

University Instructors And Students' Attitudes Toward Distance Education: The Case Of Qatar

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Abstract

To assess the attitudes of university instructors and undergraduate students toward distance education and to examine the relationship between their attitudes toward distance learning and their sociodemographic data, a mixed-method cross sectional study on a sample of 63 instructors and 203 students was conducted. Qatar University instructors and undergraduate students were surveyed using an online self-administered questionnaire consisted of the attitudes toward distance teaching scale and sociodemographic data. Another online semi-structured interview was used to collect qualitative data from both instructors and students. As a result, the Mean (SD) of the Average Attitude Score for instructors and students were 3.47 (0.53) and 3.42 (0.79) respectively. There were statistically significant difference in the Average Attitude Score means for the students' major and age and the instructors' subject. The average percentage of agreement for instructors and students were 59.22 % (16.7%) and 55.76% (15.7%) respectively. Access to online platforms, internet connectivity, access to electronic devices, and professional training highly affected whether instructors held positive or negative attitudes. Students highlighted the importance of maintaining communication with instructors, using appropriate teaching strategies, providing electronic devices, securing internet services and applications, training students and instructors on digital applications, and ensuring the integrity of tests. Overall, Qatar University instructors and undergraduate students showed neutral to positive attitudes toward distance education. Also, they pointed out several factors that impacted their attitudes toward distance education.

Keywords: distance education; attitude; higher education; teaching; learning; COVID-19.

Introduction

As 2019 was winding down, a novel coronavirus was gearing up for a catastrophic global impact. Within only a few short months, COVID-19 had spread like wildfire across continents resulting in a global pandemic threatening humankind and fundamentally changing nearly every aspect of our lives (Trung, et al., 2020). The pandemic

prompted a global lockdown and drastic regulations designed to curb our social interactions in the name of safety. For example, workers, excluding essential employees, were required to work from home, most businesses were mandated to close, manufacturing was halted, and education was interrupted leaving millions of students to receive emergency

education at best (Murphy, 2020). It goes without saying that such measures have undeniably changed the way we live including the way we learn. New formats and modes of delivery as well as new tools and technologies were hurdled at students and instructors alike hoping to prevent further interruption to the delivery of education. While technology was likely never intended to fully replace face-to-face teaching or the traditional classroom (Zhao, 2007), the forced transition to distance learning during the pandemic has undoubtedly led to an increased reliance on technology. Although tech-savvy instructors and students likely have some advantage in the face of such a transition, attitudinal flexibility is fundamental to adapting to the new learning environments created during the pandemic.

Many studies have shown the importance of attitude in facilitating a positive learning experience (Alshaboul, 2018; Hindman & Wasik, 2008; Holmberg, 1989; Richardson, 1996); In the words of Richards and Lockhart (1994), “What instructors do is a reflection of what they know and believe” (p. 29). Similarly, Cheng et al., (2009) argues that instruction and performance are the by-products of the instructors’ own beliefs. Such notions highlight the significant role attitudes and beliefs play in shaping the perspectives of instructors and students toward the learning experience as well as their success with it (Holmberg, 1989; Moats, 2009; Morris, 2011). Thus, investigating the attitudes of instructors and students in the context of the current pandemic is paramount.

Extant studies argue that many instructors, particularly at traditional universities, have not been supportive of online education (Allen & Seaman, 2012); such instructors have concerns regarding the shift away from in-person teaching (Smidt et al., 2014) expressing concern for the changing nature of the teaching-learning experience, increased workload, accessibility, and loss of anonymity (Murphy et al., 2007).

Conversely, others see distance education as a vital player in the future of education and advocate bringing it to the mainstream (Smidt et al., 2014; Xiao, 2020), a viable perspective given the current transformation taking place in higher education (HE) as a result of the COVID-19 pandemic. Hence, discerning the attitudes of instructors and students should be prioritized to inform distance education in the post-pandemic era.

Qatar University (QU), the national university in the State of Qatar, shifted to online teaching primarily via Blackboard and WebEx at the onset of the pandemic to safeguard against any breakdowns in the flow of education. To support instructors, QU has provided regular workshops led by the Center for Excellence in Teaching and Learning (CETL, 2021). The impact of the forced transition to distance learning was mitigated by the fact that QU began integrating online teaching into their courses several years earlier.

COVID-19 has undoubtedly disrupted the education system, and adapting to these changes requires a learning curve. Nonetheless, there is an urgent need for more studies to explore the experiences of both instructors and students during the pandemic to inform post-pandemic education. Consequently, the current study aimed to explore the attitudes of instructors and students at QU toward distance learning after the sudden shift caused by the coronavirus pandemic. The researchers administered surveys and conducted interviews targeting instructors and students at QU during spring semester, 2021.

Research Aim and Questions

The current study aimed to investigate the attitudes of instructors and students toward distance education during the COVID-19 pandemic and to uncover factors that might impact those attitudes. The following three questions guided the study:

What are the attitudes of QU instructors and students toward distance learning during the COVID-19 pandemic?

Is there any relationship between QU instructors' and students' attitudes toward distance learning and the variables of country, age, gender, subject, years of experience\year in the program and the number of online courses taught?

What other factors could have affected QU instructors' and students' attitudes toward distance learning during COVID-19 pandemic?

Literature Review

This literature review targeted only the studies that reported findings about participants' attitudes toward distance education. To begin with, Alqudah et al. (2020), Cutri et al. (2020), Demuyakor (2020) and Slimi, (2020) found that students and instructors feel positive about distance education and believe it provides several opportunities for success; academic staff and students are afforded opportunities to develop their technological skills, technical communications, research skills and work under pressure. In addition, online education offers a flexible environment and provides opportunities to enhance life-long learning (Khalil et al., 2020). Alam, (2020), El Said (2021) and Radha et al. (2020) reported that students appreciate online classes because they can submit their academic work on time and with confidence; the materials are diverse and accessible, and the online quizzes and exams are auto-corrected. Alam (2020) added that online classes facilitate rich student-student and students-instructor communication, which reduces learners' anxiety. Likewise, Mansour (2021) attributes instructors' positive attitudes to effective communication between students and instructors, flexibility, and the chance to enhance the quality of online teaching and learning. Finally, Reyes-Chua et al. (2020)

claims that online learning provides instructors and students the chance to develop 21st century skills needed to compete in a world that is rapidly becoming digital.

However, Rizun and Strzelecki (2020) reported fewer positive attitudes among students regarding distance education in terms of self-efficacy, effectiveness, and productivity. Similarly, Adnan and Anwar (2020) reported that many graduate students have reservations about distance education due to the different challenges they face. For Kapasia et al. (2020), both undergraduates and postgraduates held negative attitudes toward online teaching citing depression, anxiety, poor internet connection and uncomfortable environment as possible causes. Alturise (2020) and Nambiar (2020) indicated that both students and educators perceive online classes to be less structured and less efficient due to a decline in teaching quality and timeliness of interactions between students and instructors, lack of technical support, and lack of modifications to accommodate practical classes. Furthermore, Alqudah et al. (2020) reported that some applied courses and fields like medicine and engineering pose significant challenges for distance education due to the hands-on, experiential nature of courses.

The current review of the literature suggests a lack of consensus regarding attitudes toward distance education. Although the majority of students and instructors readily accepted the transition to distance education, some expressed negative attitudes due to difficulties like time management, access to internet and electronic devices, feelings of isolation, and increased stress (Mohalik & Sahoo, 2020). Similarly, Rizun and Strzelecki (2020) found conflicting attitudes among students themselves; although students believe distance education could enhance their learning effectiveness, productivity, and self-efficacy, they prefer a traditional classroom setting.

Theoretical Framework

This study is grounded in the theory of interaction and communication (Holmberg, 1983, 1989, 1995) where Holmberg believes that meaningful education facilitates learning. Holmberg rationalizes that effective distance teaching/learning is largely influenced by one's attitudes regarding cooperation, belonging, and readiness to participate in communicative classroom exchanges. In Holmberg's words, "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" (Holmberg, 1989, p. 168).

This study also lends itself to motivation theory (Maslow, 1943, 1954, 1970a, 1970b, 1987) where Maslow believes that people achieve their best when motivated by their needs. According to motivation theory, needs satisfaction controls achievements.

Methods

Study Design

A mixed-method cross sectional study on a random sample of QU instructors and undergraduate students was conducted. The data was collected from QU instructors and undergraduate students using an online self-administered questionnaire for the quantitative part of the study and an online semi-structured interview for the qualitative part (Spradley, 1979).

Population and Sample

The study population included all QU instructors and undergraduate students. The study sample considered all those who responded to the online survey and were 63 instructors and 203

undergraduates. Afterward, the researchers interviewed a random sample of 8 instructors and 18 students from those who volunteered to be interviewed via the online semi-structured survey.

Study Instruments

The quantitative part of the study used an online self-administered questionnaire consisting of two parts. The first part contains sociodemographic characteristics, and the second part consists of the Attitudes toward Distance Education (ATDE) scale developed by the researchers. The qualitative part of the study employed the online semi-structured interview.

Sociodemographic characteristics

The first part of the self-administered questionnaire was the sociodemographic characteristics, which consisted of age, gender, country, school subject/ major, experience/years in program and number of online or blended classes taught/studied prior to the pandemic.

Attitudes toward Distance Education Scale

The second part was the Attitudes toward Distance Education (ATDE) scale. The researchers developed the ATDE scale considering an extensive review of relevant literature (Chang & Fang, 2020; Cutri, Mena, & Whiting, 2020; Guillasper, Soriano, & Oducado, 2020; Yu, 2018). The scale contains 13 specific attitude items toward distance education. Respondents were requested to indicate the degree to which they agree with each item on a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly disagree.

The Arabic version of the newly developed ATDE scale items was translated by professional translators. The Arabic version was validated by

a second bilingual speaker. It was back translated to English and minor modifications were made.

Semi-structured interview

For more in-depth narratives, the researchers performed the semi-structured interview following the quantitative findings. The researchers followed Spradley's classical model (1979) in developing, conducting, and analyzing the interviews. The interview questions consisted of two sections: the grand tour and the mini tour. In the first, the researchers pre-constructed a group of questions derived from the study questions, while in the latter, the researchers generated spontaneous follow-up questions to get more detailed explanations and clarifications from the interviewee. All the interviews were audio recorded for later expanded transcription.

Validity and Reliability of the Instrument

Content validity of the English and Arabic versions of the ATDE scale was assessed by a panel of experts in the fields of curriculum and instruction and educational technology. Items were evaluated for readability, clarity, and suitability as well as to ensure the relationship of each item to the whole scale. Based on reviewers' comments, one item was removed. To ensure internal consistency, the ATDE scale was piloted on a sample of 13 instructors and 22 students. The reliability of the instrument was assessed using Cronbach's alpha, which yielded 0.85 for the instructors' ATDE scale and 0.87 for the students' ATDE scale.

Data collection

An online self-administered questionnaire consisting of sociodemographic characteristics and the ATDE scale was used to survey both QU instructors' and undergraduate students' attitudes toward distance education. The researchers

designed electronic English and Arabic versions of the self-administered questionnaire using Microsoft Forms and distributed them to all QU instructors and undergraduate students via the institutional email system. The respondents were given the option to complete either version. The qualitative data was collected using online semi-structured interviews; the interview sessions were recorded.

Ethical Clearance

The researchers obtained ethical clearance and approval of the research proposal from the Qatar University Institutional Review Board (IRB) under proposal QU-IRB 1480-EA/21. Qatar University instructors and undergraduate students were invited to participate in the study on a voluntary basis. The participants were provided with informed consent assuring them of confidentiality, anonymity, and security. In addition, participants were informed regarding the type of data to be collected and that the data would be used in a scientific study.

Statistical Analysis

The collected data was coded, entered, and analyzed using the statistical package SPSS version 27.0. Relevant descriptive statistics were computed for all items. The ATDE scale is a 5-point Likert scale (1 strongly disagree, 2 disagree, 3 neither agree nor disagree, 4 agree, 5 strongly agree). Negative items were reversely scored so that agreement with items and disagreement with negative items had the same score. Higher scores indicate more positive attitudes. In the ATDE scale, the average responses of each respondent to all attitudinal items were computed and labelled as "Average Attitude Score". This newly created variable served as the dependent variable in the study for the purpose of data analyses. Sociodemographic variables served as independent variables. The equality of means

across the categories of each independent variable was tested using either one-way ANOVA (if the independent variable has more than 2 categories) or independent samples t-test (for variables with only two categories). The non-parametric tests Kruskal–Wallis and Mann–Whitney tests were used in case the statistical assumptions of using ANOVA and t-test were violated. Multiple linear regression analysis was used to predict the value of Average Attitude Score using the predictors age, gender, country, school subject/ major, experience/years in program and number of online or blended classes taught/studied prior to the pandemic and to assess the multiple linear relationship using the coefficient of determination (R^2). Statistical tests with P -values < 0.05 were considered statistically significant. To describe the individual attitudinal items, the researchers created a new variable called the percentage of agreement. The percentage of agreement is defined as the percentage of participants who “strongly agree” or “agree” on the items of the ATDE scale.

The qualitative data was analysed using thematic analysis (Spradley, 1979) through three steps: familiarization with data, searching for themes,

and defining themes. The authors incorporated the evolving themes and the quantitative results to generate responses to the questions.

Results

Characteristics of the study sample

Table 1 shows that over half of the instructors who participated in the study (52.4%) were in the age group 41 – 49 years. Of the instructor participants, 61.9% were males, 47.6% had 11 – 20 years of teaching experience, and 36.5% had more than 20 years of teaching experience. Additionally, 31.7% of the instructors had never taught online or blended courses and almost two thirds (65.1%) were from the Humanities. Regarding students’ characteristics, Table 1 illustrates that 36% of students in the study were 25 years or older of which 85.5% were females. The number of years in the program was almost distributed equally. Furthermore, nearly one third (32.5%) of the students had never participated in online or blended courses. Additionally, 58.6% of students in the study were from science backgrounds.

Table 1 Characteristics of the study sample

Variables	Category	Instructors (N=63)		Category	Students (N=203)	
		Frequency	Percent		Frequency	Percent
Age	30-40	8	12.7%	17-20	70	34.5%
	41-49	33	52.4%	21-24	60	29.6%
	50 and above	22	34.9%	25 and above	73	36.0%
Gender	Female	24	38.1%	Female	174	85.7%
	Male	39	61.9%	Male	29	14.3%
Subjects / Major	Sciences	22	34.9%	Sciences	119	58.6%
	Humanities	41	65.1%	Humanities	84	41.4%
Teaching experience / Year in program	1-5	6	9.5%	1	50	24.6%
	6-10	6	7.9%	2	43	21.2%
	11-15	13	22.2%	3	49	24.1%
	16-20	15	25.4%	4	36	17.7%
	more than 20	23	36.5%	5 and more	25	12.3%

Number of online or blended classes before COVID-19	None	20	31.7%	None	66	32.5%
	1-3	23	36.5%	1-3	19	9.4%
	4-6	7	11.1%	4-6	48	23.6%
	More than 6	13	20.6%	More than 6	70	34.5%

Question One: What are the attitudes of QU instructors and students toward distance education during COVID-19 pandemic?

Table 2 Percentage of participants who agreed or strongly agreed on the attitude scale, and the percentage of participants who marked neutral

No.	Items	Instructors		Students	
		% of Agreement	% of neutral	% of Agreement	% of neutral
1	I am interested in teaching\studying courses that utilize e-learning.	60.3%	28.6%	53.2%	15.3%
2	I think that distance teaching\learning promotes my learning experiences.	90.5%	3.2%	57.6%	13.8%
3	Presenting courses on the internet makes teaching more efficient.	23.8%	23.8%	37.9%	19.7%
4	I intend to use distance teaching\learning tools during the semester if available.	79.3%	17.5%	63.6%	14.3%
5	I am positive about distance teaching\learning.	77.8%	11.1%	57.6%	18.2%
6	Distance teaching\learning environment needs advanced technical knowledge on computer use.	87.3%	9.5%	58.6%	16.7%
7	I would prefer to have courses on the internet rather than in the classroom or face-to-face.	9.6%	20.6%	36.9%	11.8%
8	Distant teaching\learning is more comfortable and enjoying to me.	20.6%	27.0%	48.3%	13.8%
9	Distance teaching\learning is a favourable alternative to the pen-paper based system.	28.5%	22.2%	51.2%	14.3%
10	Distance teaching\learning is an efficient teaching method.	42.8%	20.6%	51.7%	19.2%
11	It is important to adjust course assignments and requirements to accommodate students' potential inequitable access to distant learning necessities.	87.3%	7.9%	76.8%	18.2%
12	I think the teaching methods of face-to-face are different from those that should be followed in distance teaching\learning.	92.1%	6.3%	74.8%	16.7%
13	I would rather not return to my regular mode of teaching\learning.	70%	19.0%	56.7%	11.8%

Average	59.22%	16.7%	55.76%	15.7%
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The mean (SD) of the Average Attitude Score for instructors and students was 3.47 (0.53) and 3.42 (0.79), respectively with the minimum score 1 indicating a very negative attitude, and the maximum score 5 indicating a very positive attitude. These means reflected neutral to positive attitudes toward distance education. The range of the instructors' percentage of agreement for all items was 82.5 (minimum 9.6% and maximum 92.1%) with an average of 59.22% and median 70%. The range of the instructors' percentage of neutral for all items was 25.4 (minimum 3.2% and maximum 28.6%) with an average of 16.7%. The students' percentage of agreement for all items ranged from 36.9% to 76.8% (range is 39.9) with an average of 55.76% and median 56.7%. While the range of the students' percentage of neutral is 7.9% (minimum 11.8% and maximum 19.7%) with an average of 15.7%.

The instructors in the study highly agreed on the following items: item 12 (I think the teaching methods of face-to-face are different from those that should be followed in distance teaching\learning) (92.1%), item 2 (I think that distance teaching\learning promotes my learning experiences) (90.5%), item 6 (Distance teaching environment needs advanced technical knowledge on computer use) (87.3%), and item 11 (It is important to adjust course assignments and requirements to accommodate students' potential inequitable access to distant learning necessities) (87.3%). Similarly, most of the instructors agreed on item 4 (I intend to use distance teaching\learning tools during the semester if available) (79.3%) and item 5 (I am positive about distance teaching\learning) (77.8%). On the other hand, item 7 (I would prefer to have courses on the internet rather than in the classroom or face-to-face) had the lowest percentage of agreement (9.6% with 20.6% for

neutral). Additionally, the items with low percentages of agreement were item 9 (Distance teaching\learning is a favourable alternative to the pen-paper based system) (28.5% with 22.2% for neutral), item 3 (Presenting courses on the internet makes teaching more efficient) (23.8% with 23.8% for neutral), and item 8 (Distant teaching\learning is more comfortable and enjoying to me) (20.6% with 27% for neutral).

Most students agreed on item 11 (It is important to adjust course assignments and requirements to accommodate students' potential inequitable access to distant learning necessities) (76.8%) and item 12 (I think the teaching methods of face-to-face are different from those that should be followed in distance teaching) (74.8%). On the other hand, the items with the lowest percentages of agreement were item 3 (Presenting courses on the internet makes teaching more efficient) (37.9% with % of neutral 19.7%) and item 7 (I would prefer to have courses on the internet rather than in the classroom or face-to-face) (36.9% with % of neutral 11.8%).

On the other hand, feedback from the interviews uncovered differences in the attitudes of instructors and students. For students, the differences highlighted the preferred type of learning and study skills. For instructors, results showed considerable agreement on the type of preferred learning and the effectiveness of distance education in terms of the nature of the course whether theoretical or practical.

Question two: Is there any significant relationship between QU instructors' and students' attitudes toward distance education and each of the variables: age, gender, subject\major, year of

experience\ year in the program and the number of online courses?

Table 3 presents the one-way ANOVA and independent samples t-test results for testing the equality of means of the instructors' Average

Attitude Score. Results indicate a statistically significant difference in the Average Attitude Score means for the variable subject ($P = 0.031$); there were no statistically significant differences in the Average Attitude Score means for gender, age, experience, and number of online courses.

Table 3 Instructors' average attitude score by the independent variables

Factors	Level	Mean	SD	Test statistics ^b	P-value ^a
subject	Humanities	3.57	0.47	2.21	0.031
	Sciences	3.27	0.59		
Gender	Male	3.39	0.49	-1.51	0.135
	Female	3.59	0.58		
Age	30-40	3.55	0.83	1.12	0.332
	40-50	3.54	0.46		
	50 and above	3.33	0.50		
Experience	1-5	3.80	0.68	1.53	0.204
	6-10	3.85	0.61		
	11-15	3.35	0.58		
	16-20	3.48	0.49		
	More than 20	3.37	0.45		
Number of online courses	None	3.34	0.59	0.98	0.410
	1-3	3.61	0.53		
	4-6	3.46	0.58		
	More than 3	3.40	0.38		

^a P -values based on One-way ANOVA or Kruskal-Wallis tests and independent-samples t-test

^b Could be either F for ANOVA test or T for t-test

Table 4 shows the one-way ANOVA and independent samples t-test results for testing the equality of means of the students' Average Attitude Score. There was a statistically significant difference in the Average Attitude Score means for the independent variables major ($P = 0.002$) and age ($P < 0.001$). Post hoc analysis

results for the variable age revealed that Average Attitude Score mean for students aged 25 years or older was significantly different from those of 17 – 20 years ($P < 0.001$) and 21- 24 years ($P < 0.001$). There were no statistically significant differences in the Average Attitude Score means for gender, years in the program, or number of online courses.

Table 4 Students' Average Attitude Score by the independent variables

factors	Level	Mean	SD	Test statistics ^b	P-value ^a
Major	Humanities	3.61	0.80	3.07	0.002
	Sciences	3.28	0.75		
Gender	male	3.19	0.77	-1.67	0.097
	female	3.45	0.79		
Age	17-20	3.17	0.69	12.96	<0.001

	21-24	3.27	0.91		
	More than 25	3.77	0.63		
Year in	1	3.43	0.71	0.96	0.453
program	2	3.24	0.83		
	3	3.50	0.85		
	4	3.33	0.84		
	5	3.64	0.65		
	6	4.08	0.69		
	More than 6	3.62	0.63		
Number of	None	3.43	0.72	1.55	0.202
online courses	1-3	3.26	0.74		
	4-6	3.61	0.80		
	More than 6	3.32	0.85		

^a P -values based on One-way ANOVA or Kruskal-Wallis tests and independent-samples t-test

^b Could be either F for ANOVA test or T for t-test

Table 5 shows the results of the independent sample t-test testing the equality of the instructors' and students' ATDE scale means for each item. There were statistically significant differences in the ATDE scale means for the following items: item 2 (I think that distance teaching promotes my learning experiences), item 4 (I intend to use distance teaching tools during the semester if available), item 5 (I am positive about distance teaching), item 6 (Distance teaching environment needs advanced technical knowledge on computer use), item 7 (I

would prefer to have courses on the internet rather than in the classroom or face-to-face), item 8 (Distant teaching is more comfortable and enjoying to me), item 9 (Distance teaching is a favourable alternative to the pen-paper based system) ($P < 0.001$, $P = 0.004$, $P = 0.013$, $P < 0.001$, $P = 0.002$, $P = 0.005$ and $P = 0.008$), respectively. The remaining items did not show statistically significant differences between instructors' and students' ATDE scale means. Also, the mean Average Attitude Score of the instructors was not significantly different than that of the students.

Table 5 Attitudes toward distance education of Instructors vs Students

No.	Items	Instructors	Students	P-value
		Mean (SD)	Mean (SD)	
1	I am interested in teaching courses that utilize e-learning.	3.62(0.91)	3.32(1.45)	0.052
2	I think that distance teaching promotes my learning experiences.	4.06(0.78)	3.43(1.34)	<0.001
3	Presenting courses on the internet makes teaching more efficient.	2.68(1.03)	2.88(1.44)	0.239
4	I intend to use distance teaching tools during the semester if available.	3.95(0.77)	3.56(1.33)	0.004
5	I am positive about distance teaching.	3.89(0.94)	3.50(1.41)	0.013
6	Distance teaching environment needs advanced technical knowledge on computer use.	4.14(0.72)	3.51(1.14)	<0.001

7	I would prefer to have courses on the internet rather than in the classroom or face-to-face.	2.16(1.05)	2.71(1.64)	0.002
8	Distant teaching is more comfortable and enjoying to me.	2.60(1.26)	3.16(1.57)	0.005
9	Distance teaching is a favorable alternative to the pen-paper based system.	2.76(1.10)	3.23(1.49)	0.008
10	Distance teaching is an efficient teaching method.	3.08(1.19)	3.32(1.42)	0.194
11	It is important to adjust my course assignments and requirements to accommodate students' potential inequitable access to distant learning necessities.	4.05(0.83)	4.15(0.97)	0.424
12	I think the teaching methods of face-to-face are different from those that should be followed in distance teaching.	4.16(0.68)	4.08(1.03)	0.476
13	I would rather return to my regular mode of teaching.	3.89(1.15)	3.57(1.59)	0.080
Average Attitude Score		3.47(0.53)	3.42(0.79)	0.575

Table 6 presents the results of the final multiple linear regression model for Average Attitude Score for instructors and students, which includes the following predictors for instructors: age, gender, subjects, experience, and number of online courses taught before pandemic. Additionally, the following predictors are presented for students: age, gender, major, years in the program and number of online courses taken. The Average Attitude Score was the dependent variable. The predictors explained

13.4% of the variation in instructors' Average Attitude Score ($R^2 = .134$, $F = 1.76$, $P = 0.135$) and explained 13.2% of the variation in students' Average Attitude Score ($R^2 = .132$, $F = 5.96$, $P < 0.001$). The only predictor which had a significant effect on students' Average Attitude Score given the other predictors in the model was age ($P < 0.001$). None of the predictors had a significant effect on instructors' Average Attitude Score given the other predictors in the model.

Table 6 Multiple linear regression analysis to predict the value of Average Attitude Score using the predictors

Model		Unstandardized Coefficients		t	P-value	df	F	R^2	P-value
		β	Std. Error						
1 Instructors	(Constant)	3.85	0.42	9.10	<0.001	5	1.76	0.134	0.135
	Age	-0.02	0.12	-0.14	0.886				
	Gender	0.18	0.14	1.31	0.196				
	Subject	-0.23	0.14	-1.56	0.123				
	Year of experience	-0.08	0.06	-1.25	0.218				

		Number of online or blended classes before COVID-19	0.02	0.06	0.24	0.810			
1	Students	(Constant)	2.99	0.39	7.68	<0.001	5	5.96	0.132 <0.001
		Age	0.29	0.07	4.08	<0.001			
		Gender	0.16	0.15	1.03	0.303			
		Major	-0.20	0.11	-1.79	0.075			
		Year in program	-0.02	0.04	-0.60	0.551			
		Number of online or blended classes before COVID-19	-0.04	0.04	-0.99	0.320			

Question three: What other factors could have affected instructors and students' attitudes toward distance education during the COVID-19 pandemic?

Based on the results of question two, the researchers conducted semi-structured interviews to detect other factors that may have a higher effect on the attitudes of instructors and students toward distance education. The third question evolved later based on the emerging themes derived from the interviews to detect other unlisted factors that might affect the instructors' and students' attitudes toward distance education. Essentially, the interviewed instructors pointed out several factors affecting the overall success of their distance education experience, which would subsequently influence their attitudes toward distance education. For example, access to online platforms, internet connectivity, access to electronic devices and professional training could immensely affect the instructors developing positive or negative attitudes. On the other hand, students highlighted the importance of maintaining communication, using appropriate teaching strategies, providing electronic devices, securing internet services and applications, training students and instructors on digital applications, ensuring the integrity of tests, and capping classrooms.

Discussion

Primarily, this study examined QU instructors' and students' attitudes toward distance education during the pandemic crises. In general, both instructors and students seem to share a positive attitude toward online teaching during the pandemic, which is consistent with several other studies (Alqudah et al., 2020; Cutri et al., 2020; Demuyakor, 2020; Slimi, 2020).

Although instructors developed a positive point of view and an interest in distance education and did not mind the use of distance learning tools in future teaching, they preferred to return to traditional teaching methods. Instructors might believe that such a transition requires significant time and effort to adjust their courses to fit the new distance learning context and tools. Undoubtedly, distance education requires equitable access to appropriate teaching and learning tools, advanced technological skills, and the implementation of different teaching methods than those used in traditional education. In fact, this may help explain the viewpoint of the majority of instructors in the study who considered distance education as less effective, less comfortable, and less enjoyable. Nonetheless, instructors acknowledged the potential of distance education in enhancing the quality of their teaching. This is consistent with

the findings of Alqudah et al. (2020), Cutri et al. (2020), Demuyakor (2020), Slimi, 2020) and Mansour (2021) where educators believe that distance education provides many opportunities to develop technical, communication, and research skills as well as enhance the quality of online teaching and learning.

On the other hand, students were less interested and less optimistic about the future of distance education; they did not consider it as an effective mode of learning. This stance might be related to the quality of teaching methods used to deliver distance education and/or an assumption that the tasks and assignments expected of students were not aligned to the nature of remote learning during the pandemic. Students emphasized the importance of adapting course content, teaching methods, and assignments to suit their capabilities during the pandemic. This finding might appear at odds with other studies in the literature (Alam, 2020; El Said, 2021; Radha et al., 2020) where students showed more appreciation for online classes and found online learning to be more convenient for submitting assignments and accessing course content. However, it is crucial to point out that the context of the current study is very different from those of previous studies. While this study essentially explores emergency remote teaching during a time of crises, the other studies report on students' online experiences in normal learning situations. Consequently, students in the current study might be less optimistic about distance education because they chose a traditional learning environment and are essentially comparing their preferred or ideal environment to the context of emergency remote teaching (rather than true distance education). In the previous studies, students were voluntarily choosing distance education as a mode of learning and may be more adept to that style of teaching and learning.

This study reports unique results concerning the

neutral responses for both instructors and students in that it is remarkable to register a similar average of neutral responses for both instructors and students. Statements like "I would prefer to have courses on the internet rather than in the classroom or face-to-face" and "Presenting courses on the internet makes teaching more efficient" registered the highest in the neutral category for both groups. This conveys a middle-of-the-road attitude where neither the instructors nor the students indicate a clear stance toward online learning. Responses may have been different had participants experienced distance learning in a more desirable context than that of the pandemic.

Yet, the results obtained from the interviews indicate an agreement in the attitudes of instructors and students. For the instructors, the results showed considerable agreement on the type of preferred learning. Instructors believe face-to-face learning is more effective than distance learning because it is easier to communicate with learners and actively interact with and manage the learning environment. One QU instructor said, "In face-to-face learning, the instructor can teach better and interactions with students are richer." Another instructor added, "I prefer face-to-face learning; the interaction is more alive, and I can manage the classroom better." These findings might not be in agreement with other studies like Mansour (2021) who reported a positive attitude for instructors towards distance education highlighting the effectiveness of communication between students and instructors, the flexibility of the teaching and learning process as well as the enhanced quality of teaching and learning. However, like the earlier discussion of students, the context, once again, is crucial in that instructors' attitudes are likely influenced by the fact that the courses taught were not designed as online or distance education courses and the instructors themselves are not necessarily trained as distance educators.

For students, most preferred face-to-face learning and perceived traditional learning as offering more convenient and efficient communication and interaction with instructors and peers. Additionally, students indicated that in-person learning allowed them better focus and was less stressful than distance learning. For example, one QU student said, "I prefer to learn in-person because it increases the chances to interact with my instructor, unlike distance education, which causes me physical, psychological and mental fatigue." Similarly, students noted that face-to-face learning helps improve understanding, "Interacting from a distance doesn't compare to what I get out of the face-to-face interactions with my teachers and classmates in the classroom" as one student said. Another student added, "The richest learning is based on being face-to-face, and it will remain so." Alam (2020), however, reached different findings arguing that online classrooms would create stronger communications between students and instructors and would help reduce students' concerns. Again, the crisis context of the current study likely has bearing on participants' responses because they are comparing their ideal or expected learning environment to the emergency remote teaching environment imposed during the pandemic rather than a learning experience designed to be online.

Although such attitudes represent the majority of participants in the current study, there were those who expressed optimism at the opportunity to experience distance learning even under the undesirable conditions of the pandemic. For example, although most students perceived distance education as less than ideal for improving study skills, there were a few students whose experiences in this regard were more positive. One QU student said, "Distance learning can improve research skills and self-reliance, especially when students are not able to get enough information from the instructor."

An attitudinal agreement was also present among instructors and students regarding the effectiveness of distance education in terms of the nature of certain courses. Instructors emphasised the difficulty of meeting the objectives of applied courses requiring hands-on experience; "Can you imagine a student of medicine becoming a doctor without receiving hands-on training?" said one instructor at QU School of Medicine. Echoing this instructor's sentiment, one student participant said, "In applied science courses, all content should be taught in-person." These findings are in line with those of Alqudah et al. (2020) where the applied/experiential nature of certain courses such as those in medicine and engineering pose significant challenges for distance learning. Consequently, distance education needs to account for the special nature of these subjects.

Concerning the differences between instructors' and students' attitudes toward distance education, this study concludes that instructors' positive attitudes toward distance education are generally affected by the subjects they teach, while students' attitudes are affected by their age and major. Instructors from humanities backgrounds, for example, had a more positive outlook regarding distance education than instructors from science backgrounds. Perhaps this is due to the common assumption that science subjects require more hands-on experience and real-world interaction, which many instructors feel in-person learning provides. Study findings suggest that instructors from within the humanities, however, believe the nature of their courses do not require in-person learning. Students' attitudes, on the other hand, are primarily affected by age and area of study. Study results suggest in-person learning is more appealing for students 25 years and older and for those in scientific disciplines. One possible explanation is that younger students are more inclined to use technology and digital tools than older students. Similarly, science students

likely prefer a return to the physical classroom because of the hands-one nature of their classes.

Concerning other factors that might affect instructors' and students' attitudes toward distance education, instructors indicated several factors affecting the overall success of their distance education experience, which subsequently influenced their attitudes toward distance teaching and learning. For example, access to online platforms and electronic devices, internet connectivity, and professional training highly affected instructors' attitudes. In one instructor's words, "There are many factors that affect the success of the distance learning experience like a solid infrastructure, faculty expertise, technological knowledge and skills, and internet availability." Another instructor commented, "My distance learning experience was successful overall because there was a university platform that instructors and students were using before the pandemic." Other instructors reported several factors affecting the interaction and participation of students during distance learning like having regular quizzes, preparing effective instructional activities that reflect students' needs, and using teaching strategies that are compatible with distance education.

Students, on the other hand, indicated several other factors that might affect how they perceive their distance learning experience. These include maintaining frequent communication with students, using teaching strategies appropriate for distance learning, providing electronic devices, securing internet service and applications, training students and instructors on digital applications, ensuring the integrity of tests, and capping the size of classes. One student said, "The most important factors for success, in my opinion, is timely communication with students, the use of up-to-date teaching methods, and keeping tasks and assignments on time." Students pointed out that poor university

readiness, instructors' inadequate digital skills, poor level of interaction, and lack of concentration during online sessions affected the overall success of their distance learning experience, which subsequently influenced their attitudes toward distance learning. Another student said, "I cannot consider this experience a full success because of the technology problems and other interruptions we encountered during class time or when setting for exams." This is consistent with Kapasia et al. (2020) who concluded that undergraduate and graduate students had negative attitudes towards distance education due to poor internet connectivity and an uncomfortable study environment at home.

Conclusion

The COVID-19 pandemic has revealed the vulnerabilities of traditional higher education and solidified the need for a higher level of readiness for the future. Although a learning curve is expected, there is an urgent need for holistic transformation informed by the growing body of educational research conducted throughout the pandemic. The current study seeks to add to the existing literature by investigating the attitudes of instructors and students toward distance education during times of crises. Survey results revealed relatively positive attitudes among both instructors and students, while the interviews revealed predominately adverse attitudes.

Moreover, interview data suggested lack of readiness, weaknesses in digital and technological competencies, poor communication and interaction between students and instructors, the need to update teaching methods and for interactive course content, administrative weaknesses, and logistical concerns as primary causes of participants' negative attitudes.

Therefore, the current study suggests revisiting

the concept of distance education at traditional higher education institutions after benefiting from the experience of forced online learning to guide post-pandemic planning and mitigate the impact of future threats. Undoubtedly, the future of higher education will be increasingly digital relying significantly more on distance and online learning. Consequently, it is paramount that traditional higher education administrators, practitioners, and researchers collaborate with experienced distance education institutions and experts in the post-pandemic era. This study brings to the forefront the importance of instructor/student attitudes in adapting to new learning environments. Furthermore, the authors call on other researchers to conduct further studies investigating and reflecting on higher education during times of crisis, particularly studies that explore instructors' and students' experiences.

Limitations

This study is limited by three constraints. First, this study was conducted during the sudden transformation to distance education due to the COVID-19 pandemic, which may have affected the responses of the participants. In addition, the courses given during this period were not designed as distance education courses but were courses prepared and designed for in-person learning. Finally, the study sample was limited to only instructors and students at Qatar University. Therefore, researchers are encouraged to further explore distance education in contexts designed specifically for that purpose. In addition, future research may include more institutions and other countries including students from all fields and levels.

Statements and Declarations

The authors declare that they have no competing interests.

Availability of data and materials

The datasets generated and/or analyzed during the current study are not publicly available [due to IRB individual privacy regulation] but are available from the corresponding author on reasonable request.

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