

The Attitudes of Yarmouk University Students Towards E-Learning in Light of The Corona Pandemic and The Obstacles Facing Its Implementation from Their Viewpoint

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Article Info	Abstract
Article History Received: July 14, 2024 Accepted: October 14, 2024	<i>The purpose of the current study is to investigate the attitudes of Yarmouk University students towards e-learning as well as exploring the difficulties facing its implementation in Yarmouk University as perceived by the students. Furthermore, to identify the relationship between students' attitudes and the difficulties that face its implementation. The study adopted the descriptive approach through a questionnaire consisted of (33) items after checking its validity and reliability, then transformed to electronic form and distributed to scientific and humanitarian colleges, (647) male and female Bs degree students responded to it. The findings of the study were as follows: The attitudes of Yarmouk University students towards e-learning scored a mean of (2.89) with an average degree. There are significant statistical differences in students' attitudes towards electronic science due to the gender variable, in favor of males, and there are differences attributed to the variable of the place of residence, in favor of students who live in the city. While there are no significant statistical differences attributed to the college variable. The difficulties facing the implementation of e-learning at Yarmouk University from the students' point of view scored a large degree with a mean of (3.53). There are significant statistical differences between the means of responses of the study sample about the difficulties facing the implementation of e-learning at Yarmouk University due to the gender variable in favor of females, and there were differences according to the faculty variable, in favor of humanitarian colleges. While there are no differences according to the place of residence. There is a negative correlation with statistical significance at the level of ($\alpha=0.05$) between the difficulties facing the implementation of e-learning at Yarmouk University and their attitudes towards e-learning.</i>
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Introduction

This modern era is defined by knowledge explosion, information revolution, technological change, which is experiencing accelerated progress, and the abundance of its technical means. Hence, it is justifiably called the digital age. Notably, countries are eager to compete technologically to play a prominent role in the advancement of their societies and civilized progress. Therefore, developed countries prioritize it in their educational programs and policies.

Technology plays an influential role in promoting and developing the educational process, whether inside or outside the scope of educational institutions. Past years have witnessed rapid scientific evolutions in the field of information technology, and they will expectedly increase in a way that it is challenging for those interested in education to keep up with it unless they efficiently respond and adapt to these technological changes. Without a doubt, the advancement of digital technology has contributed to the prevalence of employing technology in the learning process, which has increased the efficiency of various forms of education and the emergence of new and more effective forms, such as e-learning (Khasawneh, 2019).

E-learning has emerged because of the astounding evolution in the ample usage of the global information network via the Internet, as it is based on employing and exploiting modern technologies such as the Internet, video conferences, and electronic chat rooms, and social networks such as Facebook and Twitter in providing an interactive educational environment. This environment seeks to achieve educational goals by delivering advances in educational content, in terms of quantity and quality, to students with the least amount of effort, in the shortest amount of time, and with the greatest benefit (Al-Hajaya, 2013).

Al-Khasawneh (2012) asserted that making a change in higher education institutions requires the provision of an academic and administrative environment that supports activate and modernize the Internet in

universities and improve the infrastructure. Furthermore, it requires producing electronic content for academic courses in both English and Arabic, qualifies faculty members, and modernizes educational methods.

The basic concept of e-learning is based on the faculty member working on developing and designing an effective learning environment that focuses primarily on the learner's characteristics, the learning content and presenting it in any place or time by using modern technical digital media that support the educational process without the need for the physical environment such as traditional lecture halls and classes (Al-Zboun and Al-Rawahneh, 2018).

The best-advanced universities in the world such as Peking University, Harvard, Massachusetts Institute of Technology, the University of Oxford, and the University of Cambridge have sought to gradually transfer their programs via the Internet due to the advantages that this type of education achieves, and to invest in advanced digital technology (Bao, 2020). E-learning is seen as the dominant educational pattern in the future, as the current generation is distinguished by its attachment to smartphones and the use of various applications. The integration of technology in the educational process, therefore, has become a global trend, and interaction with educational activities through mobile devices has become a catalyst for learning (Yulia, 2020).

The application of technology in its various forms in the teaching and learning process is a significant revolution that has affected the education process. Generally, this method relies on setting individuals in a single learning environment without regard for distances, as the information reaches everyone at the same time. This leads to the individual's appreciation of the information obtained through his own experiences, and the effort he employed in obtaining the information (McGhee & Kozoma, 2012).

E-learning is considered one of the most recent developments, due to its new and useful features (Al-Omari, 2014). It is also considered one of the modern trends in the education system, and the most important modern learning methods, as it facilitates solving the problem of crowded lecture halls, the problem of knowledge explosion, and the increasing demand for education (Al-Shannaq and Bani Domi, 2009). Although e-learning is a recent revolution in the era of globalization, in which many modern technological means are applied in higher education, this type of education faces many administrative, financial, and human obstacles, and some negative attitudes among faculty members and students towards the application of this learning. Type of education (Al-Abadi and Zakaria, 2014).

Al-Omari (2015) sees that the process of using e-learning encounters various challenges, the most important of which are the lack of clarity of the goals of e-learning, the awareness of faculty members and students of the real reasons for its application and use in university education. Moreover, the weakness of the infrastructure, the low quality of the curricula used, the absence of a clear strategic plan that activates the role of e-learning in university education, and the low attitude towards the use of e-learning among the faculty members and students. Islami et al (2015) specified the challenges that academics encounter in the use and success of e-learning in the academic environment. the most important of these challenges are the technical challenge, the financial challenge, challenges related to faculty members and students.

The infrastructure and the availability of the necessary equipment for the e-learning process are also among the challenges that universities face in general. Among the obstacles that Jordanian universities faced in the implementation of e-learning are the slow internet, the lack of electronic protection for the educational process, and its exposure to various dangers including the penetration by hackers to sabotaging the educational process presented to students remotely and to reducing its sustainability and impeding it. In addition to the absence of the e-learning culture for faculty members, and the weak infrastructure of universities for the use of e-learning (Tamimi, 2020).

The researchers examined diverse previous studies related to the subject of the study, the most relevant are presented here in chronological order from oldest to newest, as follows:

Akbulut et al. (2011) conducted a study that aimed to identify the attitudes of faculty members towards integrating information and communication technology in Turkish universities. The study sample consisted of (2515) faculty members. The researchers developed a tool to measure the response of the study sample to its questions. The findings showed that the sample members showed their dissatisfaction with the current situation of integrating information and communication technology in Turkish universities and that there are statistically significant differences in the participants' responses attributed to gender and college variables.

In Turkey, Mang & Wardley (2013) carried out a study to assess students' attitudes towards using tablets, such as the Apple iPad, in university classes. The tablets were used to substitute for laptop computers. The study sample consisted of three classes chosen to apply the experiment within the summer semester. iPad devices were distributed to all students participating in the study, and to achieve the study objectives, the questionnaire and class notes were used. The results showed that the students expressed their optimism about the introduction of this technology and its advantages, especially in using it in lectures, in addition to that it contributed to reducing the distraction of students during the lectures.

In Jordan, Al-Omari (2015) examined the reasons for the reluctance of faculty members to use the e-learning system on the Yarmouk University website by using the descriptive survey approach. The researcher distributed a questionnaire to a study sample of (300) faculty members. The results revealed the obstacles facing

the faculty members regarding the use of the e-learning system on the Yarmouk University website. The most notable of these is a lack of infrastructure prepared for the system's use, as well as a lack of students' ability to use the system, in addition to the large faculty member's teaching burden. The results also indicated that there are no statistical differences attributed to the variables of academic rank and years of experience and that the differences are attributed to the college variable that came in favor of human faculties.

Where the study of (Zabadi, & Al-Alawi, 2016) aimed to identify students' attitudes towards e-learning at the University of Science and Technology in Jeddah. The researchers adopted the descriptive approach by applying a questionnaire to a random stratified sample of (371) students. The results showed positive attitudes towards e-learning, to a considerable degree, and there are statistically significant differences between the responses of the participants attributable to the gender variable, and the differences were in favor of males versus females.

Al-Muzayen's (2016) study presented the most prominent impediments to the application of e-learning in Palestinian universities in the governorates of Gaza. A questionnaire consisting of (48) items was applied to (281) male and female students. The findings showed that the most critical obstacles to e-learning are the size of the university curriculum, the students' preoccupation in locations unrelated to education, the lack of computer equipment, in addition to the lack of cooperation between universities in exchanging e-learning experiences. It also showed no differences in the participants' responses due to the variables: gender, college, and specialization.

Al-Dhali (2018) conducted a study to identify the attitudes of faculty members and students at Najran University towards e-learning. The descriptive approach was followed by applying a questionnaire that consisted in its final form of (37) items, on (337) faculty members, and (673) Male and female students. The results of the study showed high positive attitudes towards utilizing e-learning among faculty members and students, and no statistically significant differences among the responses of faculty members attributable to gender and college variables.

Ben Ashi and Ben Ashi (2018) conducted a study in Algeria aimed at identifying the reality of applying e-learning in Algerian universities, the descriptive survey approach was used, the study sample consisted of (300) faculty members, the questionnaire was used as a study tool. The study concluded that the advantages of the application of e-learning in the university include the availability of the desirable features in the e-learning system which students favor, and that the e-learning system provides an appropriate environment for student use. While the negative characteristics of the application of e-learning in the university are the long sitting hours in front of a computer, which causes many diseases, reduces the burden of teachers, and increases the burden of students. Where the most major obstacles are the high cost of maintenance of computers and their accessories and network equipment used in the application of e-learning and the lack of human cadres capable of dealing with the e-learning programs in the university.

Al-Shawarbeh (2019) conducted a study in Jordan, aimed at identifying the degree to which postgraduate students in private Jordanian universities use electronic educational platforms and the degree of their attitudes towards them. The descriptive survey approach was used, the study sample consisted of (302) students, the questionnaire was used as a study tool. The results showed that the degree to which postgraduate students in private Jordanian universities use electronic educational platforms and the degree of their attitudes towards them came to a high degree, and the results also showed that there are statistically significant differences between the responses of the participants due to the gender variable and came in favor of male students. The results also indicated statistically significant differences in the degree of participants' attitudes attributed to the variable of age and specialization.

Abu Shkheidem et al. (2020) investigated the effectiveness of e-learning in light of the spread of the Corona virus from the viewpoint of teachers at Khadouri University. To achieve the goals of the study, the researchers adopted the descriptive and analytical approach. The study sample consisted of (50) faculty members at Khadouri University who taught during the period of the Corona virus outbreak through the e-learning system. Data was collected using a questionnaire consisting of (38) items distributed into four areas. The findings exhibited that the participant's assessments of the effectiveness of e-learning in light of the spread of the Corona virus are average. Furthermore, their assessment of the areas of e-learning continuity, the obstacles of the use of e-learning, the interaction of faculty members with e-learning, and the students' interaction in using e-learning also came at an average degree.

Rafiq et al. (2020) analyzed students' attitudes towards the utilization of e-learning in higher education in Pakistan. The quantitative and qualitative approach was followed by applying a questionnaire and conducting interviews to sample consisted of (2160) male and female students and (20) faculty members specializing in information technology. It was found that positive attitudes to a high degree were reported among students towards e-learning and that there are statistically significant differences between students' attitudes towards e-learning attributed to the gender variable, and the differences are in favor of male students.

Demuyakor's (2020) study identified the perceptions of Ghanaian students in China towards learning via the Internet in Chinese higher education institutions. The descriptive approach was followed through a

questionnaire applied to a sample of Ghanaian students in higher education institutions in China. It was concluded that there are positive attitudes towards online education as a new idea. It was also found that the high cost of the Internet restricts students from using online learning, and one of the obstacles to online learning is the slow speed of the network.

Study problem:

Educational institutions around the world have experienced various challenges due to the outbreak of the corona virus (Covid-19), which resulted in the closure of universities and schools. These emerging situations have urged countries to take advantage of technological advantages, which facilitated the transition to e-learning in schools and universities. Consequently, academics have justified the shift to this type of education as a practical solution to this crisis.

The Corona pandemic urged all countries to resort to employing remote education methods to achieve social distancing. Jordan has responded to this urgent situation by employing e-learning in the Jordanian public and private universities. However, university education suffers from diverse obstacles that hinder the application of e-learning (Al-Tamimi, 2020).

With the emergence of the Corona pandemic, Yarmouk University, like other national and international universities, began to transform to e-learning; however, the application of e-learning has encountered several difficulties that impede its implementation. Students are considered a major focus in university education, and their attitudes towards e-learning have many implications and are of great importance for the success of this type of education. In view of the foregoing, the problem of this study is manifested in revealing the attitudes of Yarmouk University students towards e-learning and identifying the challenges impeding its application according to the study variables.

Study Questions:

The study sought to answer the following questions:

- What are the attitudes of Yarmouk University students towards e-learning from their viewpoint?
- Are there statistically significant differences at the level of statistical significance ($\alpha = 0.05$) for the attitudes of Yarmouk University students towards e-learning from their viewpoint attributed to a variable (gender, place of residence, and college)?
- What are the difficulties facing the application of e-learning at Yarmouk University from the students' viewpoint?
- Are there statistically significant differences at the level of statistical significance ($\alpha = 0.05$) between the arithmetic averages about the difficulties facing the application of e-learning from their viewpoint attributed to the variables: (gender, place of residence, and college)?

Study objectives:

This study aimed to achieve the following goals:

- Revealing the attitudes of Yarmouk University students towards e-learning in light of the Corona pandemic, from their point of view. Identifying the possibility of differences between students' responses in terms of their attitudes towards e-learning due to variables: gender, college, and place of residence.
- Identifying the obstacles facing the application of e-learning at Yarmouk University.
- Revealing the differences between the obstacles facing the application of e-learning at Yarmouk University.

Significance of the study:

The significance of the study can be highlighted in the following points:

- The significance of learning and education, especially, in light of the Corona pandemic which caused the closure of all educational institutions worldwide.
- The importance of investing in the positive aspects of e-learning, and technology through employing them in education.
- E-learning has become a civilized necessity to keep pace with all developments in the increasing demand for education.
- Provide officials with information about the reality of the attitudes towards the use of e-learning to assist them in building the necessary policy to encourage the employment of e-learning and to build a positive attitude towards it.
- Identifying the barriers facing Yarmouk University students in e-learning and working to overcome them and address them by the relevant authorities.

Procedural definitions:

- **Attitudes:** the degree of university students' feeling and inclination towards e-learning, which is measured by the result of their responses to the items contained in the attitude scale that was designed by the researchers.

- **University students:** all students at Yarmouk University in the undergraduate level in the academic year 2020/2021.
- **E-learning:** Providing electronic educational content through computer-based media and its networks to allow the learner to actively interact with the content, the teacher, and peers.
- **Obstacles:** The set of hindrances that limit the effectiveness of the application of e-learning at Yarmouk University, and is measured by the overall degree of participants' responses to the items of e-learning obstacles prepared by the researchers.

The limitations of the research:

- Objective limits: the attitudes of Yarmouk University students towards e-learning, and the obstacles facing its application.
- Human limits: the responses of a sample of Yarmouk University students.
- Spatial limits: the scientific and humanitarian colleges at Yarmouk University.
- Time limits: the first semester of the academic year 2020/2021 AD.

Methods and Procedures:

Study approach:

To achieve the goals of the study and to answer its questions, the descriptive approach was used, as it is the most appropriate method for such a study. Data was collected through the distribution of questionnaires, after collecting them statistical analysis was conducted by appropriate methods.

Study sample:

A questionnaire was applied by sending an electronic link to a random sample of humanities and scientific colleges at Yarmouk University in the first semester of the academic year 2020/2021 AD, and the response link remained open for (18) days, where (647) students responded. Table (1) shows the distribution of the study sample according to the independent variables.

Table (1) Distribution of the respondents according to the levels of its variables

Variables	Category/ level	N	Percentage%
Gender	Male	261	40.3%
	Female	386	59.7%
Place of residence	City	232	35.9%
	village	415	64.1%
College	Scientific	224	34.6%
	Humanities	423	65.4%
	Total	647	100%

Study instrument:

To apply the study instrument; the educational literature, and previous studies regarding students' attitudes towards e-learning, and the difficulties facing e-learning were reviewed. The initial form of the study instrument comprised (21) items about attitudes, and (19) items addressed the obstacles. The respondent puts a sign in front of each item of the domains on a five-point scale (very high, high, medium, low, very low).

Face validity:

The face validity of the instrument was tested by distributing it to (10) faculty members from the College of Education at Yarmouk University, to express their views in terms of the integrity of the linguistic wording of the items, the relevance of the items to their domains, deleting or adding new items. The final form of the instruments after considering the arbitrators' suggestions, comprised (33) Items. (18) Items address attitudes, and (25) Items about the obstacles facing the application of e-learning.

Instrument reliability

The reliability of the study instrument was verified by applying the questionnaire to the pilot sample (30 respondents) twice with a time difference of two weeks, and the Pearson correlation coefficient (reliability coefficient) was calculated between the two applications. It was found that the overall reliability coefficient of the attitudes scale scored (0.891). Likewise, the Pearson correlation coefficient (reliability coefficient) was calculated between the two applications of the scale of the obstacles. The overall reliability coefficient of the difficulty scored (0.921). Accordingly, these values were considered appropriate for achieving the purposes of this study.

Instrument correction:

To calculate the means for the items, domains, and the overall score of the instrument, the statistical criterion is adopted using the following equation: Category range = (highest value - lowest value) divided by the number of options

The range of the category = $5-1 = 4 \div 5 = 0.8$, and thus the correction criterion becomes as shown in Table (2):

Table (2): The statistical criterion for determining the degree of arithmetic means.

Means	Degree
1.00 - 1.80	Very low
1.80 -2.60	Low
2.60 -3.40	Medium
3.40 - 4.20	High
5.00 – 4.20	Very high

Results and discussion

- **The results of the first question: What are the attitudes of Yarmouk University students towards e-learning from their viewpoint?**

To address this question, the means and standard deviations were gauged for the respondents' estimates regarding their attitudes towards e-learning as shown in Table (3).

Table (3): The means and standard deviations of the respondents' estimates for their attitudes towards e-learning arranged in descending order according to the means.

NO.	Items	Mean*	SD	Rank	Degree
17	Enables students to learn in more than one way	3.44	1.229	1	High
18	Enhances students' achievement level	3.40	1.334	2	High
14	Helps students to acquire computer skills	3.39	1.035	3	Medium
6	Encourages students to self-learning	3.18	1.242	4	Medium
12	Expands the communication process between students	3.16	1.299	5	Medium
13	Promotes the communication process between students and the faculty member	3.13	1.105	6	Medium
10	Helps in implementing the plan with the least time and effort	3.12	1.157	7	Medium
9	Speeds up the presentation of the largest amount of information to students	2.99	1.135	8	Medium
15	Gives students the opportunity to manage time	2.98	1.205	9	Medium
16	Reduces the students' level of fear and anxiety	2.89	1.272	10	Medium
8	Students feel comfortable while learning	2.88	1.346	11	Medium
11	Reduces students' questions and inquiries	2.84	1.328	12	Medium
5	Encourages students to participate in activities	2.60	1.269	13	Medium
2	Presents information in a more interesting way	2.50	1.154	14	Low
4	Develops students' thinking skills	2.47	1.138	15	Low
1	Raises students' motivation towards learning	2.45	1.235	16	Low
7	Considering individual differences between students	2.36	1.205	17	Low
3	Increases students' concentration	2.15	1.174	18	Low
	Students' attitudes towards e-learning	2.89	.724		Medium

The lowest score(1) & the highest score (5)*

Table (6) shows that the arithmetic means of the items of this domain ranged between (2.15-3.44) with a (low- high) degree. Item (17) which states “Enables students to learn in more than one way” ranked first with a mean (3.44), a standard deviation (1.229), and a (high) degree, whereas Item (3) implying that “It increases students' concentration” obtained the last place, with a mean (2.15), a standard deviation (1.174) and a (low) degree. This result of this domain may be attributed to the fact that the e-learning experience is generally still a new one for students, which requires them to possess specific skills to properly use e-learning. Besides, the nature of this type of learning differs from the learning methods students experienced from school to university, their attitudes, therefore, appeared moderate. The nature of the communication process between the students and faculty members also plays a role in this result, in addition to the methods of tests which are totally different. No one can deny the difficulties and technical requirements that hindered the success of this type of education that was imposed over countries because of the closure of educational institutions during the Corona pandemic. This result coincides with the result of (Mang and Wardley, 2013), which pointed that students expressed their optimism about the introduction of technology and their advantages to use it in the lectures. It is also consistent with the results of (Demuyakor, 2020), which revealed positive attitudes towards online education as a new

idea. Whereas it is inconsistent with the result of (Zabadi, & Al-Alawi, 2016; Shawarbeh, 2019; Rafiq, 2020), which showed high positive attitudes towards the use of e-learning.

- **The results of the second question: Are there statistically significant differences at the level of statistical significance ($\alpha = 0.05$) for the attitudes of Yarmouk University students towards e-learning from their viewpoint attributed to a variable (gender, place of residence, and college)?**

The means and standard deviations of the respondents' estimates about their attitudes towards e-learning were calculated according to the variable (gender, place of residence, and college), as presented in the following Tables:

First: Gender

The arithmetic means and standard deviations of Yarmouk University students' attitudes towards e-learning were extracted to examine the effect of gender variable, as well as applying the t-tests, as shown in Table (4):

Table (4): T-tests regarding the attitudes of respondents towards e-learning from their viewpoints according to gender (male, female)

Category	N	Means	SD	T-value	Sig
Male	261	2.97	.765	2.466	.014
Female	386	2.83	.690		

Table (4) reveals statistically significant differences at the level of significance ($\alpha < 0.05$) in the responses of the participants of the attitudes towards e-learning attributed to the gender variable and the differences are in favor of males. This result may be attributed to the fact that male students are less interested in education and less committed to attending lectures compared to female students, therefore e-learning has contributed to this attitude among male students, as they are now getting higher grades than before.

This result is consistent with the finding of the study of (Zabadi, & Al-Alawi, 2016), that there are statistically significant differences between the responses of the respondents due to the gender variable, and the differences were in favor of males. It is also compatible with the results of the study of Shawarbeh (2019), which revealed high-level attitudes among students towards e-learning, and the results also showed statistically significant differences between the responses of the participants attributed to the gender variable which came in favor of male students. Rafiq et al. (2020) revealed in their study male students' attitude towards e-learning showed a high positive degree compared to female students, and thus the result of the current study regarding the attitudes toward e-learning are consistent.

Second: The place of residence:

The means and standard deviations of Yarmouk University students' attitudes towards e-learning were extracted according to their place of residence, and the t-test was used as shown in Table (5):

Table (5): The T-test of the attitudes of Yarmouk University students towards e-learning from their point of view according to the place of residence (city, village)

Category	N	Mean	SD	T-value	Sig
City	232	2.90	.698	645	.025
Village	415	2.88	.738		

Table (5) shows that there are statistically significant differences at the level of significance ($\alpha < 0.05$) in the responses of the participants regarding the attitudes of Yarmouk University students towards e-learning from their point of view according to the variable place of residence, and the differences were in favor of a city. This result may be attributed to the fact that students in villages face some technical difficulties, such as the weakness of the Internet connection that hinders the e-learning process. It may also be attributed to the fact that students in villages have a greater desire for non-electronic education and to come to the university campus and receive their education there, due to their positive attitudes towards studying at the university. Whereas students who live in cities may have job opportunities and obtain financial income that reduces the material burden, especially in light of the Corona pandemic, which makes them prefer e-learning because it provides them with sufficient time to do their various work.

Third: College variable

The means and standard deviations of Yarmouk University students' attitudes towards e-learning were extracted from their point of view by college, as well as the T-tests, as presented in Table (6).

Table (6): The "T- test on the attitudes of Yarmouk University students towards e-learning from their point of view according to the college (Humanities , scientific)

Category	N	Means	SD	T-value	Sig
Scientific	224	2.95	.778	1.590	.112
Humanities	423	2.85	.692		

Table (6) indicates that there are no statistically significant differences at the level of significance ($\alpha < 0.05$) in the responses of the participants concerning the attitudes of Yarmouk University students towards e-learning from their point of view attributable to the college variable. This suggests that students in scientific and humanities colleges have the same positions towards e-learning, meaning that students actually favor learning in the university more than remote learning due to the difficulties they encounter when they use e-learning. Besides that, the application of e-learning encounters different difficulties related to the faculty members, students, infrastructure that lowers their positive positions towards it. Additionally, it is difficult for students in science majors to achieve progress remotely, as it is impossible to acquire the required scientific skills and competencies without practical application. On the other hand, students in science majors may not obtain high scores given that the scientific disciplines need constant communication with the faculty member Who teaches the courses, and therefore their attitudes did not come at a great level.

– **The results of the third question: What are the difficulties facing the application of e-learning at Yarmouk University from the students' viewpoint?**

To address this question; The arithmetic means, and standard deviations were computed for the assessments of the respondents on the items of obstacle facing the application of e-learning from their point of view, and each of its areas., as illustrated in Table(7).

Table (7): The means and standard deviations of the respondents' estimates on the items of the obstacles facing the application of e-learning, and each of its fields is arranged in descending order according to the means.

NO.	Domains	Means	SD	Rank	Degree
3	The third domain: the obstacle regarding students	3.87	.802	1	High
1	The first domain: the obstacle regarding the university infrastructure	3.65	.798	2	High
2	The second domain: the obstacle regarding faculty members	3.09	.750	3	Medium
	Difficulties facing the application of e-learning	3.53	.651		High

The lowest score(1) & the highest score (5)*

As shown in Table (7), the obstacles facing the application of e-learning from their viewpoint scored a (high) level with a mean (3.53), and a standard deviation (.651). Where the third domain regarding the obstacles related to students ranked first with a mean (3.87), a standard deviation (.802), and a high degree. The second domain concerning the obstacle regarding the faculty members obtained the last place with a mean (3.09) a (medium) degree and a standard deviation (.750). This result is consistent with the result of (Al-Muzayen's, 2016) study which showed that obstacles to the use of e-learning in Palestinian universities received a high degree. These results are attributed to the fact that Yarmouk University did not have a plan about adopting e-learning in advance, and therefore the Corona pandemic revealed these difficulties that led to the impediment of implementing e-learning effectively. In a matter of fact, the infrastructure of the university does not serve the application of e-learning, lack of devices, in addition to weak maintenance of the devices that contributed to impeding the application of e-learning. We can not ignore the negative stances of many students towards e-learning, and the lack of training courses regarding computer skills and the proper employment of e-learning. The means and standard deviations of the estimates of the respondents were calculated on each of the items of each of the domain as shown below:

The first domain: The university infrastructure

Table (8): The means and standard deviations of the respondents' estimates on the first domain items(the university's infrastructure) in descending order

NO.	Items	Mean*	SD	Rank	Degree
6	Frequent disconnection during the use of the e-learning system	3.96	1.147	1	High
1	Lack of financial means to finance e-learning requirements	3.88	1.102	2	High

3	Poor equipping of laboratories and halls with the necessary modern tools and devices	3.66	1.079	3	High
2	The lack of laboratories available at the university for e-learning processes	3.65	1.073	4	High
5	Weak internet network inside the university	3.63	1.161	5	High
4	The high cost of preparing the software suitable for the e-learning style	3.62	.996	6	High
7	The university does not have a prior e-learning plan in times of crisis	3.57	1.120	7	High
8	Lack of maintenance services for devices periodically	3.44	1.073	8	High
9	Unavailability of specialists in e-learning programs and their requirements	3.41	1.087	9	High
	The first area: the difficulties related to the university's infrastructure	3.65	.798		High

The lowest score(1) & the highest score (5).

Table (8) illustrates that the means of the domain items ranged between (3.41-3.96) with a (high) degree. Item (6) stating "Frequent disconnection during the use of the e-learning system" attained first place with a mean (3.96), a standard deviation (1.147), and a (high) level. Whereas Item (9) stating that " Unavailability of specialists in e-learning programs and its requirements " came in the last place, with a mean (3.41), a standard deviation (1.087), and a (high) degree. This result may be attributed to the university's financial difficulties, and the high indebtedness of the university, which reduces the possibility of providing modern equipment, continuous maintenance of devices, and others. And the lack of a prior plan for e-learning.

The second domain: The obstacle regarding the faculty members.

Table (9): The means and standard deviations of the respondents on the second domain Items in descending order

No.	Items	Mean*	SD	Rank	Degree
8	The faculty members' feeling about the difficulty of shifting towards e-learning	3.35	1.024	1	medium
4	The difficulty faced by faculty members in following up with students	3.31	1.188	2	medium
7	Increase the teaching load of faculty members	3.23	1.135	3	medium
5	Weak participation of faculty members in e-learning training courses	3.11	1.033	4	medium
3	The presence of negative trends among faculty members towards e-learning	3.06	1.151	5	medium
1	The poor level of computer skills of faculty members	3.03	1.091	6	medium
6	Resistance of some faculty members to change	3.01	.993	7	medium
2	Low level of English language among some faculty members	2.59	1.080	8	medium
	Difficulties related to faculty members	3.09	.750		medium

The lowest score(1) & the highest score (5).

As shown in Table (9), the means of the domain Items ranged between (2.59-3.35) with a (medium) degree. Item (8) which stipulated "The faculty members' feeling about the difficulty of shifting towards e-learning" came in first place with a mean (3.35), a standard deviation (1.024), and a (medium) degree. While Item (2) which stated "Low level of English language among some faculty members" ranked last, with a mean (2.59), a standard deviation (1.080), and a (medium) degree. This result may be attributed to the fact that the e-learning process needs an appropriate infrastructure that promotes and contributes to the application of e-learning. If these conditions are sufficed, the faculty members will utilize e-learning, since most of them possess

computer skills. The heavy teaching burden, indeed, is not an obstacle for faculty members to employ e-learning in teaching their students.

The third domain: Obstacles related to students.

Table (10): The means and standard deviations of the participants' estimates on the domain items (obstacle related to students), arranged in descending order according to the means.

NO.	Item	Mean*	SD	Rank	Degree
3	Weak internet connection for some students	4.26	1.068	1	Very high
6	Students feeling anxious when dealing with electronic tests	4.07	1.121	2	High
7	Many students registered for the course.	3.96	1.055	3	High
5	Students' failure to take training courses in the field of e-learning	3.92	1.097	4	High
1	The presence of negative attitudes among students towards e-learning	3.79	1.131	5	High
8	Weak students' interaction with the faculty member	3.70	1.176	6	High
4	Students' preoccupation with websites that have nothing to do with e-learning	3.66	1.277	7	High
2	Students have weak computer skills	3.58	1.118	8	High
	The third area: difficulties related to students	3.87	.802		High

The lowest score(1) & the highest score (5).

Table (10) illustrates that the means of the domain Items ranged between (3.58- 4.26) with a (high) degree. Item (3), which speaks about the difficulty of weak internet connection that students face, ranked first with a mean (4.26), a standard deviation (1.068), and a (high) degree. While Item (2) which states "students have weak computer skills" ranked last, with a mean (3.58), a standard deviation (1.118), and a (high) degree. This result is attributed to the fact that the availability of the Internet is the basis for applying e-learning at the university. Therefore, students see that the poor availability of the Internet impairs learning among students. Undoubtedly, e-learning can not be achieved without the Internet.

The results of the fourth question: Are there statistically significant differences at the level of statistical significance ($\alpha = 0.05$) between the arithmetic averages about the difficulties facing the application of e-learning attributed to the variables: (gender, place of residence, and college)?

First: Gender variable

The means and standard deviations were extracted for the difficulties facing the application of e-learning from their point of view according to gender, and the T-test was used as shown in Table (11):

Table (11): The T-test on the difficulties facing the application of e-learning according to gender (male, female)

Domains	Category	N	Mean	SD	T-value	Sig
Obstacles related to the university's infrastructure	Male	261	3.56	.805	-2.364	.018
	Female	386	3.71	.787		
Obstacles related to the faculty members	Male	261	3.04	.718	-1.161	.246
	Female	386	3.11	.770		

Obstacles related to the students	Male	261	3.74	.825	-3.259	.001
	Female	386	3.95	.777		
Obstacles facing the application of e-learning	Male	261	3.45	.655	-2.750	.006
	Female	386	3.59	.643		

Table (11) shows that there are statistically significant differences at the level of significance ($\alpha < 0.05$) in the responses of the participants about the difficulties facing the application of e-learning due to the gender variable, except the second domain, and the differences were in favor of females. This result may be attributed to the fact that females are more interested in both traditional and electronic learning compared to male students. They, therefore, are more aware of the difficulties than males. Another matter is that staying at home may increase the scope of these difficulties, especially the Internet. This result differs from the result of (Al-Muzayen, 2016), which showed no differences in the responses of the study sample individuals attributable to the gender variable.

Second: The place of residence:

The means and standard deviations of the obstacles facing the application of e-learning were extracted according to the variable of the place of residence, and the t-test was conducted as shown in Table (12):

Table No. (12): The t-tests on the challenges facing the application of e-learning according to the place of residence (city, village)

Domains	Category	NO.	Mean	SD	t-value	sig
Obstacles related to the university's infrastructure.	City	232	3.64	.756	-.127	.899
	Village	415	3.65	.821		
Obstacles related to the faculty members.	City	232	3.11	.711	.531	.596
	Village	415	3.07	.771		
Obstacles related to the students.	City	232	3.86	.770	-.201	.841
	Village	415	3.87	.821		
Obstacles facing the application of e-learning.	City	232	3.54	.613	.069	.945
	Village	415	3.53	.672		

Based on Table (12), there are no statistically significant differences at the level of significance ($\alpha < 0.05$) in the responses of the participants to all domains of the obstacles facing the application of e-learning according to the variable of the place of residence. This result may be attributed to the tangible reality of the application of e-learning at Yarmouk University, especially, in terms of infrastructure hurdles. Generally, students' computer skills at Yarmouk university are weak, they also have some negative attitudes towards e-learning, besides the weak Internet connection in the university, and the lack of financial resources that reduce the availability of devices in laboratories.

Second: The college variable

The means, standard deviations, and the t-test of the obstacle facing the application of e-learning were extracted from their point of view according to the college variable as illustrated in Table (13):

Table (13): T-tests for the difficulties facing the application of e-learning from their point of view, according to the faculty (humanitarian, scientific)

Domains	Category	N	Mean	SD	T- value	Sig
Obstacles related to the university's infrastructure.	Scientific	224	3.59	.818	-1.354	.176

	Humanities	423	3.68	.786		
Obstacles related to the faculty members.	Scientific	224	2.99	.717	-2.318	.021
	Humanities	423	3.13	.763		
Obstacles related to the students.	Scientific	224	3.77	.872	-2.237	.026
	Humanities	423	3.92	.759		
Obstacles facing the application of e-learning	Scientific	224	3.45	.679	-2.363	.018
	Humanities	423	3.58	.632		

Table(13) reveals statistically significant differences at the level of significance ($\alpha < 0.05$) in the responses of the participants to all domains related to the challenges confronting the application of e-learning from their point of view due to the college variable, except the first domain. The differences were in favor of the humanities college. This result may be attributed to the fact that faculty members in humanities colleges have less proficiency with computers and English skills. Furthermore, students in humanities colleges compared to scientific colleges possess fewer computer skills and attitudes towards e-learning. The results did not show differences attributable to the college variable on the field of infrastructure, and this result may be attributed to the fact that the university's infrastructure faces financial and administrative difficulties. This fact does not differ in the scientific colleges from the reality in the humanities colleges. This result is inconsistent with the result of (Al-Muzayen, 2016), which revealed no differences in the participants' responses due to the variable of college.

Recommendations:

Considering the results of the current study, the researchers recommend the following:

- Supporting Yarmouk University financially to provide all the requirements for e-learning such as modern devices to ensure the improvement of the university's infrastructure.
- Conducting specialized training courses for faculty members and students at Yarmouk University in the field of e-learning and computer skills.
- Urging Yarmouk university to demand the faculty member to obtain an ICDL certificate upon appointment to the university, to ensure the possession of computer skills for the application of e-learning.
- Inviting officials at Yarmouk University to provide material and moral incentives to distinguished faculty members who employ e-learning in their teaching process.
- Inviting Yarmouk University to benefit from the e-learning experiences of top institutions, as well as to form e-learning partnerships with the private sector.
- Inviting officials at Yarmouk University to hold seminars and workshops for faculty members and students, to raise awareness of the need to adopt e-learning, especially in light of the Corona pandemic, which worked to close all educational institutions.

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