

The Effect of Blended and E-learning Education on the Quality of Education at Jordanian Universities during Covid- 19

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Abstract: Blended learning is being applied as an alternative, allowing the creation of new training models that transcend classroom spaces and into people's lives. According to several authors, this alternative proposes a mixture of face-to-face learning experiences with online learning activities and remote technology tools, the descriptive analytical approach was relied on as it is suitable for the purposes of this study. Based on defining the characteristics of the phenomenon, a description of the nature and type of the relationship between the study variables and the reasons for the relationship, and identifying its reality in reality The Mean of learning quality from the perspective of the sample members, in terms of relative importance, is medium, where Mean was (3.294) and with a standard deviation of (0.952), and the field (development of student skills) ranked first with an arithmetic average of (3.426) and with a deviation of 0. It was standardized at (1.128), with medium relative importance, when the field of (educational achievement) came in last place, with an arithmetic mean of (3.073) and a standard deviation of (1.194), and with medium relative importance.

Key Word: Blended E-learning Education; Quality of Education; Covid- 19.

Introduction:

Modern education based on the use of information and communication technologies allows the use of modern, non-traditional technologies in the educational process. Universities in Irbid governorate, in cooperation with the Ministry of Higher Education, called for the application of the blended and e-learning education strategy in universities with the aim of enhancing the educational process in emergency conditions. Blended and e-learning education aims to integrate e-learning and traditional education into the educational process to make it available to all. It is also known as a combination of face-to-face teaching in university halls or remotely using modern technological tools. This type of education allows the use of appropriate tools and media for each educational need (Shaheen, 2021). Among the many recent changes that have occurred in the world and have greatly affected education, with the developments of this era, technological progress should have been exploited in terms of education while maintaining the importance of traditional methods. Studies have found that with the entry of technology into education, studies have found that it enhances the educational process and contributes to raising the level of students' educational attainment, but this method has some weaknesses and some negative effects on students, hence the endeavor to combine the two methods into what is known as blended and e-learning education, which is also called blended and e-learning or mixed (Hussain et al., 2019).

Blended learning is being applied as an alternative, allowing the creation of new training models that transcend classroom spaces and into people's lives. According to several authors, this alternative proposes a mixture of face-to-face learning experiences with online learning activities and remote technology tools . (2013) There are many advantages to be derived from implementing blended learning, most of which are summarized in performing activities that combine the flexibility of using the online learning environment with the social interaction found in face-to-face learning activities. On the other hand, there are many studies that confirm the achievement of blended learning experiences as a successful approach.

In the emergency period of COVID-19, educational institutions had to respond quickly to the conditions, change the education curriculum, and activate the method of distance learning as both teachers and students had to adapt to the new methodologies, which are characterized by virtual and diverse classes. Digital channels were provided as well as educational platforms and other social media as an educational medium. Accordingly, the difficulties in distance learning have emerged in terms of the way to work in an urgent and sudden context and to deal with new tools, ideas, and skills (Abdel-Ayed, 2021).

Study problem

In light of the academic year 2020–2021, educational experiences were utilized in developing electronic educational systems and platforms, as well as computerized and televised classes with the aim of successfully continuing the educational process. They have been activated and updated continuously according to educational reviews and targeted observations that would bring these platforms together to elevate the educational process and make them interactive platforms in which educational parties share assignments, exams,

and observations at the level of teachers and students. These platforms are available to all students for free and can be accessed and benefited from at any time. Ghoneim et al. (2021) indicated that there are a number of problems facing blended education, including the lack of teacher readiness and a lack of integration using educational electronic programs, in addition to the problems of the Internet. Hence, it is possible to consider the study a problem since it examines the impact of blended education on the quality of education at Universities in Irbid governorate.

Theoretical framework:

Education is the foundation for the advancement of nations and peoples, which is why countries constantly strive to improve their education systems, and many educational methods have emerged to do so, including:

Traditional education (face-to-face):

Al-Khani (2019) defines the traditional education process as "a system of procedures and activities that aim to develop students' scientific skills and provide them with theoretical knowledge; that is, it is an organized process between the inputs and outputs of this system, and this takes place within the framework of the classroom." According to Al-Sayyid and Muhammad (2021), traditional education is based in its method on the teacher, the learner, and the curriculum, and the focus is on regular attendance in order to reach the required level of knowledge and infer the strengths and weaknesses of students and try to strengthen them through effective communication with them by teachers and direct them for the better .

The advantages of following the face-to-face teaching method can be formulated as follows: Developing communication skills through daily face-to-face interviews This method relies on a learning environment system that can be available in many circumstances, even difficult ones. This makes education a service available to all segments of society (Abd al-Rahman, 2019). This method is also characterized by its ease for the teacher, as with the large number of students, direct communication and interaction with them is better. As for the approved curriculum, it is divided during the semester to be given in full during the specified period (Saqr, 2014).

On the negative hand, it can be seen that the student does not make any effort to obtain knowledge and depends entirely on the teacher and the method of indoctrination. The focus is also on mental knowledge and memorization skills, neglecting other skills (Abd al-Rahman, 2019).

E-Learning:

The concept of e-learning can be viewed as an advanced method of education through which electronic media is relied upon and depends on receiving information from a distance (Abdul Nabi, 2016). To ensure the success of the e-learning process, an environment must be provided that contains its requirements, such as hardware and software, and both the teacher and the recipient must be supported with the necessary skills.

The growth of e-learning is a dynamic process because it is affected by many factors, such as the subject matter, the level of knowledge of the audience, and the environment around it. Users also play an important role in how they want to learn, because not all users have the same approach to learning. One of the main factors affecting the e-learning process is the amount of information the user wants to receive. Users have to decide for themselves what information is important to them at some point and how much they can process. All of these factors have greatly influenced the way e-learning has developed from the earliest times to the present (Jabour, 2020).

As the world is moving towards the digital age and more and more educational institutions are trying to maximize the use of technology, one must consider the advantages and disadvantages of doing so. Although the use of technology in education has revolutionized the way we learn, there are still some downsides to relying entirely on technology for learning. Malika, (2019). E-learning systems are repositories of information, training courses, and knowledge, but at the same time, they can be repositories of misinformation, misdirected training, or bad knowledge (Malika, 2019).

When looking at the materials presented, we find that they are more suitable for students, as they are subjective materials that can be accessed at any time the learner wants and do not require the learner to be physically present in the classroom. Students can also download and save learning materials for future purposes from the system. E-learning is usually low-cost for most students as they can choose from a wide range of courses according to their needs. It can also be cost-effective for many universities because once the learning platforms are set up, they can be reused for many sessions. The curricula used are modern teaching materials. Study materials in e-learning systems can be updated more frequently than in classroom-based education systems. Once study materials are placed in the system, they can be updated without changing the entire materials, and the materials can be made available and reused for longer periods.

E-learning offers a flexible way of learning for many students. Most study materials are stored for students to access whenever they want, and students can also choose between a teacher-led system and a self-learning system. In e-learning systems, it is also possible for students to skip study materials they already know and choose the ones they want to learn. In addition, e-learning systems help create a global learning community where anyone can access study materials regardless of geographical location (Zanqi, 2021).

As for the disadvantages of adopting the e-learning method, they include low motivation. Students with low motivation may not achieve the set goals most of the time. The students themselves are responsible for the routine and organization of the course, which leads to laziness and low motivation at times. Lack of a set schedule and deadlines may cause students to drop out of the course prematurely. Depending on technology, course materials in e-learning are delivered using computer applications. For some people, just learning how to use these applications may take a long time. There are also other factors, such as poor internet connection and device malfunction, which can make the learning process boring and time-consuming (Senoussi, 2019).

Blended Education:

Blended education can be defined as the process of blending traditional education (represented by explanation and discussion in the halls) and e-learning (which may include the use of all digital means and the Internet), and e-learning in blended education may be synchronous or asynchronous (El-Desouki, 2016).

Blended learning is a modern educational strategy that has gradually replaced e-learning in most educational institutions as it is a logical and scientifically acceptable alternative to e-learning, has higher returns, is less expensive, and includes more complex types of learning. This type of teaching aims at interactive learning, blending the role of the teacher in the traditional classroom with that of the virtual teacher. The technology applied in this genre often aims to produce optimal performance by students, as it enhances learning by facilitating the integration of visual cues and pedagogical concepts, and the use of virtual environments attracts the attention of the relevant audience while increasing interactions between stakeholders (Liu et al., 2016).

Blended education works to attract the attention of students and encourage them to attend lessons. It also works to enrich students with different means of knowledge that suit their different needs and abilities, as it makes them active participants in individual and group learning activities. Assessment in a blended learning environment has high credibility, and blended learning is characterized by flexibility because it enables learners to learn at the time and place that suits them and meets their educational needs (Abdullah, 2014).

Among the advantages of blended learning, according to Buran and Evseeva (2015), online students' research skills are developed and their critical thinking improves. Blended learning is independent learning, so students have more opportunities to study anywhere, anytime. Students improve their reading skills due to the large amount of information provided online; they enhance their writing skills while posting their comments as well as completing writing assignments and tests; and watching the video develops their listening skills. As for the disadvantages of blended learning, it is important to consider the fact that students and teachers do not have sufficient IT skills, and this may cause some problems in blended learning. Students can sometimes face some technical challenges, such as insufficient internet speed or problems with their computers. Sometimes they can easily find the necessary topics on the network instead of doing it themselves. This is the 21st century, and our learners are able to find everything they need on the Internet. This can be a challenge for teachers to analyze whether students have done or copied assignments. While evaluating teachers, they can't tell who did the task. Another problem is that students can ask their friends to perform their tasks, so sometimes others may do the tasks and the teachers cannot prove it. But some of these shortcomings can be seen in traditional teaching. If teachers explain the value of the tasks they must do themselves, they can do them. Implementing blended teaching is not an easy task, and it requires some basic preparation in all the elements of the educational learning process—the teacher and the student—and in the design of the content and infrastructure. In short, it can be said that blended learning is, to some extent, the solution to the problems prevalent in the educational system. If it is implemented in a well-planned and organized manner with the right kind of situation, it can become the future of this system (Bakhriddinova, 2020).

Previous studies:

Ibrahim and Antra's research (2021) aims to study the effectiveness of blended learning in the educational process. The results of the study showed that there is a statistically significant relationship between students' perception of the benefits of blended education and students' satisfaction with the blended learning environment. The study recommends that the educational system should improve the efficiency of online learning platforms and continuously enrich learning resources to ensure the quality of education, and should also develop teaching strategies that suit blended learning.

The research of Al-Omari and Al-Asiri (2021) benefited from knowing the effect of the use of blended learning on the achievement of English language vocabulary for third-grade intermediate students in Mahayel Asir. The results of the research revealed that there were statistically significant differences between the mean scores of the experimental and control groups in the post-application of the English vocabulary achievement test, in favor of the experimental group. On the post-test, the positive effect on the achievement of English vocabulary for the third grade was also shown when using blended learning.

The study by Al-Ajab et al. (2020) sought to investigate the effect of designing learning materials according to the combination of distance learning methods and the self-questioning strategy on learners' motivation and skills in preparing the research plan in the research methods course. The results of the study showed that there were statistically and practically significant differences between the averages of the experimental and control groups in the categories of motivation combined, in favor of the experimental group. The results also showed that there were statistically significant differences between the average of the two groups in the skills of preparing the research plan combined, in favor of the experimental group. This study recommends employing a combination of distance learning methods and a self-questioning strategy in the design and teaching of a research methods course, and encourages the use of this new approach in teaching and designing other courses.

Anthony (2019) focused on the relationship between blended learning and teacher performance. Decades of research has shown that the quality of teaching a student receives has a greater impact than any other factor on his or her learning, but the emergence of the blended learning model has made many teachers and leaders focus on innovation and changing practices rather than on developing research-based teacher practices that have a clear positive impact on student learning. In fact, they have a significant impact on student learning in co-ed elementary classrooms. These findings should help leaders and teachers understand where to focus their time and energy in order to improve student learning using a blended learning model.

Anthony et al. (2019) has developed a model to make it easier for university policy makers to make their decisions, to assess student learning and teaching outcomes for faculty members. Moreover, this study explores the factors that influence the adoption of blended learning in universities, through an empirical study of Perspectives of learners, academic staff, and management. The results revealed that the supporting factors, attitude, learning status, satisfaction, course management, and ease of use positively predict learners and academic staff's perception of the adoption of blended learning. Similarly, the results indicate that the management's perception of the adoption of blended learning is determined positively by strategy, structure, and support factors. Moreover, the results reveal that the effect of blended learning on learner effectiveness is positively predicted by achievement, participation, participation, retention and cognitive outcomes. In addition, the results indicate that the effect of blended learning on the effectiveness of learners is positively predicted by achievement, participation, participation, retention, and cognitive outcomes. The teaching staff is greatly influenced by delivery, performance, assessment and motivation. Theoretical implications of this study contribute to enhancing the quality of teaching through enriching course management, improving learning content, and facilitating management policies towards the adoption of effective blended learning.

The aim of Salama et al. (2018) research is to measure the effect of the collaborative blended learning design on improving the cognitive achievement of a course among master's students in the Intellectual Disabilities and Autism Program at the College of Graduate Studies at the Arabian Gulf University in the Kingdom of Bahrain. Blended Learning Design Standards. The researchers developed the research tools represented in the cognitive achievement test, and the results revealed a statistically significant difference in the mean scores of the sample members at the level (0.05) in both the pre- and post-application of the cognitive achievement test in favor of the post-application.

Study Methodology

The descriptive analytical approach was relied on as it is suitable for the purposes of this study. Based on defining the characteristics of the phenomenon, a description of the nature and type of the relationship between the study variables and the reasons for the relationship, and identifying its reality in reality.

Results and Hypothesis Testing

The fields of study were compared, and the following table was prepared:

The general average of the areas of learning quality from the perspective of the sample members, in terms of relative importance, is medium, where the general average was (3.294) and with a standard deviation of (0.952), and the field (development of student skills) ranked first with an arithmetic average of (3.426) and with a deviation of 0. It was standardized at (1.128), with medium relative importance, when the field of (educational achievement) came in last place, with an arithmetic mean of (3.073) and a standard deviation of (1.194), and with medium relative importance, as shown in Table (1).

Table No. (1): Arithmetic averages, standard deviation, ranks, and relative importance of the fields of study from the point of view of the study sample

No.	Variable	Mean	Standard Deviation	Rank	Relative Importance
1	The Quality of The Education Process	3.294	0.952	3	Medium
2	Educational Attainment	3.073	1.194	4	Medium
3	The Quality of Teaching Performance	3.138	0.954	2	Medium
4	Students' Skills Development	3.426	1.057	1	Medium
Total		3.453	0.970		Medium

The hypotheses were subjected to simple linear regression analysis, and the results were as follows:

Table (2): The results of testing the impact of the study dimensions on the quality of learning from the point of view of the study sample

Dependent Variable	Model Summary		Anova		Coefficients				
	R Correlation Coefficient	R ² The Coefficient Of Determination	F	Sig F*	Statement	B	Standard Error	T	Sig T*
Blended Education	0.863	0.658	52.865	0.000	Education Process	0.898	0.295	6.582	0.000
	0.834	0.754	73.539	0.000	Educational Attainment	0.437	0.174	8.97	0.000
	0.872	0.712	62.372	0.000	The Quality Of Teaching Performance	0.432	0.673	2.547	0.000
	0.863	0.748	81.654	0.000	Students' Skills Development	0.309	0.224	5.354	0.000

***The effect is statistically significant at the level ($\alpha \leq 0.05$)**

Based on the foregoing, there are positive and statistically significant differences in the impact of all dimensions of learning quality from the female teachers' point of view, and accordingly, the study hypotheses are accepted.

Discuss the findings

This study sought to identify the impact of blended and e-learning on the quality of learning in Universities in Irbid governorate. The hypotheses of the study were discussed as follows:

The discussion of the first hypothesis

The first hypothesis states that "there is a statistically significant effect of blended and e-learning education on the quality of the educational process." The study proved this hypothesis, and the result was in agreement with the study (Ibrahim and Antar, 2021). The results of their study showed a relationship between students' perceptions of the benefits of blended learning and students' satisfaction with the learning environment. Anthony et al., 2019 revealed that supporting factors such as attitude, learning status, satisfaction, course management, and ease of use positively predict learners' and academic staff's perception of embracing blended learning and e-learning. Similarly, the results indicated that management's perception towards the adoption of blended education is positively determined by strategy, structure, and support factors. Furthermore, she reported that the impact of blended learning on learner effectiveness is positively predicted by achievement, participation, participation, retention, and cognitive outcomes.

The discussion of the second hypothesis

The second hypothesis states that "there is a statistically significant effect of blended education on students' educational achievement." The study supported this hypothesis. It can be concluded that the blended learning strategy was found to be significantly more effective in enhancing students' educational achievement

and scientific process skills compared to the traditional learning strategy. In a study (Salama et al., 2018), the results indicated a positive impact of co-education on students' educational achievement. The researchers recommended the use of blended learning and hypermedia in teaching practical courses.

Discussing the third hypothesis

The third hypothesis states that "there is a statistically significant effect of blended education on the quality of teaching performance." The study proved this hypothesis, and compared to the study (Anthony, 2019), it showed that the quality of teaching that the student receives has a greater impact than any other factor on his learning, but the emergence of the blended learning model made many teachers and leaders focus on innovation and changing practices rather than on developing research-based teacher practices that have a clear positive impact on student learning.

Discussing the fourth hypothesis

The fourth hypothesis states that "there is a statistically significant effect of blended education on the development of students' skills." The study supported this hypothesis, and Al-Ajab et al. (2020) referred to the measure of motivation towards educational material through blended learning, which included four categories of motivation: trust, attention, relevance, appropriateness, and satisfaction.

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