
Gender	Female	542	75.7%
	Male	174	24.3%
Age:	Less than 20 years	198	27.7%
	From 20 to 23 years	459	64.1%
	Over 23years	59	8.2%
Current degree you are studying for	BA	705	98.5%
	Postgraduate	11	1.5%
University	Al-Balqaa Applied	4	0.6%
	JUST	2	0.3%
	University of Jordan	514	71.8%
	Al al-Bayt University	195	27.2%
	Mu'tah	1	0.1%
Academic year	Postgraduate	5	0.7%
	First year	166	23.2%
	Third year	160	22.3%
	Second year	315	44.0%
	Fourth year	70	9.8%
Place of residence during Corona pandemic	Amman	440	61.5%
	Abroad	4	0.6%
	South governorate	9	1.3%
	North governorate	101	14.1%
	Central governorate (except Amman)	162	22.6%

Table (1) shows that (75.7%) of the respondents were females. For the age, (64.1%) of them were from 20 to 23 years, followed by those who were less than 20 years (27.7%). Most students were from two universities: (71.8%) from the university of Jordan and (27.2%) from Al al-Bayt university. About the academic year, (44%) of the students were in their second year and (23.2%) were in their first year. Finally, for the place of residence during corona pandemic, (61.5%) of them lived in Amman, followed by those who lived in central governorate (except Amman).

The study tool developed by referring to several studies that dealt with the obstacles to using E-Learning and Distance Learning applications, such as (Saavedra 2020; James, 2018; José Sá & Serpa, 2020) [4] [9] [12]. Through the guidance of some specialized faculty members. It was divided into two sections: the first section contains demographic and general information, and the second section contains items relating to obstacles to using E-Learning and Distance Learning applications and their areas. The questionnaire consisted of (50) items, all of which were formulated with behavioral wording to match the design of the questionnaire items. In addition, it was designed according to the Five-Point Likert Scale as follows: Strongly agree (5), Agree (4), Neutral (3), Disagree (2), strongly disagree (1).

In order to verify the reliability of the study tool, the book is presented in its original form to (8) judges with experience and expertise in the fields of curriculum, teaching, statistics, research, online learning and skills and educational technology, to show them. point. thoughts on this topic. . Note that the researchers did the following: an increase in the number of items, changes in the basic data required, many inappropriate items removed as many judges agreed, many have changed for equality, one thing. It has been combined, the second element has been reduced to a single space, and

similar elements and similar elements have been removed. To check the validity of the questionnaire, a test/retest method was used. This questionnaire was written to a group of students (25) who were not included in the research study, and it was returned to the same sample at random after two weeks. Reliability was also calculated using the internal consistency method according to the Cronbach-Alpha statistic. For the absolute value, it is 0.976, which is considered to be sufficient for the purpose of this study. The SPSS program (Statistical Package for the Social Sciences) and statisticians describe the mathematical representation of the mean, standard deviation, and inferential statistics. This study uses iterations and percentages to describe the study, Cronbach's Alpha factor to measure the stability of the study tool, the calculation of the mathematical method of the sample response and the study tool, research analysis (T-test).) investigated the importance of different mathematical models of students' responses and barriers to using e-learning tools in distance education in a Jordanian university based on students' perceptions of the coronavirus pandemic.

3 Results

The study sample was (716) students of the faculty of educational sciences at the universities in Jordan. Different questions were asked to them before the items that measured the obstacles, as shown in Table (2).

Table 2: Statistics of using E-Learning and distance learning

		Count	Percent
Do you use online distance learning daily?	No	194	27.1%
	Yes	522	72.9%
Method used to access online distance learning during the Coronavirus pandemic:	Other	56	7.8%
	(Fixed) Land internet	210	29.3%
	Mobile phone internet	450	62.8%
Device used to access online distance learning during the Coronavirus pandemic:	PC	17	2.4%
	Not available	11	1.5%
	Laptop	160	22.3%
	Smart phone	528	73.7%
Useful means to access online distance learning during the Coronavirus pandemic:	PC	88	12.3%
	Not available	20	2.8%
	Laptop	488	68.2%
	Smart phone	120	16.8%
Name of internet provider used during the Coronavirus pandemic:	Other	15	2.1%
	Umniah	199	27.8%
	Orange	240	33.5%
	Zain	262	36.6%
How do you assess the internet service during the Coronavirus pandemic homestay:	Good	283	39.5%
	Very good	162	22.6%
	Weak	220	30.7%
	Excellent	51	7.1%

Table (2) shows that (72.9%) of the students used online distance learning daily, which is not a large percent during the Coronavirus pandemic. Mobile phone internet was the most method used to access online distance learning during the Coronavirus pandemic (62.8%). And the most device used to access online Distance Learning was smart phone (73.7%). But (68.2%) of them reported that laptop was the useful mean. Regarding the internet provider, (36.36%) used Zain, (33.5%), and (27.8%) used Umniah. (39.5%) assessed the internet service as a good, while (30.7%) assessed it as a weak service. And only (7.1%) assessed it as an excellent service.

Arithmetic mean and standard deviation were used to describe the Likert scale items that measured the obstacles to using E-Learning and Distance Learning applications in Jordanian universities in light of the Coronavirus pandemic from the students' point of view. As shown in Table (3).

Table 3: Descriptive statistics

No	Paragraph	Arithmetic mean	Standard deviation	Rank	Level
2	The pressure the network faced during the specified times of the learning process hinders entry to E-Learning systems	4.35	0.86	1	High
3	Having more duties than usual compared to before the Coronavirus crisis	4.26	0.93	2	High

42	The large number of students enrolled in some subjects may prevent the teacher of the subject from following their learning process through the use of E-Learning	4.22	0.94	3	High
11	I feel nervous due to the many daily electronic assignments and tasks	4.19	0.98	4	High
35	Some students are unable to provide the electronic devices necessary for E-Learning, such as computers and smart devices, and the Internet, for financial or other reasons.	4.18	0.97	5	High
48	There are obstacles that some students encounter regarding the passcode (password) when trying to access E-Learning and remote applications	4.14	0.98	6	High
41	There are obstacles related to attending the lectures that are broadcasted directly via the E-Learning and distance platforms, especially for students whose subscriptions have ended or who do not have sufficient internet packages.	4.12	0.99	7	High
39	I believe that the infrastructure-related obstacles play an important role in the learning and teaching process applied through E-Learning	4.08	0.96	8	High
15	I feel nervous about not knowing the mechanism of sitting for the final examination electronically	4.03	1.05	9	High
50	In general, I am not satisfied with the E-Learning and remote process for several reasons such as: back-to-back timing of the lectures, the adequacy of the phone battery charger, and other reasons	4.03	1.03	9	High
40	I believe that educational institutions are not ready electronically during the Coronavirus pandemic to deal with electronic and remote learning systems and applications and for various reasons that differ from one university to another according to the material and technological capabilities available in each university	4.01	0.99	11	High
18	E-Learning consumes a lot of time and effort from me	4.00	1.05	12	High
12	It is difficult to focus on course content during E-Learning	3.99	1.04	13	High
43	Social isolation due to lockdown during the Coronavirus pandemic affected the learning outcomes in the process of E-Learning	3.99	1.00	13	High
44	The lack of a clear vision about the E-Learning process during the Coronavirus pandemic by those in charge of the educational process is a factor affecting the success of this exceptional learning experience	3.99	1.02	13	High
47	Constant pressure on E-Learning and remote learning systems and applications is a disappointing factor for some students when they try to access those applications	3.99	1.04	13	High
17	I am having difficulty attending some of the (live broadcast) lectures at different times of the day	3.98	1.05	17	High
32	Lack of societal awareness about E-Learning and Distance Learning	3.97	0.99	18	High
33	There is an urgent need to empower learners and train them on how to use some applications related to E-Learning	3.97	0.97	18	High
9	The prolonged use of electronic devices makes me	3.96	1.07	20	High

	feel confused				
49	Providing appropriate training courses for faculty members is a key factor in success in the E-Learning experience	3.95	1.01	21	High
45	The design of digital content in E-Learning plays an important role in the efficiency of the student learning process	3.93	1.03	22	High
10	Education with electronic devices causes health problems	3.88	1.05	23	High
29	The programs used in the E-Learning process are not appropriate for some of the practical courses that I study	3.88	1.08	23	High
46	E-Learning applications may be an obstacle in the learning of students with special needs/disabilities	3.88	1.01	23	High
16	The educational material has not been prepared to match E-Learning	3.87	1.11	26	High
37	I believe that the electronic evaluation used cannot monitor the process in order to avoid fraud that may occur during holding computerized tests	3.86	1.06	27	High
27	I think there are some teachers who are not qualified to handle the E-Learninng process properly	3.84	1.06	28	High
38	The programs and applications used in E-Learning do not achieve the required interaction between students and teachers compared to regular learning	3.84	1.06	28	High
13	I am not convinced of the feasibility of using the E-Learning system compared to the ordinary learning before the Coronavirus pandemic	3.83	1.11	30	High
20	Communication with the faculty members has become more difficult in the process of E-Learning during the Coronavirus pandemic	3.80	1.19	31	High
28	The absence of the educational dimension in the teaching process in the presence of the teacher face-to-face with the student is a factor in my lack of conviction in the E-Learning	3.79	1.09	32	High
36	Fear of not having enough teachers to complete the E-Learning process properly	3.79	1.04	32	High
34	The lack of a sufficient degree of safety to use some applications related to E-Learning, and thus fear of using them in the process of learning and teaching	3.78	1.05	34	High
31	I find it difficult to get the idea of moving from traditional to E-Learning	3.77	1.09	35	High
8	Society views this method of learning as not useful or beneficial	3.76	1.13	36	High
26	There is no technical assistance provided by the university to help me properly use the E-Learning platform	3.73	1.08	37	High
30	The lack of a specialized shop for the rapid maintenance of the computer hardware used by me as a student near the place where I live	3.70	1.15	38	High
21	Poor video and audio recordings of educational content hinder focus in following the E-Learning system	3.65	1.11	39	Medium
23	Some teachers were not serious during the various online assessments	3.56	1.19	40	Medium
4	Weak internet service in my area	3.55	1.14	41	Medium
25	I am concerned about the possibility of hacking the computerized application through which E-Learning	3.55	1.17	41	Medium

	is used				
22	The faculty member does not provide enough opportunities to participate in meaningful scientific dialogues and discussions between him/her and the students during the E-Learning process	3.53	1.16	43	Medium
19	In my personal opinion, the faculty member does not possess the necessary skills to use the E-Learning system	3.52	1.13	44	Medium
7	I cannot afford the high costs of using the Internet in education	3.47	1.21	45	Medium
14	I am occupied with sites not related to E-Learning during the process of my learning	3.46	1.23	46	Medium
5	Using social media for E-Learning and Distance Learning is a violation of privacy while I am at home	3.38	1.20	47	Medium
24	Not having some computer skills impedes my integration during the online and distance learning process	3.37	1.25	48	Medium
6	I do not have enough experience in using platforms	3.19	1.27	49	Medium
1	The lack of internet service in the area where I live	3.03	1.18	50	Medium
Total		3.83	0.73		High

Table (3) shows that the average value of the general barriers to use e-learning and distance learning tools is high (3.83) and one standard deviation is (0.73). The paragraphs have entered the level of high and medium barriers, according to the number of mean values in the middle (4.35 - 3.03). The pressure that the network faces during the specific period of the educational process prevents entry into the online learning process is a major obstacle in the student's opinion (4.53). The following number of capacities is higher compared to the first number before the corona crisis (4.26). On the other hand, the least obstacle reported by students is the weakness of internet services in their area of residence (3.03). Next comes lack of sufficient experience in using e-learning platforms (3.19). The degree of barriers that prevent the use of e-Learning and distance learning tools in Jordanian universities as the coronavirus pandemic is perceived by students may vary depending on various factors. To test whether there is a significant difference between the students, a test of the difference between the means (T-test and ANOVA) is performed. The results are summarized in the following tables.

Table 4: T-test for the gender variable

Gender	**Arithmetic average**	**Standard deviation**	**T Value**	**Sig. level**
Male	3.73	0.78	-2.167	0.031
Female	3.87	0.71		

Table (4) shows that there is a significant difference (≥α (0.05)) in the level of barriers to using e-learning tools in Jordanian universities such as the coronavirus disease by gender change Based on the calculated value of (T) which is (-2.167) and at a significant level of (0.031). The level of barriers regarding the use of e-learning and visual learning tools for women (3.87) is higher than for men (3.73) and this difference is significant.

Table 5: ANOVA test for the gender variable

Age	**Arithmetic average**	**Standard deviation**	**F Value**	**Sig. level**
Less than 20 years	3.83	0.66	5.725	0.003
Between 20 to 23 years	3.87	0.73		
More than 23	3.53	0.86		

Table (5) shows that there is a significant difference (≥α (0.05)) in the level of barriers to using e-learning tools in Jordanian universities such as the Corona virus disease by age variable based on the calculated value of (F) which is (5.725) and at a significant level of (0.003). The level of barriers to using e-learning and distance learning tools reported by 20- to 23-year-olds was the highest (3.87). Also, the post hoc test shows that there is a significant difference between those who are over 23 years old and the other groups.

Table 6: T- test for current academic degree variable

Current academic degree	**Arithmetic average**	**Standard deviation**	**T Value**	**Sig. level**
BA	3.84	0.72	2.620	0.009
Postgraduate	3.26	0.88		

Table (6) shows that there is a statistically significant differences at the level of (≥α 0.05) in the degree of obstacles to

using E-Learning applications in Jordanian universities in light of the Coronavirus pandemic according to the current academic degree variable. Based on the calculated value of (T) which was (2.620) and at the level of significance of (0.009). The degree of obstacles regarding the use of E-Learning and Distance Learning applications for bachelor's degree students (3.84) was more than postgraduate students (3.26) and this difference was significant.

Table 7: ANOVA test for the gender variable

Place of residence	Arithmetic average	Standard deviation	F Value	Sig. level
Amman	3.82	0.73	1.230	0.297
Governorates of the North	3.77	0.73		
Central governorates (except Amman)	3.91	0.72		
Governorates of the South	3.80	0.77		
Abroad	3.28	0.20		

Table (7) shows that there is no statistically significant difference at the level of (≥α 0.05) in the degree of obstacles to using E-Learning applications in Jordanian universities in light of the Coronavirus pandemic according to the place of residence variable. Based on the calculated value of (F) which was (1.230) and at the level of significance of (0.297).

4 Discussions

This study aims to evaluate how Jordanian university students in both public and private universities across the country perceive and are prepared for the extraordinary changes in course content brought on by the COVID-19 epidemic. It also attempts to investigate the challenges that students have when switching to online learning environments. According to the investigation's findings, most students are not happy with their existing E-Learning experiences.

Participants in this survey expressed a general distaste for E-Learning and preferred face-to-face instruction, which allows for more conventional forms of communication with coworkers and teachers. Numerous studies from both emerging and developed economies support this (Al-Balas et al., 2020; Abbasi et al., 2020; Almomani et al., 2021; Alsoufi et al., 2020; Hamilton et al., 2020) [14][15][16] [17][18]. Only medical students were included in this study at a public university in Jordan, and it showed that 75% of participants were unhappy with their online learning environment (Sindiani et al., 2020) [19]. In this research, students have frequently talked about combining traditional classroom instruction with online instruction (El Said, 2021) [20].

Therefore, it can be argued that the emergency response to the COVID-19 pandemic crisis, with the unprecedented challenges it has raised and the accompanying quarantine of unfamiliarity with the online experience, can be used to justify the negative perception afforded towards the shift to online E-Learning. Students' opinions of the online learning process were impacted by this. Universities have been forced to quickly adjust to the new circumstances, employing techniques that are frequently constrained and lack a theoretical underpinning and efficient online teaching techniques.

Additionally, online E-Learning components are intrinsically reliant on technology, including internet access and cooperation between educational institutions and the telecom sector (Adedoyin & Soykan, 2020) [21]. Jordan is a developing nation, acknowledging that the terms "developing nation" or "developed economy" typically refer to a population with a low level of material well-being, where obstacles include a lack of funding and technical support, a poor information technology infrastructure, and a low level of material well-being. All of this is important for the Internet-based delivery of remote learning (Mouchantaf, 2020; Rizun & Strzelecki, 2020) [22] [23].

According to the study's findings, the main barrier for students to using E-Learning systems is the pressure that the network experienced during key periods of the learning process. This was followed by more tasks than there had previously been prior to the Coronavirus crisis. However, students said that having bad internet connectivity in their neighborhood was the least of their challenges. The use of E-Learning platforms was then insufficiently experienced after that.

Moreover, the Jordanian telecom companies suffered from a heavy burden on the Internet which led to a decrease in the speed of the Internet and communication in many areas. Encountering such experiences while attending classes, taking exams, or even giving assignments, understandably correlate with feelings of helplessness and contributes to students' overall dissatisfaction with the online experience.

5 Conclusions

The crisis in the education sector - due to the Corona virus - has pushed E-Learning forward, so it has become an irreplaceable option (except in the absence of resources). Teachers will face great challenges in coping with this sudden

change. However, they can overcome many obstacles and obstacles with proper planning.

6 Recommendations

This study deepened students' understanding of the barriers and obstacles they encountered in their distance learning programs during the COVID-19 outbreak in Jordan. Based on the results of this study, and removing these barriers and obstacles, it is recommended to make some important changes in higher education institutions in the Jordanian government in order to be well prepared for similar situations in the future any emergency or problem. However, removing these barriers and obstacles can improve students' perceptions of distance education. The lessons learned from COVID-19 will force a new generation of laws, regulations, platforms and solutions from the government and higher education institutions in Jordan for future cases. These courses will include the use of free tools available to transfer traditional education to online learning in the future as the end of the COVID-19 pandemic will be part of the future teaching and learning process. Preparing teachers and students for online learning will require more work to prevent crime and fraud. In addition, this study is the first preliminary study on students' opinions about distance education during the COVID-19 in Jordan and other in-depth methods such as qualitative methods, focus groups and unstructured interviews in the study The future can be used to explain the students' understanding. of this important topic.

Conflict of interest

The authors declare that there is no conflict regarding the publication of this paper.

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