Journal of Education and e-Learning Research
Vol. 8, No. 3, 349-359, 2021
ISSN(E) 2410-9991 / ISSN(P) 2518-0169
DOI: 10.20448/journal.509.2021.83.349.359

COVID-19 Enforced Shift to Distance Education: Readiness and Challenges

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Abstract

The COVID-19 pandemic has forced a worldwide revolution in our understanding of how to conduct education. International lockdowns were the catalyst for a global shift from traditional face-to-face learning to distance learning. This comparative study utilized a mixed method approach to investigate the readiness of Higher Education instructors and students and the challenges arising from the shift to distance education in two different Arab countries, Qatar and Jordan. Generally, the findings gleaned from the questionnaires (230 instructors and 551 students) revealed certain inconsistencies with the findings that emerged from the interviews (18 instructors and 38 students) in terms of both the level of readiness and the challenges faced. The results showed a substantial variation in instructors and students' readiness at both participating universities. While factors like country, age, gender, specialization, years of experience/year in the program, and the number of online training courses prior to the COVID-19 epidemic proved to cause statistically insignificant differences in instructors and students' readiness, variables including age, gender and prior experience in online courses were relatively influential for students in terms of the challenges they faced.

Keywords: COVID-19, Distance education, Readiness, Challenges, Higher education, Instructors, Students.

Citation | Yousef Alshaboul; Diala Hamaidi; Yousef Arouri; Asia Alshaboul (2021). COVID-19 Enforced Shift to Distance Education: Readiness and Challenges. Journal of Education and e-Learning Research, 8(3): 349-359.
History:
Received: 23 June 2021
Revised: 27 July 2021
Accepted: 20 August 2021
Published: 16 September 2021

Publisher: Asian Online Journal Publishing Group

Acknowledgement: All authors contributed to the conception and design of the study.
Funding: This publication was supported by Qatar university Internal Grant No. "QUST-1-CED-2021-5". The findings achieved herein are solely the responsibility of the author[s].
Competing Interests: The authors declare that they have no conflict of interests.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study was reported; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained.
Ethical: This study follows all ethical practices during writing.

Contents

Contribution of this paper to the literature

This study is significant for three reasons. It is the first study that explores the readiness and challenges of both university faculty members and students regarding distance learning and teaching during the COVID-19 crisis. Second, by using a mixed approach, the study has gained a wider perspective in exploring the phenomenon under investigation. Finally, this study is significant for the comparative perspective it offers by contrasting samples from two Arab countries – Qatar and Jordan.

1. Introduction

Although the world was arguably not ready to trade face-to-face learning for any other form of education (Ulmer, Watson, and Derby (2007), COVID-19 changed the rules and confronted the world with extraordinary and controversial decisions. Had educational institutions around the world not switched to distance learning within weeks of the outbreak of the pandemic (Demuyakor, 2020), students would have suffered adverse consequences brought about by schools' decision to close their doors in response to the sweep of the pandemic (Marinoni, Land, & Jensen, 2020). COVID-19, and its devastating consequences, represented a wake-up call for educational institutions around the world. Prior to COVID-19, educational systems generally encouraged instructors to use as much technology as would best serve their teaching; however, it was the instructor's call to decide to what extent to embed technology in his or her instruction; a decision that depended on factors including the attitudes, beliefs and skills of the instructor (Buabeng-Andoh, 2012). Such factors would mirror the instructor's familiarity with and confidence in using technology.

Whereas some countries chose to stop teaching during the spread of this pandemic, other countries chose to continue by implementing an immediate shift to distance learning. Such educational institutions took the leap by counting on their faculty members, staff and infrastructure to make the shift possible. While some countries chose to shut down all institutions in order to reduce human contact, others chose to remain open, putting the concept of 'herd immunity' into practice (Crawford et al., 2020).The different scenarios chosen to face the pandemic were subject to trial and error. Both Qatar and Jordan, the countries where the authors currently reside, took the decision to continue delivering education services by shifting to distance education (Qatar University, 2021).

Qatar University (QU) decided to continue to deliver its education services during the pandemic by moving all classes to the Blackboard learning management system. The transition to distance education took place without any major disturbances. QU has a strong and well-established infrastructure that allowed such a shift, along with a well-prepared faculty and staff who managed the move proficiently. It is worth mentioning that the Center for Excellence in Teaching and Learning (CETL), which provides continuing professional development services and tools to QU academic personnel in order to address faculty needs of curriculum enhancement and creativity for high-quality education, provides tremendous support and professional development to its faculty members during regular semesters (CETL, 2021); however, QU intensified those efforts during the pandemic.

As for the University of Jordan (UJ), it decided to continue learning and teaching throughout the pandemic using the Learning Management System (LMS) Moodle. The transition to distance education went smoothly because students and faculty had been using Moodle during blended learning in many academic courses and programs during the last three years. In addition to the training workshops that UJ had already provided its employees with through (Accreditation and Quality Assurance Center (AQAC), 2018) to sustain blended learning, there were intensified efforts during the pandemic to support distance learning.

For the purpose of this study, it is important to note that distance education is here defined as postsecondary and credit bearing coursework completely delivered through online courses via an LMS such as Blackboard or Moodle (Kebritchi, Lipschuetz, & Santiague, 2017). According to Kanwar and Daniel (2020), distance education is a process of learning and teaching based on the separation of the instructor and the learner in time and space, delivered through the mediation of technology with the possibility of face-to-face interaction (Kanwar and Daniel (2020).

Hence, the objective of this study was to explore the readiness of the university instructors and students and the challenges they experienced during the COVID-19 pandemic crisis. Using a questionnaire and an interview especially developed for this purpose, the researchers aimed to answer the following four questions:

1. What are the indicators of university instructors and students' readiness to teach and learn remotely during the COVID-19 pandemic?
2. Are there any statistically significant differences ($p \geq 0.05$) between mean responses of university instructors and students regarding the indicators of their readiness to teach and learn remotely during the COVID-19 pandemic that can be attributed to country (Qatar, Jordan), age, gender, subject/major, experience/year in program and number of online courses before the COVID-19 pandemic?
3. What are the challenges that university instructors and students face while teaching and learning remotely during the COVID-19 pandemic?
4. Are there any statistically significant differences ($p \geq 0.05$) between mean responses of university instructors and students regarding the challenges they face while teaching and learning remotely during the COVID-19 pandemic that can be attributed to country (Qatar, Jordan), age, gender, subject/major, experience/year in program and number of online courses before the COVID-19 pandemic?

This study expects to make a significant contribution in three ways. First, it examines the readiness of and challenges faced by Higher Education institutions during an unexpected crisis. Second, this research raises awareness about distance learning in Higher Education settings. Third, the findings of this study would serve future research on Higher Education preparedness for similar unexpected circumstances.

The current study was limited to an investigation of the university instructors and students' readiness and the challenges they have experienced during the COVID-19 pandemic crisis. Further, it was limited to a representative sample of the university instructors and students selected from QU in Doha, Qatar and UJ in Amman, Jordan, in the second semester of the academic year 2020-2021. The findings of this study were determined by the psychometric properties of the study instruments and the objectivity of the study sample.

2. Literature Review

Although the previous literature on distance education is extensive and demonstrates that scholars have approached the topic from a variety of perspectives, the literature that is relevant to this study is that which addresses two domains: the readiness of instructors and students and the challenges they experience.

Regarding readiness, Neupane, Sharma, and Joshi (2020) revealed that the majority of students were prepared to participate effectively in online classes during the COVID-19 pandemic, and they had adequate internet access at home. Although the study did not report any significant differences regarding readiness for online classes due to the nature of the student's academic program or their year in the program, gender appeared as a factor in favor of female students. On the other hand, Chang and Fang (2020) indicated that instructors were in favor of traditional teaching at the expense of online education; the researchers linked that attitude to poor readiness, which manifested itself in instructors' low skill levels in managing computer and internet related tasks.

In fact, the literature identifies several indicators of distance education readiness; these indicators are: (1) adequate ICT infrastructure, including devices, applications and technological skills (Adnan & Anwar, 2020; Ali, 2020; Kapasia et al., 2020); (2) ability to manage study time effectively (Adnan & Anwar, 2020); (3) continuous development of the online learning protocol (Bao, 2020; Iau & Esn, 2020; Kapasia et al., 2020; Slimi, 2020); (4) adopting best practices (Slimi, 2020); (5) ensuring respect, equal opportunity and equity (Mohalik & Sahoo, 2020; Osman, 2020; Slimi, 2020); (6) understanding and applying educational philosophies and strategies that promote the management of online classes (Ananga, 2020; Bao, 2020); (7) and conducting continuous training and workshops to enhance new technological skills needed to use the various platforms (Mohalik & Sahoo, 2020; Reyes-Chua et al., 2020). In their study, Küsel, Martin, and Markic (2020) emphasized the need for Higher Education institutions to meet the digital infrastructure requirements in order for digital media to be used didactically and to meaningfully increase the level of readiness.

Concerning the challenges, some studies reported a lack of technical skills as a problem, as well as a lack of devices and applications, and issues in using the online learning platforms and internet access (Alam, 2020; Almaiah, Al-Khasawneh, & Althunibat, 2020; Baticulon et al., 2020; Demuyakor, 2020; Ghory & Ghafory, 2021; Marinoni et al., 2020; Reyes-Chua et al., 2020; Sambo, Bello, & Sule, 2021; Slimi, 2020). Other studies reported challenges in accommodating students' learning styles and concerns, and physical and mental health issues (Baticulon et al., 2020), attending to cultural concerns (Almaiah et al., 2020) or psychological issues such as anxiety, loneliness, and homesickness (Ananga, 2020; Baticulon et al., 2020; Hasan & Bao, 2020; Iau & Esn, 2020; Slimi, 2020). Other studies pointed out challenges linked to the environment; for example, limited or unsuitable space to study, responsibilities in the home, family tensions (Baticulon et al., 2020) and lack of ability to work under pressure (Slimi, 2020) were among the most prominent concerns.

Research has also identified challenges relating to a lack of teachers' and students' intergroup and intragroup communications, a lack of up-to-date teaching methods, and a lack of quality learning materials (Almaiah et al., 2020; Alturise, 2020; Marinoni et al., 2020). Other studies have identified other types of challenges linked to the wider community, such as sociopolitical worries, issues of power interruptions, community lockdowns, mobility restrictions (Baticulon et al., 2020; Marinoni et al., 2020) and cultural issues (Slimi, 2020).

This study is significant for three reasons. First, it is, to the researchers' best knowledge, the first study that explores the readiness and challenges of both university faculty members and students regarding distance learning and teaching during the COVID-19 crisis. Second, by using a mixed approach, the study has gained a wider perspective in exploring the phenomenon under investigation. Finally, this study is significant for the comparative perspective it offers by contrasting samples from two Arab countries – Qatar and Jordan.

3. Theoretical Framework

To recognize how learning and teaching can be effective in distance environments and settings, this study builds on the notions and assumptions of Holmberg (1983) and Holmberg (1989). Holmberg (1989) claims that his ideas about distance learning – the foundations for his theory – can explain and relate the effectiveness of teaching to the influence of feelings about cooperation, belonging and readiness to conduct discussions and exchange questions and answers through various means of communication. Holmberg's theory is founded on the concepts of independence, learning and teaching. Learning is facilitated by meaning; therefore, education should focus on embedding new learning within cognitive structures, rather than on rote learning. Furthermore, teachers should allow learners to express their individuality in their learning, encourage them to think critically, and enhance their independence on the long run. Explaining his theoretical approach, Holmberg (1989) says:

> Distance education is a concept that covers learning and teaching activities in the cognitive and/or psychomotor and emotional domains of the individual learner and the supportive organization. It is characterized by uninterrupted communication and can be done anywhere and at any time, which makes it attractive to adults with professional and social obligations (Holmberg, 1989).

Holmberg (1983) and Holmberg (1995) framed the "theory of interaction and communication" in distance learning around seven basic assumptions and principles. Those ground rules are: (1) teaching is a mutual interaction between teachers and learners, (2) the pleasure of learning increases when the participants in the learning and teaching process involve emotion and feelings in active interactions during the educational process, (3) motivation facilitates learning, (4) the motivation to learn increases when it is enjoyable, (5) the learner's participation in learning decisions enhances their motivation, (6) designing learning in line with the cognitive content will enhance the learner's motivation to learn and increase the fun of learning, and (7) students' learning of what was taught is evidence of the effectiveness of teaching. These tenets have guided the current study. Specifically, they have helped the researchers to conceptualize the research problem and interpret the findings.

4. Methodology

The main goal of the study is to explore the university instructors and students' readiness for and the challenges they have faced during the sudden shift to distance education due to the COVID-19 crisis. The study

followed a mixed method that made use of a questionnaire and an interview as the main tools for data collection, a method that should grant the study higher confidence and strengthen its findings (Abu Allam, 2013).

4.1. Study Population

The population of the study included all instructors and undergraduate students at both Qatar University and the University of Jordan during the academic year 2020-2021, the numbers of which are provided in Table 1.

Table-1. Distribution of the population according to the University.

	Number of instructors and students in different University		Total
	Qatar University*	University of Jordan**	
Instructors	1054	1578	2632
Undergraduate students	21258	39991	61249
Total	22312	41569	63881

Source: * Qatar University (2021) **Abdullah (2021).

4.2. Study Sample

The sample of the study consisted of (230) instructors and (551) undergraduate students from the two universities randomly selected as respondents for the questionnaires. From the participating sample, (18) instructors and (38) students were randomly selected to participate in an online interview. Details of the participants are provided in Table 2.

Table-2. Instructors and students sample distribution according to the variables.

Variables	Category	Instructors		Category	Students	
		Frequency	Percent		Frequency	Percent
Age	Below 30	27	11.7%	17-20	253	45.8%
	30-40	38	16.5%	21-24	208	37.7%
	40-50	90	39.1%	25 and above	91	16.5%
	50 and above	75	32.6%			
Gender	Female	105	45.75%	Female	441	79.9%
	Male	125	54.35%	Male	111	20.1%
Country	Qatar	63	27.45%	Qatar	203	36.85
	Jordan	167	72.65%	Jordan	349	63.2%
Subjects / Major	Sciences	88	38.3%	Sciences	277	50.2%
	Humanities	142	61.7%	Humanities	275	49.8%
Teaching experience / Year in program	1-5	44	19.1%	1	117	21.2%
	6-10	32	13.9%	2	147	26.6%
	11-15	57	24.8%	3	152	27.5%
	16-20	33	14.3%	4	89	16.1%
	more than 20	64	27.8%	5	31	5.6%
				6	3	.5%
				More than 6	13	2.4%
Number of online or blended classes before COVID-19	None	86	37.4%	None	191	34.6%
	1-3	63	27.4%	1-3	89	16.1%
	4-6	42	18.3%	4-6	82	14.9%
	More than 6	39	17.0%	More than 6	190	34.4%

4.3. Instrumentation

In order to investigate the instructors and students' readiness and challenges, the researchers prepared two questionnaires based on the available literature (Chang & Fang, 2020; Cutri, Mena, & Whiting, 2020; Guillasper, Soriano, & Oducado, 2020; Yu, 2018). The first questionnaire targeted the instructors at each university and the second targeted the undergraduate students. Each questionnaire consisted of two sections: 1) the participant's demographics and 2) their readiness and challenges. For the demographics, the survey included age, gender, country, school subject/major, experience/years in program and number of online or blended classes they had taught/taken prior to the COVID-19 pandemic. While the students' questionnaire contained 15 items about readiness and 17 about challenges, the instructors' questionnaire contained 19 and 17 respectively.

A group of specialists in the field of Curriculum and Instruction reviewed the tools and approved their validity, accuracy and appropriateness. The internal consistency was tested, and both questionnaires enjoyed a positive and statistically significant Pearson Coefficient (p= 0.01). For reliability, Cronbach's Alpha was calculated, yielding a coefficient of (0.895) for instructors' readiness and (0.919) for instructors' challenges, while it yielded a coefficient of (0.906) for students' readiness and (0.951) for students' challenges.

This study also made use of an interview to obtain a more accurate and in-depth qualitative understanding following the quantitative findings. To conduct and analyze the interviews, the researchers used grand and mini-tour questions as described by Spradley (1979). While the grand tour questions dealt with the study objectives to ensure an overview of the context of the study, the mini-tour questions were follow-up questions that came up spontaneously to obtain further explanation and deeper understanding. The average length of each interview was 15 minutes.

4.4. Data Collection and Analysis

In the first phase of data collection, the researchers designed the questionnaires electronically using Microsoft Forms and distributed them to instructors and students via e-mail. The second phase of data collection focused on the online interviews, where key ideas, recurring topics and additional questions were identified. All interviews were recorded using a digital audio recorder.

The Statistical Analysis Program (SPSS, 27) was used to analyze the data obtained via the questionnaires. Each response was assigned a sequential identification number, then audited and coded. The researchers personally processed the data, setting the statistical significance for all statistical tests at (0.05). The participants' responses were categorized into five levels as shown in Table 3.

Table-3. Participants' responses categories.

Description	Averages
Strongly Agree	5.00 – 4.21
Agree	4.20 – 3.41
Neutral	3.40 – 2.61
Disagree	2.60 – 1.81
Strongly Disagree	1.80 – 1.00

The researchers analyzed the qualitative data collected from the interviews using the thematic analysis technique. Thematic analysis consists of three steps, namely: familiarization with the data, searching for themes, and defining and naming themes (Creswell, 1998; Spradley, 1979). The researchers integrated the emerging themes with the results gleaned from the questionnaires to find explanations and answers to the research questions.

5. Results and Discussion

5.1. Readiness of University Instructors and Students to Teach and Learn Remotely During COVID-19 Pandemic

To answer the first question – what are the indicators of university instructors and students' readiness to teach and learn remotely during the COVID-19 pandemic – means and standard deviations were calculated. Table 4 shows that the instructors' responses ranged between (M = 4.10, SD = .730) and (M = 3.17, SD = 1.141), while the overall mean average was (M = 3.91). The mean responses of the students ranged between (M = 3.95, SD = .1.049) and (M = 3.11, SD = 1.356), while the overall mean average was (M = 3.60). These results clearly indicate that both instructors and students felt that they were at an acceptable level of readiness to teach and learn remotely when faced with the necessity to do so during the COVID-19 pandemic.

Table-4. The readiness of instructors and students to teach and learn remotely during the COVID-19 pandemic.

Items	Instructors			Students		
	Order	Mean	S.D	Order	Mean	S.D
Socially interact with others with respect.	4	4.07	0.867	1	3.95	1.049
I clearly ask my instructor questions.	2	4.10	0.730	3	3.81	0.976
I am proficient in using a wide variety of technological applications, tools and devices.	10	3.96	0.850	2	3.85	0.970
I can seek help from instructors when needed.	7	4.00	0.709	4	3.76	1.015
I can initiate discussions with the instructors.	3	4.08	0.728	6	3.65	1.076
I am able to express my opinion in writing so that others understand what I mean.	8	4.00	0.849	5	3.70	1.097
I have the ability to adapt to learning environments I am not used to.	1	4.10	0.702	10	3.53	1.159
I give constructive and proactive feedback to others even when I disagree.	6	4.02	0.738	9	3.56	1.012
I am competent at integrating technological applications, tools and devices into my learning activities.	12	3.88	0.931	7	3.59	1.082
I have strategies to help manage any fears and concerns I might have when I learn outside of my regular mode of delivery.	8	3.99	0.762	12	3.49	1.026
I can imagine myself trying new learning technologies in my class before I personally have fully mastered them.	13	3.86	0.819	8	3.58	1.083
I have a sense of self-confidence in using technological applications, tools and devices to achieve my learning goals.	15	3.83	1.043	11	3.52	1.208
I pay attention to others' social actions.	14	3.86	0.831	13	3.33	1.139
I am motivated to get more involved in learning activities when using technological applications, tools and devices.	17	3.79	0.963	14	3.28	1.241
I can develop friendships with my classmates.	11	3.91	0.892	15	3.11	1.356
I feel prepared to attend to students in an online setting who are having difficult times in their lives.	15	4.05	0.794			
I am interested in learning from experts in distance teaching to transition my course and content to an online format	16	3.79	0.934			
I can imagine creating new methods of teaching that utilize the affordances of distance teaching.	18	3.77	0.875			
I have not yet established a comfortable way for teaching online.	19	3.17	1.141			
		3.91	0.86		3.60	1.11

These results are consistent with those of Neupane et al. (2020) who found that the majority of students were prepared to participate successfully in online classes during the COVID-19 pandemic. However, these results contradict the results of the qualitative data, which showed a significant variation ranging from good to poor readiness. The interviewed sample of faculty and students from QU and UJ confirmed this disparity. In terms of students' readiness for and rapid adaptation to the shift to distance learning, the qualitative findings revealed a wide range of answers. Some students from both universities noted that their preparedness level for the switch to distance learning was very good. For example, a student from Qatar University said: "My preparation, as well as

the preparation of my colleagues, was fairly good, and we were able to adapt quickly." On the other hand, a student from the University of Jordan said: "The readiness was 100%; everyone was ready. Students must adapt under these circumstances; it is not a matter of choice." In contrast, others said that the readiness was weak and almost non-existent. One QU student said: "Students were never ready to shift to distance learning, but the pandemic forced them to do so. Students at all levels had no previous experience with the sites, so it took a while for them to adapt." While a few students pointed out that the readiness was average and varied among students; one student said: "It can be said, based on my simple knowledge, that the students in this regard are divided into two teams; one that is well prepared to deal with the distance learning system, and another that is not ready and who even reject this system."

With regard to the readiness of the faculty, the findings revealed differences between instructors at QU and UJ. All faculty members at QU asserted their readiness to shift toward distance learning; however, their views differed when speaking about their students' readiness to shift to remote learning. While some considered the students ready and empowered, other faculty members thought that they were not prepared for this sudden shift. For example, one faculty member noted: "Everyone was fully prepared to transform; the technology and programs used at QU during distance learning are not new to us, and the faculty was highly prepared for this transformation." Another added: "The university and the faculty were well prepared, although that might not have been the case for the students." On the other hand, the faculty at UJ did not have the same level of readiness, as expressed by the participants when saying: "I am very poorly prepared for this transformation in all its aspects and at all levels." Others indicated that the students were not ready for this transformation either; one faculty member said: "Neither the faculty nor the students or even the university were ready for such a shift in any way."

The disparity between the two campuses was also evident in their management of the educational process and their quick response to the problems that emerged during the pandemic. Both the faculty members and the students at QU agreed that their university had shown its ability to manage the situation and organize the educational process. One teacher said: "QU was highly organized during this period and provided a lot of support and workshops to help the students and instructors during the pandemic." Another added: "QU management and organization were wonderful, and they should be credited for that."

On the other hand, both the faculty and the students at UJ criticized UJ's poor management of the educational process during the COVID-19 pandemic. One instructor described UJ's readiness, saying: "Management and organization were poor and very much lacking; the university was never ready to manage the transition and had no ability to deal with distance learning." Similarly, one student said: "The university displayed poor management and was not ready to organize the process of remote learning."

Differences were also apparent in the willingness of faculty members to adjust and modify their teaching methods to accommodate the shift to distance education. Some students from both universities believed that instructors showed a weakness in adapting their teaching to suit the COVID-19 crisis. "Instructors learned how to use the electronic programs quickly, but the problem of their teaching methods remained; they were not suitable for distance learning," said one student at UJ. Another QU student said: "The way instructors are used to teaching us is useful for face-to-face not distance learning." On the other hand, we found other QU students who believed that the QU faculty did change their teaching methods after a short period of time to adapt to the new circumstances enforced by COVID-19. For example, one student said: "After a short time, we noticed that our instructor changed the way he presented lectures and used new and more appropriate methods and motivated us to learn remotely." Another student said: "Instructors had previous experience in dealing with electronic programs, which helped them learn strategies that fit the shift to distance learning, or at least made attempts to do so."

5.2. Readiness Indicators-Related Variables

To answer the second question – are there any statistically significant differences ($p \geq 0.05$) between the mean responses of university instructors and students regarding the indicators of their readiness to teach and learn remotely during the COVID-19 pandemic that can be attributed to country (Qatar, Jordan), age, gender, subject/ major, experience/year in program and number of online courses before the COVID-19 pandemic? – the researchers used a one-way ANOVA analysis. The results are presented in Table 5.

Table-5. Differences in instructors and students' responses due to different variables.

		Instructors					Students				
		Sum of Squares	df	Mean Square	F	Sig.	Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	1.581	3	0.527	1.016	0.387	2.220	2	1.110	1.918	0.148
	Within Groups	117.255	226	0.519			317.758	549	0.579		
	Total	118.836	229				319.978	551			
Gender	Between Groups	.656	1	0.656	1.266	0.262	1.636	1	1.636	2.827	0.093
	Within Groups	118.180	228	0.518			318.341	550	0.579		
	Total	118.836	229				319.978	551			
Country	Between Groups	.655	1	0.655	1.263	0.262	0.503	1	0.503	0.866	0.352
	Within Groups	118.181	228	0.518			319.475	550	0.581		
	Total	118.836	229				319.978	551			
Subject	Between Groups	1.858	1	1.858	3.622	0.058	0.798	1	0.798	1.375	0.241
	Within Groups	116.978	228	0.513			319.180	550	0.580		
	Total	118.836	229				319.978	551			
year	Between Groups	1.881	4	0.470	.904	0.462	0.798	1	0.798	1.375	0.241
	Within Groups	116.955	225	0.520			319.180	550	0.580		
	Total	118.836	229				319.978	551			
Courses	Between Groups	2.103	3	0.701	1.357	0.257	4.158	3	1.386	2.405	0.067
	Within Groups	116.733	226	0.517			315.819	548	0.576		
	Total	118.836	229				319.978	551			

Note: * Statistically significant at $\alpha = 0.05$.

Table 5 demonstrates that there are no statistically significant differences ($\alpha = 0.05$) in teacher and student responses related to readiness to teach and learn remotely during the COVID-19 pandemic pertinent to any of the variables (country, age, gender, specialization, years of experience/year in the program, and the number of online training courses before the COVID-19 pandemic). This outcome differs from that of Neupane et al. (2020) who found significant differences in students' willingness to learn remotely according to their gender, with female students being more open to remote learning. In addition, Küsel et al. (2020) reported that students' readiness could be influenced by gender, ethnicity, class and the nature of society. In the current study, the lack of significant differences between the variables could be attributed to the sudden shift itself, which was the result of a virus that attacked each part of society equally. However, other studies in the near future might show different results for these same variables or might address even more variables.

The interviewees, in contrast, expressed that they did feel there were differences between groups. Some faculty members at both universities noted that students in scientific disciplines were more capable of dealing with technology and therefore were more open to the shift to distance learning. The feedback from the interviews indicated that area of specialization had an impact on the readiness of faculty members; for example, one faculty member said: "Scientific disciplines help in the process of preparing for future changes and ensuring continued learning, student follow-up, technology use and computer skills." As for the teachers' years of experience/students' school years, the responses varied. While some instructors argued that teachers with more years of experience were more willing to shift and adapt their teaching strategies, others believed that instructors with fewer years of experience were more capable of adapting and changing. One instructor said: "Experience may play a negative role, not a positive one; the novice is sometimes better than the experienced."

The respondents also varied in their opinions regarding the impact of students' school year on their willingness to learn remotely. Some believed that freshmen were more open to change and more interested and interactive in the learning process. One instructor said: "Freshmen are more ready because they are more interested and more interactive, while seniors toward the end of their program tend to feel more bored." On the other hand, some would argue that more years means more preparedness because they are more self-reliant and can deal with decisions by themselves. "Seniors are more willing, of course, because they can deal with the subject independently, while freshmen have no knowledge of how to deal with courses, teachers and university systems," said one instructor. Küsel et al. (2020) indicated that successful distance learning requires active communication and participation in an interactive online learning environment, which helps to improve students' responsibility, critical thinking and self-learning. Other faculty members at both universities believed that the years of experience/school year, as well as specialization, had no impact on students' readiness; they believed the real and greater impact was due to the number of courses taught remotely, because such courses would have given students the ability to adapt quickly to distance learning. For example, one of faculty member said, "the school year or specialization has no effect, but using these programs before the pandemic affects their readiness." Having said that, the aforementioned results from the interviews differ from those found by Neupane et al. (2020), who claimed that school year and specialization had no effect on the willingness of students and faculty to change.

5.3. Challenges Faced by University Instructors and Students during the COVID-19 Pandemic

The third question of this study– what are the challenges that university instructors and students face while teaching and learning remotely during the COVID-19 pandemic? – was addressed through an analysis of both the quantitative and qualitative data. Means and standard deviations were first calculated, as shown in Table 6.

Table-6. Challenges that university instructors and students face while teaching and learning remotely during the COVID-19 pandemic.

Items	Instructors			Students		
	Order	Mean	S.D	Order	Mean	S.D
Distance instruction includes insufficient student participation.	1	4.04	0.884	1	3.89	1.090
Learning evaluation method is not suitable for distance instruction.	2	3.97	0.889	2	3.83	1.116
Students' attitude and enthusiasm for learning are insufficient.	4	3.77	0.936	6	3.67	1.361
Distance instruction includes insufficient support for students' learning space environment and equipment.	3	3.80	0.971	10	3.63	1.151
University policy support for distance instruction is insufficient.	10	3.70	0.949	3	3.71	1.068
Students lack the learning skills to deal with platforms and other tools.	11	3.69	1.017	4	3.70	1.107
Learning space environment and terminal equipment support for students are insufficient.	7	3.74	0.976	8	3.64	1.149
Students' autonomous learning ability is weak, and students do not form good habits of distance learning.	5	3.75	0.842	12	3.61	1.112
Opportunities for collaboration with peers in distance courses are fewer.	13	3.67	0.966	5	3.68	1.241
Distance learning resources are insufficient for supporting courses.	9	3.70	0.961	7	3.64	1.202
Distance technical support is insufficient.	12	3.68	1.055	9	3.64	1.115
Classroom teaching order is poor.	6	3.75	0.975	14	3.57	1.245
It is challenging to maintain connections with teachers.	14	3.64	0.989	11	3.63	1.159
Learning strategies and learning methods are not suitable for distance instruction.	15	3.60	0.977	13	3.57	1.163
Learning platforms are imperfect and are unstable.	16	3.48	0.969	15	3.46	1.172
Distance instruction includes no course assistant or insufficient quantity.	8	3.73	0.921	16	3.45	1.092
Distance instruction includes some teaching content that is not suitable for distance instruction.	17	3.38	0.960	17	3.45	1.181
		3.71	0.96		3.63	1.16

Table 6 shows that instructors' responses ranged between (M= 4.04, SD= .884) and (M= 3.38, SD=.96), while the overall mean average was (M= 3.71). For the students, the mean responses ranged between (M= 3.89, SD= .1.090) and (M= 3.45, SD=1.181), while the overall mean average was (M= 3.63). That said, the findings clearly

indicate both instructors and students faced some challenges in transitioning to distance learning during the COVID-19 pandemic. These results indicate that instructors and students in two separate countries felt that the most pressing issues were: low student engagement, challenging assessment, and ambiguous guidance on how to effectively deal with this style of teaching.

These results are in line with the participants' qualitative responses; instructors and students at both universities were in agreement on the challenges they faced during distance learning. Courses of a practical nature presented more challenges, such as courses that included lab works and experiments. Both instructors and students were against treating such courses as if they were theoretical; and the problem in medicine-related fields was arguably even greater. For example, one student at the Faculty of Medicine described these challenges by saying: "It is not logical to turn practical laboratories in our specialty into a theoretical subject; can you imagine visiting a doctor who did not receive real training during his studies?" Another student from one of the scientific colleges added: "Scientific fields need to be practical and carried out face-to-face; there are skills that we must learn." Another student from the Humanities added: "I am a student teacher; a very important class that requires application in the field, and remote delivery is not useful at all. This was one of the biggest challenges for us, and we couldn't overcome it." "We had great difficulties covering the practical parts of the subject," said another student teacher.

Respondents also referred to challenges related to their access to the right technological tools and devices to facilitate the interaction between instructors and students. Some students expressed having difficulties securing their own computer devices, especially if more than one member of the family needed to access a class at the same time; they also reported difficulties with internet access. "One of the difficulties we faced, and which really was a challenge, was the cost of the internet," said one student at QU. Another student said: "There were extra expenses; for example, I had to buy a personal computer for me and my brother because it was difficult to share the same device." The previous literature reports similar challenges (Alam, 2020; Almaiah et al., 2020; Baticulon et al., 2020; Demuyakor, 2020; Marinoni et al., 2020; Reyes-Chua et al., 2020; Slimi, 2020).

The instructors in turn also pointed out that they faced similar financial challenges. In addition to the cost of the internet, there were costs associated with securing electronic supplies, such as the special electronic pens and screens needed to deliver content clearly in certain courses, or courses or workshops to assist in adapting teaching strategies to distance education. However, this latest challenge was limited to instructors at UJ only, as QU instructors indicated that QU provided them with all the workshops, courses and materials on the university's educational platform free of charge. "The university should have borne at least part of the instructors' financial burden, like the internet, tools and devices needed to facilitate the teaching-learning process for students," said one instructor at UJ. Another instructor stated: "The instructor bears an additional financial burden to cover the costs of courses and workshops that contribute to his development in distance education; otherwise, he continues in the traditional way that does not suit the current situation." On the other hand, one instructor at QU said, "the University has provided a lot of support, like holding a series of free workshops to enhance the skills of all faculty members, making different software available on its platforms, and providing us with electronic tools when required," said an instructor at QU. Similar challenges were also reported by Küsel et al. (2020), who urged educational institutions to provide teachers with professional development and support in using digital media. When it comes to technology, there was a consensus among instructors as well as students that this was their major concern and their biggest challenge during the crisis. For example, one student said: "We had problems with the Internet that prevented access to lectures or caused confusion during the lecture." One instructor added: "The interruption or instability of the internet at some students' homes was a challenge, so students would exit and return which resulted in confusion for both the instructor and the student." Some of the students phrased their challenges in terms of the required effort and time; students noted that during the pandemic increased time and effort were required to understand the subjects, and even tasks and assignments doubled in difficulty during distance learning. Instructors also reported having difficulties finding the time to adapt their courses to suit distance education, while trying to finish their courses on time and maintain quality education. "The distance lecture requires double the time compared to the traditional," explained one instructor.

Students at both universities mentioned challenges related to focus and distraction. This was a particular challenge for those in large families, where finding a quiet place or a room to study was difficult. Another reason for lack of focus could be linked to instructors not using appropriate strategies in distance education, or because of poor communication between instructors and students. For example, one student said, "The challenge is to resist distraction and lack of concentration because there is no proper environment inside the house." Another said: "The challenge is to stay attentive during class time." Another added: "I am having difficulty communicating with instructors and colleagues, answering questions and taking part in discussions, which negatively affects my motivation to learn, my focus and comprehension." Küsel et al. (2020) confirm that teachers' reliance on lecturing makes online teaching boring and less attractive.

The final concern that emerged from the interviews was that both students and instructors reported assessment to be a challenge. Students felt that their assessment methods were unfair; tests were extremely difficult, and their strict procedures increased the amount of pressure on students, while at the same time not adequately controlling cheating. For example, one student said, "As a senior student, there are many difficulties because the final tests have been replaced with other assignments which increased the costs and the pressure significantly." Another added: "I did not get the grade that I deserve because the majority cheated and took full marks." On the other hand, instructors believe that the exams and the evaluation methods enforced during the pandemic limited their evaluation options and methods, which resulted in some students cheating. Therefore, the evaluation could no longer provide an accurate judgement of students' performance. One instructor commented on this saying, "Conducting tests the way the university required confined our evaluation options and resulted in a flat image of our students."

In summary, the difficulties the participants encountered during distance learning were of several types. Issues with practical and field experience in labs and practical classes, psychological issues, curriculum delivery, technological difficulties, the commitment and time expended on distance learning/schooling, and struggles with the ability to concentrate and comprehend during distance learning. These findings are consistent with previous

studies (Alam, 2020; Almaiah et al., 2020; Baticulon et al., 2020; Crawford et al., 2020; Demuyakor, 2020; Marinoni et al., 2020; Reyes-Chua et al., 2020; Slimi, 2020) that identified similar challenges, such as a lack of technical skills, a lack of devices and applications, and issues related to access.

5.4. Challenges Indicators-Related Variables

The fourth question investigated whether there were any statistically significant differences ($p \geq 0.05$) between the mean responses of university instructors and students regarding the challenges they faced while teaching and learning remotely during the COVID-19 pandemic that could be attributed to country (Qatar, Jordan), age, gender, subject/major, experience/year in program and number of online courses before the COVID-19 pandemic. Table 7 presents the results.

Table-7. Differences in instructors and students' responses due to different variables.

		Instructors						Students					
		Sum of Squares	df	Mean Square	F	Sig.	η2	Sum of Squares	df	Mean Square	F	Sig.	η2
Age	Between Groups	1.290	3	0.430	0.669	0.572		63.174	2	31.587	33.503	0.000	0.12
	Within Groups	144.601	225	0.643				517.606	549	0.943			
	Total	145.891	228					580.781	551				
Gender	Between Groups	0.242	1	0.242	0.377	0.540		11.883	1	11.883	11.488	0.001	0.02
	Within Groups	145.649	227	0.642				568.898	550	1.034			
	Total	145.891	228					580.781	551				
Country	Between Groups	10.005	1	10.005	16.714	0.000	0.07	70.869	1	70.869	76.440	0.000	0.12
	Within Groups	135.886	227	0.599				509.912	550	0.927			
	Total	145.891	228					580.781	551				
Subject	Between Groups	0.021	1	0.021	0.033	0.855		3.027	1	3.027	2.881	0.090	
	Within Groups	145.869	227	0.643				577.754	550	1.050			
	Total	145.891	228					580.781	551				
Year	Between Groups	2.938	4	0.734	1.151	0.334		3.027	1	3.027	2.881	0.090	
	Within Groups	142.953	224	0.638				577.754	550	1.050			
	Total	145.891	228					580.781	551				
Courses	Between Groups	1.278	3	0.426	0.663	0.576		9.026	3	3.009	2.884	0.035	0.02
	Within Groups	144.612	225	0.643				571.755	548	1.043			
	Total	145.891	228					580.781	551				

As Table 7 shows, neither subject/major nor experience/year in program has a statistically significant effect ($p > 0.05$) on the instructors' and students' responses regarding the challenges they face while teaching and learning remotely during the COVID-19 pandemic. However, concerning the country, the results were statistically significant for both instructors and students. The variables of age, gender and previous online courses displayed statistically significant results for students only. The effect size of the variables was statistically significant, showing that differences in these variables affected the degree of challenge students faced. According to Cohen's guidelines (Gignac & Szodorai, 2016), the results of the effect size measurements in Table 7 would be deemed large for the variables of age and country. Each of these variables displayed the same effectiveness, which means that 12% of the challenges relate to the students' age, and 12% relate to the country. In contrast, the effect size for instructors was medium; 7% of the instructors' challenges relate to the country. Regarding gender and the number of online courses prior to COVID-19, the results of the effect size measurement were small. Both variables displayed the same effect size, meaning that 2% of the challenges relate to student gender and 2% to the number of online courses before COVID-19.

Regarding the two variables age and number of online courses prior to COVID-19, which have unequal group elements for unplanned comparison, the researchers used the Scheffe test for age and Tukey to determine differences between groups. For gender and country, differences in the degree of challenge were spotted between males and females for gender, and between Jordan and Qatar for country. Therefore, the researchers conducted a t-test to uncover the difference between the two averages of the groups for these variables. Table 8 shows the results.

As the results in Table 8 show, the degree of challenge faced by students varies in favor of males, while it varies in favor of UJ for both students and instructors. Post hoc results show statistically significant differences between the responses of the participants regarding the degree of challenge in favor of students of more than 25 years old. It also shows statistically significant differences in favor of the students who took 4-6 online courses before COVID-19, compared to those who took 1-3 online courses or those who had not taken any online courses before.

The qualitative results of the interviews, however, contradicted the above results in terms of the impact of age and gender. The results of the interviews showed a variation in the opinions of the participants; some agreed that the school year had an impact on the challenges they faced, arguing that freshmen face many challenges due to their lack of knowledge on the nature of the subjects, tasks and assignments. On the other hand, other students pointed out that the challenges faced by students in advanced courses might be greater because they need to delve deeper into the subjects and skills. In addition, this group of students would most likely be expecting to take part in fieldwork, the lack of which is considered one of their biggest challenges in this context. Quantitative and

qualitative data were in agreement with regard to the number of prior distance learning courses as a factor in the degree of challenge faced by students and instructors. In addition, the results of the interviews confirmed that the main factor that affects the challenge students and instructors face is their ability to deal with software and electronic devices and use them effectively in distance learning. Students or teachers who have the ability and the experience to deal with those tools face fewer challenges than those who lack that ability and experience.

Table-8. Post hoc and T-test results.

				Instructors	Students
Type of test	**Variables**	**I**	**J**	**Mean Difference (I-J)**	**Mean Difference (I-J)**
Post hoc Scheffe	Age	17-20	21-24		-0.01802
			More than 25		0.90334*
		21-24	17-20		0.01802
			More than 25		0.92136*
		More than 25	17-20		-0.90334*
			21-24		-0.92136*
Post hoc Tukey HSD	Number of online courses	None	1-3		-0.06574
			4-6		0.35040*
			More than 6		0.07563
		1-3	None		0.06574
			4-6		0.41614*
			More than 6		0.14137
		4-6	None		-0.35040*
			1-3		-0.41614*
			More than 6		-0.27478
		More than 6	None		-0.07563
			1-3		-0.14137
			4-6		0.27478
T-test	Gender	Male	Female		0.3661*
	Country	Jordan	Qatar	0.4681*	0.7431*

Note: *. The mean difference is significant at the 0.05 level.

The qualitative results also confirmed the impact of the country on the volume of challenges. The results revealed that students and instructors at UJ faced greater challenges compared to students and instructors at QU. These differences could potentially be explained by the characteristics of the educational system in each of the two countries. Küsel et al. (2020) share a similar perspective toward the role of 'country' as a variable in individuals' responses, during circumstances similar to this pandemic. Their results indicated that the reasons for this could be financial; thus having to do with the institution's ability to provide the required tools for distance learning. Alternatively, the differences could be attributed to the ability of the university to organize and manage the educational process during a time of crisis. Finally, while the results of the questionnaires showed that the area of specialty played no role in the challenges experienced, the results of the interviews varied between those who confirmed this view and those who believed that the area of specialty might play a role in the challenges faced by students of scientific and humanitarian subjects.

6. Conclusion

It was expected that by presenting the perspectives of instructors and students from two separate Arab countries, this study would help to reveal the big picture of COVID-19's effect on Higher Education institutions in the Arab world. The results of the study revealed a variety of insights into the readiness of instructors and students to cope with the transition to online teaching. The viewpoints of the participants from both universities suggested that more attention should be paid to first-year students, as the findings show that they are the community most affected by difficulties with distance learning in the wake of the COVID-19 pandemic. This is due to their lack of awareness of the taught subjects, their inexperience of managing their learning at university, and their lack of knowledge of how to complete tasks and fulfill assignments as they move from high school to university. There is also an urgent need to find ways to cope with the psychological effects that could result from this pandemic.

This research demonstrated that the variables and challenges addressed by the participants are inextricably linked to the availability of logistical equipment, the provision of facilities, and the successful use of electronic devices in distance learning. Students and/or instructors who have the ability and skills to cope with the demands of online learning have an easier time than those who do not. Furthermore, the disparity in the availability of high-tech equipment at QU versus UJ should direct decision makers to attend to the needs of universities at all times. This has the potential to boost faculty members' willingness to teach online. In conclusion, however, there is still a lot to learn about the effects of the COVID-19 pandemic on Arab Higher Education institutions. As a result, further quantitative and qualitative research should be conducted to learn more about this new mode of teaching; teaching and learning after COVID-19 will inevitably differ from that before the pandemic.

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