BLENDED LEARNING IN THE EDUCATIONAL PROCESS OF THE UNIVERSITY STAGE DURING THE CORONA PANDEMIC

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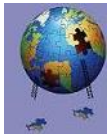m.o.e.m@bau.edu.jo

Abstract

Face Higher education institutions today have several demands imposed on them by successive scientific and technological developments. Despite the limited capabilities and resources available to them, they must face the increasing demand for higher education and raise the level of its efficiency, effectiveness and quality. To be in line with the requirements of the times, meet the needs of the labor market, and activate development plans, through the development of human cadres. Blended learning came as a result of the Corona pandemic, which invaded the world in early 2019/2020. Although blended learning is a type of learning practiced in many educational settings; this motivates the teacher to combine different resources and activities in the learning environments that the student can interact with, and build his ideas through them. It is a training and learning program that mixes face-to-face and distance learning according to the educational situation. Where technology is used in the process of integrating objectives, content, resources, learning activities, and information delivery strategies; to create a positive interaction between the teacher and the needs of the student.

Keywords: Blended learning, educational process, corona pandemic.

INTRODUCTION

Order to achieve and meet educational demands and needs, it was necessary to bring about radical changes in the university education system, so that it is not limited to the traditional teaching style in the classroom, but rather depends on a style that can employ modern developments in communication and information technology, with its flexibility, efficiency and effectiveness, and that It also allows its materials and curricula to reach university students at any time and any place, and at the same time a pattern that enables students to provide the necessary capabilities, skills and knowledge for their success in social and professional life in the era of knowledge, technology and communication revolutions. Therefore, many higher education institutions in different countries have resorted to using the mixed learning pattern based on the merging of the two types of traditional education and e-learning, which many studies have proven to be effective in developing many educational abilities and skills of students (Bansal, 2022;Whelan, 2021;Al-Momani& Rababa, 2022)

In light of the information revolution and its accompanying steady doubling in the techniques of generating, processing and storing information, as well as the emergence of the international information network "the Internet" available to all countries and individuals, which enabled learners to access easily and quickly and at any time to that information, in addition to the emergence of multiple means and the consequent results of Employing its elements to transfer and present that information in different learning programs, and the related necessity of new educational methods and methods such as blended learning to enable learners to benefit from the capabilities of the computer that depends on its tremendous speed and human ability that depends on intelligence and innovation. Blended learning

is an integrated system that integrates the traditional method of face-to-face learning with e-learning via the Internet to guide and assist the learner during each stage of learning as one of the modern approaches based on the use of educational technology in designing new educational situations (Kuiper, 2021;Rao & Vijayalakshmi, 2022)

Blended learning concept

It is the combination of learning using e-learning techniques and classic open distance learning on small groups of students for specific university and curricular courses, with the aim of paving the way for the expanded employment of e-learning in formal systematic teaching at the university in order to enhance its being a distance education university.(Gupta & Nayar, 2021)

What is meant by merging: allocating parts of each academic unit of unitscourse to be taught and managed directly through the Internet and reinforced with a variety of methods, resources, activities and educational experiences for individual and group learning drawn from many different sources of information while maintaining structured class meetings face to face, to discuss other topics from coursec ourses that have not been taken electronically, as well as main taining course. The print is already in use educated (Noor & Shaoun, 2021؛ Al-Momani& Rababa, 2022)

Blended learning is also known as: An educational and learning system that takes advantage of all available technological capabilities and media, by combining more than one method and tool for learning, whether electronic or traditional; To provide a new quality of learning that fits the characteristics and needs of learners on the one hand, and the nature of the course and the educational goals we seek to achieve on the other hand (Ashour et al,2021)

Blended education is also a method of teaching that aims to help the learner achieve the targeted learning outcomes, and allows the transition from teaching to learning, and from teacher-centeredness to learner-centeredness, by integrating traditional forms of education and e-learning with its patterns inside and outside the classroom (Ashri & Sahoo, 2021)
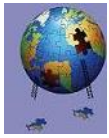
Elements of blended learning

Blended learning includes the following main components: (Islam et al, 2022; Ngoasong, 2021; Ashraf et al, 2021; Fleischmann, 2021)
1-traditional classes.
2-Virtual classes.
3-Traditional guidance and counseling.
4-Interactive video or satellite.
5-e-mail .
6-Constant emails.
7-Network conversations.

The importance of blended learning

The importance of blended education is highlighted in increasing the effectiveness of learning and improving its outcomes by providing a better link between the needs of the students and the learning program, which includes a variety of educational resources that stimulate learning in interesting ways.. What shows the importance of blended education is the spread of e-learning systems and the increase in the demand for their use and employment in the educational process. Many problems have emerged that have called for blended education and made the need for it urgent (Kundu et al, 2021; Fisher et al, 2021 Cabauatan et al, 2021)

1. The absence of direct social contact between the elements of the educational process - teachers, students and administration - which negatively affects the social communication skills of learners.

2.The application of e-learning systems requires an infrastructure of devices and equipment that require a high cost, which may not often be available in different educational systems.

3.E-learning systems require teachers and students to be able to use e-learning technology.

4.The difficulty of conducting formative and final evaluation processes and ensuring their credibility, especially when the course includes practical performance skills.

5.The inadequacy of e-learning systems for primary students, as well as their inappropriateness for some curricula and courses, especially those that require students to practice practical skills.

Advantages of blended learning

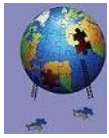Represented the advantages of blended education are as follows: (Perera et al, 2020; Saboowala Manghirmalani, 2021)

1-Combining the advantages of e-learning and the advantages of traditional education.

2-Dramatically reduced learning expenses compared to e-learning alone.

3-Flexibility to meet all individual needs and learning styles of learners at different levels, ages and times.

4-Enriching human knowledge and raising the quality of the educational process, and consequently the quality of the educational product and the efficiency of teachers.

5-Moving from group learning to student-centered learning, in which students become active and interactive.

6-It works on the integration of formative and final assessment systems for students and teachers.

7-Providing a flexible format that opens up new educational opportunities.

8-Work to improve the performance and learning of students.

9-It affects the way faculty members treat their other courses.

10-Many scientific subjects are very difficult to teach completely electronically, especially such as high skills, and the use of blended learning represents one of the proposed solutions to solve such problems.

11-Shifting from lecture-style teaching to student-centered education.

12-Increase interaction between students and teachers, students, students and content, students and external resources.

13-Increase access to information.

14-Integrated training and collection of assessment mechanisms for students and teachers.

15-It saves time for both the teacher and the student.

16-Utilizing modern technologies and e-learning tools in designing and implementing educational lessons.

Blended Learning Options

Blended learning options go beyond the classroom, formal and informal, technology-based and people-centred. The following table presents options for what could constitute a blended learning approach.

Table 1. Blended learning approach.

Face-to-face learning (informal)	Live face-to-face learning (formal)
- group communication - work teams	- Classroom led by the teacher - Workshops - Training / Orientation

	On-the-job training
Asynchronous cooperation	simultaneous cooperation
- E-mail - Internet forums Online discussion boards Internet groups	- Live e-learning classes Electronic guidance - Chat Video conferencing
Performance support	Self-paced learning
Help systems Printed auxiliary tasks Knowledge databases - documentation Performance/Decision Support Tools	Online modules Links to online resources - Emulators Scenarios Audio-visual discs Online self-assessment Work books

Blended Learning Types and Features

The National Institute of Information Technology classifies blended learning into three models: (Ashri & Sahoo, 2021)

1-Blended skill-led learning requires teacher feedback and regular support, incorporating interaction with the teacher through e-mail, discussion forums, and face-to-face meetings with self-paced learning, such as books and Internet-based courses. This type of processing is similar to a chemical reaction, which works in which interaction with the teacher motivates the achievement of the reaction required for learning.
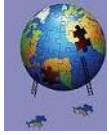
2-Direction-led blended learning integrates various events and means of delivery to develop specific behaviors that require learners to interact with each other and require a risk-free environment.

3- Blended competency-led learning that integrates performance support tools with knowledge management sources and consultancy to develop specific competencies to capture and transfer embedded knowledge that requires learners to interact with experts in the specialty.

The following table shows the main features of each model and the inclusion techniques that can be adopted to improve learning:

Table 2. The main features of each model and the inclusion techniques

Merge Techniques	his features	Sample
Create self-paced learning groups but stick to a schedule. Self-paced learning covers observational and teacher-led closing sessions. Presentation of procedures and processes through synchronous learning laboratories on the Internet or through a traditional classroom. Provide support by e-mail. Designing long-term projects.	Learn the specific knowledge and skills you require Regular feedback and support from the teacher.	Skill-led model
Simultaneous online meetings. Assigning projects to the group. Role-play simulation.	Content that deals with evolving new trends and behaviors requires peer interaction With a colleague in a risk-free	The trend-led model

	environment	
	To capture and transmit tacit knowledge	
nteract with experts in the profession. Develop a knowledge store through a learning management system an education content management system.	Learners must Observe and interact with experts in specialization.	Efficiency-led model

Blended Learning Integration Levels

The term blended learning has been associated with integrating traditional learning with e-learning, but it includes a larger group of strategies and methods that can be combined to improve the quality of learning, and thus many levels of blended learning have emerged, namely: (Kundu et al, 2021; Fisher et al, 2021; Cabauatan et al, 2021)

First: Integration at the level of learning theories:
It is the integration of learning theories with each other, namely, constructivism, cognitive and behavioral, and finding an educational program that follows more than one learning theory and applies it to the lesson objectives, content selection and presentation.

Second: Integration at the level of the learning style:
It is the integration of more than one method of learning, such as traditional learning with e-learning, the integration of individual learning with cooperative learning, the integration of self-learning and the learning style that the teacher controls in its management, and formal and informal education.

Third: Integration at the level of learning aids:
It is the integration of more than one means of teaching and learning such as direct speech, dialogue and discussion, and multimedia such as images, videos, Internet pages, e-mail, ready-made educational programs, books, articles, conferences, and others.

Blended Learning System

Blended learning must work within an integrated system in order to succeed. The blended learning needs can be divided into three pointsshe: (Islam et al, 2022; Ngoasong, 2021; Ashraf et al, 2021; Fleischmann, 2021)
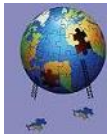
1- Technical requirements:
1.Availability of infrastructure and learner needs from different learning resources.
2.Availability of virtual classes alongside traditional classes so that they complement each other.
3.Availability of e-learning management software.
4.Availability of tools and means that are used in practical training.

2- Human Requirements:
A- A learner who has the ability to:
1-Active participation in the educational process.
2-Electronic or face-to-face communication.
3-Dealing with information technology.
4-Cooperation and interaction with the teacher and with his colleagues, especially in training workshops.
5-Achieving educational goals.
6-Dialogue and discussion during lectures.
7-Dealing with various printed and electronic learning resources.

b- A teacher who has the ability to:
1-Effective face-to-face communication.
2-Dealing with information technology.
3-Direct interaction with learners.
4-Designing printed and electronic tests and assessment tools.
5-Searching for information in printed and non-printed sources.
6-The shift from traditional education to e-learning.
7-Provide direct feedback to the learner.

We can say that the characteristics of the teacher required in blended learning institutions are:

1.To have the ability to combine traditional and electronic teaching.
2.Designing tests and dealing with multimedia.
3.Understand the purpose of education.
4.To be accommodating of the basic objectives of education, and this is of course required of the teacher in all educational environments.
5.That he has the ability to search for what is new on the Internet and the desire to develop his course and update his information on an ongoing basis.
6.To have the ability to deal with e-mail and exchange messages between him and his students.
7.To have the ability to create a spirit of participation and interaction in the classroom, whether real or virtual.
8.To have the desire to move from the stage of traditional education to the stage of blended education.
9.To have the ability to transform everything he explains from his static image into a living reality that attracts the attention of students through:
1.Develop concepts of teamwork and collaborative work.
2.Save learners time.
3.Achieving specific educational goals through the use of technological innovations.

Blended Learning Success Factors:
There are many factors that contribute to the success of blended learning, including those related to open participation, competition between students, and the use of good presentation of topics, including those related to continuous follow-up byteacher, and continuous communication has been reportedMany specialists and researchersA number of these factors are: (Islam et al, 2022; Ngoasong, 2021; Ashraf et al, 2021; Fleischmann, 2021)
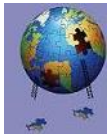
1. Communication and Guidance:
One of the most important factors for the success of blended learning is the communication between the learner and the teacher, because the learner in this new style does not know when he needs help or the type of devices, equipment, tools and software or when he can test his skills, so a good blended learning must include sufficient instructions and instructions for samples of behavior Actions and expectations, as well as diagnostic methods and some of the tasks he recommends to the learner and the roles of each in a clear, specific and written way.

2. Teamwork:
When we participate in the blended learning, each individual (student, teacher) must be convinced that working in this type of learning requires the interaction of all participants, and it is necessary to work in the form of a specific team for each individual with the role or roles that he must play.

3. Encouraging dazzling creative work:
Blended education must encourage students to self-learn and learn among groups, because the technological media available in the blended education allow this (the individual can study by himself through reading printed matter or while at the same time sharing with his colleagues reading it on the

line in another country through Network or through video conferencing to watch a video about the informationwhereMultimedia and class interactions encourage creativity and quality work.

4. Flexible options:
Blended education enables students to obtain information and answer questions regardless of the place, time, or previous learning of the learner. Therefore, blended education must include many flexible options at the same time, enabling all beneficiaries to find what they want.

5. Involve students in choosing the right mix:
The teacher should assist his students in choosing the appropriate mix (online learning, individual work, listening to a traditional teacher, reading from print, e-mail). The teacher also acts as a catalyst for learners, as he helps in employing students' choices, making sure that the appropriate student chooses the appropriate medium for him. to reach maximum efficiency.

6. Constant Contact:
There must be a quick and available way of communication all the time between learners and teachers for guidance and direction in all circumstances, and the network communication between students must encourage each other to exchange experiences, solve problems and participate in software.

7. Repetition:
Repetition is one of the most important characteristics of blended learning, and one of the most important factors for its success, because it allows participants to receive the same message from different sources in multiple forms over a long time. For the same information with a complete database, and it is possible for the program supervisors to present a seminar by addressing the new in this topic, or to hold video conferences on the same topic, in addition to sending messages to present a discussion on the network by e-mail to all learners about the details of the topic. It provides a self-test for the same topic. All these repetitions enrich the subject, deepen the thought, and meet all the needs and preparations of the learners. The important thing is that all these repetitions are high-level scientific technology.

Blended Learning Environment Design:

I have recommendednumber of specialistsThe following should be considered when designing a blended learning environment: (Gupta & Nayar, 2021); Kuiper, 2021; Rao & Vijayalakshmi, 2022)

1-Good planning for employing e-learning technology in the blended learning environment, and defining the function of each medium in the program, and how it is used by teachers and learners accurately.
2-Ensuring the skills of teachers and learners in the use of e-learning technology included in the blended learning environment.
3-Ensuring the availability of devices, references and various resources used in the blended learning environment, whether for learners or in the educational institution, so that they do not represent an obstacle to the occurrence of learning.
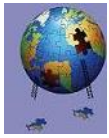4-The program begins with a plenary session that brings together teachers and learners face to face, in which the objectives and plan of the program are explained, how to implement it, the strategies used in it, and the role of each of them in the learning events.
5-Working on the availability of teachers in a timely manner to respond to learners' inquiries well, whether through the Internet or in the classrooms face to face.
6-Diversity of information sources to meet individual differences among learners.

Blended Education Employment Methods

Blended learning is employed in the educational process according to the following methods: (Islam et al, 2022; Ngoasong, 2021; Ashraf et al, 2021; Fleischmann, 2021)

1. The first method:

It is based on teaching a particular lesson - or more - in the academic course through the usual classroom teaching methods, and teaching one or more other lessons using e-learning tools, and students are finally evaluated by any of the regular or electronic assessment methods.

2. The second method:

It is established that classroom education and e-learning mutually participate in teaching one lesson, but the beginning is for classroom education first, followed by e-learning, and students are finally evaluated by any of the regular or electronic evaluation methods.

3. Third method:

It is established that classroom education and e-learning mutually participate in teaching a single lesson. However, the beginning of education takes place in an e-learning method, followed by classroom education, and students are finally evaluated by any of the regular or electronic evaluation methods.

4. Fourth method:

It is based on the mutual participation of classroom education and e-learning in teaching one lesson, so that the method of e-learning alternates, and classroom instruction more than once for one lesson, and students are evaluated in conclusion by any of the regular or electronic evaluation methods.

Obstacles and problems of blended learning

Despite all that has been said and written about blended education has advantages, that emerge from time to time some human, material and procedural obstacles, which impede, from near or far, the ways of applying blended education, namely: (Islam et al, 2022; Ngoasong, 2021; Ashraf et al, 2021; Fleischmann, 2021)

1-Lack of sufficient experience of some students or trainees in dealing with computers and networks, and this represents the most important obstacles to learning, especially in the self-learning style.
2-There is no guarantee that the devices that the learners or trainees have in their homes or in the training places in which they study the course electronically will have the same efficiency, capacity, speed and equipment, and that they are suitable for the content and methodology of the course.
3-There are difficulties in the evaluation, monitoring system, correction and follow-up of attendance, and feedback is sometimes missing. If a student joins a course and finds a difficulty and does not find immediate feedback on his problem, he will not return to the program, no matter how interesting it is.
4-One of the most important problems of blended learning is the lack of qualified cadres for this type of education and the lack of studied scientific models to integrate traditional learning with e-learning.
5-lowThe level of experience and skill of some students and teachers in dealing seriously with educational technology, computer devices and their attachments.
6-CostsThe preciousness of computer devices, their efficiency and attachments, and their development from one generation to another may sometimes stand in the way of their acquisition by some students, teachers, and other parties.
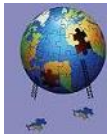7-lowThe level of actual participation of curriculum specialists in the manufacture of integrated electronic courses.
8-lowThe level of effectiveness of the monitoring, evaluation, correction, attendance and absence system among students.
9-nutritionReturn and incentives and compensatory may not be available sometimes.
10-Focus onThe cognitive and skill aspects of the students are more than the emotional aspects.
12-Most of the programs used are in English, students are not proficient in this language as required, and the high cost of some Arabized programs.

Conclusion

I started various educational institutions, including higher education institutions, especially during the Corona pandemicdiscover thatBlended learning not only saves time and cost, but offers a more seamless way to learn and work, and organizations at the forefront of this new generation of learning will have a more productive, change-oriented and successful teamwork in achieving goals. Business is the best source for competitive advantage.

Institutions must to look beyond the confines of traditional training classes by combining the best current experiences with the latest developments in learning technologies in order to maximize results, and most importantly, organizations must educational to seek to prepare each individual in the organization to become an effective participant in the process of learning and sharing.

REFERENCES

Al-Momani, M.O., & Rababa, E.M (2022). Mixed Education and Quality Standard in the University Teaching: A Theoretical Study. Indonesian Journal of Educational Research and Technology.2(3), 155–174.https://doi.org/10.17509/ijert.v2i3.43655

Rao, G.V., & Vijayalakshmi, D. (2022). Preference for Mode of Learning for Knowledge and Skills by Professional Management Students during the COVID-19 Pandemic Period. Management and Labor Studies, 47(1), 22–39.https://doi.org/10.1177/0258042X211020604

Ashour, S., El-Refae, GA, & Zaitoun, EA (2021). Post-pandemic Higher Education: Perspectives from University Leaders and Educational Experts in the United Arab Emirates. Higher Education for the Future, 8(2), 219–238.https://doi.org/10.1177/23476311211007261

Ashri, D., & Sahoo, BP (2021). Open Book Examination and Higher Education During COVID-19: Case of University of Delhi. Journal of Educational Technology Systems, 50(1), 73–86.https://doi.org/10.1177/0047239521013783

Bansal, M. (2022). Multidimensional Impact of COVID-19 on the Indian Education Sector. Management and Labor Studies.https://doi.org/10.1177/0258042X211069509

Gupta, U., & Nayar, KR (2021). COVID-19 Pandemic and Popular Discourses in Jharkhand: A Qualitative Study. Journal of the Anthropological Survey of India, 70(2), 214–223.https://doi.org/10.1177/2277436X211028957

Whelan, J. (2021). Tales of precarity: A reflexive essay on experiencing the COVID pandemic as a social work educator on a precarious contract. Qualitative Social Work, 20(1–2), 579–586.https://doi.org/10.1177/1473325020973311

Noor, S., & Shaoun, SP (2021). Online Education and Community Participation in Bangladesh: Challenges and Opportunities to Ensure Inclusive Learning During COVID-19 School Closure. Indian Journal of Public Administration, 67(4), 620–638.https://doi.org/10.1177/00195561211044531

Kuiper, G. (2021). Emotional risk assessments in the field: Leaving Tanzania during the COVID-19 pandemic. Ethnography.https://doi.org/10.1177/14661381211002856

Islam, MK, Sarker, MFH, & Islam, MS (2022). Promoting student-centred blended learning in higher education: A model. E-Learning and Digital Media, 19(1), 36–54.https://doi.org/10.1177/20427530211027721

Ngoasong, MZ (2021). Curriculum Adaptation for Blended Learning in Resource-Scarce Contexts. Journal of Management Education.https://doi.org/10.1177/10525629211047168

Ashraf, MA, Tsegay, SM, & Meijia, Y. (2021). Blended Learning for Diverse Classrooms: Qualitative Experimental Study With In-Service Teachers. SAGE Open.https://doi.org/10.1177/21582440211030623

Fleischmann, K. (2021). Hands-on versus virtual: Reshaping the classroom design with blended learning. Arts and Humanities in Higher Education, 20(1), 87–112.https://doi.org/10.1177/14740222220906393

Kundu, A., Bej, T., & Nath Dey, K. (2021). Time to Achieve: Implementing Blended Learning Routines in an Indian Elementary Classroom. Journal of Educational Technology Systems, 49(4), 405–431.https://doi.org/10.1177/0047239520984406

Fisher, R., Perényi, Á., & Birdthistle, N. (2021). The positive relationship between flipped and blended learning and student engagement, performance and satisfaction. Active Learning in Higher Education, 22(2), 97–113.https://doi.org/10.1177/1469787418801702

Cabauatan, RR, Uy, C., Manalo, RA, & Castro, B. de. (2021). Factors Affecting Intention to Use Blended Learning Approach in the Tertiary Level: A Quantitative Approach. Higher Education for the Future, 8(2), 239–255.https://doi.org/10.1177/23476311211011934

Perera, CJ, Zainuddin, Z., Piaw, CY, Cheah, KSL, & Asirvatham, D. (2020). The Pedagogical Frontiers of Urban Higher Education: Blended Learning and Co-Lecturing. Education and Urban Society, 52(9), 1305–1329.https://doi.org/10.1177/0013124519894966

Saboowala, R., & Manghirmalani Mishra, P. (2021). Readiness of In-service Teachers Toward a Blended Learning Approach as a Learning Pedagogy in the Post-COVID-19 Era. Journal of Educational Technology Systems, 50(1), 9–23.https://doi.org/10.1177/00472395211015232