

# UNIVERSITY STUDENTS' ATTITUDES TOWARDS ONLINE LEARNING DURING THE COVID-19 PANDEMIC

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## ABSTRACT

This study assessed undergraduate students' attitudes towards online learning during the Covid-19 Pandemic, specifically three months after the initiation of the March 14, 2020 lockdown in Jordan. Six hundred and twelve ( $N=612$ ) undergraduate students from the University of Petra and University of Jordan across majors and academic years were surveyed using a user-designed online survey. The surveyed students exhibited negative attitudes towards online learning during the Covid-19 pandemic. More specifically results showed that the majority of the students responded that communicating with teachers and students through online learning was annoying. Also, over half of the students indicated that online learning did not increase their motivation to learning and 60% of them expressed that online learning was uncomfortable, indicating that they did not enjoy the online learning experience and would not take online courses if were used again. Overall, students displayed a wide range of responses showing mostly negative attitudes towards online learning. This suggests that students still prefer learning in the classroom to online learning. Finally, the paper highlighted various recommendations and implications for better online learning.

## KEYWORDS

Online Learning, Distance Learning, Covid-19, Students' Attitudes

## 1. INTRODUCTION

The Covid-19 pandemic in 2020 forced most educational institutions globally to halt on-campus academic activities and quickly transition to online learning to guarantee continuity in the educational process. While online learning has several advantages, including simplicity of use, flexibility, and greater control over the learning environment (Abbasi, Ayoob, Malik, & Memon, 2020), the abrupt shift to this method of learning posed numerous challenges for students. The most significant of these challenges was the need for students to change their lifestyle to adapt to this new learning environment, which included spending extended period of time in front of electronic devices, losing opportunities for face-to-face interaction, and dealing with various technical issues. These and other obstacles may have affected students' encounters with online learning. As a result, it is critical to evaluate students' experiences and comprehend their perspectives on online learning during the Covid-19 pandemic.

## 2. LITERATURE REVIEW

Learning from distance has been an integral part of education since the 1940s, adapting and evolving along with the rapid advancement of technology. However, it was the advent of the Internet that truly revolutionized the way education was delivered and gave birth to the concept of online learning. This innovative approach to distance learning has proven to be extremely effective, prompting researchers to conduct extensive studies to examine its effectiveness and efficiency. Most of these studies were carried out in conventional learning environments (e.g., Oliveira, Cunha, & Nakayama, 2015; Yildiz, Tezer, and Uzunboylu, 2018; Zainuddin, Idrus, & Jamal, 2016), with online learning used as a supplement to traditional teaching and learning. These studies have found a number of challenges that students experience in this method of learning, such as increased homework and staff reluctance to incorporating online learning into their teaching practices.

Previous research examined stand-alone online learning systems (e.g., Dodo, 2013; Musingafi et al., 2015; Sharath, 2014; Roth et al., 2020), and revealed that despite the convenient and affordable accessibility of online learning, students still faced challenges that affect their learning. These challenges included insufficient study time, inadequate ICT skills, delayed feedback on students assessments, and absence of technical support, resulting in low levels of satisfaction with the course and academic achievement.

When the Covid-19 pandemic emerged, universities worldwide were forced to swiftly transition to online learning, presenting students with unexpected obstacles and concerns. In response to these circumstances, several researchers endeavored to recognize and examine these challenges (e.g., Li et al., 2020; Mailizar et al., 2020; Moawad, 2020; Prokopenko & Berezhna, 2020). Most of their studies found that students faced challenges such as restricted interaction, a dearth of hands-on learning opportunities, more tasks with less time to complete them, and difficulties using online learning management systems.

Despite the aforementioned challenges, online learning has its advantages. For example, students have the flexibility to study at their own pace and convenience. Furthermore, online learning offers access to a broader range of tools that may not be available in their physical location. (Holmes et al., 2020). Additionally, by eliminating the need for bodily interaction and travel to educational institutions, online learning has the potential to reduce the spread of infectious illnesses. (Li & Lalani, 2020). Nonetheless, to make the most of the advantages of online learning, it important to identify and address challenges that may hinder the achievement of learning in online learning. This will improve online learning as a reliable platform, especially in times of unanticipated crises, and enhance the quality and efficacy of online learning. To contribute to the ongoing research in this area, the present study aims to assess students' attitudes towards online learning during the COVID-19 pandemic.

### 3. STUDY QUESTIONS

The current study aimed to address the following questions:

1. What are the students' attitudes towards online learning amid the Covid-19 Pandemic?
2. Are there significant differences in students' attitudes towards online learning based on gender, education stream, academic year, type of university, level of computer skills, and online learning devices?

## 4. METHOD

### 4.1 Participants

The current study included a total of six hundred and twelve (N = 612) undergraduate students (384 females and 228 males) who were enrolled in various academic programs at the University of Petra and the University of Jordan during the second semester of the 2019/2020 academic year. The participants were selected using purposive sampling technique, and they completed an online questionnaire while under lockdown measures. A total of 612 responses were collected. Table 1 shows the demographic information of the participants.

Table 1. Participants' demographic information

Variable	Category	Frequency	Percentage
Gender	Male	228	37.3
	Female	384	62.7
Education stream	Humanities	222	.363
	Sciences	390	.637
Academic year	First	100	16.3
	Second	168	27.5
	Third	188	30.7
	Fourth	156	25.5
Online learning device	Computer	234	38.2
	Mobile Phone	369	60.3
	Tablet/iPad	9	.15
Computer skill levels	High	134	21.9
	Average	362	59.2
	Low	116	18.8

## 4.2 Study Instrument

The study used a self-administered online questionnaire to assess undergraduate students' attitudes towards online learning during the Covid-19 pandemic. The 14-item questionnaire was made available through the universities' Facebook account and other Facebook groups specifically created for university students, where students could access and respond to it. A five-point Likert scale was used, with responses rated as strongly agree, agree, neutral, disagree, and strongly disagree receiving weights of 5, 4, 3, 2, and 1, respectively. The degree of agreement for each questionnaire item was determined by calculating the means of the participants' responses using the following formula:

$$\text{Scale range} = (\text{Highest score} - \text{lowest score}) \div \text{Number of levels}$$

$$\text{Scale range} = (5 - 1) \div 3 = 1.33$$

Based on the above calculation the judgment on the degree of agreement (DA) is as shown in Table 2.

Table 2. Classification of degree of agreement

Class	Degree of agreement
1.00 -2.33	Low
2.34 - 3.66	Average
3.67 -5.00	High

### 4.2.1 Validity and Stability of the Instrument

To ensure the validity of the study instrument, it was evaluated by eight experts in the field of educational technology. They were asked to evaluate the instrument's language, content, and its ability to fulfill the study's objectives. By considering the experts' feedback and the obtained values, the Content Validity Index (CVI) was calculated and yielded a value of 0.84, indicating a high level of content validity and confirming the instrument's suitability.

Additionally, the stability of the study instrument was assessed using Cronbach's Alpha. The overall stability coefficient of the instrument was calculated to be 0.950, indicating strong internal consistency and reliability. This suggests that the instrument is well-suited for the specific purpose of the study and can reliably measure the intended constructs or variables.

## 5. STATISTICAL ANALYSIS

To answer the study questions, the following analyses were used within SPSS:

- Frequencies, percentages, means and standard deviations were used to describe the characteristics of the study participants.
- The analysis of five-way covariance (ANCOVA) was used to test for differences according to personal variables,
- T-test for one sample was used to test the differences between the mean of the answers as a whole and the fixed (hypothetical) mean.
- Cronbach Alpha was carried out to test the stability of the study instrument.

## 6. RESULTS

The study results are presented and discussed in relation to the study questions as follows:

*Question one:* What are the students' attitudes towards online learning during the Covid-19 Pandemic?

To answer this question, means were calculated for the participants' answers to the questionnaire items that measure students' attitudes towards online learning from their point of view. Findings are presented in Table 3.

Table 3. Means, standard deviations, ranks and degree of agreement of the items of the attitudes questionnaire

Item No.	Item	Mean	SD	Rank	RII	DA
1	I like the idea of online learning	2.04	1.30	7	40.8%	Low
2	Online learning is an innovative concept that should be encouraged	2.42	1.39	2	48.4%	Average
3	I enjoy learning from distance	2.01	1.23	11	40.3%	Low
4	Online learning has increased my motivation to learn	1.92	1.20	14	38.4%	Low
5	I encourage others to use online learning	1.97	1.25	13	39.4%	Low
6	Online learning has increased my academic performance	2.05	1.22	5	41.0%	Low
7	The content of the educational material in online learning is more organized	2.10	1.23	3	41.9%	Low
8	I would like to take online courses if online learning is used again	2.02	1.33	9	40.5%	Low
9	Online learning is a comfortable mode of learning	1.98	1.23	12	39.6%	Low
10	Online learning achieves the objectives of the curriculum	2.02	1.19	10	40.4%	Low
11	Online learning encourages creativity	2.06	1.20	4	41.1%	Low
12	Communication between teachers and students through online learning is annoying	3.63	1.40	1	72.6%	Average
13	I am generally satisfied with the learning environment of online learning	2.05	1.23	6	41.0%	Low
14	I am satisfied with the course management of online learning systems	2.04	1.25	8	40.8%	Low
<b>Total degree</b>		2.17	0.98	-	43.3%	Average

As noticed in Table 3, students' attitudes towards online learning were of an average degree of agreement, where the total mean score of the scale as a whole was 2.17 with a standard deviation of 0.98. At the level of the scale items, the mean scores ranged from 1.92 to 3.63, with item 12 ranking the highest of all, which states that "communication with teachers and students through online learning is annoying"; this followed by item 2 with a mean score of 2.42 which states that "online learning is an innovative concept that should be encouraged". Finally, the lowest mean score was ranked by item 4, which states that, "Online learning increased my motivation to learn"

Further, to test for positivity in students' attitudes towards online learning, a one-sample t-test was used to test for significant differences between the mean of the participants' responses and the hypothetical mean of the students' attitudes scale which is 3, indicating neutrality.

Table 4. Results of One Sample T Test to test positivity in students' attitudes towards online learning

Variable	Mean	SD	T-value	DF	Sig.
Students' attitudes towards online learning	2.17	0.98	21.037-	611	*0.000

\* The differences are statistically significant at ( $\alpha \leq 0.05$ ).

As shown in Table 4, the one-sample t-test revealed significant differences ( $p \leq 0.05$ ) between the mean of the students' responses (mean of 2.17 and the hypothetical scale's mean (mean of 3), where the calculated T-value was -21.037 with a significance level of 0.000. These findings indicate that, overall, students held negative attitudes towards online learning, as their mean responses were lower than the hypothetical scale's mean

*Question two:* Are there significant differences in students' attitudes towards online learning based on gender, education stream, academic year, type of university, level of computer skills and devices used in online learning?

Table 5. Means and standard deviations of students' attitudes towards online learning based to gender, education stream, academic year, type of university, online learning device, and level of computer skills

Variable	Variable classification	No	Mean	SD
Gender	Male	228	2.22	1.02
	Female	384	2.13	0.96
Education stream	Humanities	222	2.23	0.95
	Sciences	390	2.13	1.00
Academic year	First	100	2.12	0.97
	Second	168	2.15	1.01
	Third	188	2.14	0.99
	Fourth	156	2.25	0.95
Type of university	Public (University of Jordan)	168	2.11	0.93
	Private (University of Petra)	444	2.19	1.00
Online learning device	Computer	234	2.32	1.02
	Mobile phone	369	2.05	0.94
	iPad, Tablet	9	2.81	0.95
Computer skill level	High	134	2.44	1.12
	Medium	362	2.20	0.96
	Low	116	1.74	0.71

As shown in Table 5, there are apparent differences between the means of the levels of the participants' demographic variables. These differences are in favor of males, humanities, fourth-year students, private university students, tablet users, and finally in favor of those with high levels of computer skills. However, to determine if the differences between the means were significant, hexagonal covariance analysis was used. Results are presented in Table 6.

Table 6. Result of hexagonal covariance analysis

Source of difference (variable)	Sum of squares	DF	Mean of squares	F-value	Sig.
Gender	0.572	1	0.572	0.628	0.428
Education stream	4.625	1	4.625	5.080	0.025*
Academic year	0.641	3	0.214	0.235	0.872
Type of university	0.186	1	0.186	0.204	0.651
Online learning device	4.605	2	2.302	2.529	0.081
Computer skill level	22.960	2	11.480	12.611	0.000*
error	547.120	601	0.910		
<b>Total</b>	<b>3457.852</b>	<b>612</b>			

Table 6 illustrates the results of the hexagonal covariance analysis. The results showed significant differences at the level of  $(0.05 \geq \alpha)$  in students' attitudes towards online learning based on education stream (in favor of the humanities stream) and level of computer skills, as their calculated F-values were 5.080, 12.611 respectively and the significance level was less than (0.05). The results of the analysis did not show any significant differences based on gender, academic year, university type, and online learning device, where the calculated F-values were 0.628, 0.235, 0.204, 2.529 respectively with significance levels higher than (0.05).

To test the differences between the computer skill levels, the Tukey's test was used for the post-tests and results presented in Table 7.

Table 7. Results of Tukey's test

Computer skill level (A)	Computer skill level (B)	Level of difference	Sig.
High	Average	0.2392	*0.036
	Low	0.6997	*0.000
Medium	High	0.2392-	*0.036
	Low	0.4605	*0.000
Low	High	0.6997-	*0.000
	Average	0.4605-	*0.000

As shown in Table 7, Tukey's test revealed significant differences at the level of ( $\alpha$  0.05) in the attitudes of students towards online learning between. The test showed that students with high computer skills had more positive attitudes towards online learning than those with average and low computer skills. Furthermore, the results showed that students with high computer skills had significantly more favorable attitudes than those with average computer skills. Finally, significant differences were observed between students with average and low computer skill levels, with the former having more positive attitudes towards online learning.

## **7. DISCUSSION**

The main goal of the present study was to evaluate how undergraduate students perceived online learning during the Covid-19 pandemic. Additionally, the study aimed to identify any variations in attitudes among students based on factors such as gender, education stream, academic year, type of university, level of computer skills, and online learning devices. Findings of the study revealed negativity in students' attitudes towards online learning. That is, the majority of the students considered online learning annoying and over half of them did not feel motivated to learn, and 60% said that they would not take online courses again. Furthermore, the students did not enjoy the learning experience and that they did not want to continue using it. These results suggest that students were not comfortable with this mode of learning. These findings lend support to other recent studies (e.g., Abbasi, Ayoob, Malik, Memon, 2020; Neziri, Ahmeti, Memeti, 2021; Unger & Meiran, 2020) which overall reported negative perceptions towards online learning during the Covid-19 pandemic.

It appears from the above findings that the unexpected move to online and consequently the loss of lectures and in-class activities, along with the lack of prior experience with online learning, prior to the spread of the Covid-19 pandemic has dampened student's motivation to learn and resulted in negative perceptions towards online learning. Furthermore, students' concern about their academic performance and the lack of effective interaction with peers and teachers probably lead to decreased students' ability to learn entirely online. Dzakiria, Idrus, and Atan (2005) argue that engagement and interaction play a crucial role in online learning, as a high level of interaction positively affects students' psychology (Bryant, 2017) and thus their learning. According to Akther (2013), online learning necessitates a significant degree of independence and self-regulation from students, which may have been lacking among the participants in the current study.

Furthermore, the study results showed significant differences in students' attitudes towards online learning due to education stream with humanities students significantly showing less negative attitudes towards online learning compared to science students. This result may be attributed to the fact that humanities programs are typically theoretical and do not require students to be physically on campus, making online learning more acceptable. On the other hand, science programs are typically more hands-on, requiring in-person instruction, lab work, and collaboration with peers and instructors. This may be why science students had a more negative attitude towards online learning.

Additionally, the results of the study indicated significant differences in students' attitudes on online learning based on their computer skill levels. Specifically, students with advanced computer skills exhibited more favorable attitudes compared to those with average or lower computer skills. This result is to be expected, as students proficient in technology are better equipped to manage the online learning environment, troubleshoot technical challenges, and effectively engage in their studies. Consequently, their experiences with online learning tend to be more positive, leading to a reduced likelihood of developing negative attitudes.

## **8. CONCLUSION AND RECOMMENDATIONS**

In summary, the present study assessed undergraduate students' attitudes towards online learning during the Covid-19 Pandemic. The surveyed students displayed a wide range of responses showing negative attitudes towards online learning indicating that students still prefer face-to-face learning. However, it must be noted that this study was conducted in the first three months of the onset of the pandemic. Therefore, the results of this study are limited to the initial outbreak of the disease and reflect students' opinions during that period when they had to adjust to online learning for the rest of the semester, and are likely biased. Hence, further research is needed to reassess students' opinions and attitudes after the lockdown was lifted, and students returned to conventional learning and had further experience with online learning.

Based on the study results, several recommendations have been devised for universities and educators to enhance the overall quality of online learning experiences in the future.

- *Improve Communication*: Since the majority of students found communicating with teachers and classmates through online learning annoying, universities and educators should strive to improve the lines of communication. This can be achieved by providing more online consultation opportunities, setting clear expectations for communication, and providing timely feedback.
- *Increase Motivation*: With more than half of the students reporting in the present study that online learning did not increase their motivation to learn, it's important to identify ways to increase student engagement. This can be achieved by incorporating engaging content, interactive activities and real-world examples into the curriculum.
- *Address discomfort*: With 60% of the students, reporting that online learning is not comfortable, universities and educators should make efforts to tackle this discomfort. One approach is to design shorter and more focused online sessions, build in frequent breaks, and offer multiple formats for content delivery, e.g. videos, podcasts and interactive quizzes.
- *Offer support*: Universities and educators should offer additional support to help students adapt to the online learning environment. This may include offering orientation sessions, providing technical support, and designing resources for self-paced learning.
- *Continuous Improvement*: Universities and educators should continuously monitor and improve the online learning experience based on student feedback. Regular surveys and assessments can help identify areas for improvement and guide future efforts to improve online learning. Finally, faculty professional development should be considered to ensure students have the best online learning experience.

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