

Deanship of Graduate Studies

Al-Quds University



**Actual Blended Learning Among Graduate Students at
Al-Quds University and Their Attitudes Toward It**

Leena Deeb Abeedallah Abu Zahra

M.sc. Thesis

Jerusalem- Palestine

1447 / 2025

**Actual Blended Learning Among Graduate Students at Al-Quds
University and Their Attitudes Toward It**

Prepared by:

Leena Deeb Abeedallah Abu Zahra

BA: Methods of Teaching English, Alquds Open University, Palestine

Supervisor: Dr. Suad Fadel Mohammad Abed Al-Rahmman

A thesis submitted in Partial fulfillment of the requirements of the

Master's Degree in Teaching Methods Program

Faculty of Educational Sciences/Al- Quds University

1447-2025

Al-Quds University
Deanship of Graduate Studies
Department of Education



Thesis Approval

Actual Blended Learning Among Graduate Students at Al-Quds University and Their Attitudes Toward It


Prepared by: Leena Deeb Abeedallah Abu Zahra

Registration Number: 22112708

Supervisor: Dr. Suad Fadel Mohammad Abed Al-Rahmman

Master thesis submitted and accepted, date: 20-12-2025

Names and signatures of the examining committee members:

1. Head of the Committee: Dr. Suad Al-Rahmman Signature 

2. Internal Examiner : Dr Inas Naser Signature 

3. External Examiner: Dr. Jamal Nafi' Signature 

Jerusalem –Palestine

1447-2025

Dedication

From my deep heart, this research is dedicated.

To my beloved mother Fatema Al Badarin, the most inspiring woman in my life, whose endless love, sacrifice, and support have been my constant source of strength.

To the soul of my dear father Deeb Abu Zahra, whose faith, perseverance, and memory continue to guide and inspire me.

To my dear husband Nasim Abu Madi, whose sincere love and unwavering support have been a constant source of encouragement, through this journey.

To my two little daughters, Esraa and Maryam, the joy and light of my life.

To my best friend Fatema for her support, kindness and inspiration.

And to the souls of the martyrs of Gaza, whose sacrifices will forever remain a beacon of dignity, resilience, and hope. and reminds us of the true meaning of courage and faith.

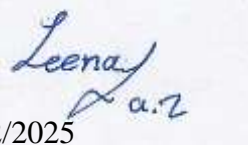
Finally, to whom I bring the most sincerest feelings, without you, I would not be the person I am today, my faithful teacher.

Leena Deeb Abeedallah Abu Zahra

Declaration

I certify that this thesis submitted for the Master Degree is the result of my own work in design and research, except were otherwise acknowledged, and that this study or any part of the same has not been submitted for a higher degree to any other university or institution.

Name: Leena Deeb Abeedallah Abu Zahra

Signature: 

Date: 20/12/2025

Acknowledgements

All praise is due to Allah, the Almighty, for granting me strength, patience, and wisdom to complete this study. Without His guidance and blessings, this work would not have been possible.

I would like to express my deepest gratitude to my supervisor, Dr. Suad Fadel Mohammad Abed Al-Rahmman, for her invaluable guidance, continuous encouragement, and sincere support throughout all stages of this research. Her patience, insight, and dedication have been a true source of inspiration to me.

My heartfelt thanks go to my loving parents, whose prayers, love, and support have been my greatest motivation. Their faith in me has lightened my path and strengthened my determination.

Special thanks are also extended to the faculty members and staff of the Faculty of Educational Sciences at Al-Quds University for their cooperation and academic support. My thanks go to Prof. Afif Zaidan, Dr. Muhsen Adas . Dr. Inas Naser. And Dr. Ibrahim Arman .

I would like to extend my thanks to Dr. Jamal Nafi'.

I am sincerely grateful to my friends and colleagues for their encouragement, advice, and companionship during this journey.

Finally, I dedicate this work to everyone who believed in me and contributed in any way to the success of this study.

Leena Deeb Abeedallah Abu Zahra

Abstract

This study aims to investigate graduate students' perceptions of the application of blended learning at Al-Quds University and their attitudes toward it, as well as to examine potential differences according to gender, faculty, and age variables. A descriptive-analytical mixed-methods approach was employed in line with the study objectives. Quantitative data were collected using a structured questionnaire administered to a stratified sample of 278 graduate students during the second semester of the 2024/2025 academic year, ensuring representation across gender, faculty, and age categories. In addition, qualitative data were gathered through open-ended questions and semi-structured interviews with selected participants to gain deeper insights into students' experiences and perceptions.

The findings indicated that graduate students' perceptions of blended learning were at a medium level (mean = 3.45), reflecting an acceptable degree of implementation with observable limitations in the dimensions of actual use and perceived impact. In contrast, students' overall attitudes toward the blended learning process were high (mean = 3.83), indicating a generally positive orientation toward this instructional approach. No statistically significant differences in perceptions or attitudes were found based on gender or age, while students enrolled in scientific faculties reported significantly higher scores compared to those in humanities faculties.

Based on these findings, the study recommends strengthening institutional infrastructure, enhancing faculty training in blended learning implementation, and improving the design and management of digital learning environments. The study further emphasizes the importance of clear institutional policies and sustained academic and technical support to ensure more effective and consistent application of blended learning at the postgraduate level.

Keywords: Blended learning, Al-Quds University, graduate students, student perceptions, educational technology, attitudes towards learning.

Table of Contents

Item	Page
Declaration	I
Acknowledgements	II
Abstract.....	I
List of Tables	IV
List of Appendices.....	V
Chapter One: Background of the Study	1
1. Introduction	1
1.1 Background.....	1
1.2 Statement of the Problem	2
1.3 Purpose of the study	3
1.4 Research Questions	3
What is the actual blended learning among graduate students at Al-Quds University and their attitude towards it?	3
1.5 Hypothesis of Study	3
1.6 Significance of the Study	4
1.7 Limitations of the Study	5
1.8. Definition of Terms	5
Chapter Two: Literature Review and Related Studies	7
2. Literature Review and Related Studies	7
2.1 Introduction	7
2.2 Concept of Blended Learning	8
2.3 Theoretical Foundations Supporting Blended Learning	10
2.4 Models of Blended Learning.....	12
2.5 Benefits and Challenges of Blended Learning in Higher Education	14
2.6 Students' Attitudes Toward Blended Learning.....	16
2.7 Blended Learning in the Palestinian Context.....	18
2.8 Related Studies	20
2.9 Commentary on Related Empirical Studies	22
2.9.1. Positive Impact on Learning Outcomes:.....	22
2.9.2. Contextual and Demographic Moderators:	23
2.9.3. Methodological Strengths and Limitations:.....	23
2.9.4. Gaps and Justification for the Present Study:	23
Chapter Three: Methodology and Procedures	25
3. Methodology and Procedures.....	25
3.1 Introduction	25
3.2 Research Methodology.....	25
3.3 Study Population	26
3.4 Study Sample.....	26

3.4.1 Sample of the Quantitative Study.....	26
3.4.2 Sample of the Qualitative Study.....	27
3.5 Study Instruments.....	28
3.5.1. Scale Development Steps.....	28
3.5.2. Psychometric Properties of the Study Scale.....	29
3.5.2.1. Expert Validity (Face Validity):.....	29
3.5.2.2. Internal Consistency Validity:.....	30
3.5.2.3. Construct Validity:.....	30
3.5.2.4 Reliability of the Quantitative Instrument (Questionnaire).....	31
3.6 Scale Scoring.....	32
3.7 Study Variables.....	33
3.8 Study Procedures.....	33
3.9 Statistical Methods Used in Data Analysis.....	34
3.10 Qualitative Data Analysis Procedures.....	35
Chapter Four: Results of the Study.....	36
4. Results of the Study.....	36
4.1. Results for Research Question One: "What are postgraduate students' perceptions of the actual application of blended learning at Al-Quds University?".....	36
4.2. Results for Research Question Two: "Do postgraduate students' perceptions of the actual application of blended learning at Al-Quds University differ according to gender, faculty, or age variables?".....	38
4.3. Results for Research Question Three: "What are postgraduate students' attitudes towards blended learning at Al-Quds University?".....	40
4.4. Results for Research Question Four: "Do postgraduate students' attitudes towards blended learning at Al-Quds University differ according to gender, faculty, or age variables?".....	41
4.6 Qualitative Study Results.....	42
Chapter Five: Discussion of Study Results.....	49
5.1 Discussion of Quantitative Study Results.....	49
5.2 Discussion of Qualitative Study Results:.....	58
References:.....	67
Appendices.....	73
Appendix A: Quantitative Research Instrument (Questionnaire).....	73
Al-Quds University.....	73
Section II: Questionnaire Items.....	73
Please put (✓) in the suitable choice.....	73
Appendix B: Qualitative Open-Ended Questions.....	77
Appendix C : Qualitative Research Questions.....	78
المُلخَص.....	83

List of Tables

Table No.	Table Title	Page
3.1	Distribution of Sample Members by Study Variables	27
3.2	Correlation Coefficients Between Each Item's Score and the Total Score of the Study Instrument	30
3.3	Correlation Coefficients of Each Domain of the Study Instrument with the Total Score	31
3.4	Cronbach's Alpha Coefficient Results for Study Instrument Reliability	32
4.1-A	Means, Standard Deviations, and Relative Weights for All Dimensions of "Actual Blended Learning Use"	37
4.1-B	Means, Standard Deviations, and Relative Weights for All Dimensions of "Actual Blended Learning Use"	38
4.1-C	Means, Standard Deviations, and Relative Weights for All Dimensions of "Actual Blended Learning Use"	39
4.2	T-test Results for Gender Variable	39
4.3	T-test Results for Faculty Variable	40
4.4	One-Way ANOVA Test Results for Age Variable	40
4.5	Means and Standard Deviations for Postgraduate Students' Attitudes Towards the Blended Learning Process at Al-Quds University	41
4.6	Means and Standard Deviations for Postgraduate Students' Attitudes Towards Blended Learning Content at Al-Quds University	42
4.7	T-test Results for Gender Variable	43
4.8	One-Way ANOVA Test Results for Age Variable	43
4.9	Summary of Qualitative Themes, Sub-Categories, Frequencies, and Percentages	49

List of Appendices

Appendix	Title	Page Number
A	Quantitative Research Instrument (Questionnaire)	73
B	Qualitative Open-Ended Questions	77
C	Qualitative Research Questions (Analytical Themes)	78
D	List of Questionnaire Reviewers	79
E	Research Facilitation Letter	80
F	Research Ethics Committee (REC) Decision Letter	81
G	Certificate of Ethics Training: Informed Consent	82

Chapter One

Background of the Study

1. Introduction

Higher education in Palestine has witnessed important developments in recent years with the increasing use of digital technology, providing new opportunities for learning. One of the most outstanding approaches is blended learning, which combines traditional face-to-face instruction with online learning sessions. This study aims to explore the actual implementation of blended learning among graduate students at Al-Quds University and to examine their attitudes towards it,

1.1 Background

Compared to K–12 education, higher education is characterized by fewer structured contact hours and a greater emphasis on learner autonomy. University students, particularly at the graduate level, are expected to assume increased responsibility for managing their learning processes, developing self-directed learning skills, and engaging in independent knowledge construction. This shift in learning responsibility necessitates instructional approaches that support flexibility, autonomy, and sustained academic engagement.

In recent years, rapid advancements in network and digital technologies have significantly reshaped teaching and learning practices in higher education institutions worldwide. As a result, an increasing number of universities have adopted blended learning as an instructional approach that integrates face-to-face instruction with online learning components. This integration enables students to access learning materials beyond the constraints of time and place, offering greater flexibility in organizing their academic responsibilities and accommodating diverse learning needs. Such flexibility has become particularly important in response to the growing demand for highly qualified graduates who can adapt to dynamic labor market conditions (Chen & Cheng, 2020).

Contemporary labor markets are increasingly characterized by career mobility and the prevalence of multi-career trajectories, requiring individuals to continuously update their skills and knowledge. Consequently, lifelong learning has emerged as a fundamental requirement for professional development in a knowledge-based and digitally driven society. To respond effectively to these demands, higher education institutions are expected to provide learning environments that support personalization, adaptability, and continuous skill development, enabling learners to align their educational pathways with their professional and personal circumstances (Muller & Mildenerger, 2021).

Within this evolving educational landscape, blended learning has gained prominence as a hybrid instructional approach that purposefully combines online and face-to-face learning experiences. Drawing on experiential learning theory, blended learning emphasizes active engagement, reflection, and the practical application of knowledge, thereby enhancing learning effectiveness. By balancing direct interaction with instructors and peers and providing flexible access to digital resources, blended learning seeks to optimize learning outcomes while responding to the diverse needs and capacities of learners (Taghizadeh & Hajhosseini, 2021).

From a pedagogical perspective, blended learning represents an intermediate model between traditional classroom instruction and fully online education. The concept of “blending” refers to the intentional integration of digital content, online activities, and in-class instruction in ways that enhance learning efficiency and instructional effectiveness. This multi-delivery approach has been shown to optimize learning outcomes while reducing the cost and limitations associated with single-mode content delivery, positioning blended learning as a strategic form of digital integration in contemporary higher education (Kumar et al., 2021).

Moreover, blended learning has been widely adopted by leading universities across the globe due to its potential to enhance student engagement, improve academic achievement, increase flexibility in learning schedules, and overcome geographical and temporal barriers. By combining the strengths of traditional face-to-face instruction with the affordances of e-learning, blended learning has become an increasingly prevalent mode of instruction in higher education systems worldwide (Rasheed et al., 2019; Tussupbekova et al., 2022).

1.2 Statement of the Problem

Amid the rapid developments in daily life in Palestine resulting from the Israeli war and the state of security and political instability, the education system as a whole face significant challenge. These challenges have forced universities to implement blended learning to ensure the continuity of education.

As a graduate student at Al-Quds University, the researcher has witnessed this firsthand and observed varying student opinions regarding the acceptance of blended learning. This variation is due to the fact that blended learning requires the fulfillment of several prerequisites by both the university and the students.

This is consistent with a study conducted by Itasanmi et al., (2024) concerning blended learning among graduate students, and the study found that graduate students’ preferences

for online, blended, and face-to-face learning modalities vary based on age, marital status, employment status, programmed type, and levels of technology self-efficacy and digital literacy

Therefore, researcher seek to determine the implementation of blended learning and the opinions of graduate students on it are crucial for achieving successful educational outcomes.

1.3 Purpose of the study

This study was designed to investigate the following:

- 1- Investigate the perceptions of graduate students about the actual applying of blended learning at Al-Quds University.
- 2- Identify the difference in perceptions of graduate students about the actual applying of blended learning at Al-Quds University\ according to the variables (Gender, Collage, Age).
- 3- Investigate the perceptions of graduate students about e attitude towards blended learning at Al-Quds University.
- 4- Identify the difference in perceptions of graduate students about the attitude towards blended learning at Al-Quds University different according to the variables (Gender, Collage, Age).

1.4 Research Questions

Main Question is:

What is the actual blended learning among graduate students at Al-Quds University and their attitude towards it?

The study attempts to answer the following questions:

- 1- What are the perceptions of graduate students about the actual applying of blended learning at Al-Quds University?
- 2- Are the perceptions of graduate students about the actual applying of blended learning at Al-Quds University different according to the variables (Gender, College, Age)?
- 3- What are the perceptions of graduate students about the attitude towards blended learning at Al-Quds University?
- 4- Are the perceptions of graduate students about the attitude towards blended learning at Al-Quds University different according to the variables (Gender, College, Age)?

1.5 Hypothesis of Study

The researcher converted the second and fourth questions into null hypotheses, as follows:

First null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of graduate students about the actual applying of blended learning at Al-Quds University due to the gender variable.

Second null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of graduate students about the actual applying of blended learning at Al-Quds University due to the collage variable.

Third null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of graduate students about the actual applying of blended learning at Al-Quds University due to the age variable.

Fourth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of graduate students about the attitude towards blended learning at Al-Quds University due to the gender variable.

Fifth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of graduate students about the attitude towards blended learning at Al-Quds University due to the collage variable.

Sixth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of graduate students about the attitude towards blended learning at Al-Quds University due to the age variable.

1.6 Significance of the Study

Theoretical Significance

The theoretical significance of this study lies in its contribution to the growing body of knowledge on blended learning within higher education, particularly in contexts characterized by instability and limited educational continuity. In the Palestinian context, higher education institutions face persistent challenges related to political conditions and ongoing disruptions, which often restrict regular face-to-face attendance. Within this framework, the present study provides an in-depth examination of the actual implementation of blended learning at Al-Quds University and graduate students' attitudes toward it, thereby offering empirical evidence that enriches the theoretical discourse on blended learning in fragile and constrained educational environments.

Moreover, this study contributes theoretically by providing a structured analytical framework and a validated measurement instrument that can be utilized by researchers to assess both the application of blended learning and students' attitudes toward it. By integrating dimensions related to infrastructure, actual use, institutional support, and perceived impact, alongside attitudinal components, the study offers a comprehensive model that can be adapted or replicated in future research. As such, it serves as a valuable reference for scholars seeking to investigate blended learning in similar higher education contexts or to conduct comparative studies across institutions and regions.

Practical Significance

From a practical perspective, this study gains significance through its focus on graduate students, a critical educational stage that plays a central role in knowledge production, skill development, and preparation for the labor market. Understanding how blended learning is implemented and perceived at this level provides higher education institutions with actionable insights into the effectiveness of current practices and the areas requiring improvement. This is particularly important given the increasing reliance on flexible

learning models to accommodate students' academic, professional, and personal responsibilities.

In addition, the findings of this study offer practical guidance for universities, academic administrators, and graduate instructors by identifying strengths and gaps in the current blended learning experience. The study's recommendations can support decision-makers in enhancing institutional policies, improving faculty training, and developing more interactive and pedagogically sound digital learning environments. Consequently, this research contributes to improving the quality and sustainability of blended learning practices in higher education, ensuring that they effectively meet both students' needs and institutional objectives.

1.7 Limitations of the Study

Applying this study was limited by the following:

Locative limitations: This study covered Al-Quds University.

Temporal limitations: The researcher conducted this study during the second semester of the academic year (2024-2025).

Human limitations: all the male and female graduate students at Al-Quds University.

Topical limitation: Actual blended learning, students' attitude towards blended learning

.

1.8. Definition of Terms

Blended Learning

Conceptual Definition:

Blended learning is an educational approach that intentionally integrates traditional face-to-face classroom instruction with online learning activities in a structured and pedagogically planned manner (Westhuizen et al., 2022; Graham, 2019).

Operational Definition:

In this study, blended learning refers to the simultaneous use of face-to-face instruction and online distance learning at Al-Quds University, as perceived by graduate students and measured through their responses to the blended learning questionnaire developed for this research.

Al-Quds University

Conceptual Definition:

Al-Quds University is a Palestinian public higher education institution located in Jerusalem, offering undergraduate and postgraduate programs across scientific and humanities disciplines, and recognized for integrating traditional academic practices with modern educational technologies (Al-Quds University, 2024).

Operational Definition:

In this study, Al-Quds University refers to the institutional context in which blended learning is implemented and examined among graduate students during the academic year 2024/2025.

Graduate Students

Conceptual Definition:

Graduate students are individuals enrolled in postgraduate academic programs, such as master's or doctoral degrees, following the completion of undergraduate education (OECD, 2020).

Operational Definition:

In this study, graduate students refer specifically to master's degree students enrolled at Al-Quds University who are participating in courses delivered through a blended learning model.

Student Perceptions**Conceptual Definition:**

Student perceptions refer to learners' cognitive evaluations and subjective interpretations of their educational experiences, including judgments related to quality, effectiveness, and satisfaction (Lizzio et al., 2002).

Operational Definition:

In this study, student perceptions denote postgraduate students' evaluations of the actual application of blended learning at Al-Quds University, as measured by their responses to the questionnaire items related to infrastructure, actual use, institutional support, and perceived impact.

Educational Technology**Conceptual Definition:**

Educational technology refers to the systematic application of digital tools, platforms, and resources to support, enhance, and manage teaching and learning processes (Hew & Brush, 2007).

Operational Definition:

In the context of this study, educational technology includes the technological infrastructure and digital tools used to support blended learning at Al-Quds University, such as learning management systems, video lectures, online assessments, and digital communication platforms.

Attitudes Towards Learning**Conceptual Definition:**

Attitudes towards learning are defined as learners' relatively stable emotional, cognitive, and behavioral predispositions toward a learning process or instructional approach (Ajzen, 1991; Eagly & Chaiken, 1993).

Operational Definition:

In this study, attitudes towards blended learning refer to postgraduate students' overall positive or negative orientations toward the blended learning experience, as measured through their responses to questionnaire items assessing motivation, satisfaction, willingness to engage, and perceived value of blended learning

Chapter Two

Literature Review and Related Studies

2. Literature Review and Related Studies

2.1 Introduction

In recent years, higher education has undergone a profound transformation driven by rapid advancements in digital technologies, shifting pedagogical paradigms, and the evolving expectations of 21st-century learners. Traditional methods of instruction, which once relied heavily on face-to-face, teacher-led approaches, are no longer sufficient to meet the diverse needs and complex lifestyles of today's students. As a result, educational institutions have been compelled to explore innovative instructional models that provide flexibility, accessibility, and learner autonomy. Among the most promising of these models is blended learning, a pedagogical approach that combines the strengths of traditional classroom interaction with the advantages of digital technologies and online learning environments (Graham et al. 2019; Siemens et al., 2021).

Blended learning is not merely a technological trend—it represents a fundamental shift in how teaching and learning are conceptualized and delivered. By integrating synchronous and asynchronous components, this model allows learners to engage with course content at their own pace, revisit materials as needed, and participate in interactive, collaborative activities that enhance comprehension and retention. For instructors, it offers the opportunity to adopt more student-centered teaching strategies, utilize learning analytics to monitor progress, and differentiate instruction according to learners' needs (Boelens et al., 2020). Moreover, it aligns well with principles of adult learning theory, self-regulated learning, and constructivist pedagogy, making it particularly relevant for graduate-level education.

At the graduate level, students often face a number of challenges, including demanding academic workloads, employment responsibilities, and family commitments. These factors necessitate greater flexibility in instructional delivery, which blended learning is well-

positioned to provide. Research shows that graduate students are more likely to succeed in environments that allow for personalized learning pathways, self-paced progress, and the integration of real-world experiences into academic study (Halverson & Graham, 2019). The ability to balance academic, professional, and personal demands through blended learning can enhance student motivation, satisfaction, and overall academic performance. The global outbreak of the COVID-19 pandemic further accelerated the shift toward blended learning by forcing institutions to rapidly adopt online education methods. What began as an emergency measure has evolved into a sustainable and strategic component of educational delivery. Universities worldwide have come to recognize the long-term benefits of integrating technology into their instructional models—not only as a response to crises, but as a means of promoting pedagogical innovation and expanding access to education (Singh et al., 2021). Blended learning, therefore, is increasingly viewed as a standard rather than an exception in higher education policy and practice.

In the Palestinian context, the integration of blended learning carries particular significance. The higher education sector faces persistent challenges such as political instability, limited mobility, and infrastructural constraints. These realities have made traditional, on-campus education increasingly difficult to sustain. Institutions like Al-Quds University have turned to blended learning as a strategic solution to these barriers—offering students the ability to continue their education with minimal disruption while maintaining academic rigor (Younis & Alyan, 2022). Furthermore, the post-pandemic period has emphasized the need for resilience and adaptability in educational systems, and blended learning plays a critical role in fulfilling that need.

Yet, the success of blended learning does not rest solely on technological infrastructure. It also depends heavily on the attitudes, digital competencies, and engagement levels of students. A student's willingness to embrace online components, interact with peers virtually, and manage their learning independently is a major determinant of the effectiveness of blended programs. Graduate students, in particular, must develop the metacognitive skills necessary to thrive in these environments. Hence, understanding their perceptions, experiences, and attitudes toward blended learning is vital for informing future instructional design, policy-making, and capacity building.

This chapter lays the foundation for a comprehensive theoretical investigation into blended learning. It begins with a conceptual overview of blended learning and its defining features. It then explores key theoretical frameworks, such as experiential learning, self-directed learning theory, and social constructivism, which support its implementation. The chapter also discusses prominent models of blended learning, benefits and limitations in higher education, and the specific relevance of this approach in the Palestinian context. Ultimately, this foundation aims to support a deeper understanding of how graduate students at Al-Quds University experience and respond to blended learning environments.

2.2 Concept of Blended Learning

Blended learning has become a central paradigm in the evolution of higher education. It represents a deliberate combination of traditional face-to-face instruction with online learning experiences, resulting in a hybrid model that capitalizes on the advantages of both

modalities. While the term “blended” is often used interchangeably with “hybrid,” scholars emphasize that blended learning is not merely a mix of formats, but rather an intentional design that integrates instructional strategies to enhance learning outcomes (Graham, 2019). It is this pedagogical intentionality that distinguishes blended learning from ad-hoc or emergency remote teaching.

The concept of blended learning emerged as a response to the limitations of both fully online and fully traditional instructional models. Face-to-face learning, while rich in human interaction and immediate feedback, often lacks flexibility and scalability. Online learning, on the other hand, offers accessibility and autonomy but may struggle to foster engagement and personal connection. Blended learning seeks to mitigate these weaknesses by integrating digital content and online tools with the social dynamics of classroom interaction (Hrastinski, 2019). This integration is not merely logistical but conceptual—aiming to create a holistic learning environment that supports cognitive, emotional, and social dimensions of student development.

Various definitions of blended learning exist across the literature, each emphasizing different dimensions of the approach. One perspective defines it as a course where 30% to 79% of the content is delivered online, with the remainder occurring in traditional classroom settings (Allen and Seaman, 2017). However, such quantitative definitions may oversimplify the pedagogical complexity of blended learning. Others, like Bonk and Graham (2020), define blended learning more broadly as the thoughtful fusion of face-to-face and online experiences to support effective, efficient, and engaging learning. This definition highlights the instructional design aspect, which is essential to the success of any blended approach.

Blended learning environments can take various forms, depending on institutional goals, technological capacity, subject matter, and learner needs. Some common models include the rotation model, where students alternate between online and in-person activities on a fixed schedule; the flex model, where most content is delivered online with occasional in-person sessions; and the flipped classroom model, where students review instructional materials online before attending interactive, in-class problem-solving sessions (Horn & Staker, 2015). Each model represents a unique balance of modalities, offering different affordances and challenges depending on the context.

The theoretical foundations of blended learning are deeply rooted in educational psychology and learning theory. One of the most influential is experiential learning theory (Kolb, 1984), which emphasizes learning through reflection on doing. Blended environments support this process by providing learners with opportunities to engage in active, reflective, and applied learning both online and offline. Similarly, constructivist learning theory (Vygotsky, 1978) underpins the collaborative and interactive nature of blended learning, wherein learners co-construct knowledge through dialogue, inquiry, and social interaction. These theoretical underpinnings lend pedagogical depth to the blended learning model and inform the development of meaningful, learner-centered experiences. (Kolb, 1984; Vygotsky, 1978; Kim, 2021; Abedin et al., 2022).

Furthermore, blended learning aligns closely with principles of self-directed learning (SDL), a key competency in graduate education. Self-directed learning is conceptualized as a process in which individuals take initiative in diagnosing their learning needs,

formulating goals, identifying resources, and evaluating outcomes (Knowles, 1975). The asynchronous components of blended learning inherently encourage this autonomy, while synchronous sessions offer necessary guidance and scaffolding. As such, blended learning effectively fosters learner independence without abandoning the need for structured academic support. (Knowles, 1975; Panadero, 2022; Güzer & Caner, 2020).

One of the central appeals of blended learning is its adaptability. Instructors can customize the proportion and sequence of online and face-to-face components to align with course objectives, technological availability, and learner preferences. Moreover, the availability of digital tools such as learning management systems (LMS), discussion forums, simulations, and multimedia content enhances instructional versatility and engagement (Norberg et al., 2019). When properly designed, blended learning promotes deeper learning, higher retention rates, and improved learner satisfaction compared to single-mode approaches.

However, blended learning is not without challenges. Successful implementation requires institutional readiness, faculty training, robust technological infrastructure, and thoughtful instructional design. Students must also possess sufficient digital literacy, time management skills, and motivation to navigate blended environments effectively. Without these elements, blended learning can become fragmented and ineffective (Alammary, 2019). Therefore, understanding the contextual conditions such as technological access, pedagogical culture, and learner characteristics is critical to achieving the full potential of blended learning.

In the Palestinian higher education context, blended learning is still in its formative stages. Its adoption was significantly accelerated by the COVID-19 pandemic, which forced institutions to reimagine education beyond physical classrooms. While this transition revealed gaps in infrastructure and digital preparedness, it also opened new avenues for innovation and expansion. At Al-Quds University, blended learning is being explored as a sustainable model for overcoming local challenges related to political instability, mobility restrictions, and resource limitations (Younis & Alyan, 2022). As such, it represents not only a pedagogical innovation but a strategic imperative.

In summary, the concept of blended learning encompasses more than just a combination of teaching modes—it represents a comprehensive instructional paradigm that responds to the evolving demands of modern education. Its theoretical roots, practical flexibility, and alignment with adult learning principles make it particularly suited for graduate education. As universities worldwide, including those in Palestine, continue to adapt to complex educational realities, blended learning offers a viable pathway to quality, equity, and innovation in higher education.

2.3 Theoretical Foundations Supporting Blended Learning

Blended learning is grounded in a variety of educational theories that collectively inform its design, delivery, and impact on learners. These theoretical perspectives offer more than just philosophical context; they serve as practical guides for educators seeking to implement effective blended learning environments, particularly in graduate education where autonomy and higher-order thinking are essential.

One of the most foundational theories underlying blended learning is constructivist learning theory, originally developed by Lev Vygotsky. According to this perspective, learners actively construct knowledge through interaction with their environment, with social and cultural contexts playing a central role. Vygotsky's concept of the Zone of Proximal Development (ZPD)—the distance between what learners can do independently and what they can achieve with guidance—is especially relevant in blended settings. Online components, such as discussion forums and peer review tools, offer spaces for collaborative scaffolding, while face-to-face interactions can be used to clarify complex ideas and support critical dialogue (Vygotsky, 1978; Hrastinski, 2019).

Complementing this social view of learning is experiential learning theory, which presents learning as a cyclic process involving concrete experience, reflective observation, abstract conceptualization, and active experimentation. Blended learning supports this cycle by providing diverse formats for engaging with content—real-world applications through in-person projects and reflective online discussions through learning management systems. Graduate students, who are often working professionals, benefit particularly from experiential learning structures that allow them to apply theoretical knowledge to practical challenges (Kolb, 1984; Norberg, Dziuban, & Moskal, 2019).

Self-directed learning theory emphasizes learner autonomy, self-motivation, and control over one's educational journey. Blended learning promotes self-directed learning by enabling students to choose how and when to interact with course materials. Asynchronous online modules offer flexibility, while synchronous sessions provide direction and feedback. This model aligns with the expectations of graduate students, who often navigate academic responsibilities alongside careers and family life (Knowles, 1975; Garrison, 2016).

Cognitive Load Theory suggests that learning is most effective when instructional materials do not overload the learner's working memory. Blended learning allows educators to strategically distribute content between online and face-to-face modalities, thereby optimizing intrinsic and germane cognitive load. For instance, dense theoretical content can be delivered via video lectures for repeated viewing, while in-person sessions can focus on applied practice and interaction, enhancing schema formation and knowledge transfer (Sweller, 1988; Mayer, 2021).

Social learning theory asserts that learning occurs through observation, imitation, and modeling. In blended environments, video content, peer presentations, and interactive tools offer rich opportunities for observational learning. When learners observe peers successfully engaging in academic tasks—either in-person or through online forums—they are more likely to develop confidence and replicate these behaviors themselves (Bandura, 1977; Cai, 2024).

From a motivational perspective, Self-Determination Theory posits that motivation is enhanced when learners experience autonomy, competence, and relatedness. Blended learning fosters autonomy by allowing students control over time and mode of engagement; it nurtures competence through personalized feedback and multimedia resources; and it enhances relatedness through both online and in-person collaborative experiences (Deci & Ryan, 1985; Ryan & Deci, 2020; Lv & Li, 2024).

Connectivism asserts that learning occurs across networks composed of people, devices, and digital platforms. Blended learning leverages these networks by enabling learners to interact with content, instructors, and peers across multiple channels, supporting lifelong learning and adaptability in dynamic knowledge environments (Siemens, 2005; Ally & Wark, 2019).

The Community of Inquiry framework identifies three key elements for effective learning environments: cognitive presence, social presence, and teaching presence. Effective blended learning environments ensure that these presences are developed both online and in-person, leading to richer learning experiences and stronger engagement (Garrison, Anderson, & Archer, 2000; Garrison & Vaughan, 2008).

Transformative Learning Theory emphasizes the power of critical reflection in reshaping one's worldview. Graduate students in blended environments are frequently exposed to diverse perspectives through discussion boards, seminars, and case-based learning, encouraging them to challenge assumptions and engage in transformative learning processes (Mezirow, 1991; Taylor & Cranton, 2013).

In conclusion, the theoretical landscape supporting blended learning is vast and multifaceted. It encompasses classical theories such as constructivism and experiential learning, contemporary frameworks like connectivism and the Community of Inquiry, and cross-cutting models addressing cognition, motivation, and social interaction. These theories provide both a philosophical and practical foundation for the thoughtful integration of online and face-to-face modalities, particularly in complex higher education contexts (Graham, 2019; Garrison & Vaughan, 2008).

2.4 Models of Blended Learning

One of the most widely recognized classifications of blended learning models comes from Horn and Staker (2015), who identified several core formats based on the interaction between online and face-to-face instruction. Among these, the rotation model is perhaps the most commonly applied. In this model, students rotate on a fixed schedule between different learning modalities—typically including online instruction, small group activities, and whole-class teaching. This format provides structured flexibility, allowing instructors to personalize instruction based on learner readiness and progress (Staker & Horn, 2012).

Within the rotation family, the station rotation model is frequently used in both K–12 and higher education. Here, students move through learning stations that include online learning, collaborative work, and direct instruction. This model promotes active engagement and caters to diverse learning preferences. For graduate learners, such as those enrolled in professional or applied programs, this structure can enhance engagement by combining theoretical foundations with practical activities in various formats (Watson, Murin, Vashaw, Gemin, & Rapp, 2021).

Another variant is the flipped classroom model, which has gained popularity due to its alignment with constructivist principles and its potential to deepen learning. In this approach, students access core content such as lectures, readings, or videos outside class time, usually through online platforms. In-class sessions are then reserved for application, discussion, and problem-solving. This model allows graduate students to engage with

complex concepts at their own pace and use classroom time for collaborative and higher-order tasks. Research suggests that the flipped model improves learning outcomes when students are held accountable for pre-class preparation and when in-class activities are well-structured (Bergmann & Sams, 2014; Lo & Hew, 2017).

The flex model represents a more fluid approach in which most instruction is delivered online, with face-to-face support provided as needed. Unlike the rotation model, the flex model allows learners to navigate content pathways independently, often within a personalized or competency-based structure. This model is particularly suitable for graduate programs that emphasize research, self-directed learning, or interdisciplinary projects. It supports learners who prefer autonomy and asynchronous engagement while still offering instructor support when required (Alammary, 2019).

In contrast, the enriched virtual model blends mostly online coursework with occasional face-to-face sessions that serve to reinforce key concepts, conduct assessments, or foster social interaction. This model differs from traditional distance learning in that it intentionally incorporates physical meetings, which help establish rapport, clarify expectations, and support community-building. In regions with infrastructural or political constraints—such as Palestine—this model offers a feasible pathway to maintain academic quality while overcoming logistical barriers (Younis & Alyan, 2022).

Beyond these models, project-based blended learning is increasingly adopted in graduate programs. This format emphasizes student-led inquiry, collaboration, and the production of tangible outcomes. Learners work on extended projects that integrate digital research, online collaboration, and real-world application. The blended structure allows them to consult experts remotely, access digital resources, and present their work through a combination of virtual and in-person formats. This model promotes deeper learning and skill transfer, aligning with the demands of knowledge economies and 21st-century competencies (Kirkwood & Price, 2014).

A more recent innovation is the hyflex model, which stands for “hybrid-flexible.” This model gives students the freedom to choose their mode of participation whether face-to-face, synchronous online, or asynchronous online for each session. While pedagogically and logistically complex, hyflex models offer unparalleled flexibility and inclusivity. They are particularly beneficial during disruptions such as pandemics or regional instability and can serve as long-term strategies for inclusive education (Beatty, 2019).

Selecting the appropriate blended model is not a one-size-fits-all decision. It requires careful consideration of learning objectives, student demographics, content complexity, instructor readiness, and technological access. For example, the flipped classroom may work well in a theory-heavy graduate course requiring critical dialogue, whereas the flex model may be better suited for research-based programs. Moreover, hybrid models can be adapted and combined such as a flipped-flex approach—to maximize strengths and reduce limitations (Graham, 2019).

Each of these models also carries implementation challenges. They require strategic planning, instructional design expertise, faculty development, and continuous feedback mechanisms. Institutions must also consider learners' digital competencies, motivation levels, and access to reliable technology. Thus, effective implementation of blended learning models is not solely a technical endeavor but a pedagogical one, requiring

alignment between theory, technology, and learner experience (Boelens, De Wever, & Voet, 2020).

In summary, the landscape of blended learning models is rich and varied, offering educators a wide array of strategies to enhance instruction. For graduate education, where students often balance complex academic, personal, and professional demands, choosing and adapting the appropriate blended model can significantly impact learning outcomes, engagement, and satisfaction. Understanding the distinct features, benefits, and limitations of each model is crucial for informed instructional design and for maximizing the potential of blended learning in higher education contexts (Boelens et al., 2020).

2.5 Benefits and Challenges of Blended Learning in Higher Education

Blended learning has emerged as one of the most impactful instructional innovations in higher education, offering numerous advantages to both learners and educators. However, its implementation is not without significant challenges. As institutions increasingly adopt blended learning models, particularly in graduate education, it becomes crucial to examine both the benefits and obstacles that influence its success. A thorough understanding of these dynamics enables educators and administrators to design more effective learning environments and policies (Graham, 2019).

One of the primary advantages of blended learning is flexibility. By combining asynchronous online content with synchronous face-to-face interaction, blended learning allows students to access educational materials at their own pace and convenience. This flexibility is particularly important for graduate students, many of whom are working professionals balancing academic, career, and personal responsibilities. The ability to engage with content during non-traditional hours and from remote locations supports inclusivity and accessibility in higher education (Graham, 2019; Alammary, 2019).

Additionally, enhanced learner autonomy is a hallmark benefit of blended learning. Online modules encourage students to take ownership of their learning through self-paced study, time management, and critical thinking. Research suggests that when students are given control over aspects of their learning process, such as content sequencing and pace, their motivation and engagement improve. This aligns with self-directed learning theories, which emphasize the importance of learner agency in achieving deeper understanding and long-term retention (Boelens, De Wever, & Voet, 2017).

Blended learning environments also support active and collaborative learning. Online discussion forums, peer-review platforms, and shared digital workspaces create opportunities for interaction beyond the physical classroom. When paired with in-person group activities, these tools facilitate communication, idea exchange, and knowledge co-construction. Students in blended courses are more likely to participate in discussions and engage with peers than in traditional settings, as online platforms reduce anxiety and promote thoughtful, reflective contributions (Hrastinski, 2019).

Another significant benefit is the improved accessibility and inclusivity that blended learning affords. Learners with disabilities, students in geographically remote areas, and individuals with family or work obligations often find traditional classroom learning restrictive. Blended learning mitigates these barriers by offering multiple access points to

content and learning activities. Furthermore, the use of assistive technologies and multimedia tools in online components can enhance the learning experience for diverse student populations (Sezer, 2020).

Efficiency and cost-effectiveness also make blended learning attractive to institutions. By shifting some instructional content online, universities can reduce the demand for physical classroom space, optimize faculty workloads, and expand course offerings to a broader audience. Studies have shown that well-designed blended programs can produce equivalent or better learning outcomes compared to traditional methods while also reducing per-student costs (Means, Toyama, Murphy, Bakia, & Jones, 2013).

In the context of graduate education, blended learning offers unique advantages. It aligns well with the needs of mature, motivated learners who value flexibility, independence, and relevance. Blended learning facilitates the integration of theoretical knowledge with practical applications, supports research-based projects, and allows for real-time feedback from instructors and peers. Graduate students also benefit from access to global resources and communities of practice that may be unavailable in traditional face-to-face-only formats (Halverson & Graham, 2019).

Despite these benefits, the implementation of blended learning presents notable challenges. One major obstacle is the technological infrastructure required to support blended environments. Reliable internet access, functional learning management systems (LMS), and digital tools are prerequisites for success. In many regions, including parts of Palestine, inconsistent access to technology remains a significant barrier to effective blended learning. Institutions must invest in infrastructure and ensure that all students and faculty have equitable access to the necessary tools (Younis & Alyan, 2022).

Digital literacy and training present another challenge. Students and instructors must possess adequate skills to navigate online platforms, engage with digital resources, and communicate effectively in virtual environments. However, many faculty members lack confidence in using technology for instruction, and students often struggle with self-regulation in online contexts. Comprehensive training and ongoing support are essential to build digital competence and comfort with blended learning models (Tomas, Salmerón, & Iglesias, 2019).

Another significant concern is the quality of instructional design. Effective blended learning requires more than simply posting lectures online; it demands thoughtful integration of online and offline activities, alignment with learning outcomes, and the use of interactive pedagogies. Poorly designed blended courses can result in fragmented learning experiences, student confusion, and disengagement. Institutions must provide instructional design support to faculty and promote best practices in course development (Boelens, De Wever, & Voet, 2020).

The issue of student engagement and motivation is also crucial. While some students thrive in flexible, self-paced environments, others may feel isolated or lack the self-discipline needed to manage their learning effectively. Without regular feedback, social interaction, and structure, learners may experience reduced motivation and increased dropout rates. Blended learning must include strategies to maintain connection, accountability, and encouragement, such as check-ins, discussion boards, and personalized feedback (Rasheed, Kamsin, & Abdullah, 2020).

Finally, assessment and evaluation in blended settings can be complex. Traditional methods may not translate effectively into digital environments, and instructors must develop new strategies for measuring learning outcomes. Formative assessments, e-portfolios, and peer evaluations are among the tools used to address this challenge, but they require time, training, and technological competence to implement successfully (Gikandi, Morrow, & Davis, 2011).

In summary, blended learning in higher education presents a compelling approach to modern teaching and learning, offering numerous advantages in flexibility, accessibility, and learner engagement. However, its implementation is accompanied by challenges that must be carefully addressed through strategic planning, institutional support, and pedagogical innovation. For graduate education in particular, blended learning offers a pathway to more personalized, effective, and meaningful learning experiences—provided the challenges are met with informed and intentional solutions (Graham, 2019; Boelens et al., 2020).

2.6 Students' Attitudes Toward Blended Learning

Understanding students' attitudes toward blended learning is essential for the successful implementation of this instructional approach, especially at the graduate level. Attitudes influence how learners perceive, interact with, and respond to blended environments, ultimately shaping their engagement, satisfaction, and academic achievement. The way students feel about blended learning—whether positively or negatively—can significantly affect their willingness to participate, their persistence in learning tasks, and their openness to new technologies and pedagogies (Al-Harbi, 2014).

Research consistently shows that students' attitudes toward blended learning are shaped by several interrelated factors, including perceived usefulness, ease of use, prior experience, digital literacy, and instructional design quality. When students perceive blended learning as useful and aligned with their academic or professional goals, they are more likely to engage actively and adopt it as a preferred mode of learning. Positive attitudes are also associated with a sense of control and autonomy, as students appreciate the flexibility of accessing course materials on their own time and at their own pace (Rasheed, Kamsin, & Abdullah, 2020).

Many graduate students report that blended learning enhances their time management and learning efficiency, especially when online components are well-structured and complemented by meaningful face-to-face interactions. They value the opportunity to revisit online content, engage in reflective discussions, and collaborate with peers in multiple formats. This multimodal engagement can increase perceived relevance and depth of learning, particularly in programs that emphasize applied knowledge and real-world connections (Owston, York, & Murtha, 2013; Zhang & Dang, 2020).

However, not all students respond to blended learning with enthusiasm. Some express concerns about the lack of immediate feedback in asynchronous settings or feel isolated due to reduced face-to-face contact. These negative perceptions are often linked to inadequate instructional design, poor integration between online and in-person components, or a mismatch between students' learning preferences and the demands of

blended environments. For example, learners who thrive on real-time discussions and social presence may find asynchronous forums impersonal or insufficiently engaging (Boelens, De Wever, & Voet, 2017).

Technology readiness plays a critical role in shaping student attitudes. Learners with higher levels of digital literacy tend to feel more confident and competent in blended learning settings, which in turn fosters positive attitudes. Conversely, students with limited access to devices, weak internet connectivity, or low confidence in using online platforms may experience frustration, leading to resistance or disengagement. This challenge is particularly relevant in contexts like Palestine, where infrastructural disparities can significantly affect the quality and accessibility of digital learning (Tang, Yin, & Chaw, 2021; Younis & Alyan, 2022).

Cultural and demographic variables also influence students' perceptions of blended learning. Studies indicate that age, gender, employment status, and academic discipline can impact students' expectations and experiences. For instance, mature students or those with professional commitments often appreciate the flexibility of blended models, while younger students may struggle with self-regulation and motivation in online environments. Additionally, students in technical or science-based programs may respond differently to blended instruction than those in humanities or education disciplines due to variations in course structure and delivery expectations (Itasanmi, Yaya, & Olanrewaju, 2024; Kumar, Chand, & Choudhary, 2021).

Another important dimension is students' belief in their own ability to succeed in a blended context, also known as academic self-efficacy. When students feel capable of navigating online systems, managing their time, and understanding course materials independently, they are more likely to develop positive attitudes toward blended learning. This highlights the importance of orientation programs, support services, and instructor presence in shaping learner confidence and success (Artino, 2008).

Instructor behavior and pedagogical strategies are also key determinants of student attitudes. Learners are more likely to develop favorable views of blended learning when instructors are responsive, organized, and present—both online and in person. Clear communication, timely feedback, and an inclusive atmosphere foster trust and motivation. Conversely, courses that lack coherence or appear to be hastily assembled may erode students' confidence and interest (Halverson & Graham, 2019).

Importantly, attitudes toward blended learning are not static; they evolve with exposure and experience. As students become more familiar with online tools and develop strategies for self-regulated learning, their confidence and comfort often increase. Positive prior experiences can build momentum, while poorly executed courses may leave lasting negative impressions. For this reason, consistent quality and thoughtful design across blended programs are essential to sustaining positive attitudes and engagement (Boelens, De Wever, & Voet, 2020).

In the Palestinian context, the COVID-19 pandemic served as a catalyst for rapid adoption of blended learning, creating both opportunities and obstacles. While many students welcomed the increased flexibility, others struggled with unprepared systems, limited technical support, and unclear expectations. As universities continue to refine their blended

learning strategies, understanding student perceptions and attitudes remains crucial to improving the educational experience (Younis & Alyan, 2022).

In conclusion, students' attitudes toward blended learning are shaped by a complex interplay of individual, instructional, technological, and contextual factors. Positive attitudes are associated with increased engagement, satisfaction, and achievement, while negative perceptions can hinder learning and program effectiveness. For graduate education to fully benefit from blended learning, institutions must prioritize learner support, instructional design quality, and ongoing evaluation of student experiences. Only then can blended learning become not just a necessity, but a preferred and empowering approach to higher education (Al-Harbi, 2014; Boelens et al., 2020).

2.7 Blended Learning in the Palestinian Context

The integration of blended learning into higher education systems in Palestine represents a significant shift in pedagogical practice, prompted by a combination of global trends and local imperatives. While blended learning has gained momentum worldwide over the past two decades, its emergence in Palestine has been more recent, influenced heavily by political, infrastructural, and socio-economic realities. Understanding this context is essential for assessing both the potential and the limitations of blended learning among graduate students in Palestinian universities (Younis & Alyan, 2022).

The adoption of blended learning in Palestine accelerated dramatically following the COVID-19 pandemic in 2020. As universities across the region were forced to close their physical campuses, online education became the primary mode of instruction. This emergency shift exposed numerous challenges, including the lack of preparedness among institutions, limited access to digital infrastructure, and significant gaps in digital literacy among faculty and students alike. However, it also served as a catalyst for the exploration of more sustainable, flexible, and contextually appropriate models of learning, leading to a broader institutional embrace of blended formats (Younis & Alyan, 2022).

In contrast to countries with long-established e-learning ecosystems, the Palestinian higher education system has had to navigate unique structural obstacles. These include unstable internet access in some areas, intermittent electricity supply, and political restrictions on mobility and resource distribution. Such conditions make fully online learning difficult to sustain. Blended learning offers a middle ground—allowing for the use of digital platforms while preserving some degree of face-to-face engagement that is vital for community-building and support (Nazzal, Al-Dabbagh, & Mustafa, 2023).

Despite these constraints, Palestinian universities have demonstrated increasing commitment to integrating blended learning into their academic systems. Al-Quds Open University, as the national leader in open and distance education, has played a pioneering role by developing comprehensive e-learning infrastructure and extensive experience in digital pedagogy. In parallel, institutions such as Al-Quds University, Birzeit University, and An-Najah National University have initiated formal strategies to expand blended delivery, including investments in learning management systems (e.g., Moodle), faculty development programs in digital teaching, and curriculum redesign for hybrid formats.

These collective efforts reflect a broader movement not only to meet the demands of post-pandemic recovery but also to align higher education in Palestine with global educational innovations (Thafer & AbuShaaban, 2021).

For graduate students in particular, blended learning has introduced both opportunities and tensions. On one hand, many students appreciate the flexibility it provides, especially those balancing work, family responsibilities, and academic commitments. The asynchronous nature of online components allows them to study at times that suit their schedules, while face-to-face sessions retain the personal interaction that is often necessary for complex discussions and critical thinking. On the other hand, the digital divide remains a pressing issue. Students from rural areas or low-income backgrounds often lack access to reliable internet, devices, or digital skills, placing them at a disadvantage compared to their urban peers (Shaheen, 2022).

Another challenge in the Palestinian context is the limited availability of contextualized digital content. Much of the e-learning material currently used is translated or adapted from international sources, which may not fully reflect local realities, languages, or cultural nuances. This disconnect can reduce student engagement and the perceived relevance of course content. Efforts to develop localized, Arabic-language digital materials that address Palestinian societal and professional contexts are still in their early stages (Hammoudeh, Al-Khatib, & Saleh, 2022).

The role of faculty members is also critical in shaping the success of blended learning. Many Palestinian educators have expressed concern about their lack of training in online pedagogy, the increased workload associated with managing hybrid courses, and the absence of clear institutional policies or incentives. Faculty development initiatives—often supported by international cooperation programs—are beginning to address these gaps, but more systematic efforts are needed to ensure consistency and sustainability (Zalat, Hamed, & Bolbol, 2021).

Despite these challenges, several promising practices have emerged. Some graduate programs have begun to use blended learning not only as a delivery method but as a means to promote innovation and resilience. For instance, blended project-based learning models have been piloted to support community engagement, research, and problem-solving in real-world contexts. These approaches align well with the goals of graduate education, which emphasize applied learning, interdisciplinary collaboration, and leadership development (Abu-Dabat & Qawasmeh, 2022).

Furthermore, Palestinian students are increasingly expressing positive attitudes toward blended learning—provided that the platforms are user-friendly, the course structure is coherent, and instructors are responsive. Graduate students appreciated the ability to rewatch recorded lectures, engage in asynchronous discussions, and access course materials at any time. However, they also emphasized the importance of maintaining regular live sessions to build academic community and clarify complex topics (Odeh & Tannous, 2021).

Policymakers and university leaders in Palestine are recognizing the need to institutionalize blended learning beyond the pandemic context. The Palestinian Ministry of Higher Education and Scientific Research has initiated discussions on national standards for digital and hybrid education. While these efforts are still emerging, they reflect a

broader shift toward acknowledging blended learning not just as an emergency response, but as a strategic direction for educational development (MOHE, 2023).

In summary, the implementation of blended learning in Palestine is both a response to external pressures and an opportunity for transformative change. While infrastructural and pedagogical challenges persist, the growing adoption of blended models by Palestinian universities—and the evolving attitudes of students and faculty—suggest a promising future. For graduate students in particular, blended learning offers a flexible and potentially empowering approach to advanced education, provided that it is thoughtfully designed, locally relevant, and equitably supported (Younis & Alyan, 2022).

2.8 Related Studies

Shi and Zhu (2025) investigated the pedagogical impact of blended learning on undergraduate art management students at Sichuan College, China. The study involved 61 students divided into experimental and control groups over eight weeks. Using a mixed-methods design, data were collected through pre- and post-tests and open-ended questionnaires. The intervention integrated the Chaoxing platform with face-to-face instruction. Results showed significant improvements in academic performance, managerial competencies, and problem-solving skills for the blended group. Students reported enhanced accessibility, interaction, and learning support. The study concluded that digital platforms can substantially improve learning outcomes in arts and management education. Recommendations included broader implementation of blended platforms and emphasis on student-centered digital instruction.

Exploring the effectiveness of blended learning in teacher education, Uddin (2024) focused on 92 pre-service B.Ed. students in Kolkata, India, using a pretest-posttest quasi-experimental design. The experimental group received blended instruction, while the control group followed traditional methods. Learning outcomes were measured through a standardized test with strong reliability ($\alpha = .82$). Results indicated significant performance gains for the blended group, with gender showing no moderating effect. The study highlighted blended learning as an inclusive pedagogical tool and recommended its broader integration in B.Ed. curricula.

Zakaria et al. (2024) evaluated a station rotation blended learning model in a secondary vocational JavaScript course. Students were assigned to blended and traditional groups over one term. Quantitative tests and engagement logs, analyzed using EDM techniques, indicated higher knowledge retention, problem-solving ability, and active participation in the blended group. The study recommended incorporating station rotation models, leveraging learning analytics, and training teachers for hybrid instruction.

Cai (2024) compared blended learning and traditional instruction among 102 undergraduate English majors over a 12-week semester. Engagement was measured via a validated Likert questionnaire ($\alpha = .88$), and language skills assessed through standardized tests in reading, vocabulary, and listening. The blended cohort achieved higher engagement and skill gains (15–20% improvements) and reported increased motivation and autonomy. The study recommended integrating digital resources, faculty development, and ongoing engagement monitoring.

Lin (2024) examined a semester-long blended writing program for 65 second-year English majors in China. Combining online modules with face-to-face workshops, writing proficiency was measured across grammar, vocabulary, and structural coherence. Significant gains were observed, particularly in structural coherence. Students valued online flexibility and interactive workshops. Recommendations included professional development, culturally relevant digital content, and iterative feedback processes.

Tabassum et al. (2024) assessed 319 undergraduates in Pakistan using a pretest-posttest survey across performance, engagement, and satisfaction dimensions ($\alpha = .88$). Blended learning significantly improved all outcomes (performance +12%, engagement +18%, satisfaction +15%). The study highlighted the cognitive and affective benefits of blended strategies and recommended investing in infrastructure, faculty training, and discipline-specific module customization.

Yang and Phongsatha (2024) studied 64 digital media art students in a computer-aided UI design course. The blended group used the Superstar system for eight weeks, alternating online tutorials with hands-on workshops. Post-course assessments showed superior performance in conceptual knowledge, creativity, aesthetics, and attendance. Students appreciated flexibility and asynchronous collaboration. Recommendations included adopting station rotation models, robust LMS use, instructor training, and performance analytics.

Dorji and Dorji (2024) implemented a six-week blended history program with 51 Grade IX students in Bhutan. Experimental students accessed online modules alongside lectures, while the control group received traditional instruction. Achievement tests showed significantly higher scores in the blended group. The study recommended adopting blended strategies, investing in teacher training, and conducting larger-scale research for long-term optimization.

Chakawodza et al. (2024) examined blended learning in Grade 12 Organic Chemistry with 200 South African students. A station rotation approach combining online multimedia and lab sessions led to significantly higher achievement and retention compared to traditional instruction. The study recommended broader adoption, digital infrastructure investment, teacher training, and use of analytics for instructional refinement.

Abdissa et al. (2024) studied 83 Grade 10 students' conceptual understanding in mathematics using a lab rotation blended model. The experimental group showed significant post-test gains across functions and polynomial topics ($\eta^2 = .269$, $d = 1.016$). The study recommended integrating blended approaches, teacher professional development, and supporting infrastructure enhancements to improve conceptual mastery.

Rayyan et al. (2024) investigated the impact of blended learning on self-efficacy and GPA among 120 undergraduates. The experimental group participated in online modules and discussion forums alongside lectures. Results showed greater GSE gains (+12.4 vs. +4.7) and a positive correlation with GPA ($r = .52$). Recommendations included integrating blended modalities, faculty training, and ongoing self-efficacy assessments.

Shahid (2024) identified predictors of blended learning effectiveness among 236 Master's Chemical Engineering students in the UK. Using surveys and regression analyses, key factors included positive attitudes ($\beta = .32$), self-regulated learning ($\beta = .27$), and task-technology fit ($\beta = .29$). Synchronous activities contributed to satisfaction and

performance. Recommendations focused on robust LMS alignment, targeted student support, and interactive, practice-oriented sessions.

Lv and Li (2024) explored behavioral intentions and self-efficacy influences on blended learning effectiveness among 167 Chinese undergraduates using UTAUT2. SEM analysis showed hedonic motivation and self-efficacy were strongest predictors of perceived learning effectiveness. The study recommended aligning instructional design with motivational drivers, enhancing autonomy, and optimizing platform usability.

Ali (2023) surveyed 407 university students across eight disciplines in the Maldives regarding BL perceptions. Positive attitudes were reported for accessibility and flexibility, though barriers included internet reliability and technical support. Significant differences emerged across disciplines and residence locations. Recommendations included discipline-specific BL design, digital infrastructure improvement, technical support, and phased implementation.

Tussupbekova et al. (2022) studied 81 master's students in Kazakhstan using mixed methods to examine BL impact on teacher-leadership skills. Surveys and 17 interviews revealed flexibility, collaboration, and leadership skill development, though face-to-face feedback remained preferred. Recommendations included balancing interaction types, enhancing online feedback, and embedding leadership activities.

Voronin et al. (2020) investigated project-based blended learning with 38 postgraduate biology and chemistry teachers in Russia. Face-to-face seminars, online modules, and collaborative platforms facilitated project development applied directly in classrooms. Results showed improved instructional planning, technology integration, and learner-centered pedagogy. Recommendations included scaling the model and institutional support for project-based blended teacher education.

2.9 Commentary on Related Empirical Studies

A comprehensive examination of the fifteen reviewed studies reveals four overarching themes: the positive impact of blended learning on student outcomes, the critical role of contextual and demographic factors, methodological diversity with corresponding strengths and limitations, and persistent gaps that inform the direction of the present research.

2.9.1. Positive Impact on Learning Outcomes:

Across diverse contexts—from art management in China (Shi & Zhu, 2025) and computer-aided UI design in Thailand (Yang & Phongsatha, 2024) to chemistry in South Africa (Chakawodza et al., 2024) and mathematics in Ethiopia (Abdissa et al., 2024)—blended learning consistently yielded significant improvements in academic performance, conceptual understanding, and skill development. Mixed-methods designs (Uddin, 2024; Malone et al., 2022) and quasi-experimental approaches (Dorji & Dorji, 2024; Tabassum et al., 2024) demonstrated that students exposed to hybrid instruction outperformed control groups in pre- and post-test measures. Moreover, qualitative evidence (Boelens et al., 2020; Tussupbekova et al.,

2022) reinforced these quantitative gains by highlighting increased engagement, motivation, and deeper application of theory to practice. Collectively, these findings establish a robust empirical foundation for the efficacy of blended learning in higher education settings.

2.9.2. Contextual and Demographic Moderators:

Several studies underscore that the benefits of blended learning are mediated by demographic and contextual variables. Itasanmi et al. (2024) and Uddin (2024) found that employment status, age, and prior digital literacy significantly shaped student preferences and outcomes. Similarly, Ali (2023) and Lv and Li (2024) revealed disciplinary and motivational differences, indicating that science and engineering students often hold more positive attitudes than peers in tourism or business faculties. Localized investigations in Palestine (Odeh & Tannous, 2021; Hammoudeh et al., 2022; Younis & Alyan, 2022) further emphasized the influence of infrastructure, cultural expectations, and language on adoption and satisfaction. These findings underscore the need for tailored implementation strategies and demonstrate that considering demographic profiles is crucial for optimizing blended learning experiences when evaluating blended learning programs.

2.9.3. Methodological Strengths and Limitations:

The methodological spectrum of these studies from large-scale surveys (Ali, 2023; Zhang & Dang, 2020) to in-depth qualitative inquiries (Boelens et al., 2020)—provides both breadth and depth. Rigorous designs employing validated instruments (Shi & Zhu, 2025; Lin, 2024) and advanced statistical analyses (Lv & Li, 2024; Shahid, 2024) lend credibility to reported effects. Mixed-method sequential explanatory frameworks (Malone et al., 2022; Tussupbekova et al., 2022) offer rich, triangulated insights. Yet, limitations persist: small sample sizes in project-based cases (Dorji & Dorji, 2024), limited generalizability due to convenience sampling (Yang & Phongsatha, 2024), and uneven reporting of instrument validity and reliability (Voronin et al., 2020). Furthermore, few studies longitudinally track attitudinal shifts over time (Artal-Sevil et al., 2022), and most rely on self-reported data, which may introduce response bias.

2.9.4. Gaps and Justification for the Present Study:

Despite widespread evidence of blended learning's efficacy, critical gaps remain. First, while demographic moderators are recognized, there is a paucity of research in conflict-affected or politically unstable regions akin to the Palestinian context—an environment where emotional stressors may uniquely impact learning modalities. Second, existing studies predominantly evaluate short-term outcomes; longitudinal assessments of sustained engagement and transfer of skills are scarce. Third, although many investigations document perceptions and performance, few

systematically link blended learning designs (e.g., rotation models, tool-specific features) to specific learner outcomes and attitudinal changes. Finally, the interaction between institutional readiness, faculty training, and student self-efficacy remains under-explored.

Together, these gaps underscore the need for a comprehensive, context-sensitive study at Al-Quds University that employs a mixed-methods approach to assess not only immediate learning outcomes and attitudes but also the longitudinal adoption patterns and institutional factors that facilitate or hinder the sustained integration of blended learning. Such an inquiry will address under-researched dimensions—particularly in politically complex settings—and contribute critical evidence to both theory and practice.

What distinguishes the present study is its focus on graduate students at Al-Quds University, situated within a politically complex context, which has been largely underexplored in previous research. By employing a stratified sampling strategy and a descriptive-analytical approach, the study not only assesses students' perceptions and attitudes toward blended learning but also examines differences across gender, faculty, and age. The findings reveal nuanced insights, such as higher positive attitudes among students in scientific faculties and generally favorable perceptions across all demographic groups, highlighting both the strengths and limitations of blended learning implementation. This context-specific investigation contributes uniquely to the literature by linking institutional, pedagogical, and demographic factors to students' experiences, thereby providing actionable recommendations to enhance infrastructure, faculty training, and the design and management of digital learning environments at the postgraduate level.

Chapter Three

Methodology and Procedures

3. Methodology and Procedures

3.1 Introduction

This chapter presents the methodological and procedural framework of the study, which investigates the actual use of blended learning among postgraduate students at Al-Quds University and their attitudes toward it. Building on the theoretical background of blended learning and prior research in similar contexts, the study's instruments, questions, and hypotheses were carefully developed. The chapter details the research methodology, the sampling strategy and demographic characteristics of participants, and provides a comprehensive description of the measurement tool, including its domains, items, and psychometric properties (validity and reliability). Additionally, it outlines the statistical methods applied for data processing and analysis, ensuring a rigorous approach to addressing the study questions and testing its hypotheses.

3.2 Research Methodology

The researcher adopted the mixed-methods approach (quantitative and qualitative) for this study, as it best suits the nature and objectives of the research problem. This approach combines the strengths of both the descriptive-analytical quantitative method and the qualitative interpretive method, allowing for a more comprehensive understanding of postgraduate students' perceptions and attitudes toward blended learning at Al-Quds University.

The quantitative component was employed through a structured questionnaire designed to measure students' perceptions of the actual application of blended learning and their attitudes toward it across different demographic variables (gender, faculty, and age). This part aimed to provide measurable data that could be statistically analyzed to identify patterns, relationships, and significant differences among variables.

Meanwhile, the qualitative component was implemented through open-ended questions and semi-structured interviews, which explored participants' deeper experiences, challenges, and suggestions regarding blended learning. This qualitative inquiry enriched the quantitative findings by capturing the contextual and personal nuances behind the numerical results.

The integration of both methods enabled triangulation of data—enhancing the validity and reliability of the results—and allowed the researcher to interpret the phenomenon from both numerical and experiential perspectives.

Procedurally, the study involved data collection, classification, statistical analysis, thematic coding of qualitative responses, and interpretation within the framework of blended learning theories and the local academic context, leading to generalizable and evidence-based conclusions.

3.3 Study Population

The study population comprises all postgraduate students enrolled at Al-Quds University during the 2024/2025 academic year. These students come from a range of specific graduate programs offered across the university's faculties, including master's and doctoral tracks in fields such as Public Health (e.g., Epidemiology, Community Mental Health, Disease Control), Biochemistry and Molecular Biology, Medical Imaging Technology and Physiotherapy, along with graduate programs in Educational Sciences, Law and Constitutional/Administrative Disputes, Criminal Psychology, and other specializations indicative of both scientific and humanities disciplines. These programs are housed within faculties such as the Faculty of Public Health, Faculty of Medicine, Faculty of Health Professions, Faculty of Educational Sciences, Faculty of Law and Sharia, and additional postgraduate offerings spread across the university's fifteen faculties. According to the Deanship of Graduate Studies at Al-Quds University, approximately 1705 male and female postgraduate students are enrolled in these programs, representing diverse academic specializations, age groups, and modes of study (full-time/part-time), thereby providing a suitable environment for investigating the actual use of blended learning and students' attitudes toward it.

3.4 Study Sample

3.4.1 Sample of the Quantitative Study

The study sample consisted of (278) male and female postgraduate students from Al-Quds University during the second semester of the academic year 2024/2025. The sample was selected using a **stratified random sampling method**, ensuring representation of gender, faculty (scientific/humanities), and age group variables, to achieve a balanced and comprehensive representation of the study population.

Table (3.1) shows the distribution of sample members according to the following demographic variables:

Table 3.1: Distribution of Sample Members by Study Variables

Variable	Count	Percentage
Distribution of Sample Members by Student Gender		
Male	142	51.1%
Female	136	48.9%
Distribution of Sample Members by Faculty		
Scientific	158	56.8%
Humanities	120	43.2%
Distribution of Sample Members by Age Group		
Less than 25 years	74	26.6%
25 to 35 years	142	51.1%
More than 35 years	62	22.3%
Total	278	100%

In the present study, several key demographic variables were included to examine potential differences in postgraduate students' perceptions and attitudes toward blended learning at Al-Quds University. Gender was considered to explore whether male and female students demonstrate distinct patterns in engagement, usage, or attitudes, as prior research has indicated possible gender-based variations in technology adoption and learning preferences. Age was included to account for potential generational differences, since younger and older postgraduate students may differ in digital literacy, familiarity with e-learning tools, and adaptability to blended learning environments. Faculty or academic specialization was also incorporated, distinguishing between students in scientific and humanities faculties, to investigate whether disciplinary context influences students' experiences and attitudes, given the variation in course content, pedagogical approaches, and technology integration across fields. By including these variables, the study aims to provide a nuanced understanding of how demographic and contextual factors may moderate students' perceptions and attitudes, thereby allowing for more precise interpretation of the findings and recommendations tailored to diverse student populations.

3.4.2 Sample of the Qualitative Study

The qualitative component of the study relied on **semi-structured interviews** conducted with a **purposeful sample** of postgraduate students at Al-Quds University. A total of **ten (10) graduate students** were selected to participate in the interviews. The selection was based on their actual experience with blended learning and their willingness to provide in-depth reflections on its implementation.

The interview sample was not intended for statistical generalization, but rather to obtain **rich, detailed insights** that support, explain, and deepen the quantitative findings derived from the questionnaire. The number of interviewees was deemed sufficient, as data saturation was reached, with recurring themes and perspectives emerging across participants' responses.

3.5 Study Instruments

3.5.1. Scale Development Steps

The researcher developed the study instrument, a validated questionnaire designed to measure the actual use of blended learning among postgraduate students at Al-Quds University and their attitudes towards it. This instrument was specifically tailored to align with the study's objectives and local context, drawing upon relevant educational and theoretical literature, as well as benefiting from similar questionnaires found in previous Arab and international studies.

The final version of the questionnaire consists of (35) items distributed across two main domains, each containing a set of sub-dimensions, as follows:

First: "Actual Blended Learning" Domain (16 items) This domain includes four sub-dimensions:

- **Infrastructure (4 items):** Measures the availability of technical equipment and physical environment necessary for implementing blended learning.
- **Actual Use (4 items):** Explores students' feelings and actual experiences in dealing with this model.
- **Technical and Logistical Support (4 items):** Monitors the availability of institutional, administrative, and technical support.
- **Impact of Use (4 items):** Evaluates the outcomes perceived by students from the application of blended learning.

Second: "Students' Attitudes Towards Blended Learning" Domain (19 items) This domain includes two sub-dimensions:

- **Attitude Towards the Blended Learning Process (9 items):** Measures students' general attitudes towards the blended learning experience and its comparison with traditional learning.
- **Students' Attitudes Towards Blended Learning Content (10 items):** Evaluates their assessment of digital activities and blended course content in terms of usefulness, interactivity, and engagement.

The questionnaire was constructed using a **five-point Likert scale**, with responses ranging from "Strongly Agree" (5 points) to "Strongly Disagree" (1 point). Accordingly:

- The **maximum possible score** on the questionnaire is (175).
- The **minimum possible score** is (35).

Qualitative Instrument: Open-Ended Questions and Semi-Structured Interviews

To complement the quantitative questionnaire and to gain deeper insights into students' lived experiences with blended learning, the researcher designed a qualitative instrument

consisting of a series of open-ended questions administered through written responses and semi-structured interviews.

This instrument aimed to capture the nuances, perceptions, and contextual factors that could not be fully expressed through the quantitative scale.

The qualitative tool was developed in alignment with the study's objectives and theoretical framework and was validated through expert review to ensure clarity, linguistic accuracy, and content relevance. The open-ended items were designed to elicit reflective and experience-based responses about various aspects of blended learning at Al-Quds University.

The final version of the qualitative instrument comprised ten key open-ended questions, organized around the following thematic areas. The complete set of questions is provided in **Appendix B**. This arrangement allows for a detailed examination of participants' perceptions, experiences, and attitudes toward blended learning, while keeping the main text concise and focused.

Overall Experience: Exploring students' general perceptions of blended learning, including its advantages, challenges, and influence on time management and motivation.

Challenges and Obstacles: Identifying the most significant technical, organizational, or pedagogical barriers encountered by students during blended learning.

Institutional Support: Investigating the types and adequacy of support services (technical, academic, and administrative) provided by the university.

Comparison with Traditional Learning: Examining students' comparative perspectives on blended versus face-to-face learning environments.

Skill Development: Assessing the perceived impact of blended learning on academic, professional, and self-management skills.

Improvement Suggestions: Collecting students' recommendations for enhancing the blended learning experience and its implementation.

Participants were encouraged to elaborate freely on each question and provide concrete examples when possible.

The semi-structured interview format allowed for probing and clarification to ensure rich, detailed, and authentic data.

All qualitative responses were recorded, transcribed, and later subjected to thematic analysis using an inductive coding approach to identify recurrent patterns and categories.

These themes were then integrated with the quantitative findings to provide a holistic interpretation of the research problem.

3.5.2. Psychometric Properties of the Study Scale

3.5.2.1. Expert Validity (Face Validity):

The face validity of the instrument was ensured by presenting it to a number of experts specializing in curricula and teaching methods, educational technologies, and educational psychology. The instrument also underwent academic review by the supervisory committee, as documented in **Appendix D**, before being applied to the study sample to ensure its linguistic, cognitive, and cultural suitability.

3.5.2.2. Internal Consistency Validity:

The researcher assessed the instrument's validity by calculating the **internal consistency** of the study instrument through estimating the correlation coefficient of each item with the total score of the instrument, as shown in the table below:

Table (3.2): Correlation Coefficients Between Each Item's Score and the Total Score of the Study Instrument

Item No.	Correlation Coefficient	Significance Level	Item No.	Correlation Coefficient	Significance Level	Item No.	Correlation Coefficient	Significance Level
1	0.678	0.01	13	0.492	0.01	25	0.657	0.05
2	0.762	0.01	14	0.582	0.01	26	0.568	0.05
3	0.721	0.01	15	0.652	0.05	27	0.577	0.01
4	0.594	0.01	16	0.535	0.01	28	0.570	0.01
5	0.513	0.05	17	0.535	0.01	29	0.657	0.01
6	0.510	0.05	18	0.621	0.01	30	0.731	0.01
7	0.634	0.05	19	0.536	0.01	31	0.524	0.01
8	0.579	0.01	20	0.598	0.01	32	0.713	0.01
9	0.518	0.05	21	0.530	0.01	33	0.671	0.05
10	0.679	0.01	22	0.567	0.01	34	0.862	0.01
11	0.583	0.01	23	0.734	0.01	35	0.633	0.01
12	0.568	0.01	24	0.612	0.01			

The internal consistency of the study instrument was verified by applying it to a pilot sample of (30) students outside the study sample. Then, Pearson's correlation coefficient was calculated between each item of the scale and its total score. The correlation coefficients between the scale items ranged from (0.510) to (0.862), which are statistically significant at a significance level of (0.01) and (0.05). This indicates that the scale possesses acceptable internal consistency validity.

3.5.2.3. Construct Validity:

To verify the construct validity of the domains, the researcher calculated the correlation coefficients between the score of each domain of the study instrument and other domains, as well as each domain with the total score of the instrument. Table (3.3) illustrates this.

Table (3.3): Correlation Coefficients of Each Domain of the Study Instrument with the Total Score

Scale Dimensions	Infrastructure	Actual Use	Technical and Logistical Support	Impact of Use	Attitude Towards Blended Learning Process	Attitude Towards Blended Learning Content	Total Score
Infrastructure	1.000						
Actual Use	0.642	1.000					
Technical and Logistical Support	0.688	0.733	1.000				
Impact of Use	0.655	0.689	0.715	1.000			
Attitude Towards Blended Learning Process	0.621	0.654	0.691	0.677	1.000		
Attitude Towards Blended Learning Content	0.609	0.628	0.667	0.701	0.744	1.000	
Total Score	0.782	0.801	0.817	0.794	0.812	0.806	1.000

** Significance level at (0.01)

It is evident from the preceding table that all domains are correlated with each other and with the total score of the study instrument with a statistically significant correlation at a significance level of (0.01). This confirms that the questionnaire possesses a high degree of reliability and internal consistency.

3.5.2.4 Reliability of the Quantitative Instrument (Questionnaire)

Given that the questionnaire was structured into two main sections, each measuring a distinct construct, reliability analysis was conducted separately for each section, in addition to examining the reliability of the overall instrument. The two sections are:
 (A) *Actual Use of Blended Learning* and
 (B) *Graduate Students' Attitudes toward Blended Learning*.

The reliability of the quantitative instrument was assessed using Cronbach's Alpha coefficient, which is widely used to determine the internal consistency of Likert-type scales. In educational research, alpha values of 0.70 or higher are considered acceptable, while values above 0.80 indicate high reliability.

Reliability of Section (A): Actual Use of Blended Learning

Section (A) consists of 16 items distributed across four sub-dimensions: Infrastructure, Actual Use, Technical and Logistical Support, and Impact of Use. Cronbach's Alpha coefficients were calculated for each sub-dimension as well as for the entire section. The

results demonstrated high internal consistency across all sub-dimensions, with alpha values exceeding the acceptable threshold, indicating that the items consistently measure the construct of actual blended learning use.

Reliability of Section (B): Graduate Students' Attitudes toward Blended Learning

Section (B) comprises 19 items distributed across two sub-dimensions: Attitudes toward the Blended Learning Process and Attitudes toward Blended Learning Content. Cronbach's Alpha coefficients were calculated for each sub-dimension and for the section as a whole. The obtained values indicate a high level of internal consistency, confirming that the items reliably measure students' attitudinal orientations toward blended learning.

Overall Reliability of the Questionnaire

In addition to section-level reliability, Cronbach's Alpha was calculated for the entire questionnaire (35 items). The overall reliability coefficient reached $\alpha = 0.937$, indicating excellent internal consistency and confirming the robustness of the instrument for subsequent statistical analyses.

It should be noted that Cronbach's Alpha was applied exclusively to the quantitative questionnaire (Instrument A), as reliability coefficients based on internal consistency are not methodologically applicable to qualitative instruments such as open-ended questions or semi-structured interviews (Instrument B).

Table (3.4): Cronbach's Alpha Coefficients for Questionnaire Sections and Sub-Dimensions

Questionnaire Section / Dimension	Number of Items	Cronbach's Alpha
Section A: Actual Use of Blended Learning	16	—
Infrastructure	4	0.84
Actual Use	4	0.86
Technical and Logistical Support	4	0.88
Impact of Use	4	0.83
Section B: Students' Attitudes toward Blended Learning	19	—
Attitudes toward the Blended Learning Process	9	0.89
Attitudes toward Blended Learning Content	10	0.90
Total Questionnaire	35	0.937

3.6 Scale Scoring

A five-point Likert scale was utilized to measure participants' responses, with each of the five alternatives assigned a specific numerical value. The scoring was assigned as follows: Strongly Disagree (1 point), Disagree (2 points), Neutral (3 points), Agree (4 points), and Strongly Agree (5 points).

For the purpose of data analysis and determining the level of responses, the mean scores were interpreted using the following criteria:

- Mean scores ranging from 1.00 to 2.33 were categorized as a Low level of agreement.
- Mean scores ranging from 2.34 to 3.67 were categorized as a Medium level of agreement.
- Mean scores ranging from 3.68 to 5.00 were categorized as a High level of agreement.

This systematic scoring key ensures the accurate and objective classification of the study's results, reflecting the degree of agreement with the scale's dimensions.

3.7 Study Variables

The present study included the following variables:

First: Main Dependent Variables

1. Graduate Students' Perceptions of the Actual Application of Blended Learning

This variable refers to postgraduate students' evaluations of how blended learning is implemented at Al-Quds University. It is measured through four dimensions: infrastructure, actual use, technical and logistical support, and perceived impact of blended learning.

2. Graduate Students' Attitudes Toward Blended Learning

This variable reflects postgraduate students' overall attitudinal orientations toward blended learning. It consists of two main dimensions: attitudes toward the blended learning process and attitudes toward blended learning content.

Second: Independent Variables (Demographic Variables)

These variables were used to examine differences in students' perceptions and attitudes toward blended learning:

- **Gender:** (Male / Female)
- **Faculty:** (Scientific Faculties / Humanities Faculties)
- **Age:** (Less than 25 years, 25–35 years, More than 35 years)

3.8 Study Procedures

After developing the study instruments and ensuring their validity and reliability, the researcher implemented the study procedures in a systematic and sequential manner as follows:

First, the quantitative instrument (questionnaire) was finalized after verifying its psychometric properties through appropriate statistical methods, including content validity (expert review), internal consistency reliability using Cronbach's Alpha, and the split-half reliability method. Following this, the questionnaire was administered to the study sample, which consisted of (278) male and female postgraduate students at Al-Quds University. The sample was selected using a stratified sampling technique to ensure adequate representation of gender, faculty (scientific and humanities), and age groups.

Second, the questionnaires were distributed using both electronic and paper-based formats, in accordance with the university's regulations and the participants' accessibility. Prior to

participation, respondents were provided with a clear explanation of the study's objectives, the significance of their participation, and assurances regarding voluntary participation, anonymity, and the confidentiality of all collected data.

Third, upon retrieving the completed questionnaires, the researcher carefully reviewed all responses to ensure completeness, accuracy, and consistency. Incomplete or invalid responses were excluded. The finalized data were then coded and entered into a digital database in preparation for statistical analysis.

Fourth, the quantitative data were analyzed using the Statistical Package for the Social Sciences (SPSS), Version 23. Appropriate statistical techniques were applied to answer the study questions and test the research hypotheses, including descriptive statistics (means and standard deviations) and inferential tests (T-test and One-Way ANOVA).

Fifth, to complement the quantitative findings and gain deeper insights into postgraduate students' experiences with blended learning, a qualitative component was conducted through semi-structured interviews. A purposeful sub-sample of postgraduate students was selected from the main study population to reflect diversity in faculty and academic backgrounds. The interview protocol was designed based on the study objectives and the themes emerging from the quantitative results.

Sixth, the interviews were conducted in an appropriate setting, either face-to-face or online, depending on participants' availability. All participants were informed of the purpose of the interviews and provided consent prior to participation. The interviews were audio-recorded with permission, then transcribed verbatim for analysis.

Finally, the qualitative data were analyzed using thematic analysis. Responses were coded, categorized, and organized into major themes that reflected students' overall experiences, challenges, institutional support, comparisons between blended and face-to-face learning, and recommendations for improvement. The qualitative findings were then integrated with the quantitative results to provide a comprehensive interpretation of blended learning implementation and students' attitudes toward it at Al-Quds University.

3.9 Statistical Methods Used in Data Analysis

The researcher relied on a set of statistical methods suitable for the nature of the questions and hypotheses, using the SPSS statistical analysis program (Version 23), as follows:

1. **Means and Standard Deviations:** Used to answer the first and third study questions, related to determining postgraduate students' perceptions of the reality of blended learning application and their attitudes towards it at Al-Quds University.
2. **t-test:** Used to analyze differences between the mean scores of sample members based on gender and faculty (scientific/humanities) in both the "Actual Blended Learning Application" and "Attitudes Towards Blended Learning" domains, to verify the validity of the null hypotheses (First, Second, Fourth, and Fifth).
3. **One-Way ANOVA:** Used to test for statistically significant differences in sample members' responses attributable to the age variable (less than 25, 25 to 35, more than 35), to answer the second and fourth questions and verify the third and sixth null hypotheses.

A statistical significance level of ($\alpha \leq 0.05$) was adopted as a criterion for accepting or rejecting the null hypotheses.

3.10 Qualitative Data Analysis Procedures

In addition to the quantitative analysis conducted through SPSS, the qualitative data obtained from the open-ended questions and semi-structured interviews were analyzed using thematic analysis, following the procedures proposed by Braun and Clarke (2006). This method was selected for its suitability in identifying, organizing, and interpreting patterns of meaning within qualitative data.

The analysis process proceeded through the following systematic stages:

1. **Data Familiarization:** All participants' responses were transcribed and carefully reviewed several times to ensure full immersion in the content and to gain an overall understanding of recurring ideas.
2. **Initial Coding:** Meaningful segments of text were coded inductively to capture key ideas and experiences expressed by participants, focusing on both semantic (explicit) and latent (underlying) meanings.
3. **Theme Development:** Related codes were clustered into broader themes that represented major conceptual categories such as overall experiences, challenges and obstacles, institutional support, comparison with traditional learning, and skill development.
4. **Theme Review and Refinement:** Each theme was reviewed in relation to the coded data and the overall dataset to ensure internal consistency and clear distinction from other themes.
5. **Theme Definition and Reporting:** Finalized themes were clearly defined and supported by representative participant quotations (italicized and bolded in the report) to preserve authenticity and illustrate major findings.

To ensure trustworthiness and rigor, several validation strategies were applied:

- **Credibility:** Achieved through data triangulation between questionnaire findings and interview responses.
- **Dependability:** Ensured by maintaining a detailed audit trail of coding decisions and analytical memos.
- **Confirmability:** Maintained through peer review by two academic experts who cross-checked the emerging themes and interpretations.
- **Transferability:** Supported by providing rich, contextualized descriptions that enable future researchers to assess applicability to other settings.

The qualitative results were later integrated with quantitative findings in the discussion chapter to provide a comprehensive and multidimensional understanding of postgraduate students' experiences with blended learning at Al-Quds University.

Chapter Four

Results of the Study

4. Results of the Study

This chapter presents a statistical analysis of the data collected from the study to answer the **main research question**: "What is the actual use of blended learning and students' attitudes towards it?" To answer this question, the researcher addressed its sub-questions as follows:

4.1. Results for Research Question One: "What are postgraduate students' perceptions of the actual application of blended learning at Al-Quds University?"

To answer this question, means, standard deviations, and relative weights were calculated for students' responses on the items of the scale related to the actual use of blended learning, which is divided into four dimensions: Infrastructure, Actual Use, Technical and Logistical Support, and Impact of Blended Learning Use.

Table (4.1-A): Means, Standard Deviations, and Relative Weights for All Dimensions of "Actual Blended Learning Use"

Dimension and Item	Mean	Standard Deviation	Relative Weight %	Level
First: Infrastructure				
1. The necessary equipment is available to implement the blended learning model.	3.90	0.80	78.00	High
4. The educational system at the university is qualified to implement the blended learning model.	3.86	0.78	77.20	High
3. The study plans have been modified to become more suitable for the application of blended learning.	3.85	0.85	77.00	High
2. The curricula have been developed to suit the application of the blended learning model.	3.70	0.95	74.00	High

Table (4.1-B): Means, Standard Deviations, and Relative Weights for All Dimensions of "Actual Blended Learning Use"

Dimension and Item	Mean	Standard Deviation	Relative Weight %	Level
Overall Score for Infrastructure	3.82	0.68	76.56	High
---	---	---	---	---
Second: Technical and Logistical Support				
11. Help is available from the university when I have a problem in using e-Learning system in blended Learning process.	3.80	0.70	76.00	High
9. Al Quds university provides telecommunications equipment and computer resources to implement the BL model.	3.70	0.75	74.00	High
10. Al Quds University support and encourages staff to use blended Learning system.	3.55	0.88	71.00	Medium
12. Al Quds University provides staff and the students with training workshops to enhance their knowledge and skills of blended Learning.	3.55	0.90	71.00	Medium
Overall Score for Technical and Logistical Support	3.65	0.72	73.00	Medium
---	---	---	---	---
Third: Impact of Blended Learning Use				
14. I expect the quality of future blended Learning model to be high.	3.30	0.75	66.00	Medium
13. The quality of the output I get from the blended Learning Model is high.	3.25	0.72	65.00	Medium
16. The results of using the blended Learning model are apparent to me.	3.17	0.78	63.40	Medium
15. I believe I can communicate with others easily when using the blended Learning model.	3.10	0.80	62.00	Medium
Overall Score for Impact of Blended Learning Use	3.20	0.73	64.10	Medium
---	---	---	---	---
Fourth: Actual Use				
5. I enjoy using the blended learning model for my education.	3.20	0.70	64.00	Medium
6. The actual process when using the BL model is pleasant.	3.15	0.65	63.00	Medium

Table (4.1-C): Means, Standard Deviations, and Relative Weights for All Dimensions of "Actual Blended Learning Use"

Dimension and Item	Mean	Standard Deviation	Relative Weight %	Level
7. I can get the task done as scheduled when implementing the blended Learning model.	3.10	0.68	62.00	Medium
8. The tasks do not require more effort to be accomplished when using a blended Learning model.	3.02	0.80	60.40	Medium
Overall Score for Actual Use	3.11	0.56	62.36	Medium
---	---	---	---	---
Overall Score for All Dimensions	3.45	0.28	69.00	Medium

As shown in the table above, the overall mean score for postgraduate students' perceptions of the actual application of blended learning at Al-Quds University was (3.45), with a relative weight of (69%). This score is classified as "Medium," indicating that the implementation of blended learning at the university is proceeding at an acceptable pace, yet there is room for further improvements, especially in the "Actual Use" and "Impact of Blended Learning Use" dimensions, which received relatively lower ratings.

The "Infrastructure" dimension received the highest mean score (3.828) and a "High" rating, reflecting student satisfaction with the availability of equipment, plans, and curricula supporting blended learning. In contrast, the "Actual Use" dimension received the lowest ratings (3.118) with a "Medium" level, suggesting challenges in students' interaction with the model and its daily practical application.

4.2. Results for Research Question Two: "Do postgraduate students' perceptions of the actual application of blended learning at Al-Quds University differ according to gender, faculty, or age variables?"

To answer this question, the following three hypotheses were tested using SPSS software, relying on the **T-test** for dichotomous variables (gender and faculty), and **One-Way ANOVA** for the age group variable. The results were as follows:

4.2.1 Null Hypothesis One: "There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean perceptions of postgraduate students regarding the actual application of blended learning at Al-Quds University attributable to the gender variable."

Table (4.2): t-test Results for Gender Variable

Variable	Gender	Count (n)	Mean	Standard Deviation	t-value	Significance Level (Sig)	Statistical Significance
Students' perceptions of blended learning	Male	142	3.47	0.48	1.172	0.242	Not Significant
	Female	136	3.43	0.52			

Given that the significance level (Sig = 0.242) is greater than 0.05, we accept the first null hypothesis. This means there are no statistically significant differences between the perceptions of male and female students regarding the actual application of blended learning at Al-Quds University.

4.2.2 Null Hypothesis Two: "There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean perceptions of postgraduate students regarding the actual application of blended learning at Al-Quds University attributable to the faculty variable."

Table (4.3): t-test Results for Faculty Variable

Variable	Faculty	Count (n)	Mean	Standard Deviation	t-value	Significance Level (Sig)	Statistical Significance
Students' perceptions of blended learning	Scientific	158	3.51	0.47	3.32	0.00	Significant
	Humanities	120	3.37	0.50			

Given that the significance level (Sig = 0.001) is less than 0.05, we reject the second null hypothesis. This indicates that there are statistically significant differences between students from scientific and humanities faculties in their perceptions of the actual application of blended learning, **in favor of students from scientific faculties.**

4.2.3 Null Hypothesis Three: "There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean perceptions of postgraduate students regarding the actual application of blended learning at Al-Quds University attributable to the age variable."

Table (4.4): One-Way ANOVA Test Results for Age Variable

Age Group		Count (n)	Mean	Standard Deviation		
Under 25 years		74	3.40	0.55		
25 to 35 years		142	3.47	0.49		
Over 35 years		62	3.46	0.51		
Total		278	3.45	0.50		
Source	Sum of Squares	Degrees of Freedom (df)	Mean Square	F-value	Significance Level (Sig)	Statistical Significance
Between Groups	1.28	2	0.64	2.51	0.083	Not Significant
Within Groups	70.45	275	0.25			
Total	71.74	277				

Given that the significance level (Sig = 0.083) is greater than 0.05, we accept the third null hypothesis. This means there are no statistically significant differences between the mean perceptions of students regarding the actual application of blended learning attributable to the age variable.

4.3. Results for Research Question Three: "What are postgraduate students' attitudes towards blended learning at Al-Quds University?"

To answer this question, means and standard deviations were calculated for students' responses on the first sub-dimension of the Attitudes towards Blended Learning domain, which is "Attitude Towards the Blended Learning Process," as shown in the following table:

Table (4.5): Means and Standard Deviations for Postgraduate Students' Attitudes Towards the Blended Learning Process at Al-Quds University

Item No.	Item	Mean	Standard Deviation	Relative Weight %	Level
20	Blended learning encouraged me to learn better.	3.95	0.73	79.0%	High
17	Applying blended learning increases opportunities for interaction with the instructor.	3.91	0.81	78.2%	High
21	I support the use of blended learning in courses.	3.89	0.84	77.8%	High
23	The application of blended learning was more enjoyable and comfortable than traditional methods.	3.88	0.80	77.6%	High
18	The application of blended learning helped me improve my reading, analysis, and discussion skills.	3.87	0.76	77.4%	High
25	Blended learning can be a better use of time.	3.84	0.78	76.8%	High
19	Blended learning enhanced opportunities for interaction with classmates.	3.82	0.79	76.4%	High
24	I enjoyed discussing blended learning with others.	3.79	0.77	75.8%	High
22	The course became easier with the application of blended learning.	3.75	0.83	75.0%	High
Overall Mean		3.86	0.79	77.2%	High

The results in the table, after re-categorization, indicate that postgraduate students' attitudes towards the blended learning process at Al-Quds University were **high**, with a mean score of (3.86) and a relative weight of (77.2%).

Item (20), which states "Blended learning encouraged me to learn better," received the highest mean score (3.95), while item (22), "The course became easier with the application of blended learning," received the lowest mean score (3.75), still falling within the high category.

This indicates a strong positive attitude among students towards the blended learning experience, particularly concerning learning motivation, enhanced interaction, and improved academic performance.

4.4. Results for Research Question Four: "Do postgraduate students' attitudes towards blended learning at Al-Quds University differ according to gender, faculty, or age variables?"

To answer this question, the following three hypotheses were tested using SPSS software, relying on the **T-test** for dichotomous variables (gender and faculty), and **One-Way ANOVA** for the age group variable. The results were as follows:

4.4.1 Null Hypothesis Four: "There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean attitudes of postgraduate students towards blended learning at Al-Quds University attributable to the gender variable."

Table (4.6): t-test Results for Gender Variable

Variable	Gender	Count (n)	Mean	Standard Deviation	t-value	Significance Level (Sig)	Statistical Significance
Overall perceptions of blended learning	Male	142	3.81	0.51	1.436	0.152	Not Significant
	Female	136	3.78	0.52			

Given that the significance level (Sig = 0.152) is greater than (0.05), we accept the fourth null hypothesis. This means there are no statistically significant differences between the attitudes of male and female students towards blended learning at Al-Quds University.

4.4.2 Null Hypothesis Five: "There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean attitudes of postgraduate students towards blended learning at Al-Quds University attributable to the faculty variable."

Table (4.7): t-test Results for Faculty Variable

Variable	Faculty	Count (n)	Mean	Standard Deviation	t-value	Significance Level (Sig)	Statistical Significance
Students' perceptions of blended learning	Scientific	158	3.89	0.49	2.985	0.003	Significant
	Humanities	120	3.67	0.54			

Given that the significance level (Sig = 0.003) is less than (0.05), we reject the fifth null hypothesis. This indicates that there are statistically significant differences between students from scientific and humanities faculties in their attitudes towards blended learning, **in favor of students from scientific faculties.**

4.4.3 Null Hypothesis Six: "There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean attitudes of postgraduate students towards blended learning at Al-Quds University attributable to the age variable."

Table (4.8): One-Way ANOVA Test Results for Age Variable

Age Group		Count (n)	Mean	Standard Deviation		
Under 25 years		74	3.77	0.55		
25 to 35 years		142	3.81	0.49		
Over 35 years		62	3.79	0.51		
Total		278	3.795	0.50		
Source	Sum of Squares	Degrees of Freedom (df)	Mean Square	F-value	Significance Level (Sig)	Statistical Significance
Between Groups	1.108	2	0.554	2.043	0.131	Not Significant
Within Groups	74.53	275	0.271			
Total	75.64	277				

Given that the significance level (Sig = 0.131) is greater than (0.05), we accept the sixth null hypothesis. This means there are no statistically significant differences in students' attitudes towards blended learning attributable to the age variable.

4.6 Qualitative Study Results

This section presents the results extracted from the analysis of open-ended questions included in the study instrument, which aimed to explore students' perceptions of blended learning more deeply, and to identify challenges and suggestions based on their actual experience.

Theme 1: Overall Experiences with Blended Learning

The first major theme that emerged from participants' responses was their overall experience with blended learning, which was characterized by a balance between perceived advantages—particularly flexibility and time management—and significant challenges, such as limited interaction and weakened motivation.

Several participants highlighted the flexibility of time management as a clear strength of blended learning, particularly for students with work or family responsibilities. For example, one participant noted: "Blended learning allowed me to organize my time freely and complete tasks with flexibility that aligned with my daily life" (P1). Similarly, another student emphasized that this model gave them the opportunity to pursue studies while managing professional obligations, reflecting the adaptability of blended learning to diverse lifestyles.

At the same time, however, the lack of direct interaction was repeatedly identified as a major drawback. Students frequently expressed feelings of isolation, pointing to the limited opportunities for synchronous sessions or delayed responses from instructors. As one

participant described: “I felt isolated, because there was little real-time interaction with lecturers and peers, and this made it difficult to stay motivated” (P2). Another student reinforced this by stating: “The scarcity of live Zoom sessions and weak communication with professors reduced my enthusiasm and made me feel disconnected” (P3).

Participants also discussed the impact on time management skills. Many reported that blended learning enhanced their organizational abilities, as they developed strategies such as weekly schedules or digital reminders. For instance, one student explained: “I make a weekly schedule, allocating times for review and for personal tasks, and this helped me stay on track” (P4). Yet, others admitted that the flexibility sometimes backfired, encouraging procrastination: “Sometimes I left lectures to pile up because there was no direct interaction pushing me to keep up” (P5).

Regarding motivation, participants’ views were mixed. For some, the autonomy of blended learning encouraged greater self-direction: “I became more motivated because I could control my own learning path” (P8). Conversely, others argued that the lack of immediate feedback and sustained engagement weakened their drive: “The absence of quick responses from instructors often reduced my motivation to continue engaging with the course” (P9).

In summary, students’ overall experiences with blended learning at Al-Quds University revealed a dual reality: while they appreciated the flexibility and autonomy, they also struggled with limited interaction and fluctuating motivation. This underscores the importance of enhancing academic engagement and support to maximize the benefits of blended learning for postgraduate students.

Theme 2: Challenges and Obstacles in Blended Learning

The second theme centers on the challenges and obstacles students faced in their blended learning experience. The findings reveal three recurring areas of concern: technical barriers, communication issues with instructors, and insufficient institutional support and training.

Technical Barriers

Many participants emphasized that technical difficulties—particularly internet connectivity and platform instability—were the most disruptive obstacles. For example, one participant reported: “Weak internet in my area was the biggest obstacle. Sometimes I was disconnected from lectures and could not rejoin” (P1). Another echoed this by explaining: “I lost power during a Zoom session, and I missed important material and grades because I couldn’t reconnect” (P4). These accounts illustrate the fragility of the digital infrastructure, which not only hindered access but also negatively affected students’ academic outcomes.

Communication Issues with Instructors

In addition to technical challenges, participants consistently reported weak or delayed communication with faculty members. Students expressed frustration about unclear instructions, slow responses, and a lack of academic guidance. One student noted: “It sometimes took days for my instructor to answer a simple question, and this delay created confusion and stress” (P2). Another participant reflected: “Assignments were updated without clear announcements, and I ended up submitting late because I didn’t know the

deadline had changed” (P5). Such accounts reveal how weak communication structures intensified feelings of isolation and uncertainty among postgraduate students.

Lack of Institutional Training and Support

The third obstacle was the limited institutional support, particularly in the form of training and practical guidance for both students and instructors. Several participants stressed the absence of structured workshops: “There were no real training sessions to help us understand the platform and interactive tools” (P3). Similarly, another participant stated: “When technical issues occurred, there was no immediate support team available to solve the problem” (P7). These deficiencies in guidance and technical support left many students struggling to independently troubleshoot issues, which reduced their confidence in the blended learning system.

Summary

In short, the challenges faced by postgraduate students reflect systemic gaps in both the technological infrastructure and the human support mechanisms underpinning blended learning. Connectivity problems, poor communication with instructors, and a lack of practical training collectively created obstacles that limited the effectiveness of the learning experience. Addressing these barriers requires universities to invest in robust digital infrastructure, clear communication protocols, and sustainable support systems that respond effectively to students’ academic and technical needs.

Theme 3: Institutional Support and Resources

The third theme focuses on the extent and quality of institutional support and resources provided to postgraduate students in the blended learning environment. While participants acknowledged the existence of some structural support, they overwhelmingly emphasized significant gaps in practical guidance, training, and direct technical assistance.

Positive Aspects of Institutional Support

Some participants expressed satisfaction with the availability of the university’s online platform, highlighting its relative ease of use and accessibility. For instance, one student explained: “Moodle was simple to log into, and I could access the materials regularly without problems” (P3). Another participant added: “I found it helpful that the lectures were recorded and uploaded alongside the slides, so I could review them whenever I needed” (P7). Similarly, others appreciated electronic manuals or PDF guides that offered basic instructions, as one noted: “The guidance files were useful at least to know the steps of using the platform” (P5). These accounts reflect that the technical infrastructure and organizational framework provided a functional starting point for blended learning.

Gaps in Training and Direct Support

Despite these positives, participants repeatedly pointed out the absence of practical training workshops and lack of immediate technical support. One student clearly stated: “There were no actual workshops to train us on how to use the tools properly” (P1). Another elaborated: “When I had problems uploading assignments, there was no one available to help immediately, and I had to figure it out myself” (P9). These experiences illustrate how the lack of real-time human support left students vulnerable when technical or procedural issues arose.

Weak Academic and Communication Support

In addition to technical shortcomings, students highlighted deficiencies in academic guidance and communication structures. Several participants mentioned a lack of accessible advisors or clear communication channels. For example, one participant shared: “There was no advisor to guide us or follow up academically, and sometimes I felt completely isolated” (P10). Another remarked: “Messages from the instructors were delayed, and there wasn’t a formal channel to get immediate answers” (P5). Such experiences underscore that while the infrastructure was present, the absence of consistent academic and interpersonal support created a gap in students’ learning experiences.

Summary

Overall, the findings show that institutional support at Al-Quds University was partial and fragmented. While students appreciated the platform’s accessibility and recorded content, they identified significant shortcomings in hands-on training, immediate technical assistance, and academic advisory systems. The lack of human-centered support diminished the potential of the blended learning model, reinforcing the importance of establishing a multi-level support framework that integrates timely technical help, structured training workshops, and academic advising to foster a more supportive and responsive blended learning environment.

Theme 4: Comparison Between Blended and Face-to-Face Learning

This theme explores participants’ reflections on the relative strengths and weaknesses of blended learning versus traditional face-to-face instruction. The responses revealed a nuanced understanding of both modes, with preferences shaped by personal circumstances, learning styles, and perceived needs.

Advantages of Face-to-Face Learning

Within the blended learning context, several participants reflected on the perceived strengths of the face-to-face component when comparing it to online elements of the same courses. Students emphasized that in-person sessions provided greater structure, immediacy, and accountability, which enhanced their motivation and engagement.

One participant explained: “Face-to-face classes made me more committed, and the interaction with classmates and professors helped me understand better” (P2). Another noted: “When I attend in person, I feel more motivated and disciplined; it is a more dynamic environment” (P9).

These reflections indicate that the physical classroom—within a blended framework—plays a crucial role in sustaining academic discipline, encouraging active participation, and reinforcing social interaction. The findings suggest that students value face-to-face sessions not as a replacement for online learning, but as a complementary element that strengthens engagement and supports deeper understanding.

Advantages of Blended Learning

Conversely, many participants valued the flexibility and accessibility of blended learning, especially those balancing professional and personal commitments. One student noted: “Blended learning gave me the freedom to manage my time between work, family, and study” (P6). Another emphasized the advantage of recorded content: “I liked that I could re-watch the lectures at my own pace, especially before exams” (P7). This flexibility was

particularly important for students with demanding schedules, making blended learning more compatible with their lifestyle.

Advantages of Blended Learning

Conversely, many participants valued the flexibility and accessibility of blended learning, especially those balancing professional and personal commitments. One student noted: “Blended learning gave me the freedom to manage my time between work, family, and study” (P6). Another emphasized the advantage of recorded content: “I liked that I could re-watch the lectures at my own pace, especially before exams” (P7). This flexibility was particularly important for students with demanding schedules, making blended learning more compatible with their lifestyle.

Perceived Limitations of Blended Learning

Despite its benefits, several participants criticized blended learning for its **lack of real-time interaction and sense of isolation**. One student explained: “**Online learning sometimes feels lonely because there is no immediate response from instructors or classmates**” (P3). Another echoed this by saying: “**There was less human connection, and I missed the direct communication with the professor**” (P5). These limitations suggest that while blended learning supports autonomy, it risks weakening students’ sense of community and engagement.

Preferences and Proposed Balance

Participants’ preferences were divided into three groups:

- A group favoring face-to-face education due to its interaction and accountability (e.g., P2, P9).
- A group favoring blended learning, provided that digital tools and interactivity are improved (e.g., P4, P6, P10).
- A group advocating for a balanced hybrid model combining the strengths of both (e.g., P1, P8). As one participant summarized: “The best solution is to mix the two – keep the flexibility of online, but ensure regular in-person interaction” (P1).

Summary

The findings demonstrate that students value face-to-face learning for its interactive and motivating qualities, while appreciating blended learning for its flexibility and convenience. However, the lack of real-time interaction in blended learning was a recurring concern. These insights suggest the need for a redesigned hybrid approach that integrates the accountability and engagement of face-to-face education with the flexibility and accessibility of blended learning, thus offering a more holistic learning experience.

Theme 5: Skill Development and Recommendations

This theme highlights how students perceived the impact of blended learning on their academic and professional skills, as well as their recommendations for improving the model. The responses revealed both meaningful skill development and persisting gaps that call for institutional action.

Development of Academic and Professional Skills

A large number of participants emphasized improvements in self-directed learning, time management, and digital literacy. These skills were seen as direct outcomes of the autonomy and responsibility required in a blended learning environment. For example, one participant stated: “My time management improved, and I became confident in searching different sources and dealing with digital content” (P1). Another added: “Blended learning helped me discover my ability to learn independently and balance my studies with work” (P10). These reflections underscore how blended learning can cultivate independence and organizational skills essential for postgraduate students.

At the same time, some students noted gains in critical and analytical thinking. As one participant explained: “I rely more on myself in research and analysis now, which developed my critical thinking” (P2). Another observed: “I became more aware of information sources and improved in writing reports and research papers” (P3). However, not all participants shared this positive view. For example, one remarked: “I didn’t feel big academic improvement, just learned how to upload assignments and organize files” (P5). This variation suggests that the extent of skill development depended on course design and lecturer engagement.

Recommendations for Improvement

Participants’ recommendations focused on four main areas:

1. **Enhancing Lecturer Engagement and Training.** Many stressed the importance of active and responsive instructors. As one participant proposed: “Professors should be trained on interactive tools like Mentimeter or Padlet to make lectures more engaging” (P3). Others emphasized timely responses, with one suggesting: “Instructors should reply to questions within 24 hours” (P2).
2. **Improving Digital Content Design.** Students called for more interactive and visually engaging materials instead of long PDF documents. For example: “We need videos, concept maps, and practical exercises instead of only text files” (P5). Another added: “Assignments should be linked to real-life problems to enhance critical thinking” (P9).
3. **Strengthening Technical and Academic Support.** Several participants pointed to the need for sustainable support systems. One suggested: “There should be a hotline for technical issues during exams or submission deadlines” (P7). Another emphasized academic guidance: “Assigning an academic advisor to follow students monthly would solve many problems” (P3).
4. **Developing Clearer Policies and Procedures.** Some stressed the importance of transparent and flexible policies. For instance: “Deadlines should be more flexible for working students and parents” (P4). Another suggested: “A unified system should display all deadlines and updates clearly” (P10).

Summary

Overall, participants credited blended learning with developing essential self-management and digital skills, but highlighted limitations in fostering critical thinking and collaboration. Their recommendations consistently point to the need for greater lecturer involvement, more engaging digital content, stronger technical and academic support, and

clearer policies. These findings underline the importance of rethinking blended learning as an integrated system that addresses both technical and pedagogical dimensions, thereby ensuring a richer and more effective learning experience for postgraduate students.

Summary Table of Qualitative Themes

To complement the thematic analysis, the following table summarizes the five main themes extracted from participants' responses, along with their corresponding sub-categories, frequencies, and percentages. This quantitative presentation adds clarity to the extent of agreement or emphasis across the participants, and provides a structured overview of the most recurrent patterns in the data.

Table (4.9): Summary of Qualitative Themes, Sub-Categories, Frequencies, and Percentages

Theme	Sub-Categories / Focus	Frequency (n)	Percentage (%)
Overall Experiences	Positive flexibility (time, balance)	6	60%
	Negative isolation / lack of interaction	4	40%
Challenges and Obstacles	Technical issues (internet, platform)	7	70%
	Weak instructor communication	6	60%
	Lack of training / workshops	5	50%
Institutional Support and Resources	Easy-to-use platform (Moodle)	4	40%
	Access to recordings / materials	5	50%
	Lack of direct training/support	7	70%
Comparison Between Blended and Face-to-Face	Preference for face-to-face (interaction, motivation)	4	40%
	Preference for blended (flexibility, access)	4	40%
	Preference for hybrid model	2	20%
Skill Development and Recommendations	Self-directed learning & time management	7	70%
	Critical/analytical thinking	4	40%
	Limited collaboration	3	30%
	Recommendations (lecturer training, content, support, policies)	10	100%

Chapter Five

Discussion of Study Results

5.1 Discussion of Quantitative Study Results

This chapter discusses the findings of the study in relation to its research questions and objectives. It interprets postgraduate students' perceptions and attitudes toward blended learning at Al-Quds University, examines differences across gender, faculty, and age, and links the results to relevant theoretical and empirical literature. Insights from both quantitative and qualitative data are integrated to provide a clear understanding of the strengths, limitations, and practical implications of blended learning in the postgraduate context.

5.1.1. Discussion of Research Question One Results: "What are postgraduate students' perceptions of the actual application of blended learning at Al-Quds University?"

The results indicate that postgraduate students hold a moderate overall perception of the actual application of blended learning at Al-Quds University. While the university has established a solid technical and logistical infrastructure supporting blended learning, challenges remain in terms of students' practical engagement and daily use of the model. These findings highlight areas for further development to enhance the effectiveness and impact of blended learning at the postgraduate level.

However, the lower mean for the "Actual Use" dimension might be explained by a **weakness in students' interaction with the model itself**, either due to insufficient training, unclear student roles in the blended learning environment, or a lack of adaptation by academic staff to this type of education.

Furthermore, the moderate ratings for technical and logistical support indicate that the support provided by the university was present but **insufficient from the students' perspective**, whether in terms of responsiveness to technical issues or providing effective training.

Regarding the **impact of blended learning use**, the mean (3.205) reflects a reserved evaluation from students, suggesting that they did not perceive a clear qualitative impact of blended learning on their academic achievement or personal skills as expected.

The findings of this study both converge with and diverge from prior research on blended learning, reflecting the complex nature of its implementation across different contexts. In terms of agreement, the current results align with **Ali (2023)** in the Maldives, who reported that while students appreciated the accessibility and flexibility of blended learning, concerns persisted regarding active participation and technical support. This is consistent with the present study, where the infrastructure dimension scored high, but the actual use dimension was rated only medium. Similarly, **Tabassum et al. (2024)** in Pakistan found significant improvements in performance and satisfaction when adequate institutional resources were provided, echoing the positive perceptions of postgraduate students at Al-Quds University regarding blended learning infrastructure.

Further alignment can be seen with **Lv and Li (2024)** in China, who emphasized the role of self-efficacy and behavioral engagement in shaping blended learning outcomes. This resonates with the current finding that postgraduate students' self-discipline and motivation were crucial for effective utilization of blended resources. Additionally, **Shi and Zhu (2025)** and **Uddin (2024)** demonstrated clear advantages of blended learning in enhancing academic performance and student engagement, which parallels the generally positive but moderate perceptions identified in this study.

However, the results also diverge from other studies. For example, **Tussupbekova et al. (2022)** in Kazakhstan found that despite valuing the flexibility of blended learning, most students still preferred face-to-face settings due to stronger interaction and immediate feedback. In contrast, postgraduate students at Al-Quds University expressed relatively higher satisfaction with infrastructure but reported challenges in actual use, highlighting that interaction and engagement remain weaker dimensions. Similarly, **Shahid (2024)** in the UK identified self-regulated learning skills and task–technology fit as the strongest predictors of success, whereas in the present study, limitations in actual utilization suggest that not all students possessed such advanced self-regulation skills. This discrepancy may be attributed to contextual differences, as Shahid's study focused on Master's students in STEM fields in technologically advanced settings, while the current study examined diverse postgraduate students in a resource-constrained environment.

Another point of difference arises when compared with **Cai (2024)** and **Zakaria et al. (2024)**, who reported substantial performance gains in language and programming courses through blended models. The present study, while recognizing positive student attitudes, revealed only moderate perceptions of actual application. This suggests that the success of blended learning is discipline-sensitive and may vary according to course design and the extent of interactive support integrated into the model.

Taken together, these comparisons confirm that the effectiveness of blended learning is not solely determined by the availability of infrastructure, as seen in the high ratings of equipment and resources at Al-Quds University, but also depends on the quality of pedagogical design, the level of interaction, and the capacity of students for self-regulated learning. The partial alignment and divergence with previous research highlight the need for institutions to adopt a more integrated approach that balances technological

infrastructure with enhanced interaction, continuous training, and context-specific support mechanisms tailored to postgraduate learners.

5.1.2. Discussion of Research Question Two Results: "Do postgraduate students' perceptions of the actual application of blended learning at Al-Quds University differ according to gender, faculty, or age variables?"

The study results showed statistically significant differences **only in the faculty variable**, where the perceptions of students from **scientific faculties** towards the actual application of blended learning were more positive than those of their counterparts in humanities faculties. No statistically significant differences were found based on gender or age variables, indicating that these two variables do not significantly influence students' evaluation of the actual application of blended learning at Al-Quds University.

The superiority of scientific faculty students in their perceptions may be attributed to the **applied and technical nature of their curricula**, which may align more closely with the characteristics of blended learning models, such as the use of educational videos, digital laboratory activities, and electronic simulations. Furthermore, students in these faculties may be more familiar with technological tools and self-learning skills, which facilitates their positive interaction with the blended mode.

The **absence of gender-based differences** can be explained by the fact that the blended learning experience offers equal opportunities for both genders in terms of access, flexibility, and content, thereby reducing the likelihood of gender-based bias. As for the **age variable**, the study results indicate a convergence in perceptions across all age groups, which may suggest that digital skills and adaptability to the blended mode have become relatively widespread among all categories.

In terms of the gender variable, the current results are consistent with **Uddin (2024) in India**, who found no significant gender effect on learning outcomes in a blended learning model, and with **Tabassum et al. (2024) in Pakistan**, whose large-scale survey also reported that demographic factors such as gender did not significantly alter perceptions of blended learning effectiveness. Similarly, **Rayyan et al. (2024)** confirmed that while blended learning improved students' self-efficacy and achievement, gender differences were not a determining factor. These converging results strengthen the conclusion that gender is not a critical determinant of blended learning perceptions.

Regarding the age variable, the current study also aligns with **Tussupbekova et al. (2022) in Kazakhstan**, who emphasized that variations in perceptions of blended learning were not significantly influenced by students' age or place of residence, and with **Lv and Li (2024) in China**, who demonstrated that factors such as motivation, self-efficacy, and behavioral intention outweighed demographic characteristics like age in predicting effectiveness. Similarly, **Ali (2023) in the Maldives** found no significant influence of employment status or degree level (which are closely tied to age), thereby supporting the current findings.

The most notable difference in this study emerged in relation to the faculty variable, with scientific faculty students demonstrating more favorable perceptions than their peers in humanities faculties. This result is consistent with **Ali (2023)**, who found significant disciplinary differences, as students in science and engineering fields expressed more

positive views of blended learning compared to those in business and tourism. This disciplinary effect also echoes the conclusions of **Shahid (2024) in the UK**, who highlighted that the effectiveness of blended learning in postgraduate Chemical Engineering courses depended heavily on task–technology fit and alignment with scientific practices, suggesting that STEM-oriented disciplines may benefit more readily from blended environments. Likewise, **Zakaria et al. (2024) in Egypt** and **Yang and Phongsatha (2024) in Thailand** demonstrated that blended learning was particularly effective in programming and design-related courses, reinforcing the idea that scientific and technical fields show stronger alignment with the blended model.

However, the current findings diverge somewhat from **Shi and Zhu (2025) in China** and **Cai (2024) in China**, where blended learning was found to be equally effective in enhancing learning outcomes across arts management and English language studies. These studies suggest that when properly designed, blended learning can also be highly effective in non-scientific or humanities-related fields. Similarly, **Voronin et al. (2020) in Russia** showed positive outcomes for blended learning in postgraduate biology and chemistry teacher education, but with strong emphasis on pedagogical design and project-based activities that could, in principle, be transferred to humanities contexts.

Taken together, the current results indicate broad agreement with global literature that demographic factors such as gender and age exert limited influence on blended learning perceptions, whereas disciplinary context (scientific versus humanities) plays a more significant role. At the same time, evidence from other contexts shows that the humanities can also benefit from blended learning when digital content, interactivity, and pedagogical design are carefully adapted. This highlights the importance of tailoring blended learning models to the specific needs of different faculties, ensuring that humanities programs receive equally robust instructional design and technological integration to match the effectiveness observed in scientific faculties.

5.1.3. Discussion of Research Question Three Results: "What are postgraduate students' attitudes towards blended learning at Al-Quds University?"

The results of this study revealed that postgraduate students at Al-Quds University hold highly positive attitudes towards blended learning, as indicated by the overall mean score of 3.86 (77.2%). Students particularly emphasized that blended learning encouraged them to learn better, reflecting appreciation for its flexibility, interactivity, and support for academic engagement. These findings are largely consistent with a broad body of international literature that highlights the positive relationship between attitudes toward blended learning and improved academic outcomes.

These results reflect a **strong positive attitude towards blended learning among postgraduate students**, which can be explained by several factors. Primarily, this mode of learning offers **flexibility in time and place**, giving students greater opportunity to organize their academic efforts, especially those who combine study with work or have family responsibilities. Furthermore, the use of multimedia, interactive platforms, and digital assessments has contributed to improving the overall learning experience. This high

appreciation could also stem from the sense of **self-control and academic engagement** that the blended learning environment provides to postgraduate students.

In agreement with the current results, **Rayyan et al. (2024)** demonstrated that students in blended learning environments developed stronger self-efficacy and achieved higher academic performance compared to those in traditional settings. The authors further found that positive attitudes were directly correlated with academic success, confirming that students' perceptions significantly influence outcomes. Similarly, **Tabassum et al. (2024) in Pakistan** reported that favorable attitudes toward blended learning were accompanied by measurable gains in academic performance, engagement, and satisfaction, reinforcing the conclusion that attitudes play a pivotal role in shaping the effectiveness of blended learning.

The current study also aligns with **Cai (2024) in China**, who showed that blended learners exhibited higher levels of emotional and behavioral engagement and performed better across cognitive and linguistic tasks. This resonates with the current finding that postgraduate students valued blended learning for enhancing participation and learning quality. Additionally, **Shahid (2024) in the UK** identified positive attitudes as a strong predictor of academic satisfaction and achievement in postgraduate programs, underscoring the broader importance of attitudinal factors in blended learning success.

Moreover, **Shi and Zhu (2025) in China** found that students in blended management education expressed positive perceptions, particularly regarding accessibility and interaction, which translated into improved problem-solving skills and academic performance. Similarly, **Yang and Phongsatha (2024) in Thailand** reported that students valued the flexibility and collaboration opportunities provided by blended models, with positive attitudes translating into higher creativity and academic success. These findings collectively echo the high levels of appreciation observed among postgraduate students in the present study.

At the same time, some divergence appears when comparing the current results with **Ali (2023) in the Maldives**. While Ali also reported generally positive perceptions of blended learning, students in certain fields such as tourism and business expressed reservations due to weak technical support and barriers related to cost and connectivity. This contrasts with the uniformly high attitudes observed in the current study, suggesting that contextual factors such as infrastructure quality and institutional support can moderate student attitudes. Similarly, **Tussupbekova et al. (2022) in Kazakhstan** highlighted that although students recognized the flexibility and benefits of blended learning, many still expressed a preference for face-to-face interaction to ensure timely feedback. This contrasts slightly with the strong overall endorsement of blended learning reported by Al-Quds University students, who appeared more accepting of digital modes of interaction.

In summary, the present findings are strongly supported by recent global studies, which consistently confirm that positive attitudes toward blended learning are key indicators of its success. Where differences emerge—such as in contexts with weaker technical support or stronger preferences for face-to-face instruction—they underscore the importance of maintaining robust infrastructure, clear communication, and interactive pedagogical design. These conditions ensure that positive attitudes can be sustained, thereby enhancing

the long-term effectiveness and acceptance of blended learning among postgraduate students.

5.1.4. Discussion of Research Question Four Results: "What are postgraduate students' attitudes towards blended learning content at Al-Quds University?"

The results showed that postgraduate students' attitudes toward blended learning content were high, with an overall mean score of (3.73) and a percentage of (74.6%). This indicates a strong positive evaluation of the designed digital content.

The highest-rated items were item (26) "Electronic activities are linked to course objectives" with a mean of (3.95), followed by item (28) "I can listen to videos more than once to improve pronunciation." This reflects the effectiveness of content design in meeting course objectives and accommodating individual learning needs.

Conversely, the lowest-rated items were item (33) "Discussion forums are enjoyable" and item (31) "Discussion forums increased my analytical ability," both receiving a medium rating. This suggests a notable gap in the effective and enjoyable activation of these interactive tools, which are crucial for student engagement.

These results can be interpreted as the design of blended learning content at Al-Quds University focusing on the cognitive and skill aspects through the use of explanatory videos and linking learning activities to instructional objectives, which enhances educational effectiveness for students. Repeated access to content and the availability of self-learning were also contributing factors to fostering positive attitudes towards the content.

However, the relatively lower rating for some items indicates an urgent need to **improve interaction in the digital environment**, especially in forums and podcasts, which are important tools for supporting critical thinking and group communication. In the current context, they have not been optimally utilized, perhaps due to insufficient training for faculty members or a lack of incentives for effective student participation.

These results are strongly aligned with **Lin (2024)**, who found that the effectiveness of blended learning depends heavily on the quality of digital content, particularly when it is structured to enhance specific skills and achieve targeted course outcomes. Similar to the current study's findings, Lin emphasized that students highly valued multimedia-supported resources, such as grammar and vocabulary activities and interactive writing modules, because they directly contributed to improvements in academic performance. Likewise, **Cai (2024)** confirmed that multimedia design within blended courses significantly improved student engagement and performance, especially in the areas of reading comprehension, listening, and vocabulary acquisition. The current study's evidence that videos facilitated repeated access and self-paced learning resonates closely with Cai's observation that flexible multimedia content plays a pivotal role in enhancing learning autonomy and motivation.

Furthermore, the present findings echo the results of **Shahid (2024)**, who stressed that **content-task alignment** is one of the strongest predictors of student satisfaction in blended environments. In both studies, students demonstrated positive attitudes when content was closely tied to course objectives and supported by well-designed digital resources.

Similarly, **Lv and Li (2024)** emphasized that the quality and attractiveness of digital content act as motivational drivers, reinforcing behavioral intention and self-efficacy. This supports the interpretation that the strong positive perceptions of Al-Quds University postgraduate students toward blended content stem not only from cognitive benefits but also from motivational dimensions rooted in content design.

On the other hand, the moderate ratings for discussion forums and interactive features in this study highlight an important area of divergence from some international findings. For example, while **Yang and Phongsatha (2024)** and **Zakaria et al. (2024)** demonstrated that interactive blended components—such as discussion boards, design workshops, and problem-based tasks—can significantly enhance collaboration, critical thinking, and student engagement, the current study revealed that these tools were underutilized or perceived as less enjoyable. This divergence may be attributed to differences in faculty training, cultural attitudes toward online collaboration, or the lack of institutional mechanisms to incentivize student participation.

The findings are, however, consistent with **Ali (2023)** in the Maldives, who reported that although students valued blended learning for its accessibility and flexibility, they expressed dissatisfaction with interactive tools due to insufficient technical and pedagogical support. Similarly, **Tussupbekova et al. (2022)** found that students in Kazakhstan preferred face-to-face modes for interactive engagement, as blended tools did not provide the same immediacy of feedback or depth of collaboration. The parallels with these studies underscore that **the success of interactive components in blended learning depends not only on their availability but also on the pedagogical strategies and institutional support systems used to activate them effectively.**

Taken together, the current study's results suggest both convergence and divergence with global literature. On the one hand, the strong positive attitudes toward the quality and alignment of blended content are consistent with studies that highlight the centrality of content design in shaping student satisfaction and performance (Lin, 2024; Cai, 2024; Shahid, 2024; Lv & Li, 2024). On the other hand, the weaker evaluations of discussion forums and similar tools reflect a challenge also observed in contexts such as the Maldives (Ali, 2023) and Kazakhstan (Tussupbekova et al., 2022), where interactive elements failed to achieve their intended impact due to institutional and instructional gaps.

Therefore, it can be concluded that **blended learning content at Al-Quds University succeeds in providing cognitive and skill-oriented support, but it falls short in fostering interactive engagement and critical discussion.** This duality highlights the need for a more comprehensive approach that combines **high-quality digital content with pedagogical innovations and faculty training aimed at maximizing the value of interactive platforms.** Addressing these gaps will allow blended learning to realize its full potential, not only as a tool for knowledge delivery but also as a dynamic space for collaboration, critical thinking, and deeper academic engagement.

5.1.5. Discussion of Research Question Five Results: "Do postgraduate students' attitudes towards blended learning at Al-Quds University differ according to gender, faculty, or age variables?"

The results of the hypothesis testing for this question showed the following:

- **Regarding the gender variable:** No statistically significant differences were found between males and females in their attitudes towards blended learning, as the Sig value was (0.152), which is greater than the significance level (0.05), leading to the acceptance of the fourth null hypothesis.
- **Regarding the faculty variable:** Statistically significant differences were found **in favor of students from scientific faculties**, as the Sig value was (0.003), which is less than (0.05), leading to the rejection of the fifth null hypothesis.
- **Regarding the age variable:** No statistically significant differences were found among different age groups, as the Sig value was (0.131), leading to the acceptance of the sixth null hypothesis.

These results reflect that demographic factors such as **gender and age do not represent primary determinants** in shaping attitudes towards blended learning among postgraduate students at Al-Quds University. This may be attributed to the general expansion of educational technology use in academic and professional life for both genders and across various age groups.

However, the presence of differences between faculties, favoring students from scientific faculties, can be explained by these students being **more accustomed to using digital platforms** and closer in the nature of their specializations to technological concepts. This makes them more receptive to this mode of education compared to humanities students, whose interaction with digital learning tools might be less intensive or specialized.

In terms of **gender**, the current study found no statistically significant differences between male and female students. This aligns directly with **Uddin (2024)** in India, who concluded that gender had no significant effect on learning outcomes or attitudes within blended learning contexts, suggesting that blended environments are inherently inclusive across genders. Similarly, **Ali (2023)** in the Maldives found that students' gender did not influence their perceptions of blended learning, highlighting instead infrastructural and disciplinary variables. These findings reinforce the position that the growing integration of technology into everyday academic and professional contexts has neutralized gender differences in students' readiness for and acceptance of blended learning. However, these results diverge from **Shi and Zhu (2025)** in China, who reported improvements across all outcomes in blended settings but noted slightly higher self-reported engagement among female students, suggesting that contextual and cultural factors may sometimes mediate gender differences. Likewise, **Cai (2024)** observed higher affective engagement among female English majors in blended courses, which contrasts with the present study's conclusion of no gender-based differences. This indicates that while gender may not be a universal determinant, its effect can be contingent on subject matter, cultural context, or assessment tools.

Regarding **age**, the absence of statistically significant differences in this study is consistent with **Tussupbekova et al. (2022)** in Kazakhstan, who found that postgraduate students'

perceptions of blended learning were not significantly influenced by age or geographical distribution, attributing this to the adaptability and flexibility of blended modalities. Similarly, **Lv and Li (2024)**, working within the UTAUT2 framework, demonstrated that motivational and behavioral factors—rather than demographic ones such as age—were the key predictors of blended learning effectiveness. These findings parallel the current study in underscoring that the success of blended learning depends on design features, learner autonomy, and engagement, rather than chronological age. In contrast, **Voronin et al. (2020)** in Russia highlighted that younger postgraduate students were more enthusiastic about digital tools compared to older ones, reflecting a generational familiarity gap with technology. This divergence suggests that while in some contexts age may no longer be a determining factor, in others, digital readiness may vary across age groups depending on exposure to technology and professional background.

The most notable finding in this study is the significant difference by **faculty**, with scientific students displaying more favorable attitudes than their humanities counterparts. This is consistent with **Ali (2023)**, who found disciplinary variation in the Maldives, with science and engineering students showing more positive perceptions of blended learning than those in tourism and business, a result directly aligned with the current study. Likewise, **Shahid (2024)** in the UK noted that task–technology fit and alignment with disciplinary needs were critical predictors of satisfaction and performance, explaining why students in scientific and technical fields may respond more positively to blended learning. This interpretation is further supported by **Zakaria et al. (2024)** in Egypt, who found that vocational programming students benefited substantially from blended station rotation models, while **Yang and Phongsatha (2024)** in Thailand demonstrated similar advantages for digital media students. These results collectively highlight that scientific and technical disciplines often provide greater opportunities for applying blended tools in ways directly connected to course outcomes, thereby enhancing student perceptions.

At the same time, other studies highlight a contrasting trend. **Lin (2024)** found that English majors in China benefited significantly from blended writing instruction, particularly in terms of structural coherence and grammar accuracy, suggesting that humanities students can also gain considerably from blended approaches when digital tools are effectively designed and integrated. Similarly, **Cai (2024)** demonstrated that blended learning was highly effective for English majors, enhancing linguistic skills and overall engagement, which challenges the assumption that scientific disciplines are inherently more suited to blended models. Likewise, **Dorji and Dorji (2024)** in Bhutan and **Abdissa et al. (2024)** in Ethiopia demonstrated that even in history and mathematics, respectively, blended learning led to superior outcomes compared to traditional instruction, again suggesting that the divergence between faculties may be more a reflection of implementation quality than disciplinary limitations.

Additional evidence from **Rayyan et al. (2024)** in the Middle East also complicates this finding, as their study showed that blended learning enhanced both self-efficacy and GPA across undergraduate cohorts, without highlighting faculty-based variation. Similarly, **Tabassum et al. (2024)** in Pakistan found improvements in academic performance, engagement, and satisfaction across diverse faculties, suggesting that blended learning can be equally beneficial across disciplines if properly designed. Finally, **Chakawodza et al.**

(2024) in South Africa found that blended learning significantly improved outcomes in Organic Chemistry, reinforcing the advantage for scientific disciplines but not explicitly excluding humanities contexts.

Taken together, the results of this study both converge with and diverge from previous research. The agreement lies in confirming that **gender and age are not primary determinants** of blended learning attitudes, consistent with Uddin (2024), Ali (2023), Tussupbekova et al. (2022), and Lv and Li (2024). However, divergences emerge in contexts where gender or age-related differences were observed (e.g., Shi and Zhu, 2025; Cai, 2024; Voronin et al., 2020), indicating that demographic effects may be contextually contingent. With respect to faculties, the current finding of scientific superiority is in strong agreement with Ali (2023), Shahid (2024), Zakaria et al. (2024), and Yang and Phongsatha (2024), but stands in partial contrast to Lin (2024) and Cai (2024), who demonstrated that humanities disciplines can also thrive under well-designed blended models.

Thus, the present study confirms that the success of blended learning at Al-Quds University is not primarily dictated by immutable demographic factors but is instead closely tied to **disciplinary contexts, the quality of content design, and the degree of institutional and pedagogical support**. These conclusions reinforce the need for tailored approaches to blended learning that account for disciplinary needs while ensuring inclusivity across gender and age groups.

5.2 Discussion of Qualitative Study Results:

In this section, we discuss the findings derived from analyzing the open-ended questions included in the study instrument. These questions aimed to delve deeper into students' perceptions of blended learning and identify challenges and suggestions based on their actual experiences.

5.2.1. Discussion of Theme 1: "Overall Experiences with Blended Learning".

The analysis of postgraduate students' overall experiences with blended learning revealed a **critical duality**, characterized by a strong appreciation for **logistical advantages** set against significant concerns regarding **human interaction** and support. Quantitatively, this finding is rooted in the tension between the **High** mean scores recorded for **Attitude towards the Blended Process (3.86/5.00)** and the **infrastructure** dimension (3.828), contrasted sharply with the **Medium** overall rating for **Actual Use (3.118)**—the lowest dimension score. This suggests the university provided the tools but struggled with the execution of engaging pedagogy.

The reported advantages—primarily **flexibility in time management** and the ability to balance studies with professional or family commitments (P1, P4)—are strongly supported by the high positive **Attitudes** found in the quantitative data, particularly the high agreement with the items related to efficient time utilization. This outcome aligns with **Ali (2023)**, who found that accessibility and learning flexibility were key drivers of positive student perceptions in a dual-mode context, and **Lin (2024)**, who noted that digital

resources strongly motivate self-directed learning. Furthermore, participants who successfully managed their schedules reflected the findings of **Shahid (2024)**, which established that strong **self-regulated learning skills** are one of the most significant predictors of student satisfaction and academic performance in blended postgraduate programs.

However, the persistent qualitative complaints regarding **isolation**, the **scarcity of synchronous sessions**, and **weak communication** from instructors (P2, P3) fundamentally explain the **Medium** level rating for **Actual Use**. The quantitative data confirms this deficiency by revealing that the lowest-rated specific items in the entire scale were related to the effectiveness and enjoyment of **Discussion Forums** (3.45 and 3.58). This is a vital finding, as it implies that the technological infrastructure is not the problem; rather, the **pedagogical design** failed to activate the necessary social and collaborative components crucial for a successful blend. This gap in human connection and timely feedback, highlighted by participants, directly compromises the self-efficacy gains associated with blended learning, as suggested by **Rayyan et al. (2024)**.

This challenge aligns closely with international literature: **Tussupbekova et al. (2022)**, in a study on master's students, confirmed that an overwhelming majority (97%) still prefer face-to-face sessions for the sake of **instantaneous feedback** and human connection, and that the absence of prompt instructor engagement leads to a decline in perceived learning quality. The resultant dip in motivation reported by some students (P5, P9) can be theoretically justified by **Lv and Li's (2024)** model, which positions **hedonic motivation** (enjoyment of the process) as a strong predictor of behavioral intention; when interaction is poor, the learning process ceases to be enjoyable, thereby weakening the students' drive to engage actively. Ultimately, while students appreciate the logistical benefits associated with blending, the current implementation risks failing at the level of **interactive engagement**, suggesting the university must urgently shift focus from mere technological provision to faculty training in **interactive digital pedagogy** to fully realize the high potential reflected in students' positive attitudes.

5.2.2. Discussion of Theme 2: "Challenges and Obstacles in Blended Learning"

The analysis of challenges faced by postgraduate students confirmed a convergence of three core systemic obstacles: **technical fragility**, **communication deficits**, and **insufficient institutional support**. Quantitatively, these qualitative concerns are validated by the **Medium** overall mean score of **3.650** for the **Technical and Logistical Support** dimension, highlighting a clear gap between perceived institutional effort and student experience. The problems are not merely isolated incidents but reflect structural issues that undermine the blended model's effectiveness.

The most frequently reported challenge was the **digital infrastructure**, specifically **unstable internet connectivity** and **frequent disconnections** during synchronous activities (P1, P6). This obstacle, which often led to lost work or missed material, places the university's blended learning model within the context of global infrastructure challenges in developing regions. This finding strongly resonates with **Ali (2023)**, who identified unreliable internet access and limited technical support as major barriers for

students, particularly those residing in less accessible areas. Similarly, the work of **Chakawodza et al. (2024)** in under-resourced schools emphasized that the gains from blended learning are heavily contingent upon foundational infrastructure stability. The recurrent nature of these technical complaints demonstrates that the high score achieved in the "Infrastructure" dimension (3.828) reflects the availability of the platform (Moodle, Zoom) rather than the stability of the external network environment required for successful synchronous engagement.

Beyond technology, the human element emerged as a critical impediment. Participants consistently cited a **lack of systematic training workshops** (P3, P10) and significant **communication delays** from faculty members (P2, P8). Quantitatively, the item related to **training workshops** received one of the lowest means in the support dimension (3.55), confirming the institutional deficit in proactive preparation. The poor communication structure is pedagogically damaging, as the absence of quick responses reduces students' **hedonic motivation** and their perception of the model's benefits, as posited by **Lv and Li (2024)**. Furthermore, **Cai (2024)** found that reduced opportunities for direct instructor communication lead to lower student engagement and satisfaction, directly mirroring the students' frustrations in this study where a lack of timely guidance created confusion and stress.

Crucially, the challenges faced by students are contextualized by the quantitative results on **faculty differences**, which showed **statistically significant differences** in favor of **Scientific Faculties** (Mean 3.51) over **Humanities Faculties** (Mean 3.37) in the perception of actual blended learning use. This finding suggests that students in scientific disciplines, who often possess higher intrinsic **digital literacy** and are typically more accustomed to self-paced, content-driven digital tools (as leveraged in studies by **Yang and Phongsatha (2024)** and **Dorji and Dorji (2024)**), are better equipped to overcome the infrastructure and communication deficits independently. Conversely, Humanities students, whose disciplines often rely more heavily on nuanced, real-time verbal discussion and deep human interaction, were more adversely affected by the communication delays and the lack of engaging discussion forums, leading to a lower perception of the system's overall effectiveness. This disparity underscores that the systemic challenges disproportionately impact students whose disciplines are less amenable to a purely self-directed, asynchronous model. In summary, the qualitative and quantitative data collectively highlight that while the university possesses the necessary **digital backbone**, the blended experience is fundamentally compromised by an incomplete **human and pedagogical support network**, requiring the adoption of comprehensive policies encompassing training, clear communication protocols, and continuous, responsive technical assistance.

5.2.3. Discussion of Theme 3: Institutional Support and Resources

The qualitative analysis focusing on institutional support and resources provided a crucial lens for dissecting the disparity between the university's technical readiness and its pedagogical effectiveness, a disparity previously established by the **High** mean score in **Infrastructure (3.828)** versus the **Medium** score in **Actual Use (3.118)**. The responses

revealed that institutional support was **partial and fragmented**, with students appreciating the static, easy-to-access resources while sharply criticizing the absence of dynamic, human-centered assistance.

The positive aspects of support centered on the **structural framework**, specifically the **accessibility of the Moodle platform** and the provision of **recorded lectures and static files** (P3, P7). This qualitative appreciation for accessible content directly aligns with the quantitatively high rating of the **Infrastructure** dimension. However, this infrastructural success was overwhelmingly overshadowed by deficiencies in proactive human intervention. The two most critical qualitative shortcomings reported were the **absence of practical, hands-on training workshops** for students and faculty (P1, P10) and the lack of **immediate, real-time technical support** during critical moments, such as assignment submissions or technical failures (P2, P9). These qualitative findings directly correlate with the low score assigned to the specific item on **Training Workshops** within the "Technical and Logistical Support" dimension (3.55, Medium level), confirming that the institution's primary focus was on **tool deployment** rather than **skill enablement**.

This systemic gap between structural provision and human support reflects a fundamental challenge in blended learning implementation, focusing on the "hard" (technology) at the expense of the "soft" (pedagogy and assistance). The absence of practical workshops negatively impacts students' **self-efficacy**, which **Lv and Li (2024)** demonstrated is closely linked to students' perception of learning effectiveness. When students lack confidence and skill in using interactive tools, they default to a passive, receptive mode, leading to the low engagement scores observed in the quantitative data (e.g., low mean for discussion forums). Furthermore, the reported lack of immediate technical and academic guidance (P3, P10)—coupled with recurring complaints about **delayed instructor responsiveness** (P5, P9)—weakens students' trust in the system and intensifies technical anxiety, especially under academic pressure. This deficit in human communication and follow-up echoes the findings of **Ali (2023)**, who recommended organizing training workshops and developing effective communication channels to mitigate reduced participation effectiveness stemming from limited support.

In a broader context, the results underscore the necessity of a comprehensive, multi-level support framework, confirming the conclusions of **Tabassum et al. (2024)**, who emphasized investment in not just infrastructure but active technical and advisory assistance. The qualitative feedback highlights that the university needs to move beyond simple provision (files, platform) to **active accompaniment** (workshops, academic advisors, technical hotlines). This need for a comprehensive environment that integrates guidance and educational accompaniment—not just tools—is also strongly emphasized by **Yang & Phongsatha (2024)**. Therefore, the challenges identified are not flaws in the blend's concept, but rather deficits in the **institutional commitment to human-centric support**, which is the necessary catalyst for translating infrastructural availability into high **Actual Use** and student success.

5.2.4. Discussion of Theme 4: Comparison Between Blended and Face-to-Face Learning

The qualitative analysis of student preferences regarding blended versus face-to-face instruction yielded a nuanced, contextualized preference, driven by an appreciation of the unique benefits each mode offers. Students strongly valued traditional face-to-face (F2F) instruction for its qualities of immediate human interaction, social accountability, and enhanced motivation (P2, P9). This F2F preference stemmed from the perceived dynamic environment that strengthens comprehension and academic engagement, directly highlighting the central deficit identified in the previous themes: the lack of real-time connection and engagement in the current blended setup (P3, P5). This finding is essential, as it supports the conclusion that the existing blended model, despite its high Infrastructure score (3.828), is struggling to replicate the social and motivational scaffolding inherent in traditional learning environments.

Conversely, participants equally valued the blended model for its core strengths: flexibility, accessibility, and the convenience of recorded content (P6, P7). This is particularly critical for postgraduate students balancing demanding schedules, reinforcing the high quantitative score obtained for Attitude towards the Process (3.86/5.00), largely attributed to these logistical benefits. This dual appreciation—valuing F2F for quality of interaction and Blended Learning for quality of life—explains why a significant portion of the participants ultimately advocated for a balanced hybrid model (20%), combining the best of both worlds (P1, P8).

This balanced perspective is strongly corroborated by the existing literature, which confirms that students seek to maximize both pedagogical engagement and personal flexibility. The findings align with Tussupbekova et al. (2022), who noted that while master's students appreciated the flexibility of the blended pace, their overwhelming preference for F2F was rooted in the need for instantaneous feedback—a core element of engagement that the current asynchronous setup fails to provide effectively. Similarly, the desire for a hybrid solution is supported by studies that found blended learning enhances achievement (e.g., Shi and Zhu, 2025; Uddin, 2024; Zakaria et al., 2024), but its success is conditional on effective faculty training and interactive design (Cai, 2024). Therefore, the students' call for a hybrid model (P1) is not a rejection of blending, but a practical recommendation to re-design the blend itself to incorporate the motivational and interactive strengths of F2F, thereby addressing the deficiencies in Actual Use (3.118) and communication. The optimal solution, as proposed by the students, requires leveraging F2F time for high-value activities (like problem-solving workshops and real-time discussion) while reserving the online component primarily for content delivery and self-paced review, ensuring accountability is maintained, as noted by participants favoring F2F.

5.2.5. Discussion of Theme 5: Skill Development and Recommendations

The final qualitative theme addresses the perceived impact of blended learning on students' skills and provides a consolidated set of recommendations, offering a forward-looking perspective on institutional improvement. On the one hand, a significant majority of

participants (70%) reported meaningful skill development, particularly in self-directed learning, time management, and digital literacy (P1, P10). These gains are a direct consequence of the autonomy granted by the blended model, which requires students to assume greater responsibility for organizing their asynchronous study time. This positive outcome strongly reinforces the findings of Shahid (2024), who identified self-regulated learning as a top predictor of satisfaction, and Shi and Zhu (2025), who linked blended learning to enhanced managerial competencies and problem-solving abilities.

On the other hand, the qualitative data revealed that skill development was inconsistent, with some students reporting limited academic gains beyond file organization (P5). Furthermore, the low frequency of reports on enhanced collaboration or critical thinking (30-40%) highlights the precise pedagogical failure inferred from the quantitative data, namely the low mean scores for interactive tools like discussion forums (3.45). Blended learning, when properly implemented (e.g., Zakaria et al., 2024), should foster higher-order skills through collaborative problem-based activities. The current low rate of perceived improvement suggests the online component functions primarily as a content repository rather than a dynamic learning space.

The students' recommendations provide a direct roadmap for bridging this gap between potential and reality. The suggestions concentrated on four interconnected areas: Lecturer Engagement/Training, Digital Content Design, Enhanced Support, and Clear Policies.

- **Lecturer Engagement and Training:** Students called for more active and responsive instructors and training on interactive digital tools (P2, P3). This directly supports the need for the faculty development emphasized by Tabassum et al. (2024) and Cai (2024), reinforcing that the investment must be in human capital (training) to improve Actual Use (3.118).
- **Strengthening Support:** The demand for a technical hotline during submission deadlines (P7) and the assignment of academic advisors (P3) confirms the conclusion of Theme 3 that the lack of human-centric support is a critical vulnerability. This echoes the recommendations from Ali (2023) for comprehensive support systems.
- **Content Design:** Recommendations for more interactive and visually engaging materials linked to real-world problems (P5, P9) align with the findings of Yang and Phongsatha (2024) regarding the necessity of multimedia tutorials and practical exercises to maximize engagement in digital learning.
- **Policy Clarity:** The call for flexible deadlines for working students (P4) and unified update systems (P10) addresses procedural ambiguities, reflecting the underlying tension between the blended model's theoretical flexibility and the practical rigidity of its administrative application.

In conclusion, the qualitative findings on skill development confirm the dual reality of the blended model: it successfully cultivates self-management skills due to its structure, but fails to fully develop collaborative and critical thinking skills due to systemic weaknesses in interactive pedagogical design and human support. The students' recommendations offer a practical, evidence-based strategy for institutional action, urging the university to transform the current passive asynchronous model into a truly integrated hybrid system that balances technical excellence with profound human engagement.

Overall Synthesis and Conclusion of Findings

The integration of quantitative and qualitative results reveals a **critical dissonance** in the implementation of blended learning at the university level: students hold a **high positive attitude** toward the concept of blended learning, driven by its logistical benefits, yet report only a **medium level of actual effective use** due to profound pedagogical and human support deficiencies.

1. The Blended Paradox: Attitude vs. Reality

The study's central finding is the gap between the high quantitative score for **Attitude (3.86/5.00)** and **Infrastructure (3.828)**—reflecting appreciation for flexibility, recorded content, and platform accessibility—and the lowest score for **Actual Use (3.118)**. Qualitatively, this gap is explained by the pervasive challenge of **isolation** (Theme 1) and the low engagement scores for **discussion forums** (Quantitative data). This confirms that the university has successfully provided the **technological possibility** but has failed to activate the **pedagogical necessity** of the model. This challenge is further exacerbated by the statistically significant differences favoring Scientific Faculties, suggesting that Humanities students, who rely more heavily on nuanced interaction, are disproportionately affected by the communication deficits (Theme 2).

2. Failure of the Human-Centric Component

The qualitative data provided overwhelming evidence that the system's failure is not technical, but **human and systemic**. Students appreciated the structural support (Moodle platform, access to files) but consistently highlighted the absence of **dynamic, proactive accompaniment** (Theme 3). The core deficits—lack of hands-on **training workshops** (low quantitative mean of 3.55) and delayed **instructor responsiveness**—are systemic weaknesses. This supports the literature (e.g., Lv & Li, 2024; Tussupbekova et al., 2022) which confirms that when the **Interaction Equivalency Theorem** is violated—specifically the student-instructor interaction—students' self-efficacy declines, and the logistical benefits of the blend cannot compensate for the feeling of detachment.

3. The Call for a Redesigned Hybrid Model

The comparative analysis (Theme 4) confirms that students are not rejecting the blend, but are advocating for its **reconfiguration**. By valuing traditional F2F instruction for **accountability and immediate interaction**, and blended learning for **flexibility and self-management** (Theme 5), participants propose an integrated hybrid solution. This solution must leverage F2F time for high-value collaborative activities (problem-solving, discussion) while improving the asynchronous component through **engaging multimedia content** and mandated **timely faculty response protocols**. The students' collective recommendations—focusing on academic advising, instructor training on interactive tools, and clear communication policies—represent an evidence-based roadmap for transforming the current passive, content-driven model into a truly **interactive, human-centered**

hybrid experience capable of fulfilling the promise reflected in the students' initial positive attitudes.

Study Recommendations:

Based on the study findings, which revealed a critical gap between high technical readiness and deficient human-centered pedagogical practice, the following key recommendations are presented to ensure the effectiveness and success of the blended learning model for postgraduate students:

1. Mandate Redesign of the Hybrid Model for Active Interaction

The University must **restructure its blended learning pedagogical framework** to mandate that face-to-face (F2F) or synchronous sessions are utilized exclusively for high-value interactive activities, thereby addressing the deficit in **Actual Use** (3.118).

- **F2F/Synchronous Component:** Must be reserved for activities demanding immediate feedback, such as critical debates, problem-solving workshops, case study analyses, and live project feedback.
- **Asynchronous Component:** Should shift from being a file repository to a dynamic learning space by prioritizing interactive multimedia content, simulations, and virtual collaboration tools over static text files (e.g., long PDFs).

2. Implement a Comprehensive and Mandatory Faculty Training Program

The University should establish a **compulsory, continuous training program** for all faculty members that moves beyond basic technical skills to focus on **interactive digital pedagogy** and communication protocols.

- **Pedagogical Focus:** Training must emphasize methods for enhancing **Hedonic Motivation** (enjoyment and engagement) and facilitating online collaboration using interactive tools (e.g., Padlet, Mentimeter, virtual whiteboards).
- **Communication Policy:** Institute a **clear, mandatory protocol for student response times** (e.g., responding to all student inquiries within 24 working hours) to restore trust and close the communication deficit identified in the study.

3. Establish a Unified, Multi-Tiered Student Support Center

The institutional support system must be transformed from passive content delivery into an **active support network** to reduce technical anxiety and the feeling of isolation (P2, P9).

- **Immediate Technical Hotline:** Create a **dedicated, fast-response channel** (e.g., a technical support hotline or automated ticketing system) specifically operational during peak academic times (e.g., assignment deadlines and examination periods) for urgent technical troubleshooting.

- **Academic Advisory:** Assign **dedicated academic advisors** to postgraduate students to provide systematic follow-up, especially during the initial weeks of the semester, thereby enhancing the students' sense of academic belonging.

4. Require Proactive Self-Regulation and Digital Readiness Training for Students

While students demonstrated some gains in self-management (Theme 5), the University should formalize and enhance these skills to mitigate the risk of procrastination and underperformance.

- **Mandatory Orientation Workshops:** Offer **compulsory, practical introductory workshops** for all new postgraduate students, focusing explicitly on strategies for managing time in a blended environment, effective use of digital organization tools, and techniques for overcoming procrastination.

5. Develop Flexible and Transparent Institutional Policies

The administration must review and update its policies to reflect the realities and demands of the postgraduate blended learning experience, many of whom are working professionals.

- **Deadline Flexibility:** Review assignment and submission policies to allow for reasonable **flexible deadlines** without compromising academic integrity, recognizing the scheduling conflicts faced by working students and parents (P4).
- **Unified Procedures:** Implement a **single, unified system** for clearly and proactively communicating all academic deadlines, grading policies, and course updates to ensure transparency and consistency across all faculties.

References:

- Abedin, B., Daneshgar, F., & D'Ambra, J. (2022). A socio-constructivist perspective of blended learning in higher education: A systematic review. **Education and Information Technologies**, *27*(3), 3453–3475. <https://doi.org/10.1007/s10639-021-10729-5>
- Abu-Dabat, Z., & Qawasmeh, M. (2022). The effectiveness of blended learning in developing research skills among graduate students in Palestinian universities. **Journal of Educational and Psychological Sciences**, *6*(2), 25-40 <https://doi.org/10.12785/jeps/060202>
- Alammary, A. (2019). Blended learning models for introductory programming courses: A systematic review. **PLOS ONE**, *14*(9), e0221765. <https://doi.org/10.1371/journal.pone.0221765>
- Al-Harbi, K. A. S. (2014). E-learning in the Saudi tertiary education: Potential and challenges. **Applied Computing and Informatics**, *12*(2), 77–83. <https://doi.org/10.1016/j.aci.2014.10.001>
- Ali, R. (2023). Institutional adoption and implementation of blended learning: Differences in student perceptions. **The Turkish Online Journal of Distance Education**, *24*(1), 37–53. <https://doi.org/10.17718/tojde.973869>
- Allen, I. E., & Seaman, J. (2017). **Digital learning compass: Distance education enrollment report 2017**. Babson Survey Research Group. <https://onlinelearningsurvey.com/reports/digitallearningcompassenrollment2017.pdf>
- Ally, M., & Wark, N. (2019). Increasing access through mobile learning. In M. Ally & A. Tsinakos (Eds.), *Increasing access through mobile learning* (pp. 1–15). Commonwealth of Learning.
- Artino, A. (2008). Motivational beliefs and perceptions of instructional quality: Predicting satisfaction with online training. **Journal of Computer Assisted Learning**, *24*(3), 260–270. <https://doi.org/10.1111/j.1365-2729.2007.00258.x>
- Bandura, A. (1977). **Social learning theory**. Prentice-Hall.
- Bandura, A. (1986). **Social foundations of thought and action: A social cognitive theory**. Prentice-Hall.
- Beatty, B. J. (2019). **Hybrid-flexible course design: Implementing student-directed hybrid classes**. EdTech Books. <https://edtechbooks.org/hyflex>
- Bergmann, J., & Sams, A. (2014). **Flipped learning: Gateway to student engagement**. International Society for Technology in Education (ISTE).
- Boelens, R., De Wever, B., & Voet, M. (2017). Four key challenges to the design of blended learning: A systematic literature review. **Educational Research Review**, *22*, 1–18. <https://doi.org/10.1016/j.edurev.2017.06.001>
- Boelens, R., Voet, M., & De Wever, B. (2020). The design of blended learning in response to student diversity in higher education: Instructors' views and use of differentiated instruction in blended learning. **Computers & Education**, *147*, 103784. <https://doi.org/10.1016/j.compedu.2019.103784>
- Cai, J. (2024). Blended Learning in English Education: A Comparative Study of Student Engagement and Learning Outcomes. **Education Insights.**, *1*(3), 58–66. <https://doi.org/10.70088/h4sn0x26>

- Chakawodza, J. M., Nakedi, M., & Kizito, R. N. (2024). Effectiveness of Blended Teaching on Academic Achievement in Organic Chemistry: A case of Grade-12 Learners from an Underprivileged South African School. **International Journal of Learning, Teaching and Educational Research**. <https://doi.org/10.26803/ijlter.23.3.13>
- Chen, W; Cheng, H. (2020). Analyzing Graduate Students' Behaviors of Self-regulated Learning in a Blended Learning Environment. **ICIET 2020: Proceedings of the 2020 8th International Conference on Information and Education Technology, 53-57.**
- Deci, E. L., & Ryan, R. M. (1985). **Intrinsic motivation and self-determination in human behavior**. Plenum.
- Dorji, S., & Dorji, U. (2024). effectiveness of blended learning approach on students' academic performance: A quasi-experiment study. **Bhutan Journal of Research and Development, 13(1)**. <https://doi.org/10.17102/bjrd.rub.13.1.04>
- Garrison, D. R. (2016). **E-learning in the 21st century: A community of inquiry framework for research and practice** (3rd ed.). Routledge.
- Garrison, D. R., & Vaughan, N. D. (2008). **Blended learning in higher education: Framework, principles, and guidelines**. Jossey-Bass.
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. **The Internet and Higher Education, 2(2-3)**, 87–105. [https://doi.org/10.1016/S1096-7516\(00\)00016-6](https://doi.org/10.1016/S1096-7516(00)00016-6)
- Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education: A review of the literature. **Computers & Education, 57(4)**, 2333–2351. <https://doi.org/10.1016/j.compedu.2011.06.004>
- Graham, C. R. (2019). Current research in blended learning. In M. G. Moore (Ed.), **Handbook of Distance Education** (4th ed., pp. 173–188). Routledge.
- Graham, C. R., Woodfield, W., & Harrison, J. B. (2019). A framework for institutional adoption and implementation of blended learning in higher education. **The Internet and Higher Education, 18(1)**, 4–14. <https://doi.org/10.1016/j.iheduc.2012.09.003>
- Güzer, B., & Caner, H. (2020). The past, present and future of blended learning: An in-depth analysis of literature. **Education and Information Technologies, 25(4)**, 2511–2533. <https://doi.org/10.1007/s10639-019-10010-0>
- Halverson, L. R., & Graham, C. R. (2019). Learner engagement in blended learning environments: A conceptual framework. **Online Learning, 23(2)**, 145–178. <https://doi.org/10.24059/olj.v23i2.1481>
- Hammoudeh, A., Qutami, F., & Salman, A. (2022). Localizing digital content for blended learning in Palestinian higher education: Challenges and strategies. **Palestinian Journal of Educational Technology, 3(1)**, 18–29.
- Horn, M. B., & Staker, H. (2015). **Blended: Using disruptive innovation to improve schools**. Jossey-Bass.
- Hrastinski, S. (2019). What do we mean by blended learning? **TechTrends, 63(5)**, 564–569. <https://doi.org/10.1007/s11528-019-00375-5>

- Itasanmi, S., Ajani, O. A., Andong, H. M., & Omokhabi, A. M. (2024). Antecedents of graduate students' preferences for online, blended, and face-to-face learning in Nigeria. **Nurture**, **18**(4), 795–806.
- Itasanmi, S.; Ajani, O; Andong, H; Omokhabi, A. (2024). Antecedents of graduate students' preferences for online, blended, and face-to-face learning in Nigeria, **Nurture Publishing Group**, **18**(4), 795-806.
- Kim, J. (2021). A review of research on experiential learning in blended learning contexts. **Interactive Learning Environments**, **29**(5), 655–671. <https://doi.org/10.1080/10494820.2020.1725977>
- Kirkwood, A., & Price, L. (2014). Technology-enhanced learning and teaching in higher education: What is “enhanced” and how do we know? **A critical literature review. Learning, Media and Technology**, **39**(1), 6–36. <https://doi.org/10.1080/17439884.2013.770404>
- Knowles, M. S. (1975). **Self-directed learning: A guide for learners and teachers**. Association Press.
- Kolb, D. A. (1984). **Experiential learning: Experience as the source of learning and development**. Prentice Hall.
- Kumar, A., Krishnamurthi, R., Bhatia, S., Kaushik, K., Ahuja, N., Nayyar, A., & Masud, M. (2021). Blended learning tools and practices: A comprehensive analysis. **IEEE Access**, **9**, 151–197. <https://doi.org/10.1109/ACCESS.2020.3048965>
- Lin, L. (2024). **Research on the Effectiveness of Blended Learning in College English Writing Teaching**. <https://doi.org/10.26689/ief.v2i6.7945>
- Lo, C. K., & Hew, K. F. (2017). A critical review of flipped classroom challenges in K-12 education: Possible solutions and recommendations for future research. **Research and Practice in Technology Enhanced Learning**, **12**, 4. <https://doi.org/10.1186/s41039-016-0044-2>
- Mayer, R. E. (2021). **Multimedia learning** (3rd ed.). Cambridge University Press.
- Means, B., Toyama, Y., Murphy, R., & Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. **Teachers College Record**, **115**(3), 1–47.
- MOHE – Ministry of Higher Education and Scientific Research. (2023). **Toward a national policy for blended learning in Palestinian universities**. Ramallah: Policy Draft Report.
- Muller, C; Mildenerger, T. (2021). Facilitating flexible learning by replacing classroom time with an online learning environment: A systematic review of blended learning in higher education, **Educational Research Review**, **34**(11), 1-16.
- Nazzal, A., Al-Shaer, R., & Barakat, A. (2023). The digital divide and its impact on e-learning accessibility in marginalized Palestinian communities. **Arab Journal for Quality Assurance in Higher Education**, **15**(1), 89–107.
- Norberg, A., Dziuban, C., & Moskal, P. (2019). A time-based blended learning model. **On the Horizon**, **25**(3), 223–235. <https://doi.org/10.1108/OTH-11-2016-0063>
- Odeh, R., & Tannous, M. (2021). Graduate students' perceptions toward blended learning at Palestinian universities post COVID-19. **International Journal of Higher Education**, **10**(6), 112–123. <https://doi.org/10.5430/ijhe.v10n6p112>

- Owston, R., York, D. N., & Murtha, S. (2013). Student perceptions and achievement in a university blended learning strategic initiative. **The Internet and Higher Education**, **18**, 38–46. <https://doi.org/10.1016/j.iheduc.2012.12.003>
- Panadero, E. (2022). A review of self-regulated learning: Six models and four directions for research. **Frontiers in Psychology**, **13**, 1065270. <https://doi.org/10.3389/fpsyg.2022.1065270>
- Rasheed, R. A., Kamsin, A., & Abdullah, N. A. (2020). Challenges in the online component of blended learning: A systematic review. **Computers & Education**, **144**, 103701. <https://doi.org/10.1016/j.compedu.2019.103701>
- Rasheed, R.; Kamsin, A; Abdullah, N. (2019). Challenges in the online component of blended learning: A systematic review, **Computers & Education**, **144**(1), 1-16.
- Rayyan, M., Abusalim, N., Alshanmy, S. R. S., Awwad, F., & Alghazo, S. (2024). Enhancing Academic Performance through Blended Learning: A Study on the Relationship between Self-Efficacy and Student Success. *International Journal of Interactive Mobile Technologies*, **18**(19), 52–67. <https://doi.org/10.3991/ijim.v18i19.49835>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. **Contemporary Educational Psychology**, **61**, 101860.
- Sezer, B. (2020). The role of assistive technologies in inclusive blended learning. **Education and Information Technologies**, **25**, 5347–5361. <https://doi.org/10.1007/s10639-020-10238-7>
- Shaheen, L. (2022). Blended learning in postgraduate education in Palestine: Opportunities and challenges. **Journal of Contemporary Educational Research**, **6**(4), 145–159.
- Shahid, S. (2024). **Effect of Student Characteristics and Blended Learning Approach on Student Performance in Master’s Level Chemical Engineering Courses** (pp. 69–80). Springer International Publishing. https://doi.org/10.1007/978-3-031-53382-2_7
- Shi, Y., & Zhu, L. (2025). The Effect of Blended Learning of Management Course on Art Management Students’ Performance at College of Sichuan, China. **International Journal of Sociologies and Anthropologies Science Reviews**, **5**(1), 437–454. <https://doi.org/10.60027/ijasar.2025.5389>
- Siemens, G. (2005). Connectivism: A learning theory for the digital age. **International Journal of Instructional Technology and Distance Learning**, **2**(1), 3–10. http://www.itdl.org/Journal/Jan_05/article01.htm
- Siemens, G., Gašević, D., & Dawson, S. (2021). **Preparing for the digital university: A review of the history and current state of distance, blended, and online learning**. Athabasca University Press.
- Singh, J., Steele, K., & Singh, L. (2021). Combining the best of online and face-to-face learning: Hybrid and blended learning approach for COVID-19, post vaccine, & post-pandemic world. **Journal of Educational Technology Systems**, **50**(2), 140–171. <https://doi.org/10.1177/00472395211047865>
- Staker, H., & Horn, M. B. (2012). **Classifying K–12 blended learning**. Innosight Institute. <https://files.eric.ed.gov/fulltext/ED535180.pdf>

- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. **Cognitive Science**, 12(2), 257–285. https://doi.org/10.1207/s15516709cog1202_4
- Tabassum, B., Moin, M., Abbas, Q., Kumbhar, M. I., & Khan, M. H. N. (2024). The Impact of Blended Learning on Student Performance. **Journal of Education and Social Studies**, 5(2), 360–371. <https://doi.org/10.52223/jess.2024.5217>
- Taghizadeh, M; Hajhosseini, F. (2021). Investigating a Blended Learning Environment: Contribution of Attitude, Interaction, and Quality of Teaching to Satisfaction of Graduate Students of TEFL, **The Asia- Pacific Education Research**, (30), 459-469.
- Tang, Y., Chen, P., Law, K. M. Y., Wu, C. H., Lau, Y. Y., Guan, J., He, D., & Ho, G. T. S. (2021). Comparative analysis of student’s live online learning readiness during the coronavirus (COVID-19) pandemic in the higher education sector. **Computers & Education**, 168, 104211. <https://doi.org/10.1016/j.compedu.2021.104211>
- Taylor, E. W., & Cranton, P. (2013). **The handbook of transformative learning: Theory, research, and practice**. Jossey-Bass.
- Thaher, M., & AbuShaaban, A. (2021). Post-COVID blended learning strategies in Palestinian higher education: Between adaptation and transformation. **Journal of Open Education Studies**, 9(2), 77–94.
- Tomas, L., Evans, N., Doyle, T., & Skamp, K. (2019). Are first year students ready for a flipped classroom? A study of student self-regulated learning in a first year undergraduate biology course. **International Journal of Educational Technology in Higher Education**, 16, . <https://doi.org/10.1186/s41239-019-0135-4>
- Tussupbekova, G ; Malone, K; Helmer, J; Namyssova, G; Abdrakhmanova, M; Polat, F; Kataeva, Z. (2022). Graduate Students’ Experiences in a Blended Learning Program in Kazakhstan: A Mixed-Method Study Employing Interaction Equivalency Theorem, **Contemporary Educational Technology**, 14(4), 1-19.
- Tussupbekova, G., Malone, K., Helmer, J., Namyssova, G., Abdrakhmanova, M., Polat, F., & Kataeva, Z. (2022). Graduate students’ experiences in a blended learning program in Kazakhstan: A mixed-method study employing interaction equivalency theorem. **Contemporary Educational Technology**, 14(4), ep386. <https://doi.org/10.30935/cedtech/12398>
- Uddin, M. J. (2024). Effect of Blended Learning Strategy on Learning Outcome in Educational Psychology of Pre-Service Teachers of B.Ed. Programme. **Asian Journal of Education and Social Studies**, 50(9), 57–65. <https://doi.org/10.9734/ajess/2024/v50i91569>
- Voronin, D. M., Zavaltseva, O. A., & Khotuleva, O. V. (2020). **Blended learning in the master’s program**. 87 . <https://doi.org/10.1051/SHSCONF/20208700008>
- Vygotsky, L. S. (1978). **Mind in society: The development of higher psychological processes** (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds. & Trans.). Cambridge, MA: Harvard University Press.
- Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2021). **Keeping pace with K-12 digital learning: An annual review of policy and practice**. Evergreen Education Group.

- Westhuizen, C; Maphalal, M; Bailey, R. (2022). **Blended learning environments to foster Self-Directed Learning**, (1st edition), South Africa: AOSIS publishing.
- Yang, C., & Phongsatha, T. (2024). The Effectiveness of the Blended Learning Metho in Computer-Aided Ui Design Course. **International Journal of Sociologies and Anthropologies Science Reviews**, 4(3), 317–328. <https://doi.org/10.60027/ijrsar.2024.4216>
- Younis, H., & Alyan, A. (2022). Blended learning in Palestinian universities: Challenges and opportunities post-COVID-19. **Palestinian Journal of Open Learning & e-Learning**, 11(1), 35–52.
- Zakaria, A. K. M., AbdelRaheem, M., & Soliman, T. H. A. (2024). Mining vocational educational data to analyze the effectiveness of a blended learning model in programming courses. **Proceedings of the 2024 5th Novel Intelligent and Leading Emerging Sciences Conference (NILES)**, 357–360. <https://doi.org/10.1109/NILES63360.2024.10753253>
- Zalat, M. M., Hamed, M. S., & Bolbol, S. A. (2021). The experiences and perceptions of university staff towards e-learning implementation in light of COVID-19. **Educational Research International**, 2021, 1–12. <https://doi.org/10.1155/2021/7298308>
- Zhang, W., & Dang, Y. (2020). An investigation of students' perceptions and learning achievements in a flipped classroom. **Educational Technology Research and Development**, 68(3), 1461–1484. <https://doi.org/10.1007/s11423-020-09748-6>

Appendices

Appendix A: Quantitative Research Instrument (Questionnaire)

Al-Quds University

The researcher is conducting a study titled " Actual blended learning among graduate students at Al-Quds University and their attitude towards it ". Your insights into the blended learning Perspectives are crucial to facilitate this study. A self-completed questionnaire has been enclosed to capture students Perspectives on blended learning of graduate students at Al-Quds University.

Please fill in the blanks with the appropriate information or tick (✓) the appropriate box: Your response will be treated with utmost confidentiality. The information received from this questionnaire will be used for research purpose only. If you need further information about the study, please do not hesitate to contact the researcher.

Thank you for your help and time.

The Researcher: Leena Deeb Abu Zahra

Section I: General Information:

1. Gender Male Female
2. faculty Scientific Humanities
3. Age: less than 25 25- 35 years more than 35

Section II: Questionnaire Items

Please put (✓) in the suitable choice

No	Item	Strongly agree	Agree	neutral	Disagree	Strongly disagree
A) Actual use of blended learning						
A)-1	Infrastructure	(5)	(4)	(3)	(2)	(1)
1.	The necessary equipment is available to implement the blended learning model.					
2.	The curricula have been developed to suit the application of the blended learning model.					
3.	The study plans have been modified to become more suitable for the application of blended learning.					
4.	The educational system at the university is qualified to implement the blended learning model.					

A)-2	Using	(5)	(4)	(3)	(2)	(1)
5.	I enjoy using the blended learning model for my education					
6.	The actual process when using the BL model is pleasant.					
7.	I can get the task done as scheduled when implementing the blended Learning model.					
8.	The tasks do not require more effort to be accomplished when using a blended Learning model.					
A)-3	Technical and logistical support	(5)	(4)	(3)	(2)	(1)
9.	Al Quds university provides telecommunications equipment and computer resources to implement the BL model.					
10.	Al Quds University support and encourages staff to use blended Learning system					
11.	Help is available from the university when I have a problem in using e-Learning system in blended Learning process					
12.	Al Quds University provides staff and the students with training workshops to enhance their knowledge and skills of blended Learning.					
A)-4	Impact of using BL	(5)	(4)	(3)	(2)	(1)
13.	The quality of the output I get from the blended Learning Model is high.					
14.	I expect the quality of future blended Learning model to be high.					

15.	I believe I can communicate with others easily when using the blended Learning model.					
16.	The results of using the blended Learning model are apparent to me.					
B) attitude						
B)-1	attitudes towards the blended learning process	(5)	(4)	(3)	(2)	(1)
17.	The implementation of blended learning in courses increase opportunities of interaction with the teacher.					
18.	Applying Blended learning to teach the course helped me improve all my skills (Reading from external sources, discussion, analysis, and reflection).					
19.	The implementation of Blended learning for courses enhanced the chance to interact with my classmates.					
20.	The technique of Blended learning model encouraged me to learn better.					
21.	I am in favor of using Blended learning in courses.					
22.	I found the course easier when applying Blended learning in teaching.					
23.	Applying Blended learning for courses was more delightful and relaxing than traditional methods.					
24.	I enjoyed talking with others about Blended learning.					
25.	Blended learning could have been a better use of time.					

B)-2	Students' Attitudes toward Blended Learning Content	(5)	(4)	(3)	(2)	(1)
26.	The online activities are related to the course objectives.					
27.	The online activities were concise and comprehensive.					
28.	With blended learning, I can listen to videos more than once to improve my pronunciation.					
29.	Blended learning enables me to listen and learn effectively.					
30.	The online videos enables me us to listen to native speakers.					
31.	The discussion forums increased my analysis abilities.					
32.	Using visual aids with Blended learning made teaching interesting.					
33.	The discussion forums are interesting.					
34.	I can listen and comment on podcasts.					
35.	Watching videos gets me engaged in discussion forums.					

Thank you!

Appendix B: Qualitative Open-Ended Questions

Deanship of Graduate Studies Al-Quds University

Qualitative Section of the Questionnaire

The researcher is conducting a study titled "**Actual Blended Learning Among Graduate Students at Al-Quds University and Their Attitude Towards It**". Your insights into the practical realities and challenges of the blended learning system are crucial to the success of this study. This qualitative section aims to capture in-depth perspectives, providing context to the quantitative findings.

Please answer the following questions comprehensively in the space provided. Your responses will be treated with **utmost confidentiality** and used strictly for research purposes.

Thank you for your valuable time and cooperation.

The Researcher: Leena Deeb Abu Zahra

Appendix C : Qualitative Research Questions

These open-ended questions are designed to gather in-depth qualitative data covering the five core analytical themes that emerged from the study's framework.

Theme	Question Asked to Participant
1. Overall Experiences and Attitudes	How would you describe your overall experience with blended learning in your postgraduate studies? Please highlight the most prominent positive and negative moments, and the impact of this mode on your time management and motivation.
2. Challenges and Obstacles	What were the main challenges or obstacles you faced while using the blended learning system? (e.g., technical problems, difficulties communicating with instructors/peers, or limited infrastructure).
3. Institutional Support and Resources	What types of support or resources did the university provide effectively, and where did you feel support was most lacking? (e.g., workshops, technical assistance, training materials, or academic advising).
4. Comparison and Preference	Compared to traditional instruction, what are the strengths you found in blended learning and the strengths you prefer in face-to-face learning? Based on your experience, which model do you recommend?
5. Skill Development and Recommendations	What academic or professional skills do you believe blended learning helped you to develop? What are your most important and specific recommendations for improving and developing the blended learning model at the University?

Appendix D : List of Questionnaire Reviewers''

Reviewer Name	Specialization	University	Email or Phone Number
Dr. Issa Al-Ansari	Educational Psychology	King Saud University (KSA)	i***@pmu.edu.sa
Dr. Sami Mohamed Yousef	Counseling Psychology	University of Jordan (Jordan)	Dr-Sami mohaned facebook
Dr. Ali Wafi	Educational Measurement & Evaluation	Ain Shams University (Egypt)	Dr-Ali wafi Facebook
Dr-Mahmoud Itmeizeh	English and educational Technology	Palestine Ahliya University	Dr-mahmoud Itmeizeh facebook
Dr. Abdul Ghani Abdul Ghani	Developmental Psychology	University of Mosul (Iraq)	
Dr.Myasar abu Elglasy	Dean of the Faculty of Educational Sciences	Palestine Ahliya university	0599431611
Dr.hazem Bader	English and educational technology	Hebron	0595520666
Dr areej Salah	Teaching method	Hebron	Areeje@hebron.edu
Mr Fadel Abuaqil	Teaching method	Hebron	fadela@hebron.edu
Prof. Drr, Rahila khan	Educational psychology	University of Malaya Malaysia	r.khan@umme.edu.my

Appendix E : Research Facilitation Letter

Al-Quds University
Faculty of Educational Sciences



جامعة القدس
كلية العلوم التربوية

التاريخ: 2025/5/14م

حضرة: د. احمد القطب – نائب الرئيس للشؤون الاكاديمية / المحترم
جامعة القدس،،

الموضوع : تسهيل مهمة

تحية طيبة وبعد،،

تقوم الطالبة لينا ديب أبو زهرة ورقمها الجامعي 22112708 بإجراء دراسة بعنوان

**Actual Blended Learning Among Graduate Students at Al-Quds University
and Their Attitudes Towards it**

نرجو من حضرتكم تسهيل مهمة الطالبة المذكورة أعلاه، وذلك لتطبيق الدراسة خلال الفصل الدراسي
الحالي.

شاكرين لكم حسن تعاونكم

ا.د. إبراهيم محمد عرمان
منسق برنامج ماجستير اساليب التدريس

برنامج أساليب التدريس
Teaching Methods Program



نسخة/د.ع

نسخة/الملف

Appendix F : Research Ethics Committee (REC) Decision Letter

Al-Quds University
Jerusalem
Deanship of Scientific Research



جامعة القدس
القدس
عمادة البحث العلمي

Research Ethics Committee Committee's Decision Letter

Date: July 2nd, 2025
Ref No: 576/REC/2025

Dear Dr. Suad Al Abed, Ms. Leena Deeb Abu Zahra,

Research ethics application. After reviewing your submission titled: "Actual Blended Learning Among Graduate Students at Al Quds University and Their Attitudes Towards it", the Research Ethics Committee (REC) at Al-Quds University confirms that your application aligns with our ethics guidelines, which are based on the principles outlined in the Declaration of Helsinki.

Please note that this approval does not replace other required permissions, such as for sample shipment or data sharing. We also request a copy of your final report or publication when available.

This approval is valid for two Years. If your research extends beyond this period, a renewal request will be necessary. The approval remains valid as long as there are no changes to the research protocol.

Sincerely,

Suheir Ereqat, PhD
Associate Professor of Molecular Biology

Research Ethics Committee Chair

Cc. Prof. Hanna Abdel Nour - President
Cc. Members of the committee
Cc. file

Abu-Dies, Jerusalem P.O.Box 20002
Tel-Fax: #970-02-2791293

research@admin.alquds.edu

يوليس، القدس ص.ب. 20002
للفاكس: #970-02-2791293

Appendix G : Certificate of Ethics Training: Informed Consent



TRREE

Zertifikat Certificat

Certificado Certificate

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

Certificat de formation - Training Certificate
Ce document atteste que - this document certifies that

Leena Abuzahra
a complété avec succès - has successfully completed
Module 3 (2023) - Informed Consent
du programme de formation TRREE en évaluation éthique de la recherche
of the TRREE training programme in research ethics evaluation

Release Date: 2023/05/31
no. 144/2018

APPROVED BY
SIWF 2023
ISFM

Programme de formation continue (2 unités)
Continuing Education Program (2 credits)



Professeur Dominique Sprumont
Coordonnateur TRREE Coordinator



**HKU
Med**

LKS Faculty of Medicine
Clinical Trials Centre
HONG KONG

Ce programme est soutenu par - This program is supported by -
Research and Developing Council, Clinical Study Funding (RDCSF) (www.rdcf.org) - John H. Johnson, Senior Professor (www.hkust.edu) - Canadian Institutes of Health Research (<http://www.cihr.gc.ca/0291.html>) - Centre for Health, Evidence, and Society (CHES) (www.ches.hk) - Centre for Health, Evidence, and Society (CHES) (www.ches.hk) - Centre for Health, Evidence, and Society (CHES) (www.ches.hk)

0271-3026118

تطبيق التعلّم المدمج لدى طلبة الدراسات العليا في جامعة القدس واتجاهاتهم نحوه

إعداد: لينا ديب عبيد الله أبو زهرة

إشراف: د. سعاد فاضل محمد عبد الرحمن

الملخص:

تهدف هذه الدراسة إلى استكشاف تصورات طلبة الدراسات العليا حول تطبيق التعلّم المدمج في جامعة القدس ومواقفهم تجاهه، بالإضافة إلى دراسة الفروق المحتملة بحسب الجنس، الكلية، والفئة العمرية. وقد تم تبني المنهج الوصفي التحليلي المختلط (كمّي ونوعي) تماشيًا مع أهداف الدراسة. جُمعت البيانات الكمية باستخدام استبيان منظم تم توزيعه على عينة طبقية مكونة من 278 طالبًا وطالبة خلال الفصل الدراسي الثاني للعام الأكاديمي 2025/2024، مع ضمان تمثيل جميع المتغيرات الديموغرافية (الجنس، الكلية، العمر). بالإضافة إلى ذلك، تم جمع بيانات نوعية من خلال أسئلة مفتوحة ومقابلات شبه مهيكلة مع مجموعة مختارة من المشاركين للحصول على رؤى أعمق حول تجارب الطلاب وتصوراتهم.

وأظهرت النتائج أن تصورات الطلبة حول تطبيق التعلّم المدمج كانت في المستوى المتوسط (المعدل = 3.45)، مما يعكس درجة مقبولة من التطبيق مع وجود بعض القيود في أبعاد الاستخدام الفعلي والأثر المتصور. في المقابل، كانت مواقف الطلبة العامة تجاه عملية التعلّم المدمج مرتفعة (المعدل = 3.83)، مما يشير إلى توجه إيجابي عام نحو هذا النهج التعليمي. ولم تُسجّل فروق ذات دلالة إحصائية في التصورات أو المواقف بحسب الجنس أو العمر، بينما أظهر طلبة الكليات العلمية درجات أعلى بشكل معنوي مقارنة بأقرانهم في الكليات الإنسانية.

استنادًا إلى هذه النتائج، توصي الدراسة بتعزيز البنية التحتية المؤسسية، وتطوير تدريب أعضاء هيئة التدريس فيما يخص تطبيق التعلّم المدمج، وتحسين تصميم وإدارة البيئات التعليمية الرقمية. كما تؤكد الدراسة على أهمية وضع سياسات مؤسسية واضحة ودعم أكاديمي وتقني مستمر لضمان تطبيق أكثر فعالية واتساقًا للتعلّم المدمج على مستوى الدراسات العليا.

الكلمات المفتاحية: التعلّم المدمج، جامعة القدس، طلبة الدراسات العليا، تصورات الطلبة، تكنولوجيا التعليم، الاتجاهات نحو التعلّم.