Degree of Employing Blended Learning, Difficulties, and Needs at the Jordanian Universities: Faculty Members' Perspective

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Abstract: The aim of this study is to recognize the degree of employing blended learning, difficulties, and needs at Jordanian universities from the faculty member's perspective. To achieve the objective's study the descriptive survey method was used, and the sample of this study consisted of (300) faculty members who were randomly selected from the University of Jordan and Al-Zaytoonah University of Jordan. The researchers used three types of questionnaires as a tool in this work. The first one was used to measure the extent of use of blended learning by the faculty members which contained 20 paragraphs, while the second questionnaire was used to find the difficulties of applying blended learning which contained 9 paragraphs, and the last one was used to identify the needs required by the faculty members when employing blended learning that contained 9 paragraphs. The findings of this study indicated that the faculty members' responses regarding the degree of the use of blended learning were medium and their responses to the difficulties of applying blended learning were high. Based on the obtained results, the study suggested holding workshops, training courses, and different meetings individually or as a group for faculty members in the blended learning domain.

Keywords: Blended Learning, Difficulties, Employment, Faculty Members, Jordanian Universities.

1 Introduction

Education is based on multiple foundations that seek to achieve many important goals such as finding good persons and helping them grow spiritually to strengthen their faith in Allah, develop logical thinking, and scientific reasoning, also, grow physically to preserve one's health and the health of those around them including one's family, environment and community. Expansion in education and the adoption of traditional methods have sometimes led to a drop in the learning level and emphasized the urgent need to improve education quality. Achieving this requires carrying out various activities including modernizing teaching methods and techniques, on top of which is the computer.

Technological progress in terms of using computers and computerized educational programs is one of the most important ways to provide this rich educational environment through its various and clear advantages [1]. The scientific and technological advances, along with the expansion of human knowledge affecting all aspects of life were accompanied by new teaching methods that rely on different teaching means in a way that stimulates students' motivation and provides them with the educational experience that develops the innovation skill. [2]. Studies show that learners remember (20%) of what they hear, (40%) of what they hear and see, and (70%) when they interact with what they learn [3,4].

Therefore, it has been observed recently that the teaching methods have rapidly become student-centered in that students should be effective and active, participating in the education process and interacting with teachers and educational materials. This indicates the necessity to encourage students to practice the skills of investigation, critical thinking, problem-solving, raising questions, and applying what they have learned to new and realistic educational situations [5].

Electronic Learning (e-learning) is known as "The type of learning that aims to create a rich interactive environment with computer-based applications and the World Wide Web, which permits students to access learning resources anytime and from anywhere". Can also be defined e-learning as "An educational strategy that relies on the computer, its networks and multimedia such as image, sound, graphics, search engines, e-libraries, as well as the portals of the global network of information, whether remotely or within the classroom [6,7].

Accordingly, the universities began to establish their websites. Moreover, the Internet, smartphones, and computers began to be looked upon as essential educational instruments. Research on Google also revealed that there are more

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than (400) electronic universities and colleges and that more than (35000) teachers and (250000) students use e-learning [8].

Therefore, faculty members must be able to use modern educational techniques and different means of communication, in addition to providing students with the skills required to use computers, the Internet, and e-mail, and providing the infrastructure, represented in preparing trained human cadres, providing the communication lines required to transfer this education to the classrooms, and providing the necessary software and hardware for this type of education. However, like any other learning style, blended learning suffers from deficiencies and difficulties in the application despite its advantages [9].

2 Literature Review

E-learning (EL) is a kind of learning that includes multiple strategies, and traditional learning while employing all kinds of technological techniques at the same time [10]. Blended Learning (BL) is described as the integration of traditional methods of teaching with EL. It is also defined as an integration of several activities of educational and includes the strategies of face-to-face teaching, self-learning, and e-learning [11]. Also, BL is defined as an approach in which teachers use online materials and traditional classroom methods to introduce a range of skills to learners. And identified several necessary elements for appropriate BL such as learners, technical resources, content, time, and application. In most cases, the right mix between traditional learning and EL is better than traditional face-to-face education, and better than e-learning if they are separated from each other [12].

Using BL shows a moderate degree among faculty members at Jerash Private University according to the researchers found in their work when applied to 300 male and female students and did not reveal significant differences in terms of students' estimates of the degree of employing blended learning that can be attributed to gender and college type [13].

There are factors that must be present when implementing blended learning, such as organizational readiness, availability of technology, communications, and technical and human resources. Additionally, providing faculty members and students with the necessary skills to use multimedia by providing the necessary training courses, and the appropriate educational curricula for this form of education [14-16].

Another study was conducted to investigate blended learning and examine the courses related to this type of education on an experimental group of students from a private university in Bangladesh. Through this study, researchers proposed a model that allows for increased interaction between the students and their teachers, whether inside or outside the university campus and contributes to enhancing and improving teaching methods, interaction, and collaboration within the educational environment [17].

In the same way, the researchers displayed the attitudes of faculty at Jordanian universities toward employing blended learning and its difficulties. The descriptive method was adopted for the sample of the study which contains (130) faculty members working at Jordanian public universities. They found highly positive attitudes toward the use of BL and showed high estimates of the difficulty of applying blended learning in Jordanian universities [18].

The effectiveness of using BL in improving the skills of using and creating hypermedia programs as the researchers found in their study. Also, they found a difference between the degrees of the students of high cognitive motivation and the students of low cognitive motivation in the skills of using and producing hypermedia programs in favor of students with high cognitive motivation when they applied to 64 students (male and female) at Technology Department, Al-Aqsa University in Palestine [19].

At Hacettepe University in Ankara, Turkey, the researchers selected 34 students to examine students learning styles and their viewpoints regarding BL. They found that the student's viewpoints regarding BL processes like the ease of using the web environment (Internet). They revealed that there were no differences in students' achievement that can be attributed to their learning [20].

There are some challenges in using BL including the lack of specialized university supervisors to implement BL, the lack of material equipment in the university environment to use blended learning, the high material cost of the infrastructure required to use blended learning, the design incompatibility of some university buildings with the BL applications, lack of financial support and funding sufficient for universities to apply blended learning, and lack of computer laboratories in some university colleges to apply blended learning [21].

Also, one study indicated the difficulties of applying blended learning in university teaching at Middle Eastern University using a descriptive approach and 55 staff members from the Middle Eastern University. This study showed a high level of difficulties from the viewpoint of faculty for each domain and for all the domains of applying BL to university education as a whole. Also, they found that there were no differences in the difficulties of applying BL to university teaching that can be ascribed to academic rank, kind of college, and gender [22].

A study was conducted on 300 students from the faculties of medical sciences at Tehran University who had an e-learning (EL) course to find out the challenges of EL. According to the results of the study, 40% of the study sample had problems dealing with technology, and 26% of them had the ability to deal with EL. Accordingly, this study recommended the necessity of establishing infrastructure, strengthening e-learning, and benefiting from the experiences of developed countries in e-learning [23].

E-learning has revealed a set of challenges that may constitute a difficulty to the success of e-learning. Therefore, the study was conducted on a group of students and experts on EL systems in six universities in Jordan and the Kingdom of Saudi Arabia. This study shed light on the critical factors and challenges that affect e-learning. Through the outcomes of this study, the researchers proposed a set of recommendations that may benefit researchers and academics in using a purposeful e-learning system [24].

Recently, the world has witnessed a major pandemic and crisis (COVID-19) affecting education all over the world. This pandemic might be the most dangerous of all the crises that took place in this contemporary time, as it represented the largest interruption period of university education in the history of mankind. According to the United Nations statistics, closing educational institutions has affected 90% of university students in the world, and 99% of students in developing countries, [25]. This prompted researchers and academics to implement various studies to explore the degree of employing BL by faculty at universities at the world, regional, and Arab levels.

During COVID-19, more studies were conducted to study the influence of COVID-19 on learning. One study showed the negative effect of COVID-19 on education on all sides and decreased access to it. In addition to poor infrastructure and digital skills. So, the researchers recommend and suggest improving the digital skills of teachers, educators, and learners with emerging global trends [26].

Education in the medical aspect in various parts of the world has also witnessed a noticeable change due to COVID-19, and the decrease in teaching in medical colleges as a result of the spread and distribution of doctors and teachers to various medical centers, clinical care homes, and quarantine centers. Also, COVID-19 led to the suspension of training courses for doctors internally and externally as a result of stopping local and international travel. And others. Consequently, this led to the use of distance education and reliance on e-learning [27,28].

In the same direction, one study was conducted in Jordan to a group of faculty members as well as students to know their opinions about using the Internet for education and learning, especially after the Corona pandemic (COVID-19). This study found the benefit of using electronic learning during this period of time, and in return, there are some difficulties emerged that both the student and the teacher may face, including the difficulty of adapting to this type of education, especially for students with special needs, not to mention some technical problems that both may face. any of them [29].

The study was conducted on faculty members of a medical college at an Egypt university to clarify the aim of assessing their perceptions about e-learning and its obstacles, especially after the Corona era. This study was explained through the results obtained by the researchers with the approval of the members of the teaching staff on e-learning at a rate of up to 80%. However, the study showed some of the obstacles facing e-learning, including the weakness of the Internet, the lack of sufficient computer laboratories, technical problems as well the lack of experience dealing with this type of education [30].

In the same way, the study conducted on faculty members and students also on a medical college in Pakistan, with the aim of knowing the perceptions of both faculty members and students in using e-learning and what its advantages and disadvantages are. The outcomes of this study revealed the advantages of e-learning through ease of access, comfort, and lack of place restrictions. On the other hand, the study sample showed that e-learning is accompanied by some obstacles [31].

The study, which was conducted on a group of students and faculty at the University of Benghazi, also demonstrated the importance and benefits of e-learning, especially after the Corona pandemic. The study showed positive results for EL and also, addressed some of the challenges that face this type of learning [32].

A study aimed to evaluate e-learning and facilitate the education process, especially after Covid-19. This study included a large sample of students and faculty members from the engineering college, University of Sharjah. That is, approximately 3,300 participants. Researchers have noted the positive trend towards a learning process using the Internet due to its temporal or space flexibility. Participants also preferred applying a combination of e-learning and direct face-to-face education. The study recommended that, designing an educational model that combines traditional learning and online learning, which can serve as a curriculum that can be applied generally in emergency situations such as pandemics or natural disasters [33].

2.1 Study Problem

The development and growth of education depend on the availability of knowledge and informatics in its comprehensiveness, continuity, and integration, in addition to the availability of skills to use them optimally. At a time when blended learning techniques and skills have become a real presence in university education, it is expected that there will be less reliance on the information that students receive through traditional methods at university lectures. University education has begun to achieve the optimal investment of students' time, effort, and energy as they search for information through the internet and other instruments and technologies that contribute to improving the educational process, bearing in mind that the percentage of using blended learning as a teaching technique has significantly increased in various fields in general.

A recent study was carried out at the Massachusetts Institute of Technology in the USA. The study mentioned that the use of electronic technologies increases by 1% per day, which means that the monthly growth rate is more than (30%) [34]. In the educational field, most educational institutions have started using these technologies due to COVID-19, which cast its shadow over the education sector. This prompted university educational institutions to lock down to reduce the chances of the virus spreading and to switch to EL and BL as an alternative and a necessity to integrate it into the educational process. In addition, the educational process was affected directly by industrial automation and the revolution of information technology that has invaded most human life kinds [25].

Therefore, Jordanian universities seek to enhance their capabilities of educational technology with hardware and software, and the necessary computer labs so that students can interact with this technology and employ its various applications. The recommendations of the Scientific Conference on Technological Innovations and the Development of Education in the Arab World held at Mansoura University stressed the importance of using educational websites on the Internet to facilitate their use by students, which in turn develops the educational process [35]. Recently, faculty members have increased their use and interest in these electronic technologies, especially in university teaching. Reliance on blended learning has increased, thus leading to an increase in the study requirements that require using information technologies and integrating them into the implementation of the academic course requirements. Nevertheless, the use of such types of learning at Jordanian universities, in general, is still in the process of development, as the results of some educational studies still record having barriers between faculty members and students and between these types of learning.

Through the researcher's work as a faculty member at a Jordanian university, it is believed that the quantum progress in the field of technology has not been accompanied by qualitative progress in terms of the abilities of faculty members to employ modern technology. The novelty of applying blended learning in Jordanian universities and the lack of previous studies addressing this subject, to the knowledge of the researcher, have encouraged conducting this study. Thus, the study problem is reflected in finding out the degree of employing blended learning, difficulties, and needs at Jordanian universities from the faculty member's perspective.

2.2. Research Questions

1. What is the degree of employing blended learning by faculty members at Jordanian universities from their point of view?

2. What are the difficulties of applying blended learning from the point of view of faculty members?

3. What are the needs required to use blended learning from the point of view of faculty members?

2.3 Research Objectives

1. Investigate the degree of employing blended learning by faculty members at Jordanian universities from their point of view.

2. Find out the difficulties of applying blended learning from the point of view of faculty members.

3. Examine the needs required to use blended learning from the point of view of faculty members.

2.4 Significance of the Study

The study's significance is manifested in the importance of BL and keeping up with new and rapid changes in life in general and in higher education especially. The importance of the study is manifested in the theoretical importance of enhancing teaching approaches used by faculty members to adopt modern technology in the education process of the university. This study also aligns with modern inclinations in teaching and educational improvement, trends that seek to enhance the role of students in the educational process to allow them to build knowledge of themself under the directed constructive educational model.

From another perspective, the practical importance lies in assisting decision-makers and those involved in the process of education in Jordanian universities with useful information that contributes to holding training courses for faculty to reach a suitable level of technological literacy. Additionally, it provides decision-makers and those responsible for developing university curricula with the necessary assistance to plan and develop curricula based on integrated learning. It is hoped that the outcomes of this study will add new horizons for researchers to conduct further studies in this field.

2.5 Terminology of the Study

Employment Degree: It is the extent of usage of BL skills by faculty in Jordanian universities in the academic teaching context. The degree of employment was measured using the faculty response (Jordanian Universities) to the study tool.

Blended Learning: It is one of the forms of synthesizing learning material that can be implemented through a local network or on the Internet. Blended learning includes web-based learning, computer-based, and other electronic forms and patterns for presenting the learning material [8]. Procedurally, the researcher defines BL as a method through which the faculty member integrates the electronic learning of the academic course, in addition to another regular method without specifying the blending proportion in favor of either method.

Difficulties: It is a set of factors that negatively effectiveness and performance of using integrated learning skills by faculty members in Jordanian universities from their perspective. These difficulties were identified by the faculty member's response to the study tool.

Needs: They are the difference, distance, or gap between the current reality or reality of faculty members (Jordanian Universities) and the hoped-for situation and the expected outcome in the future in terms of their knowledge, skills, and values towards blended learning. The needs were measured by the faculty member's response to the study tool.

2.6 Limitations of the Study

1. Place Limitations: This study was limited to the University of Jordan and Al-Zaytoonah University in the Hashemite Kingdom of Jordan.

2. Time Limitations: The study was applied in the 1st semester of 2022-2023.

3. Human Limitations: The study was limited to the faculty members at the University of Jordan and Al-Zaytoonah University. The outcomes of this study are also partially limited by the nature of the study procedures in terms of the study design, tools, and the extent of their validity and reliability.

3 Method

3.1 Study Research Approach

A descriptive approach is adopted to suit the objectives of this study.

3.2 Study Population

The population of the study involved all faculty members at the University of Jordan and Al-Zaytoonah University for the year (2022/2023).

3.3 Study Sample

The sample of the study is 300 faculty who responded to the study tools that were electronically distributed to all faculty members.

3.4 Study Instruments

1. Degree of Use Questionnaire: Due to the nature of the study regarding its aims, approach, and population, a questionnaire was used to measure the degree of use of BL by faculty members. In its preparation, the researcher relied on scientific references, research, dissertations, and previous studies addressing the study variables.

2. Difficulties in Applying Blended Learning Questionnaire: This questionnaire aims to measure the difficulties of applying blended learning by faculty members. In its preparation, the researcher relied on dissertations, research, scientific references, and previous studies addressing the study variables.

3. The Needs Required by the Faculty Members to Use Blended Learning Questionnaire: This questionnaire aims to measure the needs that the faculty members require to use blended learning. In its preparation, the researcher relied on dissertations, scientific references, research, and previous studies addressing the study variables.

3.5 Steps for Preparing Instruments of the Study

1. Conducting a review of educational literature related to BL, utilizing the theoretical background and questionnaire used in the studies. [8, 9].

2. Formulating the items of the study in their initial form: The researcher formulated the items of each questionnaire according to the procedural definitions, benefiting from the phrases that appeared in the previous studies that were adopted.

3. The level of the response for each item of the questionnaire was determined based on a 5-point Likert scale, with levels ranging from 5-strongly agree, 4-agree, 3-neutral, 2-disagree, and 1-strongly disagree. The sample's responses were divided into three levels: high, medium, and low.

4. Preparing the questionnaires in their final forms: The Degree of Use Questionnaire consisted of (20) items in its final form. The Difficulties Questionnaire consisted of (9) items in its final form, while the Needs Questionnaire consisted of (13) items in its final form.

5. Distribute study tools to faculty members at the University of Jordan and Al-Zaytoonah University by uploading the tools to Google Drive and requesting that they fill them out and send them electronically.

3.6 Instrument Validity

To verify the validity of the study tools' content, the questionnaires were initially presented to six specialized referees. The suitability of the questionnaire items was then verified in terms of linguistic phrasing and relevance to the intended field of measurement. The reviewers' opinions were then reviewed, and the tools were produced in their final form.

3.7 Instrument Reliability

The reliability of the tools was confirmed using the test-retest way by applying it to 20 faculty who were chosen from outside the study community with a gap time of two weeks. Then, the Pearson Correlation Coefficient was used to calculate the reliability coefficient, and Cronbach's alpha was used to find the internal consistency. Table (1) shows these results.

3.8 Statistical Methods

After the collected data and analysis, the means (**M**), and the standard deviations (**SD**) were calculated.

To achieve the study objectives.

4 Results and Discussion

1st question: What is the degree of employing blended learning by faculty members at Jordanian universities from their point of view?

To answer this 1st question, the M and SD were calculated, as shown in Table (2).

Table (2) shows the means ranged (2.29) and (4.01). The response of the faculty members in terms of the degree of employing blended learning varied between the high, medium, and low degrees. Item (1) which states: "'I use blended learning to distribute educational activities and exercises in a balanced manner." was ranked first with a means of (4.01), followed by item (4) which states: "The educational material includes usual and electronic teaching aids" which was ranked second with a means of (4.00). Meanwhile, item (10) which states: "Evaluation methods are diversified between traditional methods (paper and pen tests) and electronic methods (computerized tests)" was ranked the last with a means of (2.29). The reason for this variance is attributed to several factors, including lack of academic courses that are related to educational technology offered by faculty members at the university, lack of training courses in this field, some faculty members don't read and follow-up educational literature related to this subject, in addition to the teaching and administrative burden of the faculty members, which reduces their efforts to develop themselves and to get to know their students and to get informed of the principles that help using educational technologies, including blended learning. The obtained results of this study are consistent with the results of one study which revealed that the degree of employing blended learning among faculty members at Jerash Private University was medium [13] and with another study which considers the importance of providing training and courses for faculty members and students [16], also, agree with results of literature. [14,15]. The obtained results of this study are varying with the results of the study which concluded that there are high positive attitudes towards using blended learning [17-19].

Results and Discussion Related to the 2nd question: What are the difficulties of applying blended learning from the point of view of faculty members?

To answer this question, (M) and (SD) were calculated, as shown in Table (3).

Table (3) shows the means ranged between (3.62) and (3.95). The response of the faculty members to the difficulty degree of applying blended learning was high, except for three items, where the estimates were medium. Item (3) which states: "Lack of moral incentives for faculty members to use blended learning." was ranked first with a means of (3.95), followed by item (4) which states: "Lack of training courses to use blended learning" was ranked second with a means of (3.92). While item (7) which states "Lack of motivation among faculty members to use BL "was ranked the last with a means of (3.62). This may be ascribed to the fact that faculty members are burdened with many tasks, difficulty in following students up individually, absence and lack of moral incentives for faculty members to use blended learning, lack of training courses for faculty members to use blended learning, faculty members don't have the skills of blended learning, the negative attitudes of faculty members towards BL and the fact that preparing for BL requires a long time and a great effort.

The obtained results of this study agree with the results of the study [22] which revealed a high level of difficulty from the viewpoints of the faculty members for all the domains of applying BL in university teaching. The obtained results of this study also agree with the results of the study [18] which revealed high estimates of the difficulty of applying blended learning at Jordanian universities from the viewpoint of faculty members. Also, it agrees with other results of [14-16, 32,36].

Results and Discussion Related to the 3rd question: What are the needs required to employ blended learning from the point of view of faculty members?

To answer this question M and SD were calculated, as shown in Table (4).

Table (4) shows the means ranged between (3.70) and (4.11). The response of the faculty members to the needs required for applying blended learning was high for all items. Item (4) which states: "Using technology in evaluating the educational situation." was ranked first with a means of (4.11), followed by item (5) which states "Giving electronic tests periodically" which was ranked second with a means of (4.06). Meanwhile, item (13) which states: "Dealing with the learning environment in light of technological innovations "was ranked the last with a means of (3.72). This may be attributed to the difficulties that the faculty members encounter when they apply blended learning. This made their response to the items they required high. In general, the faculty members' needs in terms of the difficulty of applying blended learning were as follows: using technology in evaluating the educational situation, giving electronic tests periodically, providing electronic feedback, writing reports on information evaluation, applying technology in evaluating student performance, using technology to develop problem-solving strategies, and applying technology in teaching university educational situations. The finding results obtained are in agreement with the results of [9, 14-16, 18, 21] which showed the same requirements and other requirements.

5 Conclusion

In a nutshell, this work recognizes the degree of employing blended learning, difficulties, and needs at Jordanian universities from the faculty member's perspective. The descriptive survey approach is used to achieve the study objectives. The findings indicate that the faculty members' responses regarding the degree of the use of BL are medium. The findings also show that their responses to the difficulties of applying blended learning and the needs required to employ blended learning are high. Based on the outcomes, the study recommends holding workshops, training courses, and meetings (individual or group) for faculty members in the blended learning domain. Additionally, it enhances and improves the technology skills of faculty members.

6 Recommendations

Based on outcomes, the study recommends the following:

- Contracting workshops, training courses, and meetings (individual or groups) for faculty members in the field of blended learning,

- Assist officials, planners, and improvements in the curricula of the University in planning and improvement curricula in light of BL.

- Preparing electronic programs through which academic courses can be taught to students.

- Developing the skills of faculty members by providing them with electronic learning resources and regular lectures and lessons.

- Conducting further studies on the difficulties and challenges facing the use and application of BL in Jordanian universities in various regions

Academic Contribution

This study indicates the views of faculty members in Jordanian universities regarding blended learning, its requirements, and the challenges facing this type of learning. After reviewing previous literature, the researchers formulated the problem and objectives of this study. From the results obtained, the researchers found the importance of using blended learning and giving it the necessary importance, especially by academics and those responsible for educational curricula, because of its benefits and positive effects, especially in times of crises such as COVID-19. Thus, giving the teaching staff sufficient opportunities to teach and take appropriate courses that promote this type of education and learning.

Conflicts of Interest Statement

The author declares that she has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethics Statement

This research did not require ethical approval. Data Availability Statement Data associated with the manuscript is public and has been referenced appropriately.

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