


A Silver Lining of Coronavirus: Jordanian Universities Turn to Distance Education

Khaleel Bader Bataineh, Irbid National University, Jordan

Mohammed Salem Atoum, Irbid National University, Jordan

 <https://orcid.org/0000-0001-6438-3299>

Lama Ahmad Alsmadi, Applied Science University, Jordan

May Shikhali, Amman Arab University, Jordan

ABSTRACT

Jordan, like other countries in the world, is facing the Coronavirus pandemic and is making a great effort to continue education in Jordanian schools and universities through distance education. To evaluate this novel experience, this study aimed at investigating the effectiveness of distance education in Jordanian universities in light of the Coronavirus pandemic and identifying the obstacles faced by university students. To reach the research objectives, a questionnaire was developed by the researchers followed by semi-structured interviews. A sample of 1000 students was selected randomly from public and private universities. The results revealed that the majority of the Jordanian university students are not pleased with this distance learning experience as most of the students encountered some obstacles such as internet speed, technological difficulties, and online content design.

KEYWORDS

Coronavirus, Distance Education, Effectiveness, Jordan, Obstacles

INTRODUCTION

The world was attacked by the Coronavirus pandemic which has been forcing the world into a series of changes in many fields such as economy, medicine and education. This pandemic has imposed new educational methods such as distance learning in schools, colleges and universities. This new method is considered the sole method to ensure continuity of education in the educational institutions during this pandemic. Despite the partial utilization of e-learning and distance learning in some Arabic and Jordanian universities, it was a surprise to many lecturers and students as well as students' parents. Distance education requires exceptional arrangements, abilities and IT skills in addition to smart devices and applications that enable the videoconferencing communication.

In this respect, the responsibilities of both lecturers and students are numerous and challenging in this unexpected teaching and learning process. This process is a complicated practice that needs considerable efforts to successfully engage students in the classes and achieve the educational objectives. Thus, in distance classes, students should be effectively engaged and

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evaluated precisely. This necessitates a well-qualified lecturer who can cope with this new method perfectly; and well-motivated and skilled students who can also deal with this new method right (Albashtawi, A., & Al Bataineh, K. 2020).

Like all universities of the world, Jordanian universities have shifted to distance education using different online platforms, applications and tools. They have leading roles in turning to distance education utilizing Moodle as a learning management system (LMS) and different online tools such as Zoom application, Microsoft teams, Easyclass, Google classroom for virtual classrooms as well as Facebook and Whatsapp applications to communicate with students and inform them about the latest developments related to the course. Yet, both lecturers and students have been facing some issues adapting the new method. Moreover, the online infrastructure is considered one of the highest barriers that hinder the adaption of online learning (Aljaraideh & Al Bataineh, 2019). This has driven His Majesty King Abdullah II to argue improving the infrastructure and content of the distance education for undergraduate students so Jordanian students can easily access their virtual classes through reliable Internet coverage. Evidently, the distance learning and e-learning, in general, will remain a top priority for all educational institutions in the future.

Consequently, this study is attempting to examine the effectiveness of distance education in Jordanian universities and identify the obstacles faced by university students in light of the Coronavirus pandemic. The study aims at answering the following questions:

RQ1: What is the effectiveness of distance education in Jordanian universities in light of the Coronavirus pandemic?

RQ2: What are the distance education obstacles faced by university students?

The researchers studied these obstacles so as to provide authentic insights in this critical change to distance education. It is worth noting that this study is considered among the first studies that investigate this Jordanian new experience of distance education.

LITERATURE REVIEW

Distance education, initiated in the 1850s, is a learning method that enables communication between teacher and his students remotely without being in traditional classroom. This learning method requires Internet network as well as compatible devices like laptop and cell phone. It facilitates remote teaching and learning, effective engagement, attractive educational content and evaluation. However, many learning management system (LMS), such as Moodle, OpenEdX and Easy LMS, may lend a hand for delivering an educational course effectively. Moodle, the Modular Object-Oriented Dynamic Learning Environment, is utilized by many Jordanian universities (Al Bataineh et al., 2019). Although, there exists a culture of conservatism in Jordanian higher education, e-learning platforms, tools, applications, and lecturers play key roles in distance education and boosting the students' satisfaction level (Al Bataineh et al., 2019; Aljaraideh & Al Bataineh, 2019; Ali, 2011).

Distance education and e-learning are debatable matter for the researchers; many of them Al Bataineh et al. (2019), Traxler (2018), Wu et al. (2011), Chen (2010), and Smart and Capple (2006) stated that e-learning and distance learning are advantageous as it is time and money saving, student-paced learning, free-accessible and many more. In his study, Traxler (2018) maintained that distance learning can extend the access to higher institutions and boost the variety of student population as distance education grants great occasions to study anywhere, anytime from anyone. In addition, Chen (2010) argued the importance of distance learning where students can obtain resources of texts, figures, audio and video, and mutual contact all through online inquiries and hyperlinks.

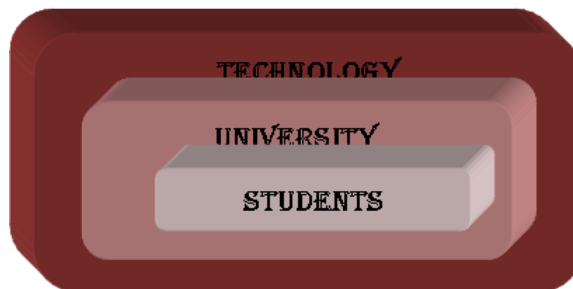
On the other hand, other researchers Freeman and Capper (1999) and Arbaugh (2000) declared that distance learning can be a challenge if it is not applied accurately. They highlighted the disadvantages

of distance learning such as technology availability and complication, students' distractions and hidden costs. It is vitally important that students should have good technology knowledge since there is no face to face contact between lecturers and students. This is a main negative aspect of distance learning (Brown, 2017). Besides, Bijeesh (2017) claimed that students could be easily distracted and lose interest and motivation in distance education. Nagrale (2013) also asserted that for a degree, students should not entirely depend on distance education as it is not accepted by both public and private sectors in the job market.

Today, in the time of Coronavirus pandemic, distance education attains special attention as the sole possible method of education. Locally speaking, Jordan is a ready-tech country where the Internet is available almost everywhere. Though the adaptation of distance education is quite easy, it still found problematical for some lecturers and students. This study attempts to investigate the obstacles that slow-down the process of distance education adaptation.

Many scholars Aljaraideh and Al Bataineh (2019), Tham and Werner (2005), Bernard et al. (2004), Peterson and Bond (2004), and Moore (1991) declared different factors regarding the obstacles of distance learning. In this study, the researchers follow framework who established that the successful distance learning relies on three main components: Student, the institution (University) and technology. Figure 1 shows these relations.

Figure 1. Distance learning relations



These components can be discussed in more details. Firstly, students' satisfaction and performance are influenced by course design, student motivation, encouragement, interaction, autonomy and feedback (Bernard et al, 2004). Secondly, the course design, created by the university, should be attractive enough to increase student motivation and performance. The design of the online course is very essential in the success of distance education (Peterson & Bond, 2004). Lecturers also affect the distance education outcomes through welcoming relationships, immediate feedback, inspiration and technological ability. Thirdly, technology is a great obstacle faced by university students (Aljaraideh & Al Bataineh, 2019). This kind of obstacles can hinder the distance education and increase student's dissatisfaction. Finally, if these factors are investigated and understood properly, the whole distance education process can be improved and so the student and lecturer motivation and satisfaction can be enhanced accordingly.

HIGHER EDUCATION IN JORDAN

The Hashemite Kingdom of Jordan sits in the center of the Middle East. Amman is the capital. The country has a young population of around 10 millions (2018 estimate). Jordan was concerned about building human capabilities through higher education institutions. In 1960s, the Jordanian leadership believed in the necessity of providing university education opportunities for all Jordanians. This

led to establish the University of Jordan in Amman in 1962, followed by other 9 public universities distributed all over the country. Jordan also allowed the private sector to establish universities that are owned and operated by private companies and aim to make a profit. The first private university, Al-Ahliyya Amman University, was established in 1989, followed by 21 private universities and one regional university (Arab Open University). Enrollments ranged from 210.4 students at the public universities and 66161 at the private universities while the number of students in universities issued by special laws, which include the International Islamic Sciences University, Al-Hussein Technical University and the Open Arab University, is 11625 (2019 estimate). Jordanian universities provide postgraduate and undergraduate programs in different majors.

Until the pandemic, distance education was not used with the exception of the Arab Open University which adopts the blended learning method so that the distance education is partially implemented. E-learning is applied in some universities for selected subjects as an attempt to implement online learning to the teaching and learning process. Yet, Jordanian universities are not ready to start distance education for the reason that the lack of intention and acceptance of this type of education. However, the current circumstances of Coronavirus will force all universities to implement distance learning.

METHODOLOGY

Research Design

In this current study, the researchers applied a non-experimental descriptive study utilizing both quantitative and qualitative research methods to gather systematic information about utilizing distance education in Jordanian universities. The researchers sought investigating the effectiveness of distance education and identifying its obstacles faced by the students through two instruments, a questionnaire and semi-instructed interview.

Research Instrumentation

To collect the data, the researchers developed a questionnaire based on their experience and observations. The questionnaire included two sections. The first part was concerning the general information and the second part was related to measure the effectiveness of distance education and identify the obstacles faced by the students. The questionnaire consisted of 24 multiple questions and one open-ended question that cover the objectives of the study. The validity and reliability of the questionnaire were checked correspondingly. The questionnaire was distributed online through Google Forms. After one week, the data of the received questionnaires was analyzed. Descriptive analysis were performed to identify the effectiveness of distance education and to find out the obstacles faced by the students.

As student's attitudes and feelings can never be attained through a questionnaire only, in-depth interviews with a group of students are very much needed. An interview protocol was prepared based on an example given by Rasmussen and Creswell (in Creswell, 1998). The interviews involved 100 students selected from the same study sample. To ensure that the students were well prepared for the interview, they were informed about the purpose of the interview. The interviews were conducting online via Zoom program. The researchers asked the questions and the answers were recorded in the question set and on Zoom as well, in consideration that the researcher had obtained permission from the interviewees. The data was transcribed and then given back to respondents in order to verify their responses to avoid any misrepresentation. The researcher also gave the data to the respondents and non respondents (Inter-rater process) to ensure the validity and reliability. The interview focused on obtaining data regarding the effectiveness of distance education and to find out the obstacles faced by the students.

In summary, using the triangulation method allowed opportunities for a deeper insight into the relationship between the inquiry approach and the phenomenon under study by analyzing the consistencies and inconsistencies across these data (Patton, 2002). This combination of methods of data collection strengthens the qualitative study and augments the possibility of internally valid or trustworthy conclusions and inferences (Tashakkori & Teddle, 1998).

Population, Research Sample and Sample Characteristics

The sample was chosen randomly from all the Jordanian universities. The population of this study consists of 33 universities (9 public universities and 24 private universities). About 360 thousands postgraduates and undergraduates are enrolled in these universities. To represent this population properly, the simple random sampling was chosen. The data was collected from the subjects during the second semester in the academic year 2019/2020.

As shown in Figure 2, one thousand respondents from all Jordanian universities participated in the study questionnaire. The sample of the study includes 549 (54.9%) females and 451 (45.1%) males. They were 483 (48.3%) from public and 517 (51.7%) from private universities. The number of undergraduate students was 871 which is (87.1%) of the sample while the number of postgraduate students was 129 which represents (12.9%) of the whole sample. The subjects vary in using the devices for distance learning.

As shown in Table 1, smartphone (90.4%) was used by the majority of the students for their distance learning experience, followed by laptop (31.6%), personal computer (15.5%), and tablet (5.3%), respectively. Smartphone is widely used among university students in Jordan where the Internet is available in affordable cost and online social media is the primary platform for the university students that replaces the traditional means such as TV and Radio (Azianura & Khaleel, 2015).

Figure 2. Respondents from Jordanian Universities

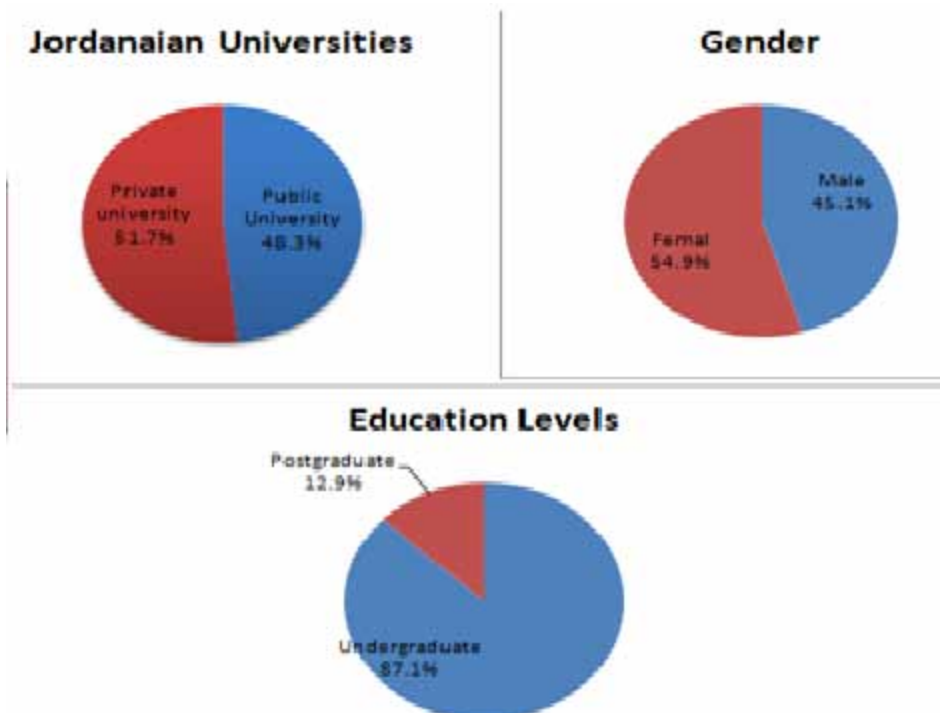


Table 1. Devices used for distance learning

Microsoft Teams	Zoom	Facebook	WhatsApp	YouTube	Moodle	Google Classroom	Others
376	367	361	221	180	59	57	23

FINDINGS AND DISCUSSION

A question pertaining to the applications used in the distance learning was provided to the study students. As shown in Table 2, findings indicate that 37.6% of Jordanian students used Microsoft Teams, followed by Zoom (36.7%), Facebook (36.1%) and WhatsApp (22.1%). The students also used YouTube (18%), Moodle (5.9%), Google Classroom (5.7%) while (2.3%) of the Jordanian students used other applications.

Table 2. Applications used in distance learning

Smartphone	Laptop	PC Computer	Tablet
904	316	156	53

These point out that there is a variety of distance learning applications used by Jordanian students. Microsoft Teams, Zoom and Facebook were widely used though.

The data of the first question pertaining to the effectiveness of distance learning in the light of Coronavirus pandemic indicated that distance learning was in a moderate level as 331 students rated their distance learning experience 3 out of 5. This finding is not surprising as the distance learning experience is still novel and mandatory.

As shown in Table 3, it can be clearly noticed that 30.5% of the students have difficulty accessing the courses and half of them encountered Internet issues as their lectures got interrupted due to Internet speed problems. The speed of the Internet is slow in the world due to the increasing

Table 3. Results of the effectiveness of distance education

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I can access the course easily?	15.5%	34.6%	19.4%	17.7%	12.8%
2. Internet speed is appropriate and I can attend the lecture without any interruption.	8.1%	20.7%	20.9%	29.3%	21%
3. Sufficient information has been provided by the lecturer and the university for using the website of the academic material.	18.2%	37%	22.4%	14%	8.4%
4. The DL content of the academic material is comprehensive and complete.	13.4%	33.4%	22.2%	18.8%	12.2%
5. I feel satisfied with the content displayed online.	12.4%	28.8%	19.4%	21.9%	17.5%
6. DL method is better than the traditional education method.	7.6%	11.5%	14.3%	26.4%	40.2%
7. DL enables learning according to your ability and pace.	9.8%	26.6%	21.6%	24.1%	17.9%

number of Internet users in this pandemic. Videoconferencing for distance learning and business, where you work from home, as well as gaming, messaging and other online activities cause extra Internet traffic. The majority (55.2%) of the students agreed that students were provided sufficient information about using the platform of the academic material. Also, 46.8% of the students believed that the academic material is comprehensive and complete. Although the universities were forced to distance education, universities succeeded in providing the information necessary to guide students and provide comprehensive material. However, 39.4% of the students were still not satisfied with the online content. This finding agrees with Bernard et al. (2004) who stated that students' satisfaction and performance are influenced by course design, student motivation, encouragement, interaction, autonomy and feedback. Although, (42%) of the students agreed that distance learning method enables learning according to student's ability and pace, the majority of these students (66.6%) believed that traditional education method is better than distance learning method. This is due to the fact that distance education is a first experience in Jordan. Jordanian students never went through such method. These findings consent with Bijeesh (2017) who declared that students could be easily destructed and lose interest and motivation in distance education.

As shown in Table 4, it can be clearly noticed that (27.9%) agreed that distance learning helps the students understand the scientific subject smoothly and clearly while half of the students disagreed. Regarding the additional training and skills, (41.1%) of the students agreed that distance learning has a positive effect on their self-thinking skills while (38.7%) of them disagreed. This is for the reason that all the university materials are designed for traditional method. Yet, the distance learning materials should be more attractive and interesting. These findings are in agreement with Peterson and Bond (2004) who affirmed that the design of the online course is very essential in the success of distance education. In general, the majority of the students (52.7%) are dissatisfied with distance learning as most of the students (71.3%) faced problems and obstacles while studying online. Nevertheless, the lecturer-student coordination is still positive as the majority of the students have a constant coordination with their lecturers seeing that they can ask any questions during distance learning and get answers as well as sending and receiving materials freely. Evidently, both lecturers and university seemed to pay great and welcoming efforts in coping with this new method and provide students with all

Table 4. Results of the effectiveness of distance education

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The DL method helped me to understand the scientific subject smoothly and clearly.	7.1%	20.8%	22.1%	27.6%	22.4%
2. The DL provides me with additional training and skills.	10.2%	28.8%	19.3%	24.4%	17.3%
3. Using the DL method has improved my self-thinking skills.	11%	30.1%	20.2%	23.1%	15.6%
4. I feel a general satisfaction because of studying the subject online.	8.2%	21%	18.1%	24.6%	28.1%
5. I faced problems and obstacles while studying the online material.	33.4%	37.9%	14.1%	10.5%	4.1%
6. I can ask any questions or inquiries during DL and get answers.	18.9%	38.1%	18.6%	14.1%	10.3%
7. Sending and receiving academic materials was without any obstacles.	20.3%	31%	13.5%	22.7%	12.5%
8. There is a constant coordination between me and the course lecturer about the online content.	17.6%	40%	21.4%	12.7%	9.2%

information and skills needed for distance learning. However, students were not satisfied as they faced technological issues. These results concur with researchers such as Aljaraideh & Al Bataineh (2019) and Brown (2017) who confirmed that technology is a huge barrier for Jordanian university students.

To go deeper and learn more about the distance education obstacles, the students of this study were interviewed to report about the difficulty they faced during their experience. The researchers categorized the answers as follows:

1. **Internet speed:** It was the main obstacle reported by almost all the students. As mentioned before, it is due to the increasing number of Internet users in the whole world;
2. **Internet bundles:** Most of students complained that there were no Internet bundles enough to continue all the distance classes. Most of their classes are videoconferencing that consumes amounts of Internet data usage;
3. **Technological issues:** Such as phone hanging and availability of compatible devices. Some of students face these kinds of obstacles as the online tools require smart and modern devices where it is not attainable for all students;
4. **Distractions:** Include TV, family and technology. Students study from home where they are easily distracted by many factors. It is not easy to control family distraction and using technology during the distance class such as texting and gaming;
5. **Laziness and lack of motivation:** The life routine during the lockdown may cause laziness. Students stay up for a long time and find it difficult to attend the morning classes. That not to mention the general fear of this epidemic to students' motivations it is causing;
6. **The large number of assignments:** Many students reported that their lecturers demanded a lot of homework. It is well known that too much homework negatively affects students' performance. Spending a lot of time doing homework does not necessarily raise the passing rate of university tests, but it can lead to adverse outcomes;
7. **Unattractive boring content:** Some students dissatisfied with the current online materials. They claimed that these materials are not interesting enough to attract them. Thus, the online content should be accessible and well designed in terms of technical standards such as selecting sounds, graphics, video clips and educational standards such as displaying educational goals, methods of suspense and motivation, and others;
8. **Vague assessment procedures:** The majority of the students are worried about the evaluation methods. They stressed that they have no clue about the methods of evaluation and the distribution of marks. The lack of clarity affects the motivation and performance of the students.

The aforementioned obstacles reflect the reality of the challenges faced by Jordanian university students. These agreed with previous findings that the majority of the students (52.7%) are not satisfied with distance learning as most of them (71.3%) faced problems and obstacles while studying online. These findings consent with Bijeesh (2017), Bernard et al. (2004) and Peterson & Bond (2004).

LIMITATIONS OF THE STUDY

This study is limited to Jordanian universities (public and private). More researches for collage and school students are highly needed to cover and evaluate the whole experience of distance education in the country. As this study limited to Coronavirus pandemic time, further studies are required to evaluate the progress of the distance education process and the associated obstacles. This is a descriptive study using one instrument, more studies with different instruments such as observations and interviews are necessary. Surveying the views of lecturers and administrators in Jordanian universities is also required as the current study is about students' point of views only.

CONCLUSION AND RECOMMENDATIONS

The results reflected a clear image about the process of distance education and the obstacles faced by the Jordanian university students. The data of the first question pertaining to the effectiveness of distance learning in the light of Coronavirus pandemic showed that distance learning was in a moderate level as 331 students rated their distance learning experience 3 out of 5. Regarding the second research question of the distance learning obstacle, the current study shows that the majority of the students are not happy with distance learning experience as most of the students faced some obstacles such as the Internet speed lack of motivation and distractions. Although the majority of the students thought that traditional education method is better than distance learning method, it is crucially important to mention that distance education is the sole available method to ensure continuity of education in the learning institutions during this pandemic.

The success of the distance learning is based on three main components: Technology, university and student. Technology should be available to ensure the success of distance learning like availability of devices, the Internet, Internet speed and Internet bundles. It is said that without technology, there is no distance education. Also, depending on applicable plans, university should provide the necessary technical and psychological support to their students and bestow their lecturers with training and programs that help them to deliver and design the online content perfectly. Students should be aware of the importance of the distance education through special consulting programs by their university. They should be provided by free Internet bundles for online class purposes. A well-motivated student is a key partner in the success of the distance education.

Since the distance learning and e-learning, in general, will remain a top priority for all educational institutions in the future, the ministry should improve the technological infrastructure of the Jordanian universities and provide them with high-quality online tools and applications. The infrastructure problem is everyone's responsibility, university and government. Thus, there should be committee formed by the Ministry of Higher Education in partnership with all universities to follow up on distance education infrastructure and content and review it periodically, especially in disciplines that require an update of information such as medical and technological specialties.

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Khaleel Bader Al Bataineh, PhD, is an associate professor at the Faculty of Arts, Department of English Language and its Literature, Irbid National University, Irbid, Jordan. His research interests are applied linguistics, e-learning, blended learning, language in use, language analysis, speech acts and their role in communication and sociolinguistic behavior. <https://orcid.org/0000-0002-7439-5071>

Mohammed Salem Atoum, PhD, is an assistant Professor at the Faculty of science and information technology, Department of Computer science, Irbid National University, Irbid, Jordan. His research interests are cyber security, e-learning, blended learning, and information security.

Lama Alsmadi, MA, obtained her Master's degree in Quality Management from the University of Jordan and she obtained her bachelor's degree in management information system from the Yarmouk University. She has experience in quality management field worked as quality controller at Jerash private university. She is working now as lecturer at the Applied Science Private University in Business Administration Department.

May Shikhali, PhD, is an assistant professor at the Faculty of Arts and Sciences, Department of English Language and Translation, Amman Arab University, Amman, Jordan. She is also the head of English Language and Translation Department. Her research interests are Translation, linguistics, e-learning, TESOL, language analysis.