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The future of blended learning in Jordanian universities post-Covid 19

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Abstract

The research aims to discuss the future look at the nature of higher education in Jordanian universities in amid the shift to blended learning post-COVID-19. The current research uses survey method and the study population consists of all teaching staff in Jordanian universities. A random sample consisting of 323 subjects is selected. The study shows that Jordanian universities teaching staff have a positive attitude towards implementing blended education. The study also shows that there are reasons behind implementing blended learning. Moreover, the study indicates that Jordanian universities face obstacles upon implementing blended learning. The study recommends that Jordanian universities are required to set up a training program for their teaching staff and provide the infrastructure necessary for implementing blended learning.

Keywords: Higher Education; Blended Learning; Attitudes; Reasons; Obstacles.

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1. Introduction

(Despite the benefits of traditional education, it has negatives and shortcomings, including: its failure to meet the needs of all learners in the classroom, in addition to impose compulsory attendance on its learners and its adoption of the annual examination system (Lalima & Lata, 2017).

Modern electronic technology and media are no longer a luxury, but a necessity imposed by the information age and e-learning. Electronic programmes and courses are being used in the learning process. As a result, teachers, students, and the educational system face more obstacles than previously. New, huge, and fast changing issues impose more information and the capacity to develop to keep pace with the times, so the individual learns to know, work, and interact with others until they have an entity that meets their expectations.

E-learning is considered the modern revolution in learning methods and technologies, which adopt the latest use of means created by the technology of devices and programs in the learning processes. This modern revolution starts with electronic teaching to deliver lessons in traditional classrooms and use multimedia in the classroom and teaching processes, self-learning, and end by building smart schools, and virtual classrooms allowing students to attend and interact with lectures and seminars held in other countries through the Internet and television technologies (Ghurab & Ghrabn ,2013)

Since the release of COVID-19, schools have pushed to incorporate more technology into their curriculum. The most prominent of these is blended learning, which has emerged as a result of scientific and technological advancements in educational innovations in general and teaching methods in particular, taking into account individual methods among students and focusing on the use of many educational means of communication.

Blended learning is based on employing the traditional education system and the direct interactions it provides, training in performing skills, and employing the e-learning method and its advantages and distinctions, to achieve the greatest benefit in the educational process

Blended learning is a natural development of e-learning, and it is one of the modern approaches based on the use of information technology in designing new educational situations. It combines the advantages of face-to-face and traditional education and the advantages of e-learning. Blended learning is defined as a more comprehensive process than just a group of courses in which the learning process is fully managed. It is characterized by the adaptation of the preparations, patterns, different backgrounds of the student, and the content in a flexible model to move the student between learning methods using modern communication mechanisms, whether remotely or in the classroom (Wichadee & Santikarn, 2018.). The basic idea on which blended learning is based on that any type of learning is not just an event that happens once and ends. It is permanent dynamic process that is constantly continuity and renewal (Dias et al., 2014)

Blended Learning integrated technology into learning delivery process; with a view to overcoming some of the limitations of education in traditional schools (Porter et al., 2014). Blended learning is often described as a mixture of Face-to-face between two methods of learning: traditional methods, and e-learning. It can be said that blended learning is the future of learning because of its characteristics that combine the originality of traditional classes and their direct interactions and the advantages of e-learning in flexibility (Deperlioglu & Kose, 2010).

Horn and Staker (2013), mentioned that blended learning is defined as a formal learning program in which students learn partly through the Internet, and the classroom in another part, with the ability to

control the time, place and speed in which the learning is required to be completed. Thus, the means of learning are interdependent on the entire course of the learning process.

Chang et al. (2015) consider blending learning as one of the methods that contribute to the success of learning process by gaining knowledge from face-to-face learning and using electronic learning platforms for assessments, and self and cooperative learning, It is based on the principle that the students take responsibility for their learning through methods the educational activities, as learning methods are different from traditional methods to fit this type of learning.

Akbarov et al. (2018) define blended learning is as a learning strategy that integrates various models of traditional and distance learning and uses multiple forms of technology. Moreover, Volchenkova (2016) defines blended learning as "A form of learning that combines the best direct classroom process of learning and teaching through Internet by using its applications.

Dziuban et al., (2018) define blended learning as a program that uses more than one method to communicate information to activate learning outcomes by the interaction between both student and teacher. Blended learning can include many learning tools such as online virtual cooperative learning software, internet-based courses, self-learning courses, electronic performance systems, and education systems management. Besides, blended learning combines multiple activity-based events, including education in Traditional classrooms in which the teacher meets students face to face (Al Feqi, 2011).

Sharman (2016) demonstrates how blended learning bridges the gap between traditional classroom instruction and online education, and how its numerous benefits exceed those of each mode of instruction when considered alone. Among such advantages, it is not limited to the classroom and its continuity after the classroom. However, one of its greatest positive aspects is its deal with an aspect of learning uniqueness. Since there is no strategy for education, each educational situation has specific characteristics in light of many newly imposed variables. The real challenge is the possibility of differentiating between these methods and strategies to select the most appropriate and most compatible with the objectives of each educational situation separately.

Widyartono and Dawood (2019) confirm that blended learning provides the best methods and techniques to create an interactive learning environment that attracts students' interest and urges them to exchange opinions and experiences and develop their various abilities and skills. Zhou et al. (2019) indicate that blended learning extends learning time outside the classroom, enhances student interest in learning, and increases student-teacher exchange opportunities. Dahlstrom et al. (2011) find that students prefer to use their mobiles in academic activities because they need continuous academic guidance outside the classroom. Li et al. (2017) show that students have positive attitudes towards blended learning. Al Jasser (2018) study revealed that (81%) of teaching staff in using Blended Learning in education process was moderate.

Jeffrey et al. (2014) indicate that teachers value classroom components more highly than those online learning, as most of them use well-developed engagement strategies in their teaching process. Sorbie (2015) revealed that teachers believe that blended learning enhances the principle of learning uniqueness, cooperation, organization, participation, and blended learning supports their teaching practices and challenges for the future. Al-Enezi (2019) study revealed a statistical significance of study sample responses regarding the use of blended learning in secondary school in the State of Kuwait. Lasluh, (2022) argued that the future of blended learning is to re-engineer and develop the higher education system in light of digitization, or it is a circumstantial measure to deal with symptoms and results and distance from solutions. Al-Majali (2019) study showed that the degree of use of the

blended learning strategy among the teachers of the basic stage was medium degree, and there were statistically significant differences due to the gender variable in favor of the female teachers. Al-Asheeri, & Al-Wadi, (2016) study revealed that there is a good level of students' understanding of open education and blended learning concepts in higher education.

2. Problem Statement

Due to the Coronavirus spread, the study is suspended in schools and universities. Jordan, like other countries, resorted to use remote education as a precaution to confront the Coronavirus and to avoid acceleration of pandemic spread and as a result, Jordanian educational institutions have started to provide electronic learning in an effective way that ensures social distancing and maintains learners' health. The dialogue over this education has increased clearly among teachers and students as the crisis has revealed strengths and weaknesses points in the education process. It is found that there is much strength represented by the rapid adaptation of faculty members. Universities are able to continue their educational performance. Accordingly, the problem statement is concentrated on the future look at the nature of higher education in Jordanian universities amid the shift to blended learning post-COVID-19.

5. Research Objectives

The research objectives are:

1. To find out teaching staff in Jordanian universities attitudes to implement blended learning.
2. To identify the reasons behind implementing blended learning in Jordan universities.
3. To investigate the obstacles that Jordan universities face in implementing blending learning post-COVID-19.

4. Research Questions

The following research questions are formulated to achieve the objectives of the study,

1. How do professors in Jordan feel about bringing blended learning into their classrooms?
2. What are the reasons behind implementing blended learning in Jordan universities?
3. What are the obstacles that Jordan universities face in implementing blending learning post-COVID-19?
4. Are there any differences in (attitudes, reasons and obstacles) in adopting blended learning due to university type (Public or private)?

5. Research significance

The study's importance emerges from the fact that it addresses a vital and new topic that may concern who is responsible for the learning process in educational institutions, scientific research, and educational decisions makers to improve the education process.

6. Research Methodology

To achieve the objectives of the study, a survey method is used in this research to collect of the related data. The current research uses survey method because this method is used frequently to answer, who, what, where, how many questions and it allows the collection of a large amount of related data from the population with fewer costs.

7. Study Population

The study population consists of all teaching staff in Jordan universities amounting 11,180 teaching members

8. Study Sample

A simple random sample was selected from the study population. The sample consisted of 323 teaching staff from public and private universities

9. Data Collection

There are two types of data collection primary data and secondary data. Primary data can be collected by questionnaire. Secondary data collection methods include all data resources available to the researcher to facilitate obtaining the necessary information for research purposes (Saunders et al., 2007).

10. Primary data collection

Many means are available for obtaining the required primary data. Experiments, observations, questionnaires, and interviews are the most used techniques for primary data collection. In this research, questionnaire surveys are used to collect the needed primary data.

11. Secondary data Collection

The secondary data is collected to solve the problem handled by the research. Secondary data is considered as one of the cheapest and easiest means of obtaining information. Also, secondary data can be deemed as a good source of new ideas and used for primary data. Secondary data helps to determine the population, select the research sample. Besides, secondary data will be collected from various resources such as books, journals newspapers, and the Internet. The main advantage of secondary data is to save time used for collecting the primary data. The research uses books, journals, periodicals, and the web net to collect the required secondary data.

12. Research Questionnaire

The study instrument was developed to identify the attitudes, reasons and obstacles in implementing blended learning in Jordanian universities., After reviewing theoretical literature related to the subject, and using some literature, research and previous relevant studies conducted in this the field such as: (Porter et al., 2014; Chang et al., 2015; Dziuban et al.,2018).

Likert scale is applied that is: strongly agree= 5 scores, agree = 4 scores, neutral = 3 scores, disagree = 2 scores and strongly disagree = 1 score.

13. Research Instrument Validity

The study instrument was provided to many judges, including professors from both public and private Jordanian institutions, who evaluated it for internal consistency, field appropriateness of the sections, and completeness. Assessing the quality of linguistic formulation or making any other pertinent remarks.

14. Research Instrument Reliability

The Cronbach's alpha formula is used to test the consistency of the results attained by the scale. Cronbach's alpha value was 0.95

15. Statistical Analysis

The Statistical Package for Social Sciences (SPSSv26) is used for descriptive analysis and hypotheses testing by using the following: Descriptive statistics: They are used to describe the study sample's subjects' participants by Frequencies and percentages, Mean and Standard deviation and Simple Regression Analysis.

16. Analysis Results:

16.1 Characteristics of study sample:

The characteristics of the sample were presented by describing the demographic variables (gender, age, group, educational level, type of university) and the results were presented as follows:

Table 1. Characteristics of study sample

Variable	Options	Frequency	Percentage
Gender	Male	204	63.2
	Female	119	36.8
	Less than 25 years	15	4.6
	Less than 35 years	72	22.3
Age	36 to less than 45 years		
	45+	108	33.4
Education Level	Master	157	48.6
	Ph.D	166	51.4
Type of University	Public	165	51.1
	Private	158	48.9

Table (1) shows that 63.2%, of the sample, are males while 36.8% of the sample's subjects are females. For sample's subjects age 36.8% of the sample are less than 25 years,while4.6% their ranged between 25 to less than-35 years old, 39.6% of the sample's subjects their age range between 35- to less than 45 years, and finally33.4% of the sample their age is 45 years or more. With respect to education, 48.6% of the sample have master degree, while51.4% of the sample have PhD. As for type of university 51.1% of the sample are public universities, and48.9% are private universities.

16.2 *Descriptive statistics*

Means and standard deviations of study variables were calculated separately, the relative importance of each question was determined using the following scale:

Range	Relative Importance
1-Less than 2.33	204
2.33-less than 3.66	119
3.66-5	15

The result was as follows:

Research Question1: What are the attitudes of teaching staff in Jordanian universities towards implementation to blended learning?

To answer the question, means, standard deviations and ranks of the degree of using the blended learning were computed for each paragraph of the questionnaire as shown in Table (2)

Table 2. Means and Standard deviations of sample responses regarding items that measure teaching staff attitudes towards implementation of blended learning

No.	Statements	Mean	Standard Deviation	Rank	Relative Importance
1.	I believe that there is a need to implement blended learning	4.16	.879	**4**	High
2.	I think implementing blended learning ignores some learning process elements	4.38	.731	**1**	High
3.	The university must implement tended learning to increase thinking skills among students	4.22	.791	**2**	High
4.	I support the idea of implementing blended learning in the university	4.11	.836	**5**	High
5.	I believe that implementing blended learning in the university encourages teaching staff to uses new technologies	4.09	.943	**6**	High
6.	I think that blended learning is the future learning technology	4.25	.752	**2**	High
7.	The university has to leap pace of using blended learning.	3.96	1.033	**8**	High
8.	I feel that implementation of blended learning facilitates obtaining the academic content	4.04	.765	7	High
9.	I am convinced that using blackboard reduces time and cost	3.94	.890	9	High
10.	University has to implement blended learning to improve learning environment quality	3.89	.711	10	High
	Grand Mean	4.1037	.54669		High

Table (2) indicates that the total mean is 4.10 out of five with a standard deviation (0.547). This means that teaching staff UN Jordanian Universities have high attitudes towards implementation of blended learning. Statement no. 2 which states: "I think implementing blended learning ignores some learning process elements" had the highest (4.38) and a standard deviation of (0.731). While statement no. 10 which states that "University has to implement blended learning to improve learning environment quality' had the lowest mean (3.89) with a standard deviation of (0.711). Table also shows that study sample responses mean ranged between 3.89 -4.38. This, indicates that research sample have positive attitudes towards implementing blended learning. The results indicate that teaching staff in Jordanian universities have attitudes towards implementing blended learning.

Research Question2: What are the reasons behind implementing blended learning in Jordan universities?

Table 3. Means and Standard deviations of sample responses regarding items that measure reasons for implementing blended learning

No.	Statements	Mean	Standard Deviation	Rank	Relative Importance
11.	Using blending teaching as support for traditional learning	3.97	.816	**7**	High
12.	Enhancing interaction between teachers and students	4.11	.750	**3**	High
13.	Ease of communication with the student	4.01	.852	**6**	High
14.	Providing educational flexibility appropriate to the needs of students	4.12	.826	**2**	High
15.	Improving education process	3.88	1.010	**8**	High
16.	Focus on student participation in learning process	4.35	.686	**1**	High
17.	Specify the roles between the faculty member and the student	3.84	.930	**10**	High
18.	Take advantage of innovations and use them with learning methods	3.80	.938	11	High
19.	Improve the quality of university education outcomes	4.07	.818	5	High
20.	Develop students interest and enhance their skills	4.07	.827	4	High
21.	Keep pace with students' needs, desires, and requirements	3.85	.791	9	High
	Grand Mean	4.0048	.62542		High

Reasons for adopting blended learning in Jordanian Universities were measured by statements (11-21). Table (3) indicates that study sample responses means ranged between (3.80 -4.35) this, indicate positive responses of sample subjects towards reasons of implementing blended learning. Moreover, statement no. (16)" Focus on student participation in learning process" ranked first, while statement no. (18) Which states" Take advantage of innovations and use them with learning methods" ranked the last. The grand mean is 4.00, which indicates that there are several reasons for adopting blended learning in Jordanian universities

Research Question 3: What are the obstacles that Jordan universities face in implementing blending learning post-COVID-19?

To answer the question, means, standard deviations and ranks of the degree of using the blended learning were computed for each paragraph of the questionnaire as shown in Table (4)

Table 4. Means and Standard deviations of sample responses regarding items that measure obstacles of adopting blended learning

No.	Statements	Mean	Standard Deviation	Rank	Relative Importance
.22.	Lack of technology infrastructure needed	3.80	.810	9	High

23.	Allocating a special budget to integrate technology into education	4.00	.792	4	High
24.	Lack of Experience	4.07	.734	3	High
25.	Modifying the education policy at the university level	3.95	.914	6	High
26.	Integration of innovative E-learning systems	3.94	.815	7	High
27.	Absence of technical support	3.99	.800	5	High
28.	Lack of equipped halls	4.15	.812	2	High
29	Cost of implementing blended learning	4.21	.754	1	High
30.	Lack of training opportunities	3.88	.938	8	High
	Total Mean	3.999	.623		High

Obstacles of implementing blended learning in Jordanian Universities were measured by statements (22-30). Table (4) indicates that study sample responses means ranged between (3.80 -4.00) this, indicate positive responses of sample subjects towards obstacles of implementing blended learning. Moreover, statement no. (29)" Cost of implementing blended learning" ranked first, while statement no. (21) Which states" Lack of technology infrastructure needed" ranked the last. The grand mean is 4.00, which indicates that there are several obstacles that Jordanian universities face in implementing blended learning for the purpose of verifying research questions, one sample t- test and one independent sample t-test were used as following

Table 5. One sample t-test for Attitudes towards blending learning

Variable	N	Mean	Standard Deviation	T	df	Sig
Attitudes towards blending learning	323	4.10	0.5466	36.264	322	.000

Table (5) indicates that the statistical significance for teaching staff attitudes towards, implementing blended learning in Jordanian university value is (0.00). This value is less than (0.05), this means that teaching staff have positive attitudes towards blended learning implementation in Jordanian universities.

Table 6. One sample t-test for Reasons behind implementing blended learning

Variable	N.	Mean	Standard Deviation	T	Do	Sig
Reasons behind implementing blended learning	323	4.00	0.625	28.674	322	.000

Table (6) indicates that the statistical significance for reasons behind implementing blended learning in Jordanian universities value is (0.00). This value is less than (0.05), this means that there are reasons to implement blended learning implementation in Jordanian universities.

Table 7. One sample t-test for Obstacles of Adopting blended learning

Variable	N.	Mean	Standard Deviation	T	df	Sig
Obstacles of Adopting blended learning	323	4.00	0.623	28.804	322	.000

Table (7) indicates that the statistical significance for obstacles that Jordanian universities in implementing blended learning value is (0.00). This value is less than (0.05), this means that Jordanian universities face in implementing blended learning.

Research Question 4: Are there any differences in (attitudes, reasons and obstacles) in implementing blended learning due to university type (Public or private)?

To test this question on independent sample t- test was used, the following tables shows the obtained results

Table 8. Independent sample t- test

Variable	University type	N	Mean	Std. Deviation	**T**	**Sig**
Attitudes	Public	165	4.0818	.58239	-.735	.463
	Private	158	4.1266	.50758		
Reasons	Public	165	4.0209	.64405	.474	.636
	Private	158	3.9879	.60695		
Obstacles	Public	165	4.0444	.59175	1.342	.181
	Private	158	3.9515	.65313		

Table (8) indicates that the statistical significance for (attitudes, reasons, and t- values are (-0.735, 0.474, 1.342) respectively. All values are more than (0.05), this means that there are no differences in teaching staff (attitudes, reasons, and obstacles) in implementing blended learning due the university type

Results and recommendations

The purpose of this cross-sectional quantitative study was to highlight a future look at the nature of higher education in Jordanian Universities in light of the shift to blended education after the Corona pandemic.

The research question examined teaching staff of Jordanian universities attitudes towards implementation of blending learning .The means of sample responses regarding statements that measure teaching staff attitudes responses are ranging between (3.89-4.38). The results indicate high level of sample agreement on all statements mentioned in this regard.

Research question two examined reasons behind universities in Jordan shifting to Blended education the analysis indicates that there are several reason that drive Jordanian universities to shift to blended education. The means of sample responses regarding statements that measure such reasons responses are ranging between (3.80-4.35). The results indicate high level of sample agreement on all statements mentioned in this regard.

For the third question represented by obstacles that faces Jordanian universities in shifting to blended education the means of sample responses regarding statements ranged between (3.8- 4.00). The results indicate high level of sample agreement on all statements. The study analysis indicate that there are no differences from teaching staff prospecting in (attitudes, reasons and obstacles) in implementing blended learning.

The study recommended that Jordanian universities have to set up special training programs for their staff training on blended education, and to provide the required infrastructure for implementing blended learning. The study also recommends that educational curricula has to be reviewed to keep pace with the new requirements in the information society, and increased interest by training individuals on information technology.

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