

EVALUATING THE EXPERIENCE OF USING E-LEARNING AT THE UNIVERSITY OF JORDAN DURING THE GLOBAL PANDEMIC COVID-19

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ABSTRACT.

This study aimed to evaluate the e-learning experience at the University of Jordan during the COVID-19 pandemic and the obstacles to its use. To achieve that, two 5-Likert scales were constructed; the first one to examine the level of students' satisfaction with e-learning, and the second one to diagnose the obstacles they faced during their e-learning experience. The study sample consisted of 566 male and female students who responded to the study tools after 8 months of e-learning experience in 2019–2020. Results show that, in general, students' satisfaction was moderate. As for the levels of satisfaction with each of the teacher's performance, technology, and assignments, it was found that satisfaction was medium regarding the teacher's performance and low regarding both technology and assignments. A 3-way ANOVA indicated that there are significant differences in students' satisfaction with e-learning due to academic level, in favor of graduate students. The results further show that the obstacles encountered in the experimentation process were high. The obstacles related to technology are higher than the obstacles related to students themselves, and females are more affected by the obstacles compared to males.

This study recommends working to improve and develop the e-learning experience in universities in terms of training teachers to deal with platforms, methods, content, and exams; following up on students, communicating with them; and facilitating their access to the necessary equipment for e-learning.

Key Words: Student's satisfaction, E-learning, Obstacles to E-learning, COVID-19 Pandemic.

Introduction

The coronavirus pandemic has no boundaries, and its effects are large and fast. Within just a few months of the outbreak of the disease, it has drastically changed the lifestyles of the entire world. The outbreak of COVID-19 affected all aspects of human activities, such as education, research, sports, entertainment, worship, social interactions, and the economy. The education sector has been significantly disrupted by the

coronavirus outbreak. This unexpected crisis required educational institutions to convert to e-learning solutions immediately. It forced educators to suddenly shift to an online mode of teaching. During this tough time, the concern is not only about whether online teaching–learning methods can provide quality education, but also about how educators and students will be able to adopt online teaching and learning in such a massive manner. E-learning is student-centered; therefore, students' satisfaction is a main factor

considered in evaluating its quality (Bashir, 2019, Mtebe & Raisamo, 2014; Naaj et al. 2012). As e-learning appeared to be the only educational solution during the coronavirus epidemic and the curfew consequences, it is vital to evaluate the e-learning experience from a student's perspective. Another key issue associated with this evaluation is examining the barriers hindering students' academic progress during this crisis.

Technology has become a main element of education in the 21st century. The increasing use of technology in education has modified teachers' methods (Alrantisi, 2020, Onyema & Deborah, 2019). Graham (2006) has illustrated that e-learning changes the way learners learn and the way teachers teach. Online education is a general concept for teaching and learning online with the aid of technology tools and platforms. E-learning is the common term for e-learning. The e-learning is flexible and self-paced (Alepis & Virvou, 2014; Alrantisi, 2020; Graff 2003; Kabassi et al., 2016; Rababaa, 2020; Terrell & Dringus 2000; Virvou & Alepis 2013). Furthermore, the learning process itself may be promoted through technology because of the flexible content access and the alternative communication channels (Kabassi et al., 2016; Malkawi et al., 2021; Nikolaidou et al., 2010). E-learning provides a flexible platform which meets the various learning styles and needs of the students (Naaj et al. 2012, Garrison & Kanuka, 2004; Holley & Dobson, 2008).

The transformation from traditional instruction into e-learning occurs gradually and needs quality changes in the processes of planning and management of higher education (Yekefallah et al., 2021; Žuvic-Butorac et al., 2011). During the period of the COVID 19 epidemic, most aspects of education are going digital, and education participants, including students, are opposed to the challenge of the sudden transition to online education. The success of online education depends on aspects such as, good internet connections, digital skills, learning software, availability and access to technology (Alalem, 2020; Malkawi et al., 2021; Onyema et al., 2020). Online lectures, digital instructional materials, and virtual classroom sessions require digital technologies. Therefore, teachers and students are obligated to enhance their digital capabilities while adopting online teaching and

learning for emergency distance learning during the pandemic.

Different tools and platforms have been developed for e-learning. Online education platforms are vital tools that support inclusive education and e-learning. The learning management systems (LMSs) are mainly used in higher educational institutions such as universities (Alrantisi, 2020; Kabassi et al. 2016; Mtebe, & Raisamo, 2014). In the last decade, many countries, including Jordan, have adopted the LMS to complement traditional face-to face education. Jordanian universities made a concerted effort to integrate LMSs. However, during the COVID-19 Coronavirus crisis the use of totally e-learning became a necessity, not an option as it used to be before this invader epidemic. The LMS is widused to facilitate online education, particularly in times of outbreaks like the Coronavirus pandemic (Alalem, 2020; Alrantisi, 2020; Onyema et al., 2020). There are many features of these systems that make them suitable for university courses. They are reusable and not static (Kabassi et al., 2016). LMSs offer instructors the ability to design and manage their courses the way they choose (Kabassi et al., 2016). The good application of LMS has the potential to decrease costs, broaden access, and improve the quality of education (Mtebe & Raisamo, 2014).

A large body of research examines students' satisfaction for being essential for a successful implementation of e-learning (Al Mulhem, 2020; Mtebe & Raisamo, 2014; Kabassi et al. 2016; Naaj et al. 2012; Bashir, 2019). The Sloan Consortium (2011) illustrates that students' satisfaction indicates students are successful and enjoy their learning experience. A significant body of research indicates the same point of view (Bashir, 2020; Naaj et al., 2012; Sweeny & Ingram, 2001). Students' satisfaction is a main factor considered in evaluating the quality of e-learning (Al Mulhem, 2020; Bashir, 2019, Mtebe & Raisamo, 2014; Naaj et al. 2012). According to Mtebe and Raisamo (2014), students' satisfaction increases the usage of the LMS. Their satisfaction means that using an LMS is beneficial to their learning.

Some research has revealed that students who use e-learning may struggle while adjusting to this learning approach (e.g., Bonk et al. 2002). Gradually, they become more familiar and satisfied with the e-learning process. Students' satisfaction is important because of its impact on

their motivation (Chute et al., 1999; Donahue & Wong; 1997; Naaj et al., 2012). Students' motivation has a significant influence on their success (Bashir, 2019, Naaj et al., 2012; Wentzel, 1997) and their intention to continue their studies (Bashir, 2019). Therefore, meeting students' expectations satisfies students and provides a free promotion for the university for being the university's customers (AlShuaiby & Ateeko, 2019; Bashir, 2019; Naaj et al., 2012).

Lately, there is an increasing concern among institutions that adopt e-learning regarding the equality of the educational process (AlShuaiby & Ateeko, 2019; Agariya & Singh, 2012; Oliver & Trigwell, 2005). This concern is derived from the indicators that show students' dissatisfaction with the e-learning experience. Research shows that the percentage of wasting participants in e-learning is 10-20% (Uppal et al., 2018). This may be due to the low quality of the provided educational service (Levy, 2007; Lykourantzou et al., 2009). The quality of e-learning is the contrast between students' expectations and reality of the provided e-learning, including its content and design (AlShuaiby & Ateeko, 2019, Bashir, 2019). Therefore, universities should take in account factors that influence students' satisfaction with the LMS that they offer (Shehzadi et al., 2020). Al Shuaiby and Ateeko, (2019) emphasize that the quality of e-learning has not been studied enough compared to the increasing adoption of e-learning in the field.

The coronavirus outbreak has forced millions of students to study and learn from home. Many educators, learners, and parents could find online education very challenging, especially when they encounter limitations regarding accessibility, availability, and use of technology. Students need digital skills to be successful in e-learning (Alrantisi, 2020; Belanger & Jordan, 2000; Malkawi et al., 2021). Being unfamiliar with technology used in the course, students become frustrated and express lower satisfaction levels (Alalem, 2020; Alrantisi, 2020; Hara & Kling, 2001). There are a lot of other factors that hinder e-learning, such as network issues, the high cost of accessing online education, poor digital skills, poor power supply, distractions, availability, and inaccessibility issues. Students were expected to optimize the Coronavirus mandatory school closures to expand their digital capabilities, and learning skills (Alrantisi, 2020; Oneyama et al, 2020), especially self-learning

skills (Rababaa, 2020). Literature shows that quality assessment instruments in the sector of higher education focus on the gap between students' expectations and the provided service (AlShuaiby & Ateeko, 2019; Bashir, 2019). Therefore, this study examines the boundaries that students face, which are caused by the failure of the service offered by the LMS to meet their expectations.

Research Problem

The experience of e-learning and teaching has been applied in a forced manner due to the pandemic COVID-19, so that students are learning online without prior preparation or complete equipment, and several terms have passed in which the process has been repeated. Since the students are the targets of this process, it is necessary to survey their opinions about its effectiveness and their levels of satisfaction with it, in addition to diagnosing the obstacles and challenges they faced during this pandemic at the University of Jordan. So, the objectives of the study are constructing two instruments. One of them is to assess students' satisfaction with e-learning, and the other is to diagnose the challenges that hinder their learning during the e-learning process. Furthermore, this research looks at how these satisfactions and challenges differ based on specific variables (gender, academic level, and faculty in Jordan. The University of Jordan is a large and highly diverse university, which makes the findings of this study very important and relevant for most public institutions in the country.

This study aims to answer the following questions:

- What are the levels of students' satisfaction with the e-learning experience, from their own perspective? Are these levels different according to gender, academic level, and faculty of study?
- What are the levels of obstacles to the e-learning experience at the University of Jordan from their perspective? Are these levels different according to gender, academic year, and faculty of study?

Research Methodology

Analytical descriptive methodology was used to analyze the data in this study. mean, standard deviations, and a 3-way ANOVA to assess and distinguish the level of students' satisfaction with e-learning experience and obstacles to its use.

Population and Sample

The population of the current study consisted of all students at the University of Jordan in 2019-2020. The sample size for the students' satisfaction survey was 361 (82 male and 279 female) students, and 205 students for the e-learning obstacles survey. It is a convenience sample because participants are selected based on availability.

Table 1.

Study sample according to study independent variable

SAMPLE	SAMPLE SIZE	GENDER	NUMBER	PERCENTAGE
Students' satisfaction survey	361	Male	82	22.6
		Female	279	76.9
Obstacles of use survey	205	Male	82	39.8
		Female	123	59.7

Instrument and Procedures

The data comes from an original survey of graduate and undergraduate students at the University of Jordan. Like other higher educational institutions in Jordan (and mostly the world), the second semester started in February 2020. However, in the middle of March, the ministry of higher education announced that instruction would be moved online and that students would be forbidden from entering university campuses.

The present study created two instruments, each of them a 5-Likert scale: the first one for evaluating students' satisfaction with the e-learning experience at the University of Jordan from a student perspective. It consists of 32 items divided into three dimensions, which are the instructor, technology, and assignments. The second scale for evaluating the obstacles to e-learning use at the University of Jordan from a students' perspective. It consists of 26 items divided into two dimensions, which are the obstacles concerning students and the use of technology. Each item of both instruments is followed by a 5-Likert scale (very satisfied 5, satisfied 4, neutral 3, unsatisfied 2, very unsatisfied 1), and since the scale used is from five points, the mean

was considered as follows: from (1 to 1.33) low, from (1.34 to 2.66) moderate, and from (3.67 to 5) high).

The two surveys were constructed using Google forms, and the link was distributed to the students via the university's main platform, social media channels, and some volunteers, as we could not reach the students directly because of the curfew. The data was collected during two semesters.

To verify the validity of the two surveys, face validity was used. Nine specialists in educational measurement and evaluation and curricula were asked to arbitrate the items of the instrument to ensure suitability and clarity. They were asked to correct the unsuitable items and to delete or add any other fit items. Then the instrument was revised according to the specialists' feedback. The item was accepted when 85% of the specialists agreed to it. Furthermore, corrected item total correlation was calculated as a constructed validity index. Table 2 shows that all correlations were positive and ranged from 0.317 to 0.876. This result indicated that all items could be considered acceptable (deVaus, 2004).

Table 2.

Corrected item total correlation (r) as an indicator for construct validity

ITEM	r								
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Items of satisfaction of e-learning survey	a1	.317	a15	.850	a29	.818	B1	.604	B16	.548
	a2	.377	a16	.849	a30	.687	B2	.724	B17	.629
	a3	.463	a17	.876	a31	.773	B3	.702	B18	.732
	a4	.472	a18	.848	a32	.862	B4	.775	B19	.710
	a5	.431	a19	.829			B5	.729	B20	.693
	a6	.427	a20	.780			B6	.593	B21	.704
	a7	.405	a21	.717			B8	.674	B22	.688
	a8	.401	a22	.752			B9	.665	B23	.714
	a9	.397	a23	.730			B10	.655	B24	.782
	a10	.465	a24	.694			B11	.715	B25	.688
	a11	.415	a25	.731			B12	.517	B26	.797
	a12	.462	a26	.830			B13	.572		
	a13	.473	a27	.815			B14	.668		
	a14	.797	a28	.702			B15	.604		

To verify the reliability of the two surveys, Internal consistency coefficient for the students' satisfaction survey was (0.98) and (0.95) for the

e-learning obstacles survey. Table 3 shows internal consistency coefficients, and they are all high (DeVon et al. 2007).

Table 3.

Internal consistency coefficients for each survey's dimensions

SURVEY	DIMENSION	NUMBER OF ITEMS	INTERNAL consistency
Dimensions of students' satisfaction survey	Instructor	10	0.96
	Technology	12	0.96
	Assignments	10	0.95
	Total	32	0.98
Dimensions of e-learning obstacles survey	Obstacles concerning students	14	0.91
	Obstacles concerning the use	12	0.93
	Total	26	0.95

Results

In general, students' satisfaction with the e-learning experience from their own perspective was moderate. The means and standard deviations in descending order for the satisfactions in the three dimensions were calculated. Table 4

shows moderate and low levels of satisfaction in the three dimensions. Students' satisfaction related to the instructor comes in first place (mean = 2.5), while the dimension of assignments comes last (mean = 2.02). The total of students' satisfaction was 2.41, which is moderate.

Table 4.

Means and standard deviations of students' satisfaction survey dimensions

DIMENSION	NUMBER OF ITEMS	MEANS	ST DEVIATION
Instructor	10	2.50 moderate	.938
Technology	12	2.37 moderate	.889
Assignments	10	2.20 low	.800
Total	32	2.41 moderate	.881

To explain the results of each dimension, the mean and standard deviation for all items were calculated. For the first dimension related to the instructor, table (5) below shows the means and

standard deviations of the (10) items included in this dimension and the total mean of this dimension.

Table 5.

Means and Standard. deviation of items for the first dimension related to the instructor

ITEM #	ITEMS	MEANS	ST. D
1	Instructors are capable of e-learning.	2.60	.97
2	Instructors communicate actively through the e-learning system.	2.70	1.00
3	Instructors apply a variety of teaching methods.	2.27	1.02
4	Instructors encourage students to participate in seminars via e-	2.50	1.16
5	Instructors create learning materials effectively.	2.47	1.06
6	Instructors treat students objectively through e-learning.	2.53	1.08
7	Instructors create good relationships with students through e-learn-	2.53	1.15
8	Instructors motivate learners' curiosity through e-learning.	2.32	1.09
9	Instructors show sufficient flexibility through all stages of the e-	2.36	1.03
10	Instructors are committed to the course syllabus through e-learn-	2.98	1.17
	Total	2.50	.93

From the table 5, we can see that the means of the items in this dimension were (2.27–2.98) and the total mean was (2.50). Item (3), which states "instructors apply a variety of teaching methods," has the least mean (2.27). The highest mean (2.98) was for item (10), which states "instructors are committed to the course syllabus through e-learning."

For the second dimension related to technology, table (6) below shows that the means of items in this dimension ranged between (2.08) and (2.78). Item (14), which states "activities through e-learning systems are attractive and interesting", has the least mean (2.08) and item (21) (which states "e-learning systems maintain user privacy") has the highest mean (2.78). The results show that the total mean was (2.37), which is moderate.

Table 6.

Means and standard deviations of satisfaction levels related to technology.

ITEM #	ITEMS	MEANS	ST. D
11	The e-learning systems that are being used are effective at implementing the learning process.	2.29	1.09
12	The use of e-learning systems is easy.	2.33	1.06
13	E-learning systems are easy to use.	2.45	1.11
14	Activities through e-learning systems are attractive and interesting.	2.08	.98
15	Assignments are flexible through e-learning systems.	2.30	1.04

16	The applications used through e-learning meet all the learning needs of students.	2.14	1.00
17	E-learning systems offer an abundance of options.	2.26	1.03
18	E-learning systems are flexible.	2.22	1.04
19	E-learning systems offer the ability to edit, and improv as needed.	2.38	1.08
20	E-learning systems include hyperlinks related to the learning topic.	2.59	1.06
21	E-learning systems maintain user privacy.	2.78	1.06
22	E-learning systems include simultaneous calling services.	2.414	.93
	Total	2.37	.88

As for students' satisfaction with the assignments provided to them online, table (7) shows that the means of items in this dimension ranged between (2.08) and (2.62). Item (28), which states, "Instructors follow up assignments individually through e-learning," has the lowest

mean (2.08). Item (30), which states "deadlines of assignments are suitable," has the highest mean (2.62). The total mean for the assignment demission was (2.20), which is low.

Table 7

Means and standard deviation related to online assignments.

ITEM #	ITEMS	MEANS	ST. D
23	I can upload assignments easily.	2.57	1.16
25	I cooperate with my colleagues through e-learning systems.	2.46	1.05
25	Assignments through e-learning are connected to the course requirements.	3.09	1.17
26	Assignments through e-learning encourage learning new technical skills.	2.46	1.13
27	Assignment through e-learning improves higher intellectual skills.	2.40	1.12
28	Instructors follow up assignments individually through e-learning.	2.08	.98
29	Assignments through e-learning consider individual differences.	2.21	1.04
30	Deadlines for assignments are suitable.	2.62	1.14
31	I receive objective feedback for my assignments.	2.28	1.05
32	I understand assignments through e-learning easily.	2.47	1.12
	Total	2.20	.80

A 3-way analysis of variance was conducted to investigate if satisfaction means are different according to gender, academic level, and faculty of study. Table (8) shows that academic level causes significant differences at the level of (0.05) ($F = 8.09$, $P = .005$). Graduate students

had the highest satisfaction level of (2.84). However, undergraduate students' mean satisfaction level was 2.4. p-values indicated that there were no differences in the level of satisfaction due to gender and academic level.

Table 8

3-way analysis of the variance of gender, level, and faculty on satisfaction with e-learning

SOURCE	SUM OF SQUARES	df	MEAN	F	P-value
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Gender	.441	1	.441	.587	.444
Level	6.086	1	6.086	8.090	.005*
Faculty	4.380	2	2.190	2.911	.056
Error	264.060	351	.752		
Total	2356.409	356			

*Significant at level (0.05)

Regarding the challenges that students face during the e-learning experience, table (9) shows the means and standard deviations of obstacles

items. The highest mean was related to the technology dimension, which was 3.91, while the mean obstacles related to the students themselves was 2.94. The total mean was (3.43).

Table 9

Means and standard deviations for obstacles related to e-learning.

DIMENSION	ITEM NUMBER	MEANS	ST DEVIATION
Obstacles related to students	14	2.94 moderate	.778
Obstacles related to technology	12	3.91 high	.891
Total	26	3.43 high	.802

To diagnose the obstacles faced by the students in these dimensions in some detail, table (10) shows that the means for items in this dimension ranged between (2.41) and (3.95). Item (11), which states, "I don't have a smart phone to follow up the e-learning process," had the lowest

mean (2.41). However, item (10) which states "E-learning decreases my learning motivation" had the highest mean (3.95). The total mean of the obstacles related to students was (2.95), which is moderate.

Table 10

Means and standard deviations for obstacles related to students

ITEM#	ITEMS	MEANS	ST.D
1	My lack of technical skills.	3.15	1.19
2	Not being able to understand the material.	3.64	1.18
3	I don't believe in e-learning effectiveness.	3.86	1.23
4	It's hard to remember what I learned through e-learning.	3.82	1.17
5	I don't have skills to navigate e-learning websites.	3.04	1.30
6	I have difficulties using English through e-learning systems.	3.37	1.29
7	The lack of privacy through e-learning.	3.26	1.26
8	Distracted by social networking websites while using an e-learning system.	4.06	1.07
9	Not knowing colleagues prevents my participation in e-learning discussions.	3.56	1.21

10	E-learning decreases my learning motivation.	3.95	1.16
11	I don't have a smart phone to follow up the e-learning process.	2.41	1.29
12	I don't have an internet connection in my house.	3.23	1.45
13	I can't afford internet bills.	3.15	1.19
14	I don't have a PC in my house.	3.64	1.18
	Total	2.95	.77

For the obstacles related to technology usage, table (11) below shows that the means of items in this dimension ranged between (3.30) and (4.29). Item (16), which states, "The learning

content through the e-learning system is confusing," had the lowest mean (3.30). Item (22), on the other hand, had the highest mean (4.29). The total mean of obstacles related to students was 3.85, which is high.

Table 11

Means and standard deviations for obstacles related to technology usage.

ITEM #	ITEMS	MEANS	ST. D
15	The slow internet and disconnection.	3.33	1.45
16	The learning content through the e-learning system is confusing.	3.30	1.58
17	The feedback provided through the e-learning system is too general and not enough.	4.11	1.15
18	The limitation of the types of files and file sizes.	4.03	1.06
19	The E-learning system enforces a limited time for submitting tasks.	3.98	1.12
20	Slow connection with e-learning websites.	3.85	1.16
21	Not enough communication between the instructor and the students through e-learning.	3.85	1.17
22	I focus on the use of the computer more than focusing on the learning material.	4.29	1.01
23	E-learning wastes time and effort compared to traditional methods.	4.11	1.06
24	The student wastes time learning how to use the e-learning system.	3.99	1.14
25	The consistent disconnection while using e-learning websites.	4.07	1.09
26	E-learning systems ignore the emotional dimension of the students.	3.85	1.16
	Total	3.91	

A three-way analysis of variance was conducted to calculate the differences in obstacles related to students according to gender, academic level, and faculty. Table 12 demonstrates that there are

significant gender differences in e-learning obstacles ($F = 4.272$, $p = .041$). The differences were in favor of females, while there were no statistically significant differences attributed to faculty.

Table 12

A-3way analysis of variance for the effect of gender, academic level, and faculty on e-learning obstacles.

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	SIG.
Gender	2.740	1	2.740	4.272	.040*
Academic Level	1.837	1	1.837	2.863	.092
Faculty	.862	2	.431	.672	.512
Error	126.997	198	.641		
Total	2525.144	203			

*Significant at level (0.05)

Discussion

Students' satisfaction is an important aspect studied in evaluating the quality of e-learning (Al Mulhem, 2020; Bashir, 2019, Mtebe & Raisamo, 2014; Naaj et al. 2012). Therefore, it is a main factor that has been examined in this study. When students are satisfied with the learning approach, it indicates that they succeed and enjoy their learning. The success of e-learning depends on many factors. Some of these factors are related to the instructor and the educational materials. Others are related to technology, such as internet connections and access to technology (Alalem, 2020; Malkawi et al., 2021; Onyema et al., 2020). As a result, instructors and students need to enhance their digital capabilities while applying e-learning.

Generally, the results of the current study show medium and low levels of student satisfaction, which may be considered a serious concern for educational institutions. The indicators that present students' dissatisfaction with e-learning experiences led to an increasing concern among educational institutions that implement e-learning regarding the equality of the educational process (AlShuaiby & Ateeko, 2019; Agariya & Singh, 2012; Oliver & Trigwill, 2005).

Research before the pandemic showed that the percentage of wasting students in e-learning was 10–20% (Uppal et al., 2018). This may be caused by the low quality of the educational service provided (Levy, 2007; Lykourantzou et al., 2009) and students' dissatisfaction. The quality of e-learning is the difference between students' expectations of their learning and their experience of the provided e-learning, including its content and design (AlShuaiby &

Ateeko, 2019, Bashir, 2019). Recent research, which was conducted after the pandemic of coronavirus, shows various levels of satisfaction. According to some studies (e.g., Malkawi et al., 2021), students are generally satisfied. Other studies, such as the current one, found medium-to low levels of students' satisfaction. Other studies found that quality factors affect students' satisfaction, such as interactivity, system quality, and course design (AlMulhem, 2020; Cheng, 2020). Other studies (e.g., Yekfallah et al., 2021), such as the current, found medium-to-low levels of student satisfaction.

The results showed that graduate students had a higher satisfaction level compared with undergraduate students. This can be tied to the higher motivation levels they have compared to undergraduate students. Students' motivation has a significant influence on their intention to continue their studies (Alassaf & Szalay, 2020; Bashir, 2019). In addition, students' motivation has a significant influence on their success (Bashir, 2019, Naaj et al., 2012; Wentzel 1997). In this case, their success is shown by coping with the e-learning approach. Students' motivation has a significant influence on their intention to continue their studies (Bashir, 2019). Higher satisfaction is correlated with higher motivation. Therefore, meeting students' expectations satisfies them and provides a free promotion for the university for being the university's customers (Bashir, 2019, Naaj et al., 2012; AlShuaiby, & Ateeko, 2019). However, this result contrasts with the results of some previous research (e. g. Alassaf & Szalay, 2020), which did not find any differences between graduate and undergraduate students in terms of satisfaction with e-learning.

Typically, the alteration from traditional instruction to e-learning happens gradually. This transformation of instruction approach needs quality changes in the processes of planning and management of higher education (Yekefallah et al., 2021; Žuvic-Butorac et al., 2011). However, this gradual change was not the case when e-learning became a reality within a day and a night.

Some research has discovered that students who use e-learning may struggle while adjusting to this learning approach (e.g., Bonk et al. 2002). Gradually, they become more familiar and satisfied with the e-learning process. The results of this study confirm that students encountered various obstacles to the innovative learning approach that they have been forced to experience during the coronavirus pandemic.

This study's findings are consistent with the literature, which demonstrates the frustration effect that students face due to a lack of digital skills (Alalem, 2020; Alrantisi, 2020; Hara & Kling, 2001), which they require to be successful in e-learning (Alrantisi, 2020; Belanger & Jordan, 2000). The results of this study and previous research emphasize the fact that there are a lot of factors related to technology usage that hinder e-learning. Network issues, the high cost of accessing online education, poor digital skills, poor power supply, distractions, availability, and inaccessibility issues are the most common obstacles (Alrantisi, 2020; Oneyrna et al, 2020). According to these results, students need to improve their digital capabilities, and learning skills (Alrantisi, 2020; Oneyrna et al, 2020), especially self-learning skills (Rababaa, 2020).

Conclusions

The study showed that the levels of students' satisfaction with the e-learning experience were generally low, and it showed that the level of satisfaction of graduate students was greater than that of undergraduate students. As for the obstacles to the e-learning experience, they came from technology more than the students themselves, and these obstacles were more common among females than males.

Recommendations

The study recommends working to improve and develop the e-learning experience in universities in terms of training instructors to use platforms and methods of managing e-learning in terms of educational content, following up on students and communicating with them, and facilitating their access to the necessary equipment for e-learning. Researchers can expand the study to include a larger number of universities instead of just one to generalize the results, and compare the level of students' satisfaction with e-learning with other countries that went through the same experience.

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