The impact of blended learning on academic achievement quality from the perspective of students at Mohamed Bin Zayed University for Humanities in light of university policies and aspirations

Mohamad Abdullah Alsaied

Mohamed bin Zayed University for Humanities, United Arab Emirates.

(*Email: mohamad.alsaied@mbzuh.ac.ae*)

Abstract

This study evaluates the effectiveness of implementing various forms and features of blended learning at Mohamed Bin Zayed University for the Humanities from the perspective of its students. The research focuses on five key areas: the availability of blended learning mechanisms, their impact on achieving educational objectives, the influence of blended learning on students' academic performance, the obstacles to using blended learning at the university, and the views and perspectives of the study sample towards this type of education. A survey was conducted, and the sample consisted of 100 students from different university branches. The results showed a high level of agreement among students on the importance of blended learning compared to traditional education. Tools such as computers, educational courses, projectors, video classes, class points, and smart boards were widely recognized as effective. Regarding the effectiveness of these mechanisms, 73% of students reported improvements in their academic performance and increased concentration after using blended learning tools. However, 22% of students faced obstacles that hindered their ability to receive focused education. These obstacles included a lack of awareness of how to use blended learning tools, unexpected technical issues with smart boards, and insufficient time for discussions in certain courses. The students' visions and aspirations were reflected in their desire to further develop this form of education over traditional methods by better equipping classrooms and offering regular training sessions for professors on blended learning techniques and skills.

Keywords: Blended learning, education, Smartboard, Traditional learning.

1. General Framework

1.1. Introduction

The Modern Age has witnessed a scientific and technological revolution alongside a massive explosion of knowledge. Professional and scientific theories and discoveries have continuously evolved with their technological applications at an unprecedented pace, bringing significant changes to all aspects of life [1]. Consequently, educational organizations, particularly universities, face a critical challenge: equipping this generation with a scientific culture that enables them to keep up with the rapid expansion of scientific knowledge. This foundation is essential for understanding and adapting to their contemporary world and addressing emerging problems.

Amid this technological revolution, which has turned the world into a global village, the need for learners to exchange experiences with others and engage in self-research within a multi-source environment has become evident [2]. This has led to the emergence of new approaches, techniques, and methods in teaching and learning. Blended learning, which integrates electronic education with traditional teaching methods, has highlighted the need to transition from outdated teaching approaches to modern, effective techniques. These advancements aim to reduce reliance on rote memorization and passive instruction, fostering active learning and student engagement. Effective blended learning seeks to overcome the limitations of both traditional and electronic methods, combining their strengths to maximize benefits [3].

Since the field of education and educational organizations are considered a fundamental component of modern society, entire nations, regardless of their environments, have begun to develop their education systems. A shift has occurred from traditional education, which relies on direct, confrontational learning between teacher and student, where the teacher bears the primary burden and the student plays a more passive role. Consequently, many organizations are not striving to advance education by introducing new methods that make learners more active and engaged, while the teacher assumes the role of a guide and mentor.

Recently, many technological innovations have emerged, aiming to shift the focus of education from the teacher to the learner, emphasizing active and cooperative strategies [4]. Among these innovations is electronic education, which seeks to utilize technology in its various forms and approaches to convey information to learners with less time and effort while maximizing benefits.

University education, as one of the most critical pillars of the educational system, plays a vital role in developing human capabilities and knowledge. Through higher education, students acquire in-depth knowledge in their fields of specialization, equipping them with the expertise and skills needed to enter the workforce, compete, and innovate. Moreover, university education fosters critical and analytical thinking, which is essential for addressing the complex challenges of professional life [5]. Additionally, universities empower individuals to contribute effectively to the economic, social, and cultural development of their communities. Universities provide a learning environment that encourages scientific research and creativity, enabling students to enhance their personal and social abilities.

Given these advantages, blended learning has emerged as a promising educational approach. This research focuses on evaluating the effectiveness of implementing blended learning at Mohamed Bin Zayed University for Humanities in the UAE from the perspective of students, considering the university's strategies and guidelines. The study examines a sample of university students to assess the effectiveness of blended learning implementation, their satisfaction with this method, the availability of mechanisms and technologies for its application, and whether it is fully implemented at the university or remains largely theoretical.

1.2. Study Problem

One of the most prominent outcomes of scientific and technological progress in education is the emergence of new patterns of electronic learning (e-learning), such as distance education and blended learning. This shift became particularly significant following the Covid-19 pandemic, which created an educational reality where these two modes became common frameworks for many university courses, including those accredited by educational institutions across the UAE. Students have expressed diverse ideas and opinions about this new system. Some students have embraced and believed in this new reality, viewing it as an opportunity to engage with innovative tools at different levels. Others, however, have opposed e-learning, citing feelings of isolation and a lack of integration into university life. They have also raised concerns about limited opportunities for discussion and collaboration on educational materials, as well as the potential misuse of electronic applications for tracking and attending lectures. Additionally, some students lack self-learning skills, while some teachers struggle to effectively deliver information through online or distance education.

To address the disadvantages of both face-to-face and online distance learning, blended education has emerged as an integrated approach that combines in-class learning with online or electronic education. From this perspective, the researcher identified the need to conduct a comparative study on the effectiveness of online and blended learning from the perspective of undergraduate students at Mohammad Bin Zayed University for the Humanities in the UAE, considering the university's strategies and guidelines.

The research relies on a randomly selected sample of university students to measure the effectiveness of blended learning, acceptance, and conviction regarding this method, as well as the mechanisms and strategies that are in place for its implementation. It also examines whether blended learning has been fully applied at the university in alignment with current strategies or remains primarily a theoretical concept. The problem of this research is crystallized through the following questions:

1. What is the impact of blended learning on the academic achievement of students at Mohammed Bin Zayed University for Humanities? From this main question, the study will explore several sub-questions:

    a. How do students evaluate their experiences with blended learning compared to traditional education?

    b. What technical and organizational challenges do students face within the blended learning system?

    c. How does blended learning affect students' academic achievements and their interaction with instruction and content?

    d. Are there any differences in academic performance among students based on their academic or technical backgrounds within blended learning?

2. Do students believe that blended learning provides equal learning opportunities for everyone, regardless of their technical skills or financial capabilities?

    a. Is the blended learning system fully implemented at Mohamed bin Zayed University for Humanities under its current strategies, or does it remain theoretical?

1.3. Study Hypothesis

This study is guided by various hypotheses that will be statistically analyzed to verify their validity and reliability:

1- There is no relationship between blended learning and the quality of students' academic achievement at the university.

From this main hypothesis, the following sub-hypotheses can be derived:

A- Students at the university are unable to evaluate their experiences with blended learning.

B- Students face many technical and organizational challenges in the blended learning system.

C- The blended learning system adversely affects students' academic achievement and their interaction with instruction and content.

D- There are no differences in academic performance among students based on their academic or technical backgrounds within the blended learning system.

E- Students do not perceive blended learning as offering equal learning opportunities for everyone, regardless of their technical skills or experience.

2- Under the current strategies, the blended learning system is not fully available at Mohammed Bin Zayed University for Humanities.

1.4. Study Importance

This study is significant because it examines the impact of blended learning on the quality of academic achievements of undergraduate students at Mohammed Bin Zayed University for Humanities from the students' perspective. It highlights the effectiveness of online and blended learning, a recent learning trend worldwide, and provides data on the most influential factors affecting the efficiency of blended learning at the university level, contributing to new knowledge for researchers. Additionally, it supplements Arabic literature with a new and important theoretical framework for comparing the effectiveness of face-to-face and blended learning. This comparison is crucial in light of the university's efforts to formally adopt blended learning, aligning its practices with those of other universities across the UAE.

This study also has important implications for human resource development, material capability enhancement, and the formulation of educational strategies. These efforts contribute to understanding preferences for and the implementation of blended or fully online learning as alternatives to face-to-face learning. Finally, the study is significant because it focuses on students at Mohammed Bin Zayed University for Humanities, whose development and success are essential to the educational process and the acquisition of knowledge and skills required by the labor market.

1.5. Study Objectives

- To develop a comprehensive understanding of the impact of blended learning on students from their perspectives.
- To focus on the impact of blended learning, which integrates traditional in-person education with online learning.
- To evaluate the effectiveness of blended learning implementation at Mohamed Bin Zayed University for the Humanities, we will assess the availability of the mechanisms and technologies required for blended learning and their impact on students' academic achievement and performance, while highlighting associated challenges and obstacles.
- To measure the impact of blended learning strategies on the quality of students' academic achievement in light of university policies and objectives, focusing on students' perspectives and attitudes toward blended learning.
- To investigate whether blended learning is fully available and implemented within the university under its current strategies.

1.5.1 Study Sample

The sample in this study includes undergraduate students currently studying at Mohamed Bin Zayed University for Humanities, comprising 100 randomly selected students from various university branches.

1.5.2. Geographical Scope

This research exclusively examines students at Mohamed Bin Zayed University for Humanities. Therefore, the results are not generalizable to other educational institutions within the UAE or internationally due to differences in educational environments and technological infrastructure across universities.

1.5.3. Subject Scope

This research focuses exclusively on the impact of blended learning, which integrates traditional in-person education with online learning. It does not include outcomes related to fully traditional or fully online education. The study emphasizes understanding students' subjective experiences with blended learning.

1.5.4. Study Concepts and Procedural Definitions
1.5.4.1. Blended Learning

Blended learning is a modern educational model that combines traditional classroom learning with online learning. This approach integrates modern learning technologies with traditional methods to enhance the educational process, providing a comprehensive learning experience characterized by flexibility. This allows students to control the pace, location, and timing of their education, enabling them to learn in an environment that meets their individual needs.

Abu Eitah [2] defines blended learning as the integration of educational technology with various learning techniques, based on established learning theories, to increase the effectiveness of education. Procedurally, blended learning in this study refers to an educational program that combines online and face-to-face learning to enhance students' academic achievements and instructional design outcomes.

1.5.4.2. Academic Achievements

Academic achievements refer to students' academic performance, typically measured by grades and their coursework results. Procedurally, it involves assessing the impact of blended learning on students' grades and their understanding of academic content. Al-Dirshawi [3] defines academic achievement as the knowledge and concepts understood by students through blended learning strategies, measured by exam grades. Other sources [4] also attribute students' efforts and the benefits gained from educational guidance and practices.

1.5.4.3. Self-Directed Learning

Self-directed learning is a process through which an individual independently acquires new skills and knowledge without relying solely on the guidance of teachers or traditional educational institutions. It depends on individuals' motivation and desire to acquire knowledge or satisfy their curiosity through various resources, including books, articles, online courses, and personal experiences [4].

1.5.4.4. Strategy

Strategy refers to an organized plan comprising educational activities and procedures arranged sequentially to achieve specific educational objectives within a set timeframe [3]. Procedurally, it involves a group of planned actions using modern teaching technologies and techniques to efficiently and effectively achieve learning objectives.

1.5.4.5. Relevant Previous Studies

1- Giddens, et al. [6]: "The theory of advanced modernity and globalization explains the transition from traditional education systems to blended learning."

This study examined the impact of advanced modernity, globalization, and technological change on social, political, and economic systems, including the educational system. The key focus was on how globalization reshapes traditional structures like education systems. The authors noted that modern societies have become more open and willing to deal with the complexities inherent in technological advancements and globalization. This transformation in learning has liberated the educational system from its traditional reliance on classroom-based instruction. With the advancement of technology and the widespread availability of the internet, spatial and temporal boundaries have become less significant in the learning process.

To achieve the objectives of their study, the researchers employed a scientific methodology, highlighting the opinions and conclusions of others. They concluded that blended learning is a natural outcome of the changes brought about by advanced modernity, reflecting a shift from the rigid traditional education model to a modern, flexible system that can adapt to the needs of students in the technological age. In the context of globalization, blended learning facilitates access to diverse educational resources from around the world, enhancing students' ability to learn in an integrated and personalized way. The authors did not provide any specific related recommendations.

2- Leem and Lim [7]: "The current status of e-learning and the strategies to enhance educational competitiveness in Korean higher education."

This study explored the challenges faced by teachers and students in Korea due to insufficient support for blended learning technologies. The authors recommended tailored strategies for universities to enhance e-learning quality, support for teachers and students, and promote international collaboration in e-learning. The researchers utilized a scientific methodology without a questionnaire.

The results showed that blended learning has a significant effect on the development of self-experience and enhances students' knowledge and understanding of educational content. Moreover, blended learning involves collaborative learning activities and leads to better student comprehension than traditional educational methods. Specifically, departments that implement the blended learning model can achieve better results than those that continue with traditional approaches. Additionally, students express a preference for blended learning. However, further research is needed to determine whether these findings can be generalized across all literature.

3- Abu Eitah [2]: "The impact of blended learning on academic achievements and the trends in designing education for the students of Princess Alia University."

This study examined the impact of blended learning on students' academic achievement and its relationship to the design of the educational process. To do so, the researcher adopted an analytical-descriptive approach by reviewing relevant previous studies and using those findings to enrich their study. Subsequently, the researcher conducted an information survey using a questionnaire, which was distributed to a sample of 30 students. The responses were analyzed statistically using means and standard deviation.

The analysis tested the credibility of the study's hypothesis and led to several conclusions. In particular, the results highlighted the importance of blended learning in encouraging students to engage in reflective thinking, improve their academic achievements, and foster positive attitudes towards educational design. Based on these findings, the researcher provided recommendations emphasizing the need to adopt blended learning as an effective method to enhance academic outcomes and educational design.

4- Al-Shamalti and Daradkah [5]: "The effectiveness of distance learning and blended learning in Jordanian universities from students' perspectives."

This study aimed to investigate the effectiveness of distance and blended learning from the perspective of bachelor's students at Jordanian universities. To achieve this objective, the researcher utilized an analytical and descriptive methodology, enriching the analysis and findings with information drawn from relevant previous studies.

Additionally, the researcher employed an inductive method, developing a questionnaire and distributing it to a randomly selected sample of 390 students from various Jordanian universities. The responses were collected and analyzed statistically using means and standard deviations. The results revealed that undergraduate students' assessment of the effectiveness of distance learning was moderate. Furthermore, there were no statistically significant differences in the students' evaluations of distance learning based on variables such as gender, academic major, or university. In contrast, the results indicated that students rated the effectiveness of blended learning as high, with no statistically significant differences in responses based on gender, academic major, or university.

1.5.4.6. Distinguishing Features of this Study

Analyzing and comparing previous research with the current study revealed similarities regarding scientific methodology, tools, and study populations. However, the current study diverges from others in several key aspects, particularly in its focus on higher education (university level) rather than school-level education. Previous studies often focused on specific subject areas without addressing the entirety of the subject materials as a comprehensive curriculum that encompasses the broader educational process, including student and teacher behaviors across various educational contexts. In contrast, this study aims to provide a comprehensive understanding of the blended learning strategy with its implementation mechanisms and application across various educational materials.

Overall, this study offers a holistic perspective on blended learning, addressing its utility in teaching all educational materials and its implications for improving the educational process in higher education.

2. Conceptual Framework of Blended Learning

2.1. Preface

Blended learning is an electronic educational approach that caters to learners' needs and the nature of the available communication tools. It has opened new horizons for learners that were previously inaccessible, necessitating a reevaluation of educational curricula to align with modern developments and global requirements. The focus has shifted towards equipping individuals with the skills to effectively use information technology, driving a transition from traditional education techniques to modern, dynamic methods. These modern methods aim to benefit both teachers and students while moving away from the one-sided approach of teachers merely delivering lessons and students passively receiving and understanding information [8].

Thus, it has become essential to seek educational methods that employ tools and techniques that avoid the limitations of traditional systems while capitalizing on their advantages. Blended learning addresses this need by combining the strengths of traditional and e-learning into one framework [8]. This model incorporates electronic teaching tools, including computer- and network-based systems, websites, and smart supervision systems. At the same time, it maintains the traditional face-to-face interaction between teachers and students, which occurs most of the time.

Based on these classifications, blended learning can be defined as an educational approach that integrates e-learning with traditional face-to-face methods, utilizing internet connectivity. It combines the best features of classroom learning and digital learning environments.

Researchers have offered various definitions of blended learning. Alshurman [9] defines it as an approach that combines the best elements of classroom instruction with online or computer-based learning. Blended learning can also be considered an educational and learning system that benefits from all available technologies, combining various educational styles and learning tools, both electronic and traditional, to support learners and their individual needs [4].

Based on these definitions, while blended learning can be referred to using various names, such as "synthesized learning," the underlying mechanisms and principles remain consistent. All definitions agree that blended learning combines multiple methods—electronic, traditional, and self-learning—to achieve maximum efficiency, productivity, and cost-effectiveness in education [10].

2.2. The Significance of Blended Learning

Blended learning offers significant advantages in terms of access to information, cost efficiency, and time management. Its primary significance lies in its ability to merge the benefits of traditional education, led by a teacher, with the advantages of communication technologies. This integration allows for the development of educational programs that include scientific content prepared by teachers, online courses, live sessions, and other multimedia resources.

By engaging with internet-based resources, learners can enhance their academic achievements, expand their knowledge, and gain practical experience with educational institutions. This approach increases the effectiveness of the learning process while fostering satisfaction among students. When teachers provide educational materials in diverse, blended formats, it leads to higher academic achievements and encourages positive attitudes toward learning. Active and engaged learners are more likely to succeed and exhibit enthusiasm in their educational pursuits [2].

Blended learning also enhances motivation by integrating engaging activities that captivate students' attention and align with their responsibilities. Participation in such activities promotes the cognitive and emotional involvement necessary for effective learning. Trends and attitudes play a critical role in the educational process; fostering positive attitudes toward educational materials significantly increases students' motivation and academic qualifications.

The importance of blended learning stems from the benefits it offers to teachers, learners, as well as the overall education process. It improves the effectiveness of education by aligning programs with learners' needs and enhancing access to information. This approach achieves better outcomes in both educational and professional fields [11]. Furthermore, it diversifies knowledge acquisition by enabling learners to use various methods—electronic and traditional—tailored to their skills and abilities. This diversity improves the quality of education and equips learners with a broader understanding of the educational content.

Blended learning supports active learning by prioritizing interactive, cooperative activities over passive information reception. It encourages learners to engage with teachers and peers through both face-to-face and online methods, fostering social and human connections during the educational process. This interactive approach increases satisfaction and nurtures positive relationships among learners.

Additionally, blended learning provides educational flexibility, accommodating learners' diverse needs, levels, ages, and personal circumstances [4]. It also facilitates practice, training, and skill-building in educational environments. These opportunities enhance learners' abilities to perform effectively and achieve their educational objectives. By introducing varied and engaging educational strategies, blended learning reduces monotony and improves the learning experience. It helps develop students' technical and educational skills while addressing individual differences among learners.

Blended learning stands out as one of the most adaptable educational approaches [8]. Several factors drive its adoption, including its ability to foster students' self-reliance, enhance their collaborative skills, and improve the quality of educational materials, methods, and strategies. The success of this approach depends on effective communication and guidance. Strong communication and interaction between teachers and students are essential, as students often require assistance in understanding the tools, software, and resources necessary for success in this learning style.

Guidance and teamwork are fundamental to blended learning. Students must collaborate, recognizing that success depends on the active involvement of all participants. Teachers play a vital role in motivating learners and helping them select the most effective tools and methods to suit their needs. This ensures that each student maximizes their potential within the blended learning framework. Repetition is another key attribute of this strategy. Presenting information repeatedly through multiple channels reinforces understanding, as participants can absorb messages from different perspectives [11].

2.3. Difficulties and Obstacles to Implementing the Blended Learning System

Studies highlight that the challenges of implementing blended learning relate to both human factors (teachers and students) and material factors (costs, equipment, software, communication, and technological infrastructure). Among the most significant obstacles is the lack of adequate training opportunities for teachers in using modern technology in education. Many teachers struggle to handle the planning, organization, and application of blended learning effectively. Additionally, much of the software and tools that support blended learning are in English, posing a barrier to some students. Further issues include the following:

1- The courses and curricula are still physically printed, so they must be converted into electronic files for blended learning purposes.

2- Students often lack access to the devices needed for learning at home. This issue is compounded by difficulties in evaluation, attendance monitoring, and grading [12].

3- Other obstacles relate to resistance to integrating modern technology into educational organizations. Some teachers are reluctant to adopt new methods, fearing that technology may eventually diminish or even replace their role in the classroom. Effective management or educational administration is another concern, particularly in designing and implementing blended learning environments, distributing responsibilities, managing costs, and meeting the desired expectations from implementing blended learning.

Despite these challenges, blended learning has proven to align well with contemporary educational objectives, especially in the context of crises such as the COVID-19 pandemic. The pandemic disrupted all aspects of life, particularly education, prompting institutions to adopt alternatives to face-to-face classroom learning. Blended learning emerged as a viable solution, combining classroom and e-learning methods into a unified system [12].

However, while the benefits of blended learning are clear, many obstacles still hinder its implementation and effectiveness. These include difficulties in transitioning teachers from traditional lecture-based methods to modern, technology-driven approaches, as well as ensuring that students have access to adequate devices and internet connections at

home. Challenges also exist in evaluation systems, attendance tracking, and assignment grading, which are more complex in a blended learning environment.

Moreover, the success of blended learning relies on tailored educational strategies, methods, and evaluation systems. Programs and applications must be specifically designed to support this form of education. Both students and educators need to acquire new technological and pedagogical skills to fully realize the potential of blended learning. Without addressing these needs, the adoption of blended learning may fall short of its objectives, undermining the effectiveness of this innovative educational approach.

3. Evolution of the Education system at Mohamed Bin Zayed University for Humanities (2019–2024)

In response to the evolving needs of higher education, Mohamed Bin Zayed University for Humanities, a leading institution in the UAE, is dedicated to advancing and modernizing its sustainable learning environment to foster 21st-century skills among students. The societal challenges of today underscore the need to adopt an innovative knowledge- and technology-driven approach, moving beyond traditional rote learning methods.

The university is committed to addressing the current and future needs of both local and global communities by offering forward-thinking academic and professional programs. Among its newest offerings is a bachelor's program in tolerance and coexistence, reflecting its emphasis on creating a modern, technologically advanced educational environment.

Investing in resources to achieve this transformation is a top priority. This includes equipping classrooms to meet the expectations of both faculty and students effectively, as well as providing cutting-edge technology to support effective teaching and learning. The university is focused on fostering interactive learning environments that enhance student engagement, facilitate deeper and more efficient learning, and promote flexibility and adaptability in education.

Additionally, the university is committed to establishing comprehensive, state-of-the-art educational laboratories to support effective teaching and learning. By continuously integrating innovative technologies into its teaching, learning, and research processes, Mohamed Bin Zayed University for Humanities strives to remain competitive and progressive in the ever-changing landscape of higher education.

3.1. Key Initiatives in the Strategy and Policy Adopted (2019–2024)

Key initiatives support sustainable classroom environments and the use of smart screens.

3.2. ViewSonic IFP 52 Series Overview

The ViewSonic IFP-52 series of interactive flat panels (IFPs) is designed to enhance educational experiences by offering a dynamic and engaging platform for both teachers and students. These panels are built with advanced features that support collaborative learning, making them essential tools in modern classrooms.

3.3. Key Features

- 4K Ultra HD display: Provides stunning visuals, ensuring that all content is clear and vibrant, making lessons more engaging for students.
- Multi-touch capability: Supports up to 20 simultaneous touchpoints, allowing multiple students to interact with the screen at the same time and fostering collaborative learning.
- Integrated sound bar: The IFP 52 series comes with a front-facing soundbar and a subwoofer delivering clear audio, which is crucial for maintaining students' attention and enhancing the overall learning experience.
- Smart Port USB-C: Simplifies connectivity by allowing teachers to connect their devices easily, enabling straightforward content sharing.
- My View Board integration: Seamlessly integrates with my ViewBoard software, offering a comprehensive digital whiteboard solution.

3.4. Integrating Scientific Research with Education and Methods of Knowledge Acquisition
3.4.1. E-learning Platform

Mohammad Bin Zayed University for Humanities employs an advanced learning management system (LMS), which significantly contributes to the e-learning process, enhancing students' desire to learn (D2L). This platform is secured with an SSL certificate issued by GoDaddy. The D2L (Desire 2 Learn) cloud solution is accessible online (https://D2L.mbzuh.ac.ae/D2L/Login).
The system has the following features:

- The system revolves around the course and aids in the teaching process by facilitating the distribution of educational resources to students, ensuring continuous communication and electronic management of students' grades.
- The system is available to all faculty members and students.
- It facilitates communication between faculty members and students.
- It allows for the uploading of course descriptions, academic outlines, educational materials, summaries, and various assessment tools, assignments, and group work.
- The system enables the measurement and analysis of program and course outcomes, as well as linking them.
- It allows for the uploading of required textbooks for academic courses.
- Virtual classrooms (Bongo Premium VCR Microsoft Teams) have the following features:

- The use of the Bongo system within the L2D platform allows faculty and students to create additional accounts with separate usernames and passwords.
- The system has the capability to record and edit lectures.
- The Bongo system is integrated as a tool in the L2D toolbar for easier access.

3.5. Study Population and Sample

The study population comprised male and female students enrolled at Mohammad Bin Zayed University for Humanities, specifically those in their second academic year or higher across all colleges. The sample included 100 students, chosen for their accessibility and relevance to the research focus. This group was targeted because students in their second year and beyond are more immersed in the university's academic and institutional processes. In contrast, students at the beginning of their university journey may not yet be fully integrated into these processes. The sample was selected using the social survey sampling method from the university's broader student body.

3.6. Results and Discussion of the Study Sample

Table 1.
Distributing the sample individuals according to their variables.

Variable	Group	Frequency	Percentage
Gender	Male	66	66%
	Female	34	34%
	Total	100	100%
Age	18–22	41	41%
	23–27	33	39%
	28–32	26	26%
	Total	100	100%
Year of study	Second year	53	53%
	Third year	28	28%
	Fourth year	19	19%
	Total	100	100%
GPA	Acceptable	13	13%
	Good	20	32%
	Very good	52	52%
	Excellent	15	15%
	Total	100	100%
Number of courses the students is enrolled in	2	19	19%
	4	25	25%
	6	38	38%
	7>	18	18%
	Total	100	100%
Lecture attendance	Good	10	10%
	Very good	18	18%
	Excellent	72	72%
	Total	100	100%
Proficiency in using the university's electronic programs and monitoring courses.	High	25	25%
	Average	65	65%
	Low	10	10%
	Total	100	100%

3.6.1. First: Demographic Characteristics
3.6.1.1. Second: Effectiveness of the Integrated Learning Mechanisms Applied at Mohamed Bin Zayed University for Humanities

Regarding the effectiveness of the integrated learning mechanisms implemented at Mohamed Bin Zayed University for Humanities, Table 2 indicates that the approval rate among the student sample ranges from 57% to 78%. This suggests that the majority of students agree on the effectiveness of the integrated learning mechanisms used in the blended learning approach. This high level of approval highlights the significant role of blended learning in enhancing the educational process.

Blended learning fosters self-directed learning by offering diverse educational resources, such as digital libraries and easy access to references. It promotes interaction and engagement between teachers and students, adds excitement and appeal to educational content, and encourages active participation. Additionally, it improves students' computer skills and aids in

retaining information over extended periods. These findings align with Gagne's theory of instructional design, which underscores the importance of integrating various organizational methods and tools within knowledge- and specialization-driven structures.

Despite the overall positive feedback, the application of these mechanisms is only average according to the students' responses. While many students support and prefer submitting assignments and research through the D2L platform, some expressed a preference for paper submissions due to technical issues. This observation is consistent with studies exploring the relationship between traditional teaching methods and technology, highlighting their combined impact on students' performance and academic achievements. However, it is worth noting that technical problems with the D2L platform are rare due to its advanced features and robust technical support.

Table 2.
Effectiveness of integrated learning mechanisms at Mohamed Bin Zayed University for Humanities.

Statement	Strongly agree	Agree	Disagree	Strongly disagree
Uses various strategies to present academic topics.				
Uses D2L and its applications for classroom assignments.	99	1		
Involves students in explaining the lecture.	62	30	8	
A discussion occurs between the professor and students regarding the material presented during the lecture.	81	9	8	2
Integrates videos and written materials during the lecture.	82	8	7	3
Considers individual differences among students and their understanding of the technical field.	93	7		
We appreciate the variety of learning resources during the lecture.	99	1		
Blended learning effectively contributes to the success of the educational process.	96	4		

3.6.2. Third: Impact of Blended Learning on Academic Achievement in the Educational Process

Regarding the impact of blended learning on academic achievement at Mohamed Bin Zayed University for Humanities, the results detailed in Table 3 demonstrate a significant improvement in students' academic performance. This indicates that academic achievement has been positively influenced by the use of blended learning. The effectiveness of this approach can be attributed to its use of multiple modalities, such as visual aids, videos, and audio clips. These resources enhance neural connections that support learning, facilitating memory retention, comprehension, and understanding, thereby boosting academic performance.

Blended learning creates a dynamic and interactive environment that helps sustain students' motivation and interest in continuous learning. It provides timely feedback, enabling students to advance their knowledge when their responses are accurate or make adjustments if errors occur. This environment includes stimuli and responses that promote better understanding, retention, and recall, which, in turn, enhance academic achievement and increase students' desire to learn. Overall, blended learning has proven to be highly effective for students, contributing to the development of their skills and capabilities while offering greater educational benefits than traditional teaching methods.

Table 3.
Impact of blended learning on academic achievement at Mohamed Bin Zayed University for Humanities.

Statement	Strongly agree	Agree	Disagree	Strongly disagree
My self-learning ability has improved.	91	9		
The information has become more expressive and specific compared to traditional education.	87	4	9	
My feelings of fear, shyness, and anxiety about participating in educational activities have decreased.	80	9	11	
My motivation for research and reading has increased.				
I have begun adding course-specific information and discussing it with my professor and classmates.	92	8		
My ability to think scientifically has improved.	92	8		
My electronic skills have improved.	85	6	9	
I do not like attending lectures that rely on rote teaching methods.	2	98		
My performance has improved compared to before.	76	4	8	2
I am now able to make connections, analyze, and critique.	83	7	10	
My performance, tasks, and requirements are more flexible and smoother.				
Blended learning offers high-quality course content.	93	7		

3.6.3. Fourth: Mechanisms of Blended Learning Available at the University

The blended learning system at the university encompasses a comprehensive framework designed to ensure success through a range of technical and human resources.

3.6.3.1. Technical Requirements

Provision of Display Devices: Availability of data projectors.
Computers connected to the internet: Computers equipped with internet access.
Electronic course materials: E-course materials for each subject.
Internet access: Accessible internet network for students and faculty.
Technical support: Expert technical support from specialists as well as computers and internet access.
Virtual classrooms: Provision of virtual classrooms supporting interactive learning.

3.6.3.2. Human Resources

Technical support team: Dedicated personnel specializing in information technology and internet support.

The university's strategies (2019–2024) emphasize providing advanced, effective technological environments and modern educational laboratories to support learning. Additionally, high-performance computers are provided to each student to facilitate their learning process.

Table 4.
Blended learning mechanisms available at the University.

Order		
1	There is and internet network at the university that is available to everyone	100%
2	The readiness of the classrooms for implementing blended learning in terms of technology and smart display screens	97%
3	Availability of specialized technician for assistance	100%
4	The university provides personal computer for each student	100%
5	The professor always enriched the lecture by introducing you and smart display screens	90%
6	There are multiple methods for delivering the discussion, electronic games, brainstorming sessions, varied question	92%

3.6.4. Fifth: Challenges and Difficulties for Students at Mohamed Bin Zayed University for Humanities

In general, students at Mohamed Bin Zayed University for Humanity face minimal challenges and difficulties. The primary concerns include the following:

1- Routine skepticism: Some students express apprehension toward educational technology and may have negative biases regarding its use.

2- Lack of skills: There may be a deficiency in the necessary skills for effectively using advanced technological tools, particularly technical skills related to modern technologies.

Despite these challenges, the university supports students and faculty in the following ways:

- Annual training: The university provides intensive online courses at the beginning of each academic year to enhance the skills of both students and faculty members.
- Technical support: A comprehensive technical support team is available to offer unlimited assistance with any technical issues, including problems with the interactive smart boards (ViewSonic) used in the classrooms.

According to the survey results:

- 96% of respondents reported no significant issues with the use of digital technologies, stating that the technical support team effectively meets the needs of both students and faculty.
- 4% of respondents expressed a preference for traditional learning methods and have some apprehension regarding blended learning.

4. Conclusion

Based on the study results and theoretical frameworks, the following conclusions and recommendations can be summarized:

1. Emphasize the integration of e-learning: Universities should prioritize the integration of e-learning methods into blended learning models within higher education. Institutions should adopt models tailored to their specific needs and host conferences dedicated to blended learning to share best practices and showcase their unique approaches.

2. Increase technological awareness: Efforts should be made to raise awareness about modern technologies among students and provide training on their use, especially in regions where blended learning programs have not yet been implemented. Additionally, essential resources and tools necessary for effective integration should be made accessible.

3. Assess the effectiveness of blended learning: It is crucial to investigate the impact of blended learning on enhancing students' creative thinking skills and intellectual development.

4. Develop training programs for experts: Educational institutions and training centers should offer specialized courses for experts in designing blended e-learning curricula. These programs should ensure that learning materials are developed in alignment with international scientific standards and principles.

5. Enhance faculty training: Universities should intensify training programs for faculty members, encouraging them to use blended learning techniques in their lectures. This approach can contribute to improved student performance.

6. Conduct comparative studies: Comparative research should be undertaken to explore the implementation of blended learning across various disciplines – literary and scientific – involving both students and faculty.

7. Expand research on the impact of blended learning: Additional studies should evaluate the impact of blended learning on teaching within universities, considering diverse factors and exploring ways to enhance its effectiveness.

References

[1]   S. Al-Shamali, A. Al-Shamali, A. Alsaber, A. Al-Kandari, S. AlMutairi, and A. Alaya, "Impact of organizational culture on academics' readiness and behavioral intention to implement eLearning changes in Kuwaiti universities during COVID-19," *Sustainability,* vol. 14, no. 23, p. 15824, 2022. https://doi.org/10.3390/su142315824

[2]   J. D. Abu Eitah, *The impact to the Blended learning on the academic achievements with the trends towards designing the education for students of a princess Alia faculty*. Jordan: AL-Balqaa Applied University, 2017.

[3]   A. Al-Dirshawi, "The impact of the strategy of blended learning on academic achievement and on retaining information for students of the eleventh literary grade in the subject of geography in the center of Duhok governorate," *Dirasat: Educational Sciences,* vol. 46, no. 1, pp. 271–286, 2019. https://doi.org/10.35516/edu.v46i1.12149

[4]   M. Almamar and M. Hasan, "The effectiveness of a blended education and academic achievements of the students in the intermediate stage," Master's Thesis, Islamic University of Muhammad bin Saud-Saudi Arabia, 2012.

[5]   I. Al-Shamalti and A. M. Daradkah, "The effectiveness of distance learning and blended learning in Jordanian universities: A comparative study," *Pakistan Journal of Life and Social Sciences,* vol. 22, no. 2, pp. 7594–7610, 2024. https://doi.org/10.5281/zenodo.7771230

[6]   Giddens, Wallace, and Wolfe, *Theory of advanced modernity and globalization explains the transition from traditional education systems to blended learning (Fayaz Al-Sabbagh, Trans.)*. Beirut: Center of Arab Unity Studies, 2011.

[7]   J. Leem and B. Lim, "The current status of e-learning and strategies to enhance educational competitiveness in Korean higher education," *International Review of Research in Open and Distributed Learning,* vol. 8, no. 1, pp. 1-18, 2007. https://doi.org/10.19173/irrodl.v8i1.380

[8]   H. B. S. B. A. Al Gunaim, "The effectiveness of using a blended learning in curriculum of Education technology upon the achievement and development of electric communication skills for the students of education faculty," *Scientific Journal of Asute University,* vol. 1, no. 1, pp. 1–15, 2016.

[9]   A. A. H. Alshurman, *Blended learning and flipped education*. Amman- Jordan: Dar Wael" For Publishing and Distribution, 2016.

[10]   I. A. Alshamalty, *The effectiveness of distance learning on blended learning from the perspective of bachelor students in Jordanian universities: A comparative study*. Amman, Jordan: Middle East University, 2022.

[11]   A. A. Aldershoy, *The impact of strategy of a blended learning on academic achievement and on retaining information for students of the Grade in the subject of geography in the center of the Dahook University*. Iraq: Dahook, 2019.

[12]   Z. Al Keek and A. Hadmy, "Difficulties face the school teachers and distance education in the period of coronavirus pandemic of (covid-19)," *Arabian Journal for Scientific Publishing,* vol. 29, pp. 1–15, 2021.